“Doors that could take you elsewhere”: The Architectural Practice of Reading Science Fiction

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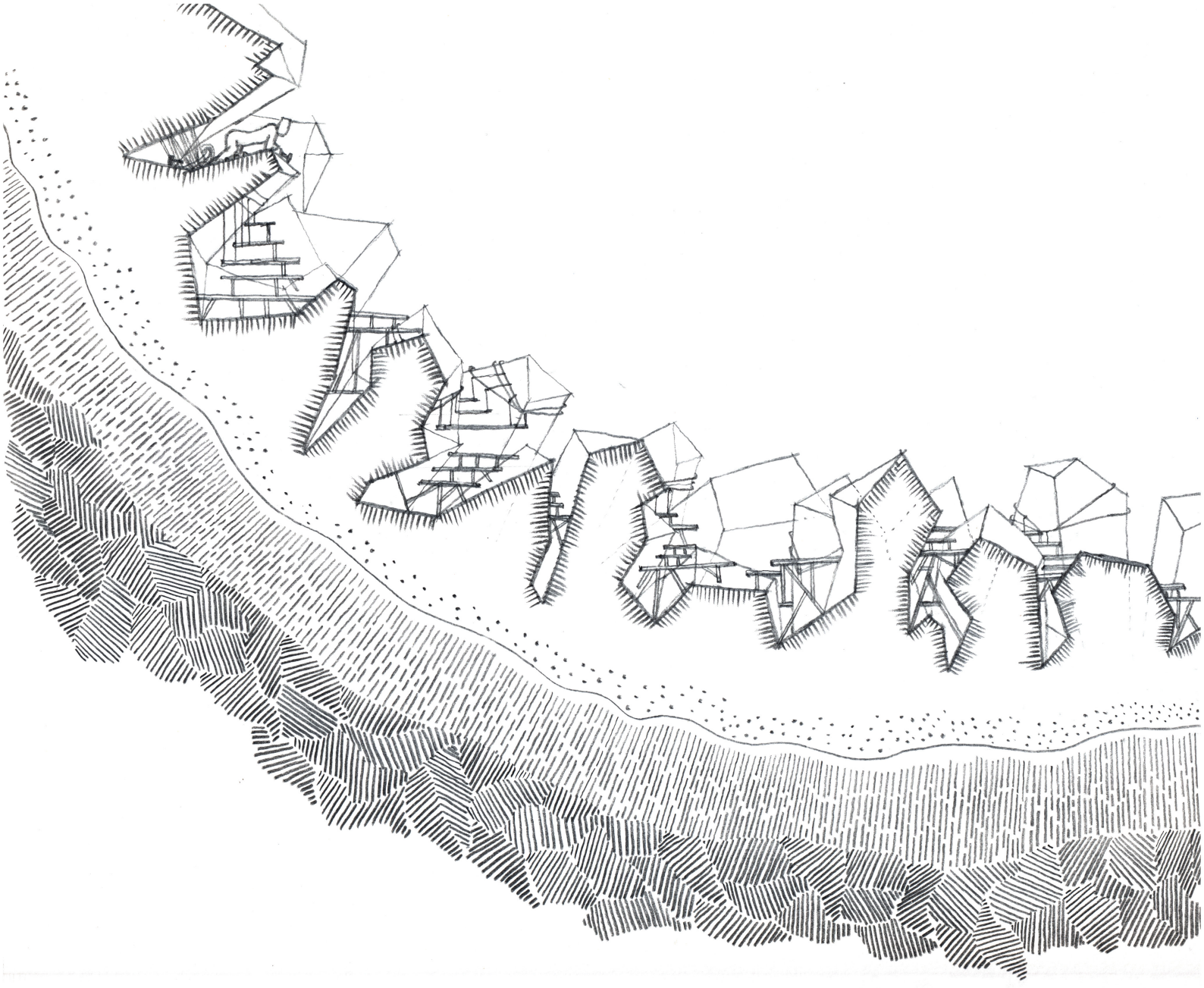

Submitted to the University of Westminster in partial fulfillment of the requirement for the degree of PhD Architecture by Published Work

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Abstract

The work contained within this PhD by Published Work aims to encourage researchers and practitioners within the spatial disciplines to engage with the story worlds of sf. Through this commentary and the collected essays, I reflect on the moments where sf has illuminated my architectural thinking to demonstrate the critical creative potential of reading sf, particularly for those involved in our built futures. As depicted in Mohsin Hamid's *Exit West*, the science-fictional operates as a doorway, as a manifestation of the unsettling and transformative presence of some-place other. These fictions and the worlds they contain are "doors that could take you elsewhere" (Hamid, 2017: 69), they hold open the possibility of alternatives, of strangeness contained within that which we have built.

As an architect and architectural lecturer these imagined worlds are the landscapes through which I have oriented my research and my practice. In this work I trace how my research has developed in response to my engagement with sf, moving from sole author to collective research practices, from a focus on canonical texts to a centring of feminist sf, and from written works to acts of research through making. The commentary and the essays included in the portfolio are organised into four sections which relate to these shifts in approach. In *Writing with fiction* I consider verticality within sf texts and the slippages between the imagined and the designed, in *Writing with practice* I reflect on feminist sf to inform architectural thinking and practice, in *Writing with others* I undertake collective research with the Beyond Gender Research Collective, and in *Writing with making* I use sf in making practices to construct built responses to fictional worlds.

Through this work I consider how the act of reading sf as a reflective and creative process might transform architectural practice. I see these fictions as more than a source of design inspiration, they offer us opportunities to engage with complex and critical spatial concerns, to reflect on the nature of architectural practice, and suggest alternative ways of making together. These are the ways we imagine elsewhere; this is how we determine the doorways to build.

Contents

Publications

Writing with fiction:
'Control Towers'
'Between the Image and the Building'
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'As Plain as Spilt Salt'
'It was Quiet'

Writing with others:
'Drowning in the Cloud'

Writing with making:
'Staging Utopian Spaces'
'The Present as Past'

Publications

Butt, A (2015) 'Control Towers: Life and Limitations in The World Inside.' *Low-Res: Architectural Theory, Politics and Criticism,* pp. 134-144.

Butt, A (2016) 'Between the Image and the Building: An Architectural Tour of High-Rise.' *Critical Quarterly,* 58: 1, pp. 76–83, Special Issue: Ben Wheatley, J.G. Ballard, and High-Rise.

Butt, A (2018a) 'City Limits: Boundary Conditions and the Building-Cities of Science Fiction.' *Open Library of the Humanities,* 4(2): 4, pp. 1–31, Special Issue: 'Imaginaries of the Future'.

Butt, A (2018b) '"Endless forms, vistas and hues": Why Architects Should Read Science Fiction.' *Architectural Research Quarterly,* 22(2), pp. 151-160.

Butt, A (2018c) 'Vicarious Vertigo: The Emotional Experience of Height in the Science Fiction City.' *Emotion, Space and Society*, 28. pp. 114-121, Special Issue: 'Vertigo in the City'.

Butt, A (2019) '"Only one way in and one way out": Staging Utopian Spaces.' *Studies in Arts and Humanities*, 05: 01, pp. 5 – 23, Special Issue: 'Utopian Acts'.

Butt, A (2020a) '"Crowding the stoop": Climbing the Mega-Structures of Science Fiction' in *Mountains and Megastructures: Neo-geologic Landscapes of Human Endeavor*, Eds. Beattie, M. Kakalis, C. and Ozga-Lawn, M. pp. 243 – 266. Palgrave Macmillan.

Butt, A (2021a) '"As Plain as Spilt Salt": The City as Social Structure in The Dispossessed.' *Textual Practice,* 2021, 35: 12, pp. 2005-2020.

Butt, A (2021b) 'The Present as Past: Science Fiction and the Museum.' *Open Library of the Humanities*, 7(1): 9, pp. 1–18.

Butt, A. (2022a) '"It was quiet": The Radical Architectures of Understatement in Feminist SF.' *Cultural Geographies,* Special issue: Geography and SF.
Note: This recent publication was not listed in my PhD application, but has been included in order to support reflections on my ongoing research.

Beyond Gender Research Collective (2022) 'Drowning in the Cloud: Water, the Digital and the Queer Potential of Feminist Science Fiction' in *Technologies of Feminist Science Fiction.* Eds. Vint, S and Buran, S, pp. 197 – 222. Palgrave Macmillan.

Declaration

I declare that all the material contained in this thesis is my own work.

Acknowledgements

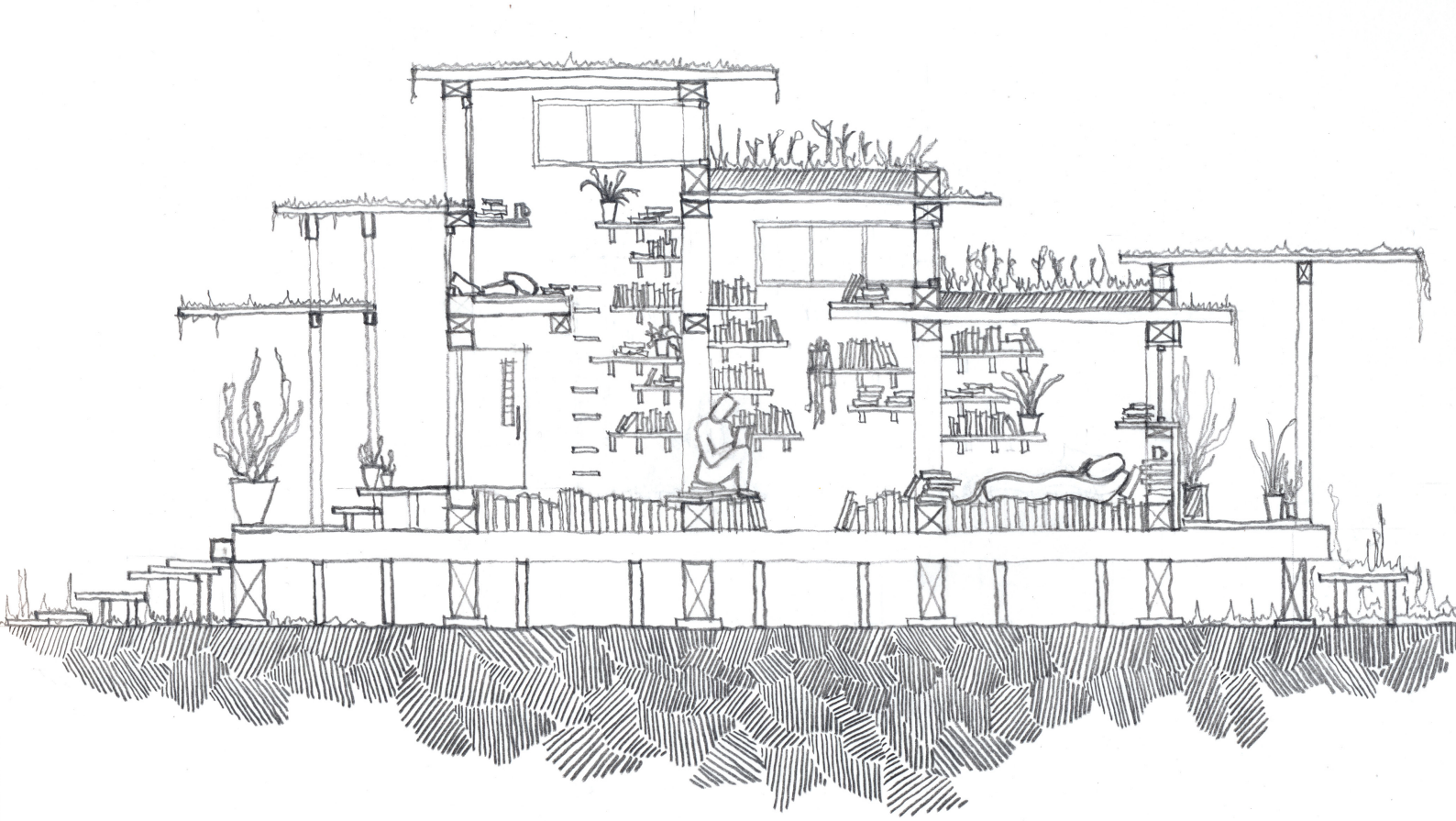
But of course, this is not solely my own work.

I have been supported and inspired by people who have directly contributed to my work, who have made this work and the life-work of my self so much more than I could have ever hoped. I have attempted to document individual instances of invaluable influence and critical contribution within this commentary, but these are only the breadcrumbs after the feast, and this record falls short when it attempts to capture such sustenance and delight. And so I will try, and I will fail again, but I will love you as I try to thank you.

My ongoing thanks to my supervisors Davide and David for your solidarity and support; to my pack: Glyn, Katie, Sinéad and Sing for being science fictional in all the best possible ways; to the members of Beyond Gender for your radical and revolutionary friendship; to my collaborators and colleagues: Carolina, Ceri, Dan, Ed, Fiona, Gray, Katy, Kieran, Megen, Nathaniel, Noriko, Sayan, Stephen, Thandi and Tina, for your care and comradeship; and to LSFRC, and the myriad writers, readers and scholars of sf for your generosity, welcome and shared strangeness.

My gratitude to my family of both chance and choice: to Maggie and Tim for sharing your delight in the world and encouraging me to find mine; and to Katie, Richard, Tilly, Joan, Shirley, Fred and Alfred for showing me how to live with resolute kindness and determined care. Finally, my heartfelt thanks to my partner David for your inspiration and insight which has shaped my scholarship and self beyond measure, but also for your kindness and your continually enacted belief that the world can be more just and joyful.

Introduction



The Wanderground:
Stories of the Hill Women,
Sally Miller Gearhart, 1978
Illustration by Amy Butt

> "She remembered the floor very well from the summer when Seja had been re-arranging it. Books. Hundreds of them, stacked at different thicknesses within rectangular wooden sections… Now she noted that Seja's reading had rendered the floor pretty uneven in places. Two children's books, open by the door, had left a gap that a French grammar was failing to fill and next to two texts on plant diseases right near her reach was a long hole whose bottom, Alaka could see, was the dark earth itself."
>
> (Gearhart, 1979 [1978]: 19)

My toes curl around the ridges of the leather-wrapped spines, gently warmed by the heat of my skin, made supple and yielding beneath me. I brush the books with my fingertips while Seja steps out to make tea, as she creates space for me in her home. I claim I am here to help wrap and weather these books against the oncoming winter, sustaining work to enfold them in the warm and dry. But she knows I am here to observe, to bear witness to the way she has remade herself and how she has reshaped the world to support what she is become. The imprints of the pages are pushed into the earth.

Each summer the books are rearranged, in a remapping of the worlds that have spoken to her over those dark months. Those pages where comfort has been found are held close, arranged around her sleeping platform. The surface they make is uneven, jagged in places as texts of different formats sit uncomfortably beside one another. But she moulds her sleeping body close, resting in their ridges and furrows, content that the shapes they create between them, the patterns of memory and the swell of recollection that they construct within her, is greater comfort than any easy levelling out of form and substance.

In the patches of sunlight framed by the doorways and windows, those shifting slices of light where the outside brushes the world within, are the books which she hopes to read. These are the texts which whisper promises to her of new ways of being, blurring the edges she draws around herself and inviting in fresh strangeness, ways of remaking herself.

I sit on the margins between, a visitor to the landscape of her mind. I have also walked some of these worlds, and so her arrangements occasionally fall into step with my own thought in delightful resonance. But, more often, I stumble over my expectations, and the jarring stub of my toe pulses with the abrupt recognition of another's unknowable self. A book is removed to be read and the illusion of a reliable surface is unmade. I am left ungrounded by the shock of the rich dark beneath.

The summer of 2021 was a broken time. Delays in moving house left us without a place to live and all our belongings in storage, while I struggled with the recent death of my Nan. Amidst this violent rupture of family and home, I found great comfort in the bookshelves of others. As we moved between spare rooms, sheltered by the kindness of friends and family,[1] I balanced precariously on the arms of sofas to reach the top shelf or rummaged through stacks left by the side of the bed. The bookshelves of friends felt like a gift, an intimate way to know someone, to walk the landscapes that shaped them. They were also the place I started work on this commentary, uncovering texts which I had long meant to read, made to seem fleeting and precious by the short weeks of our stay. This sense of research as something shared, as intimate and powerful as an offer of home, and my gratitude for both, permeates this commentary. It is an extension of the way I already felt about fiction, as a great sharing of life-worlds. In looking back over my own writing, the essays collected in this PhD by Published Work are less an attempt to express or explain the fictions they contain, and more an attempt to articulate how they have remade me. They are the story of the bookshelf not the book, told from within the home I have made of them.

[1] Thank you, Jane Rendell, Leah Lovett, Mum and Dad.

The books which crowd my shelves pulse with the lurid covers and brash fonts of sf,[2] and I approach the worlds they contain carrying with me all that I am. As an architect who has worked in practice and is now a lecturer in architecture, this entails specific ways of reading the built environment, both ingrained habits and intentional practices. These imagined worlds are the landscapes through which I have oriented my research and my practice, vibrantly alive within me long before I was interested in the built. Through this commentary I reflect on the moments where sf has illuminated my architectural thinking in order to espouse the critical creative potential

[2] The abbreviation sf is used in place of the phrase science fiction for the slippery ambiguity it creates. Following Haraway, sf includes and alludes to "science fiction, science fact, science fantasy, speculative feminism, speculative fabulation, string figures…" (2016: 2). Rather than defining and defending the boundaries of genre, sf revels in its multitudinous possibilities.

of reading sf, particularly for those involved in our built futures.

As I question what it means to read sf as an architect, I need to attend to the architectural ways of that looking and thinking that are so ingrained into my world-view I struggle to see around their edges. Bemused and delighted friends have told me that I pay attention to walls, that I break off a conversation to double back and run my hands over the surface of concrete, that I will fold down the corners of pages where a character brushes up against the edges of a room. I have been told this is unusual. Perhaps this is what it is to read as an architect, a consciousness of setting which means it never recedes into background or backdrop, where each brick is imbued with meaning if only it can be held and witnessed. The architectural practices of reading space which I find myself mirroring within the worlds of fiction are concerned with spatial practice, the social impacts and implications of the built, and lived experience.[3] These imaged spaces give structure to possibilities, they manifest alternate worlds in tangible form, reflecting and reinscribing the societies they are built within. There is so much to be said about the presence of a wall, I fold the pages down and double back.

I begin this Introduction, like each of the following chapters, with a reflection on the lived context of my work to both understand and express my research as inseparably intertwined with all other aspects of myself. Through these passages I acknowledge the situatedness of my practice and my own positionality,[4] in an attempt to approach the sites of the fictions I study in relation to my own location, and recognise that this research is contingent upon the circumstances of its production which shapes my subjectivity (Haraway, 2020). I have the relative comfort of a full-time permanent academic position, with the

[3] In particular, my own understanding of architecture resonates with Henri Lefebvre's conception of space as social product which includes perceived and conceived space where the imagined may dwell, the power and possibilities of architecture as performed and practiced that are present in the work of Michel de Certeau, and Doreen Massey's understandings of place as subjective multiplicity, continually remade and in progress (Certeau, 2011; Lefebvre, 2011; Massey, 2005). Thank you David Roberts.

[4] My understanding of situatedness and positionality is developed from the work of Jane Rendell, who provides a rich and approachable introduction to these terms as part of the 'Practicing Ethics' project, an open access resource for built environment researchers and practitioners (Rendell, n.d.).

support of kinship networks, a partner, and parents who work in academia and design.[5] These are the emotional, economic, material and social circumstances which have made my work possible, and it is fundamentally unjust that these conditions should be assumed or required as a precondition to participating in academia or architecture.[6]

The work contained within this PhD aims to encourage researchers and practitioners within the spatial disciplines to engage with the story worlds of sf, to see these fictions and the worlds they contain as "doors that could take you elsewhere" (Hamid, 2017: 69). Through the development of my research, I have come to believe that engagement with sf creates opportunities to engage with complex and critical spatial concerns, to reflect on the nature of architectural practice, and perhaps most crucially, to collectively construct sites where such discussions can be opened and shared. This commentary aims to articulate the development of my research, to celebrate the value of each mode of engagement with sf which I have undertaken, and to establish a trajectory for future research.

Throughout this commentary I trace how my research has developed in methodological complexity, moving from sole author writing on sf texts which address a specific built form, to collaborative and interdisciplinary writing which uses sf texts beyond the canon to address critical spatial issues through making practice. In doing so I ask what it means to read and practice sf as an architect, to see these texts as more than a subject for architectural study or design inspiration, but as a process of critical reflection on issues of spatial concern and on architectural practice, as a model for alternative ways of making together.

[5] I cannot write this without looking over at my partner, David Roberts, who sits at the desk next to me while I type. My research and practice continue to be shaped by his work which challenges me to consider issues of housing justice, public engagement, architectural ethics and institutional iniquities, in projects like 'Practicing Ethics' and 'BREAK//LINE'. Our creative and critical work is intimately entangled, we have worked on multiple projects together as members of the architectural collective Involve as well as co-authoring written work (Butt and Roberts, 2018). He is peer-reviewer, editor and support system for all of my sole authored works. The impact that his scholarship has had on the breadth of my understanding and the depth of my caring for the world is unfathomable.

[6] My confidence to articulate the economic conditions of academic work within a piece of critical creative writing is indebted to the writing of Mary Paterson (2018).

My research builds upon and is indebted to the work already being done within sf scholarship which engages with questions of setting, world-building and the landscapes of imagined worlds, which I introduce in *Chapter 1: Writing with fiction*. The early essays addressed in this chapter reflect on the slippages between the imagined and the designed, to ask what the act of reading sf offers to architects. This research draws on the survey approach prevalent in sf scholarship within the spatial disciplines, which itemises building typologies and spatial tropes in sf, and uses this to consider the imagined lived experiences of the tower city. This is most clearly developed in the work of Carl Abbott, Paul Dobraszczyk, and Stephen Graham whose research focuses on how architecture is represented within sf as a response to the lived experiences, built context, and social concerns of their authors, and how the aesthetics of these imagined worlds have influenced or inspired architectural design in complex reciprocal relationships. I subsequently draw on the work of Rob Kitchin, James Kneale and David Fortin to discuss the limitations of these approaches, particularly where they focus on the formal or aesthetic aspects of imagined buildings, or place significance on a limited number of canonical texts. In response, in my own work I focus on the affective impact of individual texts, to understand them as deeply situated within the socio-political context of the novel, and attend to the emotional experiences they create.

In *Chapter 2: Writing with practice* I reflect on the act of reading sf, to consider how this has influenced my architectural thinking and practice. I move beyond canonical texts that recur in spatial studies of sf to consider feminist sf, and use these texts to consciously challenge the categorisation of sf through spatial tropes. The essays considered in this chapter make use of the reading practices and protocols which are distinct to sf, drawing on the work Kathleen Spencer to extend the ideas

of cognitive estrangement set out by Darko Suvin. This science-fictional (sfnal) approach to reading and reflection is turned towards the practice of architecture and the social construction of space, rather than any specific built form. It requires me to reflect in greater depth on the situatedness of my research, considering how my identification and training as an architect has informed my reading and writing practices, and in turn, how engagement with sf demands a reshaping of architectural practice. I use the work of Walidah Imarisha and adrienne maree brown to consider how sfnal ways of thinking allow us to attend to complex spatial and social issues, challenging me to address activist practices and question how I work to support social and spatial justice.

I continue this critical reflection on architectural practice and research through the collectively written essays discussed in *Chapter 3: Writing with others*. These essays were written by the Beyond Gender Research Collective of which I am a member. I draw upon Jane Rendell's work to discuss this as an interdisciplinary approach which uses sf texts as a common point of reference between disciplines, through which it becomes possible to reflect on disciplinary practices. Beyond Gender's work focuses on depictions of gender in sf, looking to texts written by those who have been historically excluded from the sf canon including trans, nonbinary and Black authors. In drawing from texts beyond the canon and by working collectively, our practice reflects Justine Larbalestier's understanding of sf as a community of practice rather than a defined set of texts. We model this as an ideal through our collective writing; a process which blurs disciplinary boundaries by sharing references and approaches, writing and redrafting together,[7] and challenging the control and authority which are implicit in the singular authorial voice. We emulate the collaborative practices of creation that are described in the sf texts which inspire us, undertaking what Davina

[7] This approach is indebted to the collective writing practices of groups such as the Combahee River Collective (2015 [1977]). Thank you Katie Stone.

Cooper terms utopian prefiguration by materialising imagined futures within the present. Through these essays I am granted critical distance to reflect on architecture as both discipline and practice, to consider the limitations of the architectural canon, and to witness the pervasive dominance of the singular architectural creator at the expense of collaborative design practices.[8] They offer sf as a bridge, granting me access to ways of reading drawn from other disciplines which can be used to reflect on issues of spatial and social justice, and providing me with alternative models for collective creation.

Finally, in *Chapter 4: Writing with making*, I extend these collaborative and materialising practices to include students and wider members of the public, manifesting our responses to sf in built form. In the essays discussed in this chapter I reflect on workshops I have run which ask participants to collectively construct spaces described in sf texts. As with the work of Beyond Gender, these collective acts of creation offer the opportunity to express and value individual knowledge and experience. But by also moving from writing to model making, the barriers to access which accompany written texts and scholarly work are partially dismantled, and the fictions being discussed are opened for interpretation. When translated from written text to physical space, these sf worlds become available as common sites for consideration and for collective action. The handover of agency in this making process establishes each participant as expert co-creator, which encourages processes of mutual knowledge sharing. This is an approach which aspires towards the models of socially engaged art set out by Pablo Helguera, where critical social issues can be approached through acts of collaborative making. Here, critical questions of architecture are opened for discussion through the collective construction of spatial imaginaries. As described by Barbara Bolt and Estelle Barrett, methods of site-specific performance

[8] The imperative to transform architectural practice through collective action and critical spatial practice is powerfully argued for in the work of Jane Rendell (2006), Nishat Awan, Tatjana Schneider and Jeremy Till (2013) and Doina Petrescu and Kim Trogal (2017).

or practice-based research generate and externalise situated knowledge, and so these acts of construction use sf to reflect on the sites within which they are made, in situational extension of sfnal reading practices. Finally, this act of manifesting a sfnal space builds on the prefigurative work of collective writing by physically enacting practices of communal construction that were depicted within the feminist sf source material, enacting the collective possibility of architectural design practice. In the approach I have developed, architectures contained within sf texts are made manifest, able to be explored both as an imaginatively evoked world and as a tangible possibility.

This commentary also seeks to reflect the creative potential and lingering repercussions of specific imagined places which has informed these essays, expressed through the quotes and fictional situations which open each chapter. The quotes are drawn from six novels which have continued to inform my research and practice: Sally Miller Gearhart's *The Wanderground*, Nalo Hopkinson's *Brown Girl in the Ring*, Marge Piercy's *Woman on the Edge of Time*, Rivers Solomon's *The Deep*, Joan Slonczewski's *A Door Into Ocean*, and N.K. Jemisin's *The Fifth Season*. As I have revisited and reread these novels, the places they depict have flourished within me, and they exist now as substantive worlds where I can stroll beyond the limits of description. I turn to them once more in order to reflect on my own research practices in this commentary.

Each short quote from these novels is followed by a piece of my own fictional writing in a continued inhabitation of these imagined sites. I see this act of writing as a continuation of the reading practices of sf which require the reader to imagine worlds beyond and within the fragments of descriptive text. In the afterword of *The Deep*, clipping. describe how multiple tellings of an sf story world can be held in common, each offering

a specific fragmentary perspective. As clipping. state: "we prefer to imagine each of these objects as artifacts - as primary sources - each showing a different angle on a world whose nature can never be observed in totality" (2019: 162).[9] In these fictional situations I imagine a character drawn from myself, someone who holds the same architecturally ingrained attentiveness to the spaces of these worlds, and ask them to linger after the narrative focus has drifted elsewhere, purposefully occupying the spaces they have constructed within my own memory.

Hélène Frichot discusses what it means to "write with" a place, rather than "about or for or afterwards" where the writing is not meant to be a window into a world but rather a "form of testimony to the fleeting landscape event" (2018: 140–141). Rather than write about these novels which each stand as their own best description, I am interested in what it might mean to write *with* them, to draw on the cognitive estrangementof these sf worlds to gain the creative and critical distance necessary to reflect on my own scholarship and practice.[10] John Rieder provides the proposition that "sf is not a set of texts, but rather a way of using texts and of drawing relationships among them" (2010: 193).[11] In this light I draw on both the fictional worlds and the ways of using sf; the processes of imaginative construction, cognitive estrangement, and critical reflection which these fictions elicit, and undertake this fictional writing in order to approach and attend to my own research. I use these fictions to contemplate the impact they have already had on me, the ways of thinking and relationships they have created within me, and the worlds they still have to offer.

These fictional situations are each accompanied by a drawing that has been produced as part of this exercise in dwelling within imagined places. I have used the time and process of making these drawings to reflect on my

[9] This is something which I have given particular consideration to when responding to Rivers Solomon's *The Deep* as a fiction which unflinchingly occupies the impacts of racial oppression and the ongoing violence of the Middle Passage. I acknowledge my own incapacity as a white person raised within a colonial system to truly attend to the experiences expressed in *The Deep*. In my own fictional writing, I do not presume to imagine myself on the sea floor. Rather, I am grateful for the works of Solomon, clipping. and Drexciya which allow me to conceive of a character who carries with them the architectural ways of thinking and seeing which I am familiar with, so that I can partially and fleetingly consider their possible role within this imagined world, in order to reflect on the responsibilities I carry within my own.

[10] The definition of sf as the literature of cognitive estrangement is drawn from the work of Darko Suvin (1979) and is discussed further in Chapter 1.

[11] Thank you Glyn Morgan.

own processes of critical engagement and speculative construction with and within these novels.[12] They are produced by hand to evidence the personal nature of this encounter, not a reproduction of the textual space, but a subjective account, flawed and imprecise. As thoughtfully delineated by Huda Tayob, the hand-drawn orthographic drawing offers the opportunity to both express subjectivity and bestow a certain architectural legitimacy upon the site of study.[13] As she describes it, "the drawings are both analytical and representational, not only of the spaces, but also of a certain position adopted. On the one hand, this is a position that articulates that these drawings are contingent, and therefore a fragmentary representation of an encounter with the site. On the other hand, the drawings therefore form part of an argument for recognising the importance of these sites as spatial and important as a subject of spatial research" (Tayob, 2018: 15). I move from writing to drawing, making use of the techniques of imaginative representation familiar to me from architectural practice. In doing so I hope to unsettle the status of these fictional worlds, relocating them into the slippery speculative space of the architectural drawing, as real as any other unbuilt project. Orthographic drawings are measurable, granting them a technical persuasiveness which belies their state as constructed fictions, while the implicit intention of the architectural drawing is to speak imagined futures into being. As such, this mode of drawing shares some of the same intentions as the fictions I draw from, a radical hope in the power of representation. They are founded on impossibility and yet hold transformative potential; these are fictions with the power to remake worlds.

This act of dwelling within each of these novels is also an acknowledgement, a thanksgiving for these authors and texts. It is a process of recognition of those who have made my work possible that is continued in my citational

[12] This understanding of the possibility of speculative drawing practices is indebted to the work of Sayan Skandarajah (2019), whose work explores the creative and critical potential of drawing into existing forms of representation.

[13] In Huda Tayob's work she uses architectural drawings as research practice. The time taken to make her drawings on site creates space for relation with those who dwell there and disrupts ideas of detached and extractive research practices, while also using the formality of drawing to legitimise informal patterns of occupation.

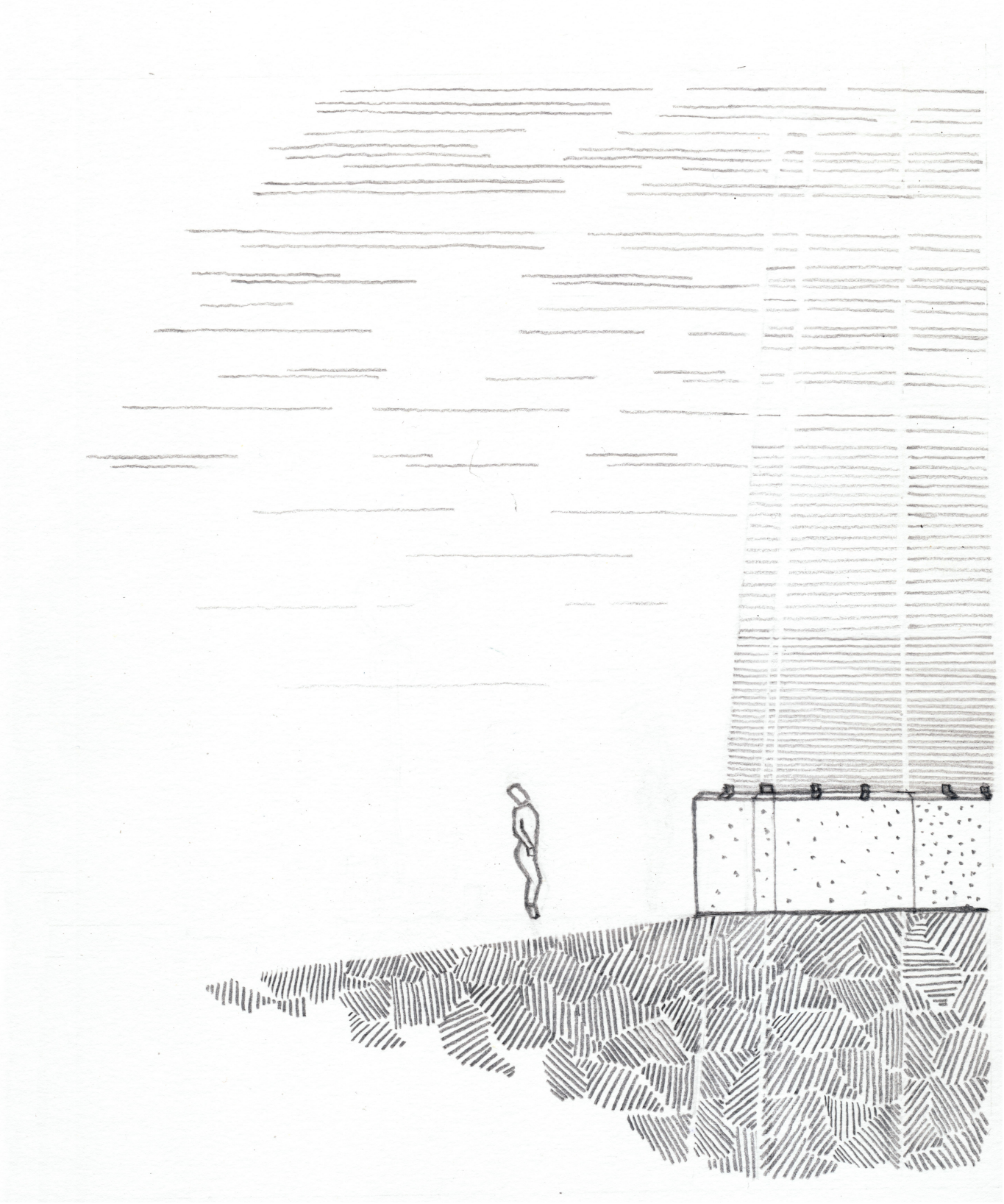
practice throughout this commentary, which will recognise the conversations that informed my work and the networks of friendship and support which extend beyond academic boundaries in an attempt to unpick the illusion of individual endeavour.[14] This approach is based on the strategies of footnotes set out by Katherine McKittrick, as a space where we can open up conversations by sharing stories and resources to build the capacity for social change, "to share *how we know*, and share how we came to know… when we are doing our very best work, we are acknowledging the shared and collaborative intellectual praxis that makes our research what it is" (2020: 17).[15]

Throughout this commentary I acknowledge how engaging with these sf writings has shifted my perception of the world and suggested new possibilities. As articulated by Sally Miller Gearhart in *The Wanderground*, which opens this Introduction section, the act of reading is a reshaping of both the self and the world. From within this room with its floor made of books, I am able to reflect on how I have remade myself and the environments I inhabit with the books I have chosen to read; how they structure my encounters with others, how they frame my place within the world, how they form the ground upon which I walk.

[14] Following Alexis Pauline Gumbs, I will also cite and thank those who introduced me to texts, those who sparked ideas, those who make my life-work possible (Gumbs, 2020). Thank you Katie Stone.

[15] Thank you Thandi Loewenson.

Chpter 1: Writing with fiction



Brown Girl in the Ring
Nalo Hopkinson, 1998
Illustration by Amy Butt

> "I swear, that tower reach right to the stars. It make me giddy, like I can't tell top from bottom no more, and gravity ain't have no meaning. I frighten too bad. Either I going to fall off the earth into that forever sky, or the whole tower going to come crashing down upon me."
>
> (Hopkinson, 1998: 191)

I watch from across the street as she approaches the tower. Its presence is so familiar to those who live here, and the number of outsiders is so very small, that someone stopping to look up disrupts the meandering flow of people. Her still figure is stuck fast like a pin in the map, and the lived world is forced to adjust and resettle around her. She may be rooted in place but her whole body is a gesture of elsewhere, and I feel compelled to trace the line of her gaze upwards to see what has caught her. It is nothing I haven't seen before. The tower is so everyday it has become background, scenery painted behind the real world which has faded from long exposure to the sun, washed out until only the faintest tints of blue pigment remain. But today the blue caught in the panes of glass contains the reflected sky, as if it too has been snagged on the needle tip, held in place like the figure below.

I glance back and her head is still tilted upwards, her bared throat exposed. It is a posture in defiant opposition to the ducked chin and lowered eyes I practice as I move through these streets, avoiding eye contact lest it be read as provocation or enticement. I see more of the pavement than the sky. Her uplifted eyes are so bright with surprise that I ache for myself, for the many things I have not witnessed while I was busy looking away.

She sways and stumbles slightly, as if she has momentarily lost her balance. I am so intently fixed on her that my body shifts in an empathetic echo beyond my control. As I move the image of the tower doubles and the version printed in light, created by from my persistent staring, slips out of alignment. I am momentarily unmoored by its revealed strangeness. This fixed point is nothing but shifting light and air, an image within my own mind. How fine and insubstantial are the threads which hold me down.

At first, I had to hoard precious days of annual leave to attend academic conferences. I sat in strip-lit seminar rooms, reading from pages still warm from the office printer and trying to conceal the way my hands shook as I spoke. I was not an academic. I did not teach, or publish, or have research partnerships or a funding institution, and yet the words "independent scholar" chafed against my sense of self. I am an architect. This is a word and definition of myself that I have struggled for and shed tears over. But in these lecture halls the overwhelmingly tangible labour of architecture was paused, the grounded suck of mud on my site boots and the insistent pressure of drawing schedules was momentarily released. It was a source of vertiginous terror and delight, to find space for other parts of myself, for another kind of architectural practice.

Perhaps this grounding in practice is why my early work with fiction argues so insistently for sf's relevance to the tangible and the built, continually oriented in relation to the artifacts of architecture. The essays addressed in this chapter, 'Control Towers' (2015), 'Between the Image and the Building' (2016), 'Why Architects Should Read Science Fiction' (2018), 'Vicarious Vertigo' (2018), 'Crowding the Stoop' (2020), and 'City Limits' (2018), were all drafted within this liminal time between 2013 and 2016, while I was working between academia and practice. These essays reflect the arguments I had with myself as I held my days spent writing or discussing fiction up against those spent on site, attempting to take measure of their respective worth.

I am not alone in attempting to extol the usefulness of sf to my fellow designers. The survey works of Carl Abbott (2016) and Paul Dobraszczyk (2019) approach this challenge by categorising sf environments and relating these tropes or city types to architectural practice and built environment scholarship. For Dobraszczyk, these fictions

allow designers to "'pre-experience' alternative futures" and return to their drawing boards with warnings and inspiration in hand (2019: 14). This is a similar intention to that of Lucy Hewitt and Stephen Graham, whose insightful study of verticality in sf is primarily "concerned with the complex ways in which fiction depicts plausible near-future urban scenarios" (2015: 925) and how this might grapple with the vertical aspect of urban modernity.

It is a question that Graham returns to in his study of "Vertical Noir", which explores the "complex linkages between verticalised sci-fi imaginaries and material cityscapes that are actually constructed, lived and experienced" (2016: 388).[16] This extension of utility beyond architectural or design practice and into urban theory, to trace the connections and overlaps between the often distinct categories of the fictional and the real, is echoed by Abbott. His work on the city in sf looks "to explore the variety and range of borrowings, influences, and interactions between SF and the ideas and practice of mundane urbanism and to embed science fiction in the body of urban theory and criticism" (Abbott, 2016: 13).

My own research on vertical city sf, including 'Control Towers' and 'Between the Image and the Building',[17] would certainly fit within such encyclopaedic practices of cataloguing and tracing as I scoured second-hand bookshops and sf fan blogs for any novels whose titles or cover art hinted at a tower city within. My wider research and conference papers focused on the relationship between vertical city fictions written in the UK and US in the late 1960s and 1970s and the concurrent proliferation and perception of high-rise urbanism, and in 'Control Towers' I focus on life inside one of these texts, while in 'Between the Image and the Building' I consider the life of these texts beyond the moment of writing, and their continued relation to a changing present.

[16] My work on the vertical in sf is indebted to the discussions I had with Stephen Graham when teaching at Newcastle University and the opportunities to share work together at the *Mountains and Megastructures* symposium and exhibition (2016), and the *Scaling the Heights* public programme (2016). Thank you to the Newcastle University Architecture Research Community.

[17] This essay was an invited contribution to a special issue on the 2015 film adaptation of *High Rise,* which, for an independent scholar felt like an invitation to participate in academia. Thank you Roger Luckhurst.

On reflection, these cataloguing and survey works seem to corral the exuberance of sf by sorting them within categories or tropes determined by the spatial disciplines. There is also a focus, or at least a privileging, of those which bear some clearly drawn relation to the given world [18] and a concurrent devaluing of the wider field of sf, that which Samuel Delaney describes as encompassing any and all "events that have not happened". As Delaney kindly points out, "sympathetic critics of science fiction run aground, however, when they try to show that the significance of science fiction lies in the much more limited area of things that will probably come to pass, should come to pass, or must not come to pass" (2017: 27).

This process of selection results in a study of what Matthew Broderick might call the icon or the "mega-text", of which the vertical city trope is one example, which act as "discursive attractors, about which narratives orbit in their contained but unpredictable path" (2017: 146). The scale of survey work privileges the reading across multiple texts and necessarily overlooks the myriad ways that a single text might be read or understood using the approaches of the spatial disciplines. Marc Angenot has addressed the shortcomings of such comparative approaches within wider sf criticism, noting that "SF criticism has invested a lot of energy in trying to measure the distance between the empirical and fictive worlds… Yet the first task of the SF critic is to identify precisely the SF 'world' as something estranged from the reader's empirical world and possessing its own rules" (1979: 17). For Angenot, comparison crowds out the possibilities of lingering in fictional worlds, to understand them and dwell within them.

As Rob Kitchin and James Kneale suggest, it is not enough to simply compare and contrast these two landscapes, or even to trace the filagree of connections

[18] I have consciously avoided referring to "the real world" in this commentary to avoid the implication that the fictional is not part of the real. Instead, I use Samuel Delany's phrase "the given world" which also challenges the idea of a singular reality common to all readers. The "given world" is the founding of lived experience against which the fictional word is *imagined* to be set (Delany, 2017).

and slippages between them. Beyond this, sf can also be used as "a foil for thinking about present day geographies, their construction, reproduction and contingency, and thinking through how we theorise and comprehend a range of concepts such as space, nature, subjectivity and reality. Here, SF becomes a useful cognitive space, opening up sites from which to contemplate material and incursive geographies and the production of geographical knowledges and imaginations" (2002: 9). While Kitchin and Kneale call for this critical lens to be applied within and through geography, my work is concerned with sf as a way to think about how we think about architecture, to question how we imagine what architecture might be and how we might come to know it.

This feeling that these stories were being constrained by survey approaches, and that they have more to offer as spaces to reflect on complex urban phenomena than serving as examples of the categories they sit within, was the impetus for the essay 'Why Architects Should Read Science Fiction'. Rather than comparing several texts, this essay analyses a single short story to itemise the multiple ways that sf might be of use to architects and designers to provide a "unique set of overlapping tools and perspectives for architectural imagination and critical thought" (Butt, 2018b: 151). I developed this essay over the course of five years, and it reflects my working through and laying out of all the ways sf had inspired me, delighted me, and been of use to me as an architect during that time.[19]

Just as Kitchin and Kneale call for a study of the geographies of sf which questions the nature of geography as a field of study, this essay attempts to detail how sf might provide architects with another way to look through the built material of the design project. It itemises the multiple ways sf might be of use to designers in order to explain how the tendency to focus on the aesthetics

[19] Thank you to Stephen Parnell and Nathaniel Coleman for comments and editorial support throughout this process, both of whom I had the privilege to teach alongside at Newcastle University.

or predictive quality of sf in isolation which dominates much architectural design discourse around sf, does great disservice to the complexity of these works.[20] It itemises the ways sf has been used across spatial disciplines, and draws on sf and literary theory to outline other ways of reading and reflection through genre that are less commonly drawn upon in architecture. I wrote it with my colleagues in the architectural office in mind, and I presented it to them in a lunchtime Continued Professional Development (cpd) session.[21] I hoped to convey how "reading SF offers a space of exhilarating exploration, of the self, of the city, and of the infinite wealth of imaginable alternatives," that this can be "a utopian process for architects, that through this action and the awareness it provides we are better able to shape the cities we make, to challenge entrenched systems of inequality and oppression, to make manifest fragmentary built elements of utopian potential" (Butt, 2018b: 158). This essay outlines how sf can provide a set of tools and perspectives for those interested in architecture, as an extension of the existing dialogue between architecture and sf.[22] But while this essay itemises the benefits of reading science fiction, the systematic and utilitarian approach struggles to convey the emotional impact of such an experience. (*How do I love thee? Let me count the ways*.)

In 'Vicarious Vertigo'[23] I reflect more fully on the experience of reading sf, to consider geographies of affect and emotion, and to recognise the critical importance of storytelling in wider constructions of self and place. This draws on Suzanne Keen's (2007) ideas of enacted empathy within reading practices, to express the implications of reading about an experience and empathetically engaging with an imagined place. Through close examination of specific experiences of individual spaces and moments within J. G Ballard's *High Rise* and Robert Silverberg's *The World Inside* I argue that "As many cities grow upwards

[20] As argued by David Fortin, designers such as the Independent Group and Archigram revel in the extrapolative and predictive aspects of science-fictional storytelling over the possibilities of emotional engagement and social commentary. As Fortin notes, "the focal point has often remained on visual and technological projection as the sole contribution of SF to architectural thinking" (Fortin, 2012: 129).

[21] Cpd activities are required to maintain accreditation as an architect under the Architect's Act. In order to comply with the RIBA chartered practice standards a minimum of 35 hours must be spent in cpd activities each year. In practice, these hours are typically met by inviting product specialists to give talks to staff during a lunch break, with the promise of pizza held up as compensation for this unpaid labour.

[22] The utility of this essay as an overview of architecture and sf is demonstrated by its subsequent citation in the Introductory chapters of three recent books on future cities and city imaginaries (Dixon and Tewdwr-Jones, 2021; Rabitsch and Fuchs, 2022; Salmela et al., 2021).

[23] This essay was a product of the 'Vertigo and the City' symposium 2015 and owes a great deal to the wonderful work shared at this event. Thank you Davide Deriu.

into the heights that were previously the realm of sf, these novels provide their readers with ways to both imagine and empathetically experience the emotional impact of the built environment" (Butt, 2017: 114). The emotional impact of the built remains less frequently studied within the spatial disciplines, and this essay applies this consideration to the worlds of sf to reflect on spaces of verticality and experiences of vertigo, both of which were the focus of calls for greater scholarly attention at the time of writing. In doing so, this essay uses sf texts that are commonly considered by spatial scholars, but moves beyond an extrapolative or comparative reading to consider the potential role of sf in attending to the affective impact of vertical urbanisms.

Similarly, in 'Crowding the Stoop'[24] I explore experiences of verticality in Harry Harrison's *Make Room! Make Room!,* Scott Russell Sander's *Terrarium,* and Ballard's *High Rise*, taking each novel as a uniquely constructed world rather than as an example of a specific trope.[25] This essay argues that "while the image of the tower may have proliferated as a visual shorthand for dichotomies of power and progress, the stories these novels contain persist in their nuance and complexity. They offer us a site to develop the reading of vertical space beyond its role as a symbol, attending to the embodied and emotional nuance of life within an urban megastructure" (Butt, 2020a: 244). Rather than reading these as allegories or warnings, this essay unpicks the affective impact of these fictional spaces as deeply situated, an intertwining of personal histories, emotional experience, and socio-political context.

Alongside this reflection on the situated experience of imagined space, in 'City Limits' I analyse how socio-political structures are materialised in architectural imaginaries. This essay places Larry Niven and Jerry Pournelle's *Oath of Fealty* alongside Isaac Asimov's *Caves*

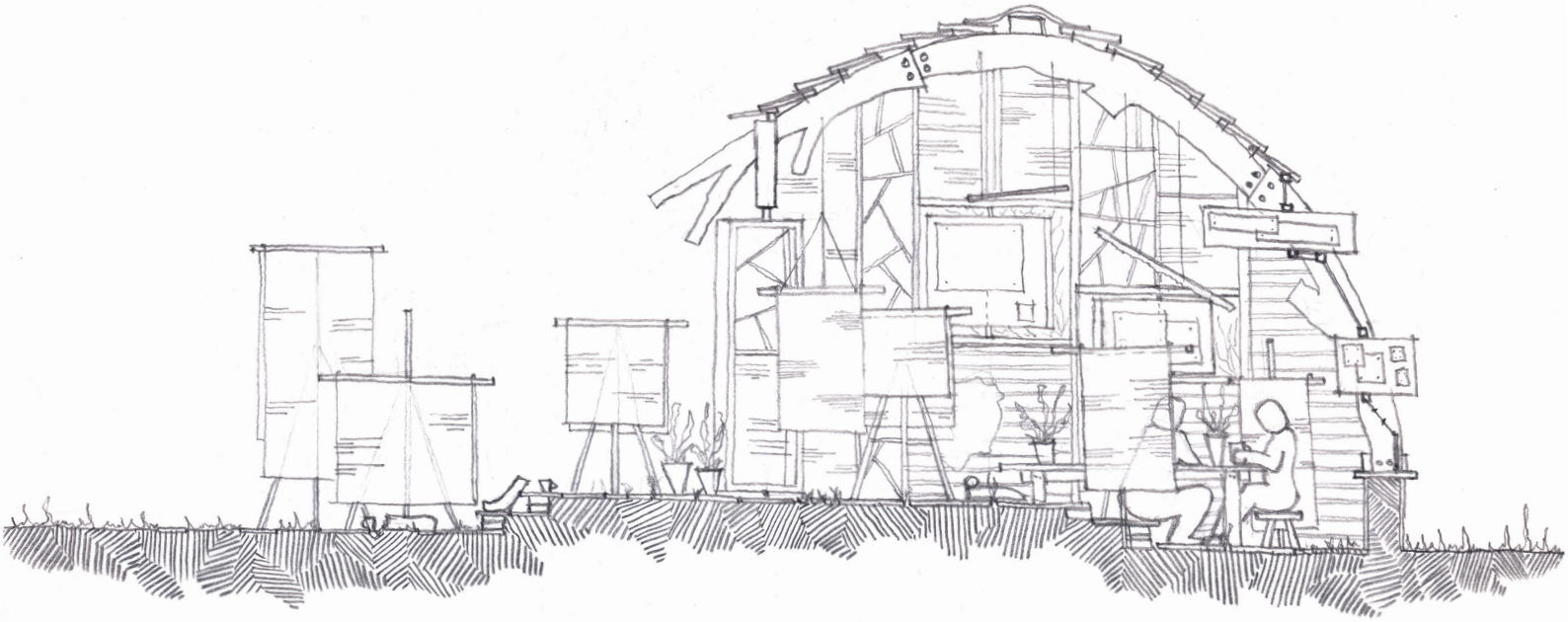
[24] This chapter was an invited contribution to the book 'Mountains and Megastructures' which stemmed from a research project coordinated by the Newcastle ARC in 2016. Thank you to Martin Beattie, Christos Kakalis and Matthew Ozga-Lawn who edited this book, as well as to Ed Wainwright, Josep-Maria Garcia-Fuentes and Katie Lloyd Thomas.

[25] The scope of references made in this essay was made possible thanks to the LSFRC community members who responded so generously to a request for sources. Thank you Leila Abu El Hawa, Ali Bee, Andrew M. Butler, Francis Gene-Rowe, Hallvard Haug, Rachel Hill, Janette Leaf, Rob Mayo, Farah Mendlesohn, Fiona Moore, Glyn Morgan, Chuckie Palmer-Patel, Richard Johnston Jones, Katie Stone, Fred Scharmen, Powder Scofield, Joseph Walton, Llew Watkins and Siobhan Watts.

of Steel and James Blish's *A Torrent of Faces* in order to explore the implications of these specific built forms on their inhabitants. This analysis applies Ruth Levitas' (2013) methods of "utopia as archaeology" to these depictions of urban enclosure "to critique and resist the development of socially destructive division and segregation within the cities we inhabit" (Butt, 2018a: 2). It brings sf texts to bear on questions of urban segregation and gated communities, deploying the techniques that were outlined in 'Why Architects Should Read Science Fiction' to speak to the social implications of spatial constructs.

As Nalo Hopkinson articulates so compellingly in the passage from *Brown Girl in The Ring* quoted at the start of this chapter, through sf the world we think we know is radically destabilised. Its physical fabric may appear unchanged, the tower remains standing, but our perception of it has been remade. The way the world is, or appears to be, is plainly set out as just one of many ways of being. This can be a moment of startling clarity, of overwhelming delight at the surfeit of possibility, or of deep dismay and rage at the ways we have chosen to be and the worlds we force one another to live within. The essays I have discussed in this chapter start to use sf to explore and expose the inherent constructedness of the world, and in doing so, gain greater insight into patterns of power and influence, the coercions to which we are subject, and the ways to resist.

Chapter 2: Writing with practice



Woman on the Edge of Time
Marge Piercy, 1976
Illustration by Amy Butt

> "The room they entered took up half the dome and was filled with long tables seating perhaps fifteen at each, mostly dressed in the ordinary work clothes that Lucient wore, the children dressed in small versions…The pulse of the room was positive but a little overwhelming. She felt buffeted."
>
> (Piercy, 1986 [1976]: 74)

I linger in this corner because of the light. There is a small yellow pane of glass near my elbow and in the afternoon it casts a playful shadow, a sliver of buttercup sweetness across the surface of my book. Over the top of the pages I see Lucient reach up to adjust the ceiling baffles, using a long pole to twist them in place, changing the sharpness of sound which surrounds that end of the table. The gesture is oddly exaggerated, a demonstration of technique rather than an offhand act of habit, and it cuts through my story clouded mind and draws me back into the room.

The person opposite Lucient is hunched over, holding themselves inwards as if trying to take up less space, looking around only in snatched moments. Each glance is like a swift outstretched hand quickly grasping, gathering in fragments of the room; the uneven sweep of the timbers used for rafters as each tree grew bent in the wind, the swatch-shuffled colours of the bricks with the traces of old paint that have not been scraped off, the screens which twist and bend and slide and fold until the edge of inside and out become indistinct.

We spent so long tinkering with the surfaces, re-hanging the screens until each of us could reconfigure the room to remake it into what we needed. At night I imagined how it could be reshaped again, whether it could adjust to support my shifting self, to hold the people that I was and those who I might become. I felt such great pride in our work, in its multitudinous delights and subtle variations. I revelled in the unexpected ways the space spoke back to me about our needs and desires, played out in each decision to drag a table across the floor or close a shutter. It flexed and accommodated.

I long for the visitor's eyes to linger, to caress across the ribbons of high gloss tiles I carefully laid, wiping away the traces of grout with a cloth until they shone, a bright edge against the soft cork of these muffled corners. Perhaps there could be comfort for them here, a quiet place to gently adjust to so much which is strange. But this room is not supple enough to enfold this visitor. In these glances that cannot settle I am forced to recognise needs too deep to be reconciled by architecture alone. As I look over this room which is also my lifework the joy remains but my faith is shaken, I must sharpen my satisfaction into new resolve.

I remember reapplying my red lipstick in the mirror, the colour chosen to match the sharp flashes of red visible in the seams of my grey dress, its pleats and folds cut in a manner which is both complex, asymmetrical, and oddly utilitarian. I was preparing to present a paper on Ursula Le Guin's *The Dispossessed* at the *Worlding SF* conference in 2018 and this outfit seemed like the perfect way to embody and express this anarcho-communist utopia. This was my first international conference and despite the geographical distance between Graz and London I felt at home here, part of a community.

I had been attending the reading groups of the London Science Fiction Research Community (LSFRC) since 2015, [26] and within this group I explored the growing realisation that sf is more than a genre or subject to me, it is a way of looking at the world. As John Rieder describes, we are engaged in "using the genre to actively shape their understanding of the world" (2017: 22). These sfnal ways of thinking shaped my reflection on the practice of architecture itself and supported me in a remaking of myself. In 2015 I argued my role as associate director at bpr architects down to three days a week so that I could take on sessional lecturing roles at Brighton and Newcastle Universities.[27] Then, in 2017 I attended the grand opening of the Ritterman Centre for Science and Technology at Middlesex University, which I had designed. Amid the celebrations, I found an empty room where I sat on the floor in my best dress and heels, drank the warm champagne and gathered the resolve to resign from my role in architectural practice, to become a full time academic.

Over this time the focus of my research underwent a similar shift in tone and focus. Rather than comparing the imagined and the built artifacts of architecture, I became more interested in how my engagement with the world as

[26] Thank you to the organisers and directors of LSFRC: Rhodri Davies, Andrea Dietrich, Aren Roukema, Francis Gene-Rowe, Katie Stone, Tom Dillon, Sasha Myerson, Avery Delany, Rachel Hill, Ibtisam Ahmed, Angela Chan, Cristina Diamant, Mia Chen Ma and Josephine Taylor. Like so much of academic work, it is this unpaid and vastly under-recognised labour which sustains us as research communities.

[27] In my part-time studio teaching days at Newcastle University and Brighton University I was welcomed into discussions about what architecture is and what it could be, held in the staff room and on the picket line. It was through these discussions that I became aware that the university buildings I was designing in practice hid the realities of exploited staff and casualised contracts. Thank you Katy Beinart. Thank you Newcastle UCU.

an architect influences the ways in which I inhabit sf texts, and how, by becoming aware of this, sf might allow me to reflect on architecture as a practice.

In the essays addressed in this section, 'As Plain as Spilt Salt' (2021) and 'It was Quiet' (2022), and the forthcoming essays 'Made Up Ground' and 'Geography, Urban Design and Architecture', I draw heavily on the work of Kathleen Spencer (1983) to describe my own reflexive relationship to the imagined world of these texts. Spencer describes sf texts as giving an impression of a window into a world, one which exists complete and whole, albeit only accessible through the small glimpses of description within the novel. She draws on the work of Marc Angenot to demonstrate how the author leads the reader to "believe in the possibility" of these absent paradigms, which in sf intersect and overlay to become complete worlds as "the reader engages in a conjectural reconstruction which 'materializes' the fictional universe" (Angenot, 1979: 13 & 16).[28] For Spencer, the methods or protocols for reading sf are not a passive suspension of disbelief but an active construction of possibility, worlds which exists "stretching beyond the terms we have been given" (1983: 45). Her work leads us to worlds which are vaster and more strange than even their creators imagined, hinting at the radical and perhaps revolutionary potential of imagining beyond the terms we have been given.

Just as the authors of sf engage in worldbuilding, they expect their readers to do the same.[29] As an architect I realise that I am (or perhaps I have trained myself to be) particularly fascinated in how these subjective worldbuilding practices influence the way that imagined built structures are conceived of and experienced by individual readers. In my own reading of Spencer's work, I believe that the fragments of description within a text prompt the reader to collage in their own lived

[28] Marc Angenot's work focuses on the semiotics and linguistic codes of sf, addressing the (slightly) smaller absent paradigms of an imagined alien language for example, rather than the entire imagined world. But there is much for an architect to love in the idea that processes of imagination are acts of reconstruction, through which we materialise new worlds.

[29] Such worldbuilding practices are also familiar ground within architectural design. Jane Collier describes the "moral imagination" in architectural practice, comprising both empathetic engagement and the playing out of imagined scenarios, as a necessary process to consider the implications of design practice. But, as Collier notes, this remains insufficient unless accompanied by critical self-reflection to confront the premises on which we base these imagined futures, a process which I would suggest could be undertaken through the estranging worlds of sf (Collier, 2006).

experiences, memories, and other imaginings to fill the gaps and construct the absent paradigm. In the essays in this section, I explore the ways we write ourselves into these imagined worlds, and the act of reading as an act of co-creation, between the words as written and the response of the reader.

While the estranging and worldbuilding aspects of sf heightens the creative work of the reader, Pierre Bayard's ideas of "non-reading" acknowledge the "deep, active creativity" of reading or talking about any book (2012). This is an understanding of reading which allows me to focus on what these texts have meant to me, as an architect, enmeshed and filtered through my own understandings of place, as created through my act of reading. As Jane Rendell describes in relation to Site-Writing, this attentiveness to the individual reader's co-creation of a text demands consideration of "the sites and situations through which critics encounter their subjects of critique" (2021); that is, the experiences, histories, and contexts I bring with me as a reader and within which I consider this text.

These are what Fredric Jameson might describe as the sedimented reading habits and the interpretive traditions formed, in my case, by architectural education and practice. Jameson describes this in relation to the inherited interpretive codes of literary and cultural studies, which rewrite a text in terms of the approach taken (1981: ix). My interpretive traditions are founded on analysis of the built rather than the written; my education in reading a plan and extrapolating from that partial information the potential implications such a building would have on those who inhabit it, and my experience occupying built projects and reflecting on the circumstances of their construction. I carry these intentional practices, reading habits and interpretive traditions with me into fictional worlds, and

approach the spaces of sf as if they were architectural projects, examining them to understand how they came to be made and what they might make possible. While I deeply value the situated readings of fictional texts which do vital work to attend to the context within which authors produce, the focus of my research has been the impact of the text once written from which I attempt to reflect on my own architectural acts of reading. In this, I echo Jameson's statement that "our object of study is less the text itself than the interpretations through which we attempt to confront and to appropriate it" (1981: x).

This is perhaps most clearly reflected in 'As Plain as Spilt Salt', which is both the most personal and poetic of my published works.[30] The essay grapples with my own complex emotional response to Ursula K. Le Guin's *The Dispossessed* – expressing my abiding appreciation for the visions of social alternatives it lays out alongside my frustrations at its shortcomings. I focus on a single phrase which describes an anarcho-communist city as being "as plain as spilt salt", and I use this to work through my conflicted feelings about architectural practice. "The architectures of Anarres and Urras ask me, as an architect, to make a moral decision as to which I want my work to be. They ask if I would give up architecture as art, if it meant that architecture could never be co-opted as commodity" (Butt, 2021a: 2017).

[30] This essay was based on the paper of the same name presented at the *Worlding SF* conference at University of Graz in 2018.

It is almost a game of solitaire - to follow a single phrase and line of thought persistently until my own thinking is revealed to me, unintentionally drawing on experiences which I had considered to be outside of my architectural self yet nonetheless informed my spatial understanding. Like the way my "grandmother would anxiously scrape the salt up from the table top to throw a pinch over her left shoulder to ward off the evil attracted by the waste. It sets off a pattern of movement, a ritual

response. To spill salt is to act. A city like spilt salt would change" (Butt, 2021a: 2014). As this essay suggests, the city which unfolds in my reading of *The Dispossessed* is an act of co-creation, reconstructed from personal memories, associations, and architectural references which are collaged into my image of this fictional city. In this way, this essay reflects on what sf might mean to architectural practice as more than a model for design, as an expression of the political and social possibilities of community.

In retrospect, these poetic and personal reflections work in ways that are similar to what Hélène Frichot and Naomi Stead describe as Ficto-Criticism, a form which fuses essay writing, critique and storytelling. They describe this as writing which "operates in process, it explains and demonstrates, it interrupts and troubles itself," critiquing not only the site or subject, but also what it is in the midst of doing (2020: 16). Similarly, the short poetic phrases in 'As Plain as Spilt Salt' interrupt and explain the act of literary criticism, elucidating my personal relationship to the text and the way it is built within my mind. This essay speaks to the worlds I bring with me when approaching an sf text, and the recognition of responsibility that comes with such critical personal reflection.

This desire is more explicitly stated in the essay 'It was Quiet'.[31] In this essay I reflect on quiet moments in spaces of collective gathering within Sally Miller Gearhart's *The Wanderground*, Marge Piercy's *Woman on the Edge of Time* and the *Broken Earth* trilogy by N. K. Jemisin. These quiet moments form part of "ongoing struggles for individual and collective agency" expressed and enacted within "architectures of modest radicalism" (Butt, 2022a: 2). While these texts offer images of collective gathering within worlds of violence and oppression, their potency extends beyond the specifics of the communities they depict. In his reflection on Jameson's work, Tom

[31] This paper was initially developed for the online conference *Earth and its Others: The Geographies of Science Fiction* hosted by the University of Fribourg in 2020. Thanks you Lorenzo Andolfatto and Christine Bichsel.

Moylan outlines how the work of the literary utopia cannot be reduced to its content, to the specific depiction within the text of an ideal blueprint or system, instead utopian literature finds its importance "in the very act of imagining" (2014: 39). To this end I draw on the inspiring work of Walidah Imarisha for whom reading and writing "visionary" sf is an unshackling of the imagination from which other forms of liberation might be born (2015: 4), and adrienne maree brown who describes how sf can radically challenge pre-existing conceptions of the world and undertake the work of imagining alternatives, stating that "science fiction is simply a way to practice the future together" (2017: 19). In 'It was Quiet' I explore how the radical quiet of feminist sf might be attended to within architectural practice, and I attempt to create space within the writing which accommodates this mode of critical and creative reflection.

I am not alone in this desire to use sf to reshape architectural practice. In the forthcoming chapter 'Geography, Urban Design, and Architecture'[32] (2023) I bring together the work of built environment scholars who use sf to address pressing issues of practice.[33] The essay is organised around notions of scale to reflect the scope of sfnal thinking, from the intimacy of empathetic imagination to the vast sweeps of time and space, to address a multitude of spatial issues including ableist design, extractivist practices, colonialism and climate catastrophe. I continue to explore this recognition of my own responsibility in another forthcoming work, 'Made Up Ground' (2022b), which collages together the sf worlds, works of art, and architectural references that were evoked for me when reading *A Door into Ocean* by Joan Slonczewski, and uses these to address issues of colonisation, privatisation of public land, resource extraction and climate emergency.[34] These essays reflect my growing need for my scholarship to have value in

[32] This was written for *The New Routledge Companion to Science Fiction,* thank you to Mark Bould, Andrew M. Butler and Sherryl Vint for the invitation to write this chapter. Thank you to James Kneale, whose chapter 'Space' (2009) in the previous edition of this companion lays the groundwork for this piece.

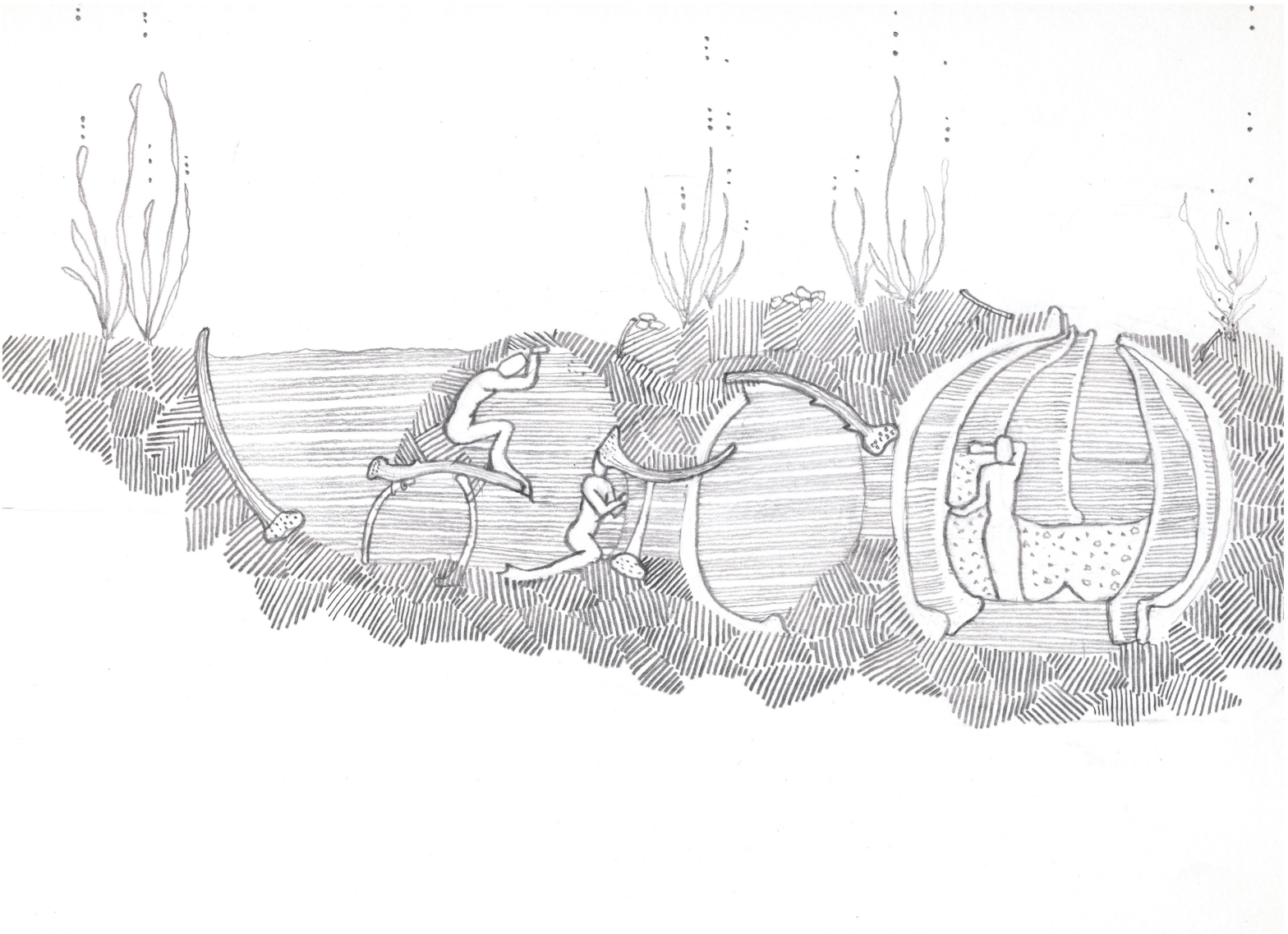
[33] This focus on the work of built environment scholars to the exclusion of those working in other disciplines is clearly limiting and regretfully excludes much critical work being done within genre studies which speaks to spatial concerns and deserves recognition. But, while 'Why Architects' was written for practitioners, and aimed to convince them of the utility of sf, this chapter is written for an audience of sf scholars and aims to celebrate the value and recognition of sf which already exists beyond genre studies.

[34] This work is based on my keynote talk for *The Senses of Science Fiction: Visions, Sounds, Spaces* University of Warsaw in 2019. Thank you Pawel Frelik for the invitation.

supporting social justice movements - the hope that it might do so and the awareness that it could do more.

The active potential of sf is powerfully explored by Marge Piercy in *Woman on the Edge of Time*. In this novel the far-future Mattapoisett, described in the opening of this chapter, sits in a productive and revolutionary tension with present-day New York where the protagonist Connie is subject to sexual and racial violence, and incarceration in an asylum. Her journeys to Mattapoisett serve as a sfnal world within an sf text, a glimpse into possibility which is offered both to Connie and to us as readers. As Connie is changed by her desire for the future she has witnessed, determined to take action within her present, so these imagined worlds also place demands upon me and my practice. As the essays in this chapter express, sf gives me visions to live up to, it provides me with a place to recognise my agency and responsibility towards remaking the world.

Chapter 3: Writing with others



The Deep
Rivers Solomon, 2019
Illustration by Amy Butt

> "During the Remembrance mind left body… They would be in no position to fend for themselves in that state, so they built a giant mud sphere in defense, its walls thick and impenetrable. They called it the womb and it protected the ocean as much as it protected them… They were still building. When all of them worked together, it took three days, with no sleep or rest."
>
> (Solomon, 2019: 19–20)

We are still building.

You might think the thickness of the walls was due to the depth, a defense against the dark pressure of water. But there is no straining differential of air and water for those who dwell here, no life-giving bubble threatening to dissipate and dissolve. The walls do not keep the water out, this medium within which we move. This shelter is made from the materials of its surroundings, an almost indistinguishable swell in the landscape. It is not a structure which denies the world from which it is formed, but one which reshapes that which is already here, demonstration of possibility by virtue of its insistent and unlikely presence. But it is also a necessity, a manifestation of care.

I scoop the mud up from the seabed and it settles into the bowl of my hands, taking on the form as if poured into the vessel of my body. The fine grain silt refuses to stick, it slides between my fingers, slippery and slick. So, we must gently coax it from the seabed, pushing it into place until it gently curves inwards to enfold us. As the walls curve upwards, I place myself under the projecting arch, the curve of my back and my outstretched arms serve as formwork for the spreading load. I am not alone, our bodies hold the structure in place, creating the shape of what will remain. Only once the walls meet above us can we step away, our arms and backs shaking with the strain of the roof which now holds itself in place.

These dense layers of mud absorb the sharp edges of speech, granting each of us rich resonance against the muted crackle of the deep. I trace the fingerprints which mottle the surface of the wall. In the dark I cannot distinguish the work of your hand and mine.

I have gradually made room for myself in academic spaces. I find myself able to walk into the seminar rooms at Birkbeck with self-assurance and warm myself by the radiator, to dispel the cold evening air carried in the weave winter coats hung over the backs of chairs. This was where the Beyond Gender Research Collective met when such physical meetings were possible.[35] One evening in 2019 we met to discuss Pamela Zoline's 'The Heat Death of the Universe'.[36] Amid erudite examination and waves of laughter I remember feeling like something was being drawn out of me, finding myself express ideas which had not been present before being voiced. The person reflected back to me in this discussion was someone who cared deeply, determined and hopeful. It is an image of myself I ache to live up to.

Later, when we were all in isolation, we scheduled time online for research discussions. But we also met when we needed support, gathering online with just the sound turned on. On these days I sat on the bed with my laptop and notebooks and listened to my friends' kettles click on to make tea. I contributed to these collective works with the gentle susurrus of their typing wrapped around me.

In response to these conversations I became more conscious of the social and political context of my work. My patterns of reading expanded as I attempted to redress the predominance of white male Anglophone writers on my bookshelves, seeking out the worlds created by queer, trans and nonbinary authors, by Black writers, and works of sf in translation. I began to expect more from sf. In the words of our manifesto, "We expect SF to provide us with more than a seat at the table. We expect it to overturn the table, to transform it into a barricade, to set the table on fire. We expect SF to challenge us, to shake loose possibility, to construct new worlds" (Manifesto: Beyond Gender Research Collective, n.d.). I internalised

[35] The Beyond Gender Research Collective was founded in 2018, as a group of researchers, activists and practitioners brought together by a shared commitment to imagining the world differently through collaborative explorations of queer, trans, and feminist science fiction. We currently have 20 members including professional artists, LGBT charity workers, HE research policy advisors, and researchers and scholars in anthropology, art, gender studies, law, literature, science and technology studies, utopian studies and, of course, architecture. I delight in the discussions that are made possible by the diversity of our experiences and expertise. Thank you Molly Ackhurst, Ibtisam Ahmed, Angela Chan, Avery Delany, Tom Dillon, Kate Heffner, Rachel Hill, Amy Jetherington, Raphael Kabo, Felix Kawitzky, Sing Yun Lee, Constantin-Alexander Mehmel, Sinéad Murphy, Sasha Myerson, Eleanora Rossi, Smin Smith, Katie Stone, Josie Taylor, Judy Thorne and any who may yet join us.

[36] Thank you Tom Dillon

the passionate words of these dear friends, the worlds of thought they opened and shared with me, their anger over injustice, and their acts of remaking.

The writing work of Beyond Gender is an indivisible part of our reading and discussion, produced and held collectively in ways which are designed to dissolve individual authorial control or ownership. As we assert, "we choose messy multiplicity over the illusory unity of the sole authoritative voice, the single story" (2023a). In this way, our work practices the feminist ideals of non-hierarchical work and collective endeavour which we seek in sf texts, in a "polyvocal praxis of utopian worlding" (2023a). As such, I consider the collectively written works addressed in this section, 'Drowning in the Cloud' (2022), and the forthcoming works 'Navigating Beyond Gender', and 'Collective Close Reading', as upswelling manifestations of a wider mode of practice and research, of ways of being together that we have nurtured.

These three essays are a small part of the work which has found its expression in games, exhibitions, performances, Free University and AntiUniversity talks and work on picket lines. As well as attempting to shift the subjects and forms of science fictional research, this work is an attempt to create a space beyond academic structures which seek to instrumentalise research or establish constraints on participation. This is particularly critical to me as an architectural lecturer when considered in the context of reports on the exclusionary privilege of architecture as a profession.[37]

While these essays by Beyond Gender are academic texts, they attempt to challenge some of the central premises of authorial control and professional credit which dominate academic research. We wrote them in a live-shared document set up to erase signifiers of

[37] Repeated reports by groups such as the Architect's Journal highlight the lack of diversity in architectural education and practice (Jessel, 2018). For example, the data collected by the Architects Registration Board indicates that the profession remains 71% male and 82% white (Architects Registration Board, 2022), while only 25% of people working in the architectural sector are from a working-class socio-economic background (Carey et al., 2021).

authorship. This transfer to collective ownership does not flatten the text into a single unified voice, but maintains a poly-vocality through shifts in tone and style to create "a plural, discordant, and digitally mediated collective voice" (2022: 200). This echoes P.A. Skantze's description of collective work as a way of making contact: "contact is not melding, it / holds its distance in respect of the var/-iation in answer to 'who we are' / that day, while it makes room for collective / plural singular action, voices raised" (2018: 30). While written and credited as a collective we, this writing process holds space for each individual's contribution, and in doing so establishes a place for such "collective plural singular action". This is an approach to sf which echoes the definition of sf by Justine Larbalestier as "not a genre exclusively made up of written texts but a community or series of communities" (1996: iii). Here, we write as community.

These writing and research practices create space to challenge ideas of individual exceptionalism by recognising that all creative work is already an act of co-production. Within architecture, the image of a singular creator is particularly damaging,[38] fundamentally disregarding the social and economic production of the built environment and isolating architectural workers which facilitates our exploitation. I see my work in Beyond Gender as sharing common intentions with wider movements towards alternative models of architectural practice, like the creative solidarity work of architectural activist group BREAK//LINE which acts as a "space for speculating, advocating, designing and performing a practice and academy that not only resists the individualistic, elitist pressures of capital but imagines what an alternative might be" (About — BREAK // LINE, n.d.). Just as this architectural activism looks to imagine and practice alternatives, so our research draws upon the depictions of communal living and making in feminist sf, and attempts

[38] The importance of dismantling this image is exemplified by the fact that The Architecture Lobby, an international organisation of architectural workers, planners, and designers, places the call to "Celebrate the collective process of producing architecture; Demystify architecture as the work of a solo creative genius" as one of its twelve key manifesto items alongside climate justice, and addressing architectural racism, sexism and ableism (The Architecture Lobby, n.d.). Thank you David Roberts.

to enact these ideals, to materialise these imagined social relations through collective research practice. This resonates with Davina Cooper's conceptions of the prefigurative "as if", which revels in the impact of practice that creates the conditions of its own possibility (2020).

Our first piece of collective writing, 'Drowning in the Cloud' came from our desire to translate our practices of close reading, mutual support, and shared joy into an academic text.[39] This essay draws on the imagery of large tanks of fluid in Anne Harris' novel *Accidental Creatures* as seemingly separated vessels which are united by the environments they contain, to follow watery resonances through Kaia Sønderby's *Tone of Voice*, Nalo Hopkinson's *The Salt Roads* and Raphael Carter's *The Fortunate Fall*. We each came to this act of writing from our own specialist fields, and the texts we approach together are seen in the glancing light of multiple life-worlds, each building on the references, experiences, and inferences that we offer one another. As we describe it: "Collective Close Reading… involves non-hierarchical knowledge production, based on the close reading of a plurality of texts in which the ideas of individuals develop and aggregate to form a collective understanding" (2022: 199). While we each approach the shared text with varied experience and expertise, our sfnal reading practices allow us to understand this imagined place as a common ground, to draw on supportive thinking from another discipline. In this work we meet each other in "unexpected collaborations and combinations"; as Haraway aptly puts it, "we become-with each other or not at all" (2016: 4).

This is an interdisciplinary piece of writing, the combined product of twelve individual disciplinary experiences and knowledges.[40] As described by Jane Rendell, the act of making relationships between disciplines in order to reflect critically can be understood

[39] This text was written in 2019 and initially took the form of a series of conversations across the social media network 'Sweet' which was coded by one of the Beyond Gender members, using the digital media we discuss in the essay as part of our collaborative writing practice. Thank you Raphael Kabo.

[40] I am aware of how the terminology of interdisciplinarity has been appropriated or recuperated, as Rendall describes to "provide market-driven solutions rather than challenge ideological norms", but like Rendell I believe that these spaces between or across disciplines still hold power and potential, "capable of constructing new forms of relation and proposing futures other than those envisaged for the short-term by neo-liberal capitalists in pursuit of immediate financial gain" (Rendell, 2015: 136). Thank you David Cunningham.

as interdisciplinary research which operates "at the edge and in between disciplines and in so doing question the ways in which they usually work" (2004: 145). Considering these texts as a space between disciplines requires us to merge and reformulate approaches and interpretive traditions so that we can approach the text in ways that speak together. But they also exist as worlds entirely outside all disciplinary frameworks, and their inherent strangeness allows us to use the reading protocols and reflexive practices of sf to critique and transform our processes of research. These fictions serve as a source of inspiration, a model, and a critical framework. In this collective close reading through a text, it is also possible for me to reflect on the ways these disciplines enrich my own architectural understandings, and the curtailment of comprehension which comes with rigid enforcement of disciplinary boundaries.

The value of interdisciplinarity when considering spatial issues is evident in our forthcoming essay 'Navigating Beyond Gender'.[41] This essay returns to the worlds of urban sf I approached in my earlier research but extends its scope to consider issues of gender and agency. It avoids reference to traditionally canonical sf texts, instead focusing on queer and feminist fictions and theory, resolutely affirming that "it is this version of queer, unstable feminist SF which we have claimed in this chapter as a utopian means of navigating urban space" (2023b).

While my research to date has offered me glimpses into imagined societies founded on mutual reliance and collective endeavour, these works of collaborative writing offer the chance to undertake those practices within the present. In the forthcoming essay 'Collective Close Reading'[42] we discuss this collective research and writing processes, as well as the aspects of being together which allow us to support one another but which are ascribed

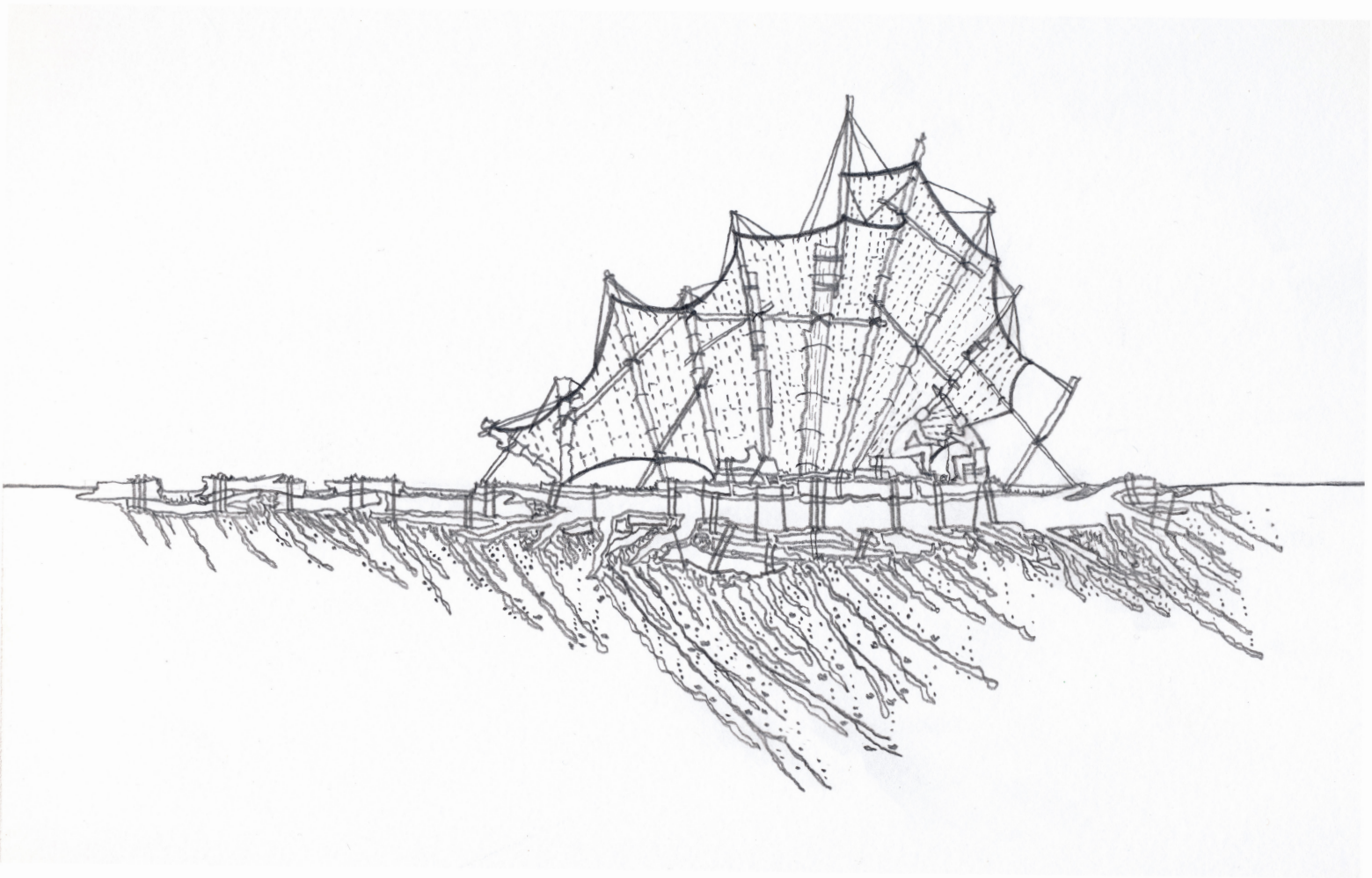
[41] This chapter is based on work first presented as 'Navigating Beyond Gender: The City in Feminist Science Fiction' at *Unfair Cities*, University of Limerick in 2019. It has subsequently formed the basis for the article 'A Future Collectively Salvaged from the Rubble' which was commissioned by the Architectural Review for their 125th birthday edition 'Where Do We Go From Here?' (Beyond Gender Research Collective, 2021).

[42] This chapter was written in 2020 for the *Routledge Companion to Gender and Science Fiction* edited by Sonja Fritzsche, Keren Omry, Wendy Pearson, and Lisa Yaszek.

little value within traditional academic settings. It is work which responds to Haraway's longing for "models of solidarity and human unity and difference rooted in friendship, work, partially shared purposes, intractable collective pain, inescapable mortality, and persistent hope" (2018: 265), demonstrating how the worlds within sf might be used to support or inspire alternatives in the lived present.

As Rivers Solomon so incisively expresses it in the quote from *The Deep* which opens this section, the ways that we make and remake the world are ongoing acts of collective construction. Attending to this can prompt painful reassessment of the self, and *The Deep* challenges me to question the role I play in systems of oppression, including participation in institutions which perpetuate histories of exclusion and violence, but it also serves as a reminder that a world still under construction can be made otherwise. In the works we have read together and through the processes of collective writing, my work as a member of Beyond Gender demands that I relinquish the vestiges of ego which haunt architectural practice and education, to draw on the possibilities inherent within sf texts and science fictional practices of reflection to de-centre my own experiences and perspectives with their associated privilege, to make other worlds possible within the lived present.

Chapter 4: Writing with making



A Door into Ocean
Joan Slonczewski, 1986
Illustration by Amy Butt

> "… At the foot of the ramp his soles met the tough, matted crust of plant growth… The soil became moist, and long weeds straggled across it. Then the soil gave out altogether where branches immense as fallen sequoias extended out to sea, covered with branches and other scaly things… Upon the raft rose a stalk of blue spires with concave sides that fit together like curved diamond shapes, broadening at the base... the sloping panels were nothing more than woven seasilk…"
>
> (Slonczewski, 1987: 51–54)

I sit alongside her, watching her hands as she pulls tendrils up from the water below through the slight gaps, weaving them back counter to the grain of the structure beneath, patching and spanning over the worn and weakened parts. The fronds and petioles are slippery from the brine, fleshy and alive. They must be coaxed in a careful winding, induced to grow in ways that suits their needs and ours, stitched in by the roots.

If you place your ear to the rushes you can hear the fizzing of the sea beneath, the accumulating small bubbles exhaled by the plants which drift beneath the raft, their breath caught and held, the pockets of air which carry us until we nearly touch the surface of the water, its curling meniscus lapping the edges.

The edge between the raft mat and the sea silk which stretches above us is mottled by lichen, softened by the moss which binds and grows between. The patches of new growth which span the breakage cut by the storm are overlaid by luminous shadows of coloured light, cast by the new sown patches in the silk, their vibrancy a shock of delight next to the bleached-blue which surrounds us. Materials in different moments of their own time.

I hold the fabric taut while she stitches. Her thread around the patch is rich and dense, not the practicality of running stitch but the almost overlaid threads of embroidery, occasionally diverting into small flourishes, as if the exuberance of the thread is so gratified by the gentle necessity of darning it cannot be constrained, so delighted in demonstration of its utility and grace. Thread dances though the thrumming tightness I create between my hands, this small cradled space of possibility we make together.

I remember sitting on the cool tiled floor of the gallery with the bamboo canes and string in front of me. As I wrapped the string tightly around the poles, demonstrating a diagonal lashing technique I had practiced at home until my hands moved without thought, I spoke about what it means to make a space together. This making workshop opened *Future Impermanent*, an exhibition and symposium I co-curated with Dan Byrne-Smith at Wimbledon College of Arts in 2020.[43] We conceived of this as an event which created the space of its own telling, centring on a collectively constructed structure that provided the surface onto which artworks and presentations were projected, and became the place we gathered in to listen and discuss. Once I had explained how to tie the basic knots, I invited the attendees to use these techniques to construct the structure which we would then occupy for the event and exhibition, joyfully relinquishing control over what this space would become. It was a process of wild uncertainty, and if I had stepped back to consider the risks, I might have been paralysed by the fear that the structure might collapse, that it might be too simplistic and dull the exuberant work, or be so chaotic it would be unwieldy and unrefined. It was a leap of faith, founded on the belief that whatever we built would be right for this place and this event because it would have been made by us all, here, together, now.

These acts of making have gently slipped into my research, seeping in from the edges of my architectural teaching, from the public events with Involve,[44] from construction projects like *Schools without Walls*,[45] and from publications like *Science Fiction and Architecture.*[46] I revel in the chance to see how familiar materials or words will be reshaped in someone else's hands. The resulting works are made from the generosity of strangers, a gift of their trust, time, and energy. Like these making practices, the essays addressed in this section, 'Staging Utopian Spaces'

[43] The open access exhibition booklet I produced for *Future Impermanent* includes texts and images by all the artists and researchers involved (Butt, 2020b). I have been fortunate enough to work with Dan Byrne-Smith on several projects starting with *Utopographies* in 2014, where I led a series of workshops with Gray Foster Felton which explored ideas of non-hierarchical collaboration in design and process, resulting in a collectively constructed installation for the Utopographies symposium at UAL (Butt and Foster Felton, 2015).

[44] The architectural collective *Involve* was founded in 2012, and comprises David Roberts, Ceri Williams, Tina Mole and myself. Our practice centres on public workshops for children and young people, and our first public workshop, *Skyline Shadow Show* in 2013, was part of the London Open City weekend.

[45] *Schools Without Walls* was a project developed with Fiona MacDonald, Kieran Mahon and David Roberts which worked with Year 6 students of a South London Muslim faith state school to design and build structures in their school playground. This work was presented as part of the Thinking Through Open Learning Spaces conference at the De La Warr Pavilion in 2019.

(2019) and 'The Present as Past' (2021), are drawn from workshops, using the material of collective construction as a site for critical reflection. I consider these workshops and essays as a continuation of my individual writing which uses sf to reflect on architectural practice, my collective writing which looks to materialise or manifest the collective and collaborative methods present within these sf texts, and my architectural studio teaching and design practice where critical reflections surface through processes of design and making. The words contained within my writing up, reflecting on, and thinking through, are not the site itself, and cannot encompass all that it was and might have meant to those involved. As such these essays are messy and complex retellings (or perhaps remakings) of the workshops.

In the workshops which provide the source material for 'Staging Utopian Spaces' and 'The Present as Past,' I devised an approach where groups of people were given very short extracts from sf novels and asked to respond by restaging or constructing the fictional spaces described. It was an approach developed from my desire to de-centre my own interpretation of these texts and make room for multiple perspectives and insights to be simultaneously held. The collective nature of this construction required participants to articulate their individual responses to a text, to negotiate and collaborate on a proposition, "to externalise their subjective reading of this space and to construct it so that it could be understood and inhabited by others" (Butt, 2019: 9). It required each participant to undertake "a continual process of spatial self-critique, questioning how to interpret and express our individual conceptions of a described place" (2019: 9). Katie Stone describes how reading a text in relation to a space which we had made together changed the nature of the imagined place, not just transmitting what was already written but taking on the "responsibility of bringing this world into

[46] This series of booklets is an open access resource for young people interested in architecture. They were developed out of a summer school I ran for education outreach charity STORE. The research within these booklets was developed with Avery Delany, Katie Stone, Sing Yun Lee and Rachel Hill, with support on layout and editing from University of Reading student Joanna Vaughan (Butt, Vaughan and Delany, 2021; Butt, Vaughan and Hill, 2021; Butt, Vaughan and Sing, 2021; Butt, Vaughan and Stone, 2021).

being" (2020). When considering this in relation to my architectural teaching and practice, this process echoes the reflection in action present in the design studio (Schön, 1984), where the act of making is part of a process of individual and shared critical reflection.

This work uses site specific performance and practice-based research methods to elicit reflection on the specific context and setting of the workshop. As described by Barbara Bolt and Estelle Barrett, such acts of making generate and externalise situated knowledge, "revealing philosophical, social and cultural contexts" (2007: 2). In retrospect, I also see these explorations of collectively devised sculpture and performance as a move towards socially engaged art which uses art practice to blur the lines of authorship through collaborative making to create a platform or a network for participation, to address a collective issue or situation (Helguera, 2011: 5). Here, the construction of imagined spaces allowed participants to collectively reflect on both their individual interpretations of fictional places and the site within which they were undertaking these acts of construction, allowing for "situated and subjective reflections on the emotional and social impact of spatial organisation" (Butt, 2019: 8).

This exploration of subjective experience and expression of space, and concomitant disavowal of the role of the expert, seems particularly important when considering architectural design processes where consultation, engagement and participation are often only superficially performed. The acts of making which are explored here are a way for those involved to take ownership over this process and over the text. In these workshops the participants create physical representations of the extracts, which are then manifestly present within the room, translating the descriptive text into an "encounter with an architectural space which could

then act as a common ground" (Butt, 2019: 7). It is a process which works towards dismantling hierarchies of knowledge or experience, reframing the text as open and transmutable, able to be remade: "Rather than relying on a common knowledge of the text, the participants were able to communicate through a common language of materials, objects and spatial form" (Butt, 2019: 9). In doing so, the participants become co-producers who transform the novel, constructing an interpretation that can be moved through and bodily understood, and which is then held in common, available for discussion.

The essay 'Staging Utopian Spaces' is based on a workshop which shared extracts from feminist utopian fictions: Ursula Le Guin's *The Dispossessed*, Marge Piercy's *Woman on the Edge of Time*, and Sally Miller Gearhart's *The Wanderground*. It asked participants to translate them into physical form and then reflect on what the texts and that act of making might mean to us within the context of this event.[47] This essay attempts to reflect this co-production of knowledge by incorporating the voices of participants, to make evident the way their words had informed mine.[48] The insight generated allowed me to consider this workshop in light of ideas of the utopian performative in the work of Jill Dolan, for whom the co-production and shared experience of theatre can provide joyful consciousness of being present together in the world (2001).[49]

The spaces which we made together were all re-stagings of spaces of gathering found within utopian feminist sf. By making these within a seminar room, using only the furniture which was already available, this work allowed participants to comment on how the structures of power which exist within educational institutions are spatially expressed and reinforced. This is a process which echoes and draws from the reflexive reading practices of sf,

[47] The 'Enacting Social Spaces of Feminist SF' presentation and making workshop was delivered as part of *Utopian Acts* at Birkbeck University in 2018. Utopian Acts was organised by Katie Stone and Raphael Kabo. The ideals of this event and its powerful demonstration of a desire to share work across disciplines and beyond the borders of academia inspired the development and documentation of this workshop, as well as being a model of generous and generative practice I continue to learn from (Utopian Acts, n.d.).

[48] Thank you to Alexandra Lea, Sheryl Medlicott, Sasha Myerson, Amber Plumbly, Amy Stebbings, Dan Stebbings and Tim Welch.

[49] Thank you David Roberts.

a form of cognitive estrangement prompted by the spatial reconfiguration of a familiar room. We fleetingly occupied structures which were imagined to express social structures alternate to the ones we lived within, and by doing so opened up these sites for critique. Rather than being a fixed architectural product, the act of collective making allowed the spaces within these texts to be considered as a social product, apprehended through the act of their construction. In this way, the workshops offered "an opportunity for critical reflection on our contemporary spatial practices" by momentarily manifesting "the utopian possibility as expressed in the architectural space of the text" (Butt, 2019: 7). These events were fleeting but, as discussed by Ruth Levitas and Lucy Sargisson, the utopian potential of such remakings persists even where it cannot be sustained, and the transitory utopian act lingers as proof of possibility (2003).

This approach was mirrored in the workshop that underpins 'The Present as Past', which asked art and curation students to respond to descriptions of museums as found in three sf novels: H.G Wells' *The Time Machine*, Yevgeny Zamyatin's *We*, and Sally Miller Gearhart's *The Wandergound*, and re-enact them within the Horniman Museum handling collection.[50] "In our restaging of these science fictional museums, we fleetingly established a new spatial context within which the acts of collection, curation and exhibition could be considered…. As we constructed, dismantled, and remade this space of the museum, we shifted the terms of encounter with the objects that it contains" (Butt, 2021b: 14). Here, the process of spatial examination is opened to a group of participants to shed light on the museum as both institution and spatial practice through these imagined places. As described by the 2022 SFRA Awards committee, in this work the "interpretations of fragments of science fiction novels offered by the workshop participants reveal colonial entanglements

[50] This essay was based on the 'Science Fiction and the Museum Object' storytelling and making workshops which I led as part of *Museum Engagement as Speculative Design* series of events with the Horniman Museum and University of the Arts London, coordinated by Dan Byrne-Smith. It also draws on work presented as part of 'Museum Engagement as Speculative Design' symposium at Camberwell College of Arts, and 'Life in the Glasshouse: Splintered Memories' at Birkbeck in 2019. Thank you to the Horniman Museum staff, and the fine art and curation students from University of the Arts London for your time and insight. Thank you Dan Byrne-Smith.

between the museum and the critical potential of science fiction."[51] It is through this workshop that I was prompted to attend to issues of narrative ownership, collection and curation, and their architectural materialisation in museum spaces. In the construction of physical structures, this work reflects and demonstrates Bolt's ideas around "materializing" practices and pedagogies (Bolt, 2006), that understandings can be developed through the tangible handling of ideas (all too appropriate for a workshop held within an object handling collection).

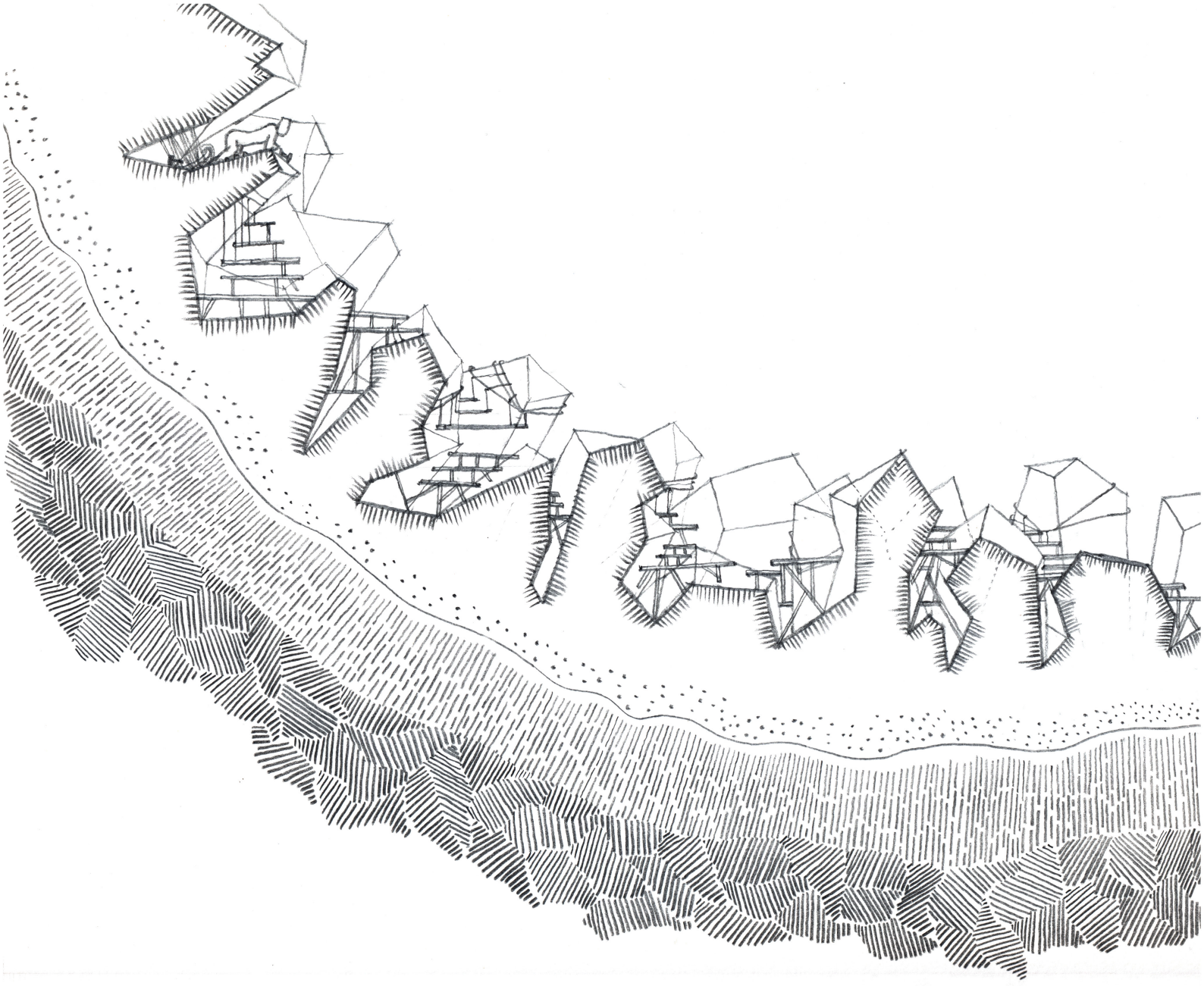
Perhaps most critically, the physical construction of these imagined spaces, however partially and fleetingly, makes manifest their possibility within the lived present. The spaces these novels describe are unwaveringly other to the institutional spaces in which these workshops take place. They become a way to critique these sites of entrenched power and expected patterns of behaviour, and the act of re-making within these familiar spaces speaks to the potential of sf to question and remake our understandings of the given world. By bringing these science fictional worlds into being, however momentarily, the edges between the fictional and given become slippery, and the radical potential of these imaginaries can be physically experienced. This act draws on the power of the physical object as a materialised presence, tangible proof of its own possibility.

While my name is listed as author of these essays, I must continually acknowledge that any critical insights contained within are a direct product of all those who participated in and supported these workshops. The impact of collective making practices is poetically explored in the quote from *A Door Into Ocean* by Joan Slonczewski which opens this chapter. In this novel, the inhabitants of the ocean world of Shora must continually maintain and remake the rafts they live on. They are all intimately

[51] This essay won the Science Fiction Research Association Innovative Research Award 2022, which is awarded to the writer of the year's best critical essay-length work published in a peer-reviewed academic journal. This committee particularly commented on the "refreshing take on the socio-cultural implications of the museum as a speculative institution, drawing direct connections between its ability to foster imaginary ventures and the extrapolative nature of the science fiction genre. The workshop on which the essay is based explores the literary inspirations within the context of the museum space as an intersection of factual documentation and the timeless liveness that effectively gesture to the potential of decolonial disavowal, the directionality of which in turn aligns with recent shifts in the discursive vector of the genre." Thank you Gerry Canavan, Keren Omry, Alison Sperling and the awards committee.

involved in the creation of a common ground, the establishment of a place which provides the basis for all their lives together. Their collective work is tangibly evident and continually present. Through the essays in this section and the associated workshops I am able to understand collective making as a transformative practice which changes the literal grounds from which I work. But perhaps most importantly, this fiction demonstrates that all acts of making, including the making of research, are already collective, and demands that I recognise the sustained work of those I have always worked alongside.

Conclusion



The Fifth Season
N. K. Jemisin, 2015
Illustration by Amy Butt

> "… all the platforms and bridges and stairways of the place are built to connect the crystals… There's nothing intuitive about it, you have to follow one set of stairs up and walk around one of the wider crystal shafts in order to find another set of stairs that goes down-only to find that they end on a platform with no steps at all, which forces you to backtrack."
>
> (Jemisin, 2015: 399)

The only light here is the soft glow of the crystals which surround us. It emanates from all sides in an even wash which permeates and smooths out the roughly textured dark. I turn the wood in my hands, create shadows so that I can see the tight bound time of growth, the surety that it will not warp or split. Each plank must carefully gauged, to be settled against fractured edges, to nestle within the crevasse. The rope which binds is rough and raises blisters in my palms as I pull it tight. It must be tested against my own weight first, gradually released until it holds me. I work to make safe. I work to make strange.

I am driven by the desire to connect a here to there, to span the space between. This suggests a void or absence to be traversed, and perhaps that would be a simpler task. Instead, I build across the crystals which have been grown by others, glinting patterns which I have not yet learnt to read. My boards feel dull against their ethereal glow, but the steps fit snugly and carry me with them. I glance up from my work and look back at the path I have laid. It is the path which leads me here.

If you ask my mum when I first immersed myself in sf, she will tell you about a family holiday. Faced with a two-week holiday and a child who felt reading was akin to breathing, she asked friends and colleagues to recommend books I might enjoy. The longer the word count the better. I only recall squashing my shoes down to the end of my suitcase so that all of Isaac Asimov's *Foundation* series would fit, the days of books casting crepuscular rays as I held them up to shade my face, and the ache in my arms from the weight of the salt-roughened paper. I still have these books: they sit on my desk as I write this, and I open them to run my fingers across my dad's name on the inside cover. Here then is science fiction, a seeking out of new worlds for yourself and others, an exuberant delight in sharing, a reshaping and reframing of the world, a subtle transformation of the self, and a generosity great enough to not ask for the book back. Here I began to know science fiction as community.

Throughout my research, I have struggled to articulate the significance of my own writing, when sf is always continually made and remade by the labour and love of those who engage with it, shaped by wilful desire for it to live up to what it could be. As expressed by Nalo Hopkinson in her speech regarding marginalisation in sf, "I love the science fiction community fiercely and I will call you to task if you ridicule it or dismiss it lightly… I speak not to belittle my community but to participate in it" (2012).[52] My work with sf is participation in my community, as passionate as those who write and speak alongside me, an upswelling of our fierce love.

My relationship to the communities of architecture is more fraught. My work in architectural education and practice is a deep creative delight, but it has also hurt me deeply: in the emotional violence of crits; the exclusionary nature of education and qualification; the commercial

[52] While I have found a place for myself in sf I am all too aware that, as of yet, this welcome cannot be universally anticipated or assured. As Hopkinson describes, participation in the communities of sf includes recognising where it is failing us, and resisting the racism, misogyny, ableism, homophobia and transphophia which persists in sf communities and fictions.

pressure of professional practice; the ecological devastation of construction, and the misogyny which simmers and lingers; and in the ways it has hurt those I love with extractive, racist and discriminatory practices. But while this is not (yet) a house where I feel welcome, it is through architecture's practices of imaginative construction that my explorations of fictional worlds gain critical potency and radical potential. Here I am able to understand my work as critical reflection on our collective world-building, granted urgency by the immediacy of practice.

This pushes me to reframe my contribution to the field to ask instead what contribution I have made to these communities. What have I given us? How have I spoken to remake what these fields are and what they could be?

Jane Rendell (2015) defines interdisciplinary practice as inhabiting the places between disciplinary boundaries. While this space between remains defined by its bounding disciplines, there is radical potential to be found in this transgression of edges, in "the making of relationships between one discipline and another" (Rendell, 2015: 132). Rendell talks about this as a process of confronting and recognising the other, inhabiting the perspective of another discipline in order to reflect critically on the ideological assumptions which underpin our research and practice. I read this and cannot help but notice how much this mirrors the reading protocols and critical reflective practices that I find within sf, the joyful transgression of known limits to inhabit the places beyond, and the critical glance back which demands that we question assumed ways of living and being. It leads me to question whether my work exists as interdisciplinary research between architecture and sf, or whether sf exists for me as the space between.

Perhaps sf can be understood as the place where this beloved community of fans and scholars gather, each of us reaching out from our own disciplines, encountering one another in these shared worlds. It is an elsewhere which has become a between through our acts of meeting. This allows me to understand the space between not as a demilitarised zone between the fortified boundaries of opposing disciplines, but, following Le Guin, as a pocket or a carrier bag.[53] A world unto itself which is none-the-less open, and into which any number of hands might dip with fingers brushing and entwining in the dark. This is an image of sf community which requires nothing of me but an outstretched hand, a willingness to engage and encounter, an openness to the other and a delight in the spaces between.

At the outset of my research, I was driven to convey the value of sf to my colleagues and friends within architectural practice. I was focused on what I could bring back from these other places, and how I might encourage others within the spatial disciplines to undertake the journey for themselves. Through the development of my research I have come to understand sf as more than simply a subject of study from which architects might draw inspiration or warning, but to consider the act of reading sf as a reflective and creative process through which we might reshape architectural practice. It is an understanding that has informed my approach to this commentary, as I have developed drawings and fictional writing which explore and extend the spaces of sf texts, undertaking a creative process of reading into these worlds in order to reflect on my own practice.

I have found critical creative possibility within sf texts as described in Chapter 1: by imaginatively inhabiting these storyworlds I have empathetically embodied the experiences of others, attending to the

[53] "If it is a human thing to do to put something you want, because it's useful, edible, or beautiful, into a bag, or a basket, or a bit of rolled bark or leaf, or a net woven of your own hair, or what have you, and then take it home with you, home being another, larger kind of pouch or bag, a container for people… then I am a human being after all. Fully, freely, gladly, for the first time" (Le Guin, 1996). Thank you Sing Yun Lee.

affective, emotional and situated understandings of the built as if they were my own. These imagined experiences have granted me greater insight into the complex constructions of place within architectural design and research, offering supportive weight when arguing for architecture as more than aesthetic form-finding.

I have found it through engagement with sf as a genre as addressed in Chapter 2: deliberately looking beyond the canon has developed my awareness of how hierarchies of knowledge overlook or dismiss works of great insight and beauty, while also diminishing the possibilities these fictions contain. In doing so, it has heightened my awareness of the canon which persists in architectural education and the damage done by such limited points of reference, reinforcing the necessity of decolonising practices to understand and celebrate multiple ways of being in and imagining the world.

I have found it in the study of sf with others as celebrated in Chapter 3: using sf as a point of common ground in discussion has allowed me to gain access to myriad individual perspectives, both the disciplinary insights of other scholars and the personal reflections of artists, activists, students, and practitioners. This has made me aware of the stifling constraints of architectural disciplinary knowledges and methods, as well as the astounding possibilities offered by engaged practices which dismantle barriers to co-create architectural design and research. This has offered me tools to approach issues of critical spatial concern, expanding my awareness of where my work had failed to address issues of spatial justice, and providing me the support I needed to attend to them.

Finally, I have found it in the making of sfnal worlds as explored in Chapter 4: collectively writing and building the possibilities we have witnessed in the worlds of sf has

allowed me to model acts of collaborative construction and make them material within the present. These moments of coming together have changed my practice, they have momentarily manifested alternative ways of being with one another, of designing and building. Just as these fictions linger with me, these creative practices speak to the repercussions of small acts of alterity, granting me the strength to make design work in the face of ecological devastation, overwhelming injustice, and heart-breaking iniquity, to acknowledge my responsibility and imagine ways that I might use the power I hold as a designer and educator to fight for a world otherwise. They allow me to practice and teach architecture with hope.

In this endeavour I draw upon the support and solidarity of those who work alongside me in collective writing and making practices. These collaborative practices echo the possibilities depicted in the sf texts we share, creating places of encounter with one another and with the worlds we each carry with us. My work reports back on these transformative experiences, testifying to their possibility and radical potential.

I hope that the published works discussed in this commentary serve to draw attention to the potential of sf for those of us within the spatial disciplines. But as I look forward, such reportage no longer seems sufficient, and I question how I might open such spaces of encounter to my colleagues and comrades within architecture. It is a question I approach with some trepidation, reluctant to place these sites of radical vulnerability in proximity to a discipline which often has little capacity for gentleness - where oppressive teaching practices are rife and where practice is mired in neoliberal ideals of commercial growth and extractivism.[54] Perhaps I am no longer content to bring sf within the service of architecture as it currently exists. Rather, I look to sf to unmake architecture, to

[54] I write this in June 2022, in the same week that the Howlett Brown Environmental Investigation into the toxic culture at the Bartlett School of Architecture is published. It is horrifying, but perhaps even more unforgivably, it is not surprising. These patterns of unrealistic pressure and the crit cultures which push students and staff to breaking point are perceived as the traditional method of teaching within architectural education, and I am reminded again of the urgent necessity of practices of radical care within architecture.

provide those of us working within the built environment with the space to critically redress the assumptions and ideological foundations of this discipline and practice, to dissolve its hard edges into welcome.

It seems that if I want these practices of making and writing through sf to retain the qualities that I cherish then they cannot be enacted within or placed at the singular service of any one discipline. Instead, I am driven to work with those who would join me to create more fleeting spaces between, to extend welcome without pre-determining or defining disciplinary criteria for engagement. I hope that I will meet some of my fellow architects there, and we can travel home together.

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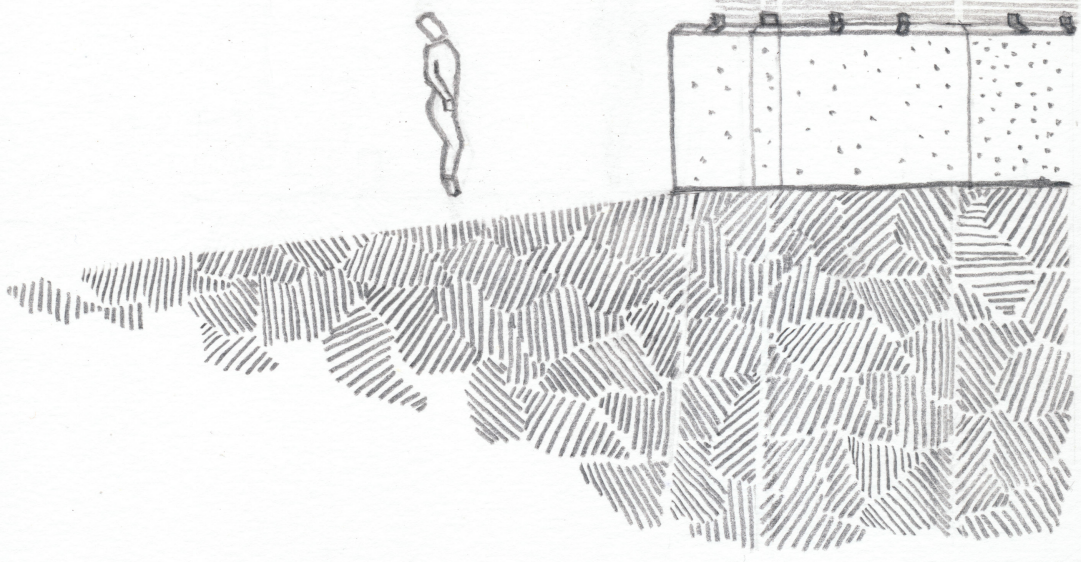


CONTROL TOWERS: LIFE AND LIMITATIONS IN THE WORLD INSIDE

AMY BUTT

Here begins a happy day.
—ROBERT SILVERBERG, *THE WORLD INSIDE*

Most of an architect's life is concerned with that which has not yet taken place, both foreseeing the near future and expressing an intention as to how this future world should be re-made. However small the intervention, all design proposals are small works of utopian science fiction. This, then, is an invitation from an architect and avid science fiction reader to become immersed in another work of science fiction, to create and inhabit a city that has not yet come to be.

> *We have matured beyond the infantile need to place layers of insulation between man and man. Why go outdoors? Why yearn for forests and deserts? Urbmon 116 holds universes enough for us.*[1]

Robert Silverberg's novel *The World Inside* was written in 1972, at a time when science fiction (SF) was turning away from explorations of outer space and towards the contemplation of "inner space,"[2] and beginning to utilize its critical voice in a utopian revival. As readers of *The World Inside*, we take part in this critical conversation, able to engage in Silverberg's extrapolation of the exploding global population[3] and the startling vision of a world of tower cities.

URBMON 116

The World Inside opens in the year 2381 to a world of urban-monads ("urbmons"), each a self-contained city in a tower. Urbmon 116 is part of the Chippitts constellation, which has subsumed the urban megalopolis of Chicago/Pittsburgh. The global population is now 75 billion and climbing, and the development of these 999-story towers is described as the only rational reaction to the exploding population; as the pressure for food increased, the need for arable land intensified, cities were forced to occupy ever-diminishing footprints, pushed upwards by the force of intensive inhabitation.

> *I'm sure you've seen that nearly nine tenths of the land area of this continent is used for food production, and then there are the marine farms. Oh, we have plenty of food on this planet now that we no longer waste space by spreading out horizontally over good land.*[4]

Our position as the readers of this novel is a creative one. It is through us that this world is constructed, and unlike readers of other genres of literary fiction, we have no empirical guide to this imaginary place. We rely on the fragments of description that we find in the text, filling in the blanks with aspects of our own experience in order to establish a complete world for the narrative to inhabit.[5] To do this, we must act as both active participants and critical observers, experiencing this world in order to understand it and comparing this world to our own. In our role as critical observers, we are able to step back to view this imagined place as a constructed narrative.[6] From here we can draw out the critiques inherent in the text—critiques of population growth, of urbanization, and of untrammelled consumption.

> *He looks up the mighty helix and sees the levels stretching toward infinity, with banks of lights glittering above him. A dizzying vortex; a monstrous well through which a million globes drift from above like snowflakes.*[7]

Here, the author can choose to strip away the nuances of a multitude of influences on behavior and instead define a direct relationship between characters' actions and their environment.[8] The homes of an imagined future, the apartments and cells of the urbmon are more than a backdrop or setting for the narrative: they have been remade as its subject.[9]

> *The plains teeming with food, the former deserts, the former savannahs, the former forests. It is all quite wonderful, but it is terrifying as well, and she is uncertain for a moment whether man has reshaped his environment in the best of all possible ways.*[10]

The scale of these cities is a necessity of humanity's continued existence. They house a vast global population that could not be physically accommodated on earth if it were

not for the tower form.

There exists a careful balance between growth and consumption and the capacity of farmland to support—the greatest threat to the human environment is urban sprawl. As such, the greatest threat to society is the individual with a desire to explore. This society defined by the physical constants of the tower allows no site for dissent. All dissatisfaction is suppressed and the social structures have developed as methods of sustaining the population in a state of placid acceptance. There are no constraints on sexual activity or the use of illicit drugs; all desires are met through freely available food, drink, stimulants, or even religious experiences on demand. Those who are still unable to find contentment are simply thrown down the chute and burnt for fuel.

> *How could trouble makers be allowed to remain in the tight, intimate, carefully balanced structure of an urbmon? He knows that the probable result of tossing flippos down the chute has been, over a couple of centuries, the creation of a new style of human being through selective breeding. Is there now a homo urbmonensis, placid, adjusted, fully content?*[11]

Urbmon 116, then, could be considered a utopia, entirely self-sustaining and ideally suited to meet all of the desires of its inhabitants[12]. As with a traditional utopian narrative, we are guided by outsiders[13]—not travellers from another world, but those within its walls who express discontent, who are throwbacks to the pre-urbmon life. The urbmon tower both provokes their desire to act and thwarts their ability to change.[14] The urbmons exist in a time beyond conflict or development, a utopian self-sustaining end-time,[15] and despite their actions, inhabitants both begin and end their time in urbmon 116 with “another happy day”.

> *I couldn’t imagine how one little planet with 75,000,000,000 people could even survive but you’ve turned it into—into—utopia?*[16]

AUREA

As readers, we are introduced to a handful of outsiders who attempt to take action to challenge these limitations. They are those that feel the influence of the tower acting on them personally as a physical and emotional confinement. These guides direct us through the building, from floor to floor, and in doing so they expose a society oppressed by spatial form.

> *Aurea follows the shaft of the great tower with her eyes, down from the landing stage at its thousandth floor tip, down to the building’s broad waist. She cannot see at this angle very far below the 400th floor of the adjoining structure.*[17]

As we move through the tower, we alight on the experience of Aurea, seemingly content in her position high within the urbmon. But the slight disruption of a proposed relocation to another tower disturbs

her apparent ease, exposing the fragile balance between herself and her environment. She is the only character to look out from the urbmon, and while the view from her window is severely restricted by the bulk of the tower next door, her future home, it is a view that repels her.

It is not another world. It is only the building next door. We are not unique. We are not unique. Fear engulfs her.[18]

However slight the scope of her view out, this exposure to another place fills her with fear. The height of her apartment in the tower has lent the distant surroundings an air of unreality.[19] She has become unable to imagine an elsewhere, and is brought to the verge of breakdown by the proposed move.

In her dreams, she floats above the towers, momentarily free from their controlling influence, only to fall and be impaled by them. Her fear overwhelms her—not the fear of heights that we might assume, but a fear of the tower itself—she is overcome by her longing to escape, paralyzed by the incomprehensible idea of her existence outside of the tower.

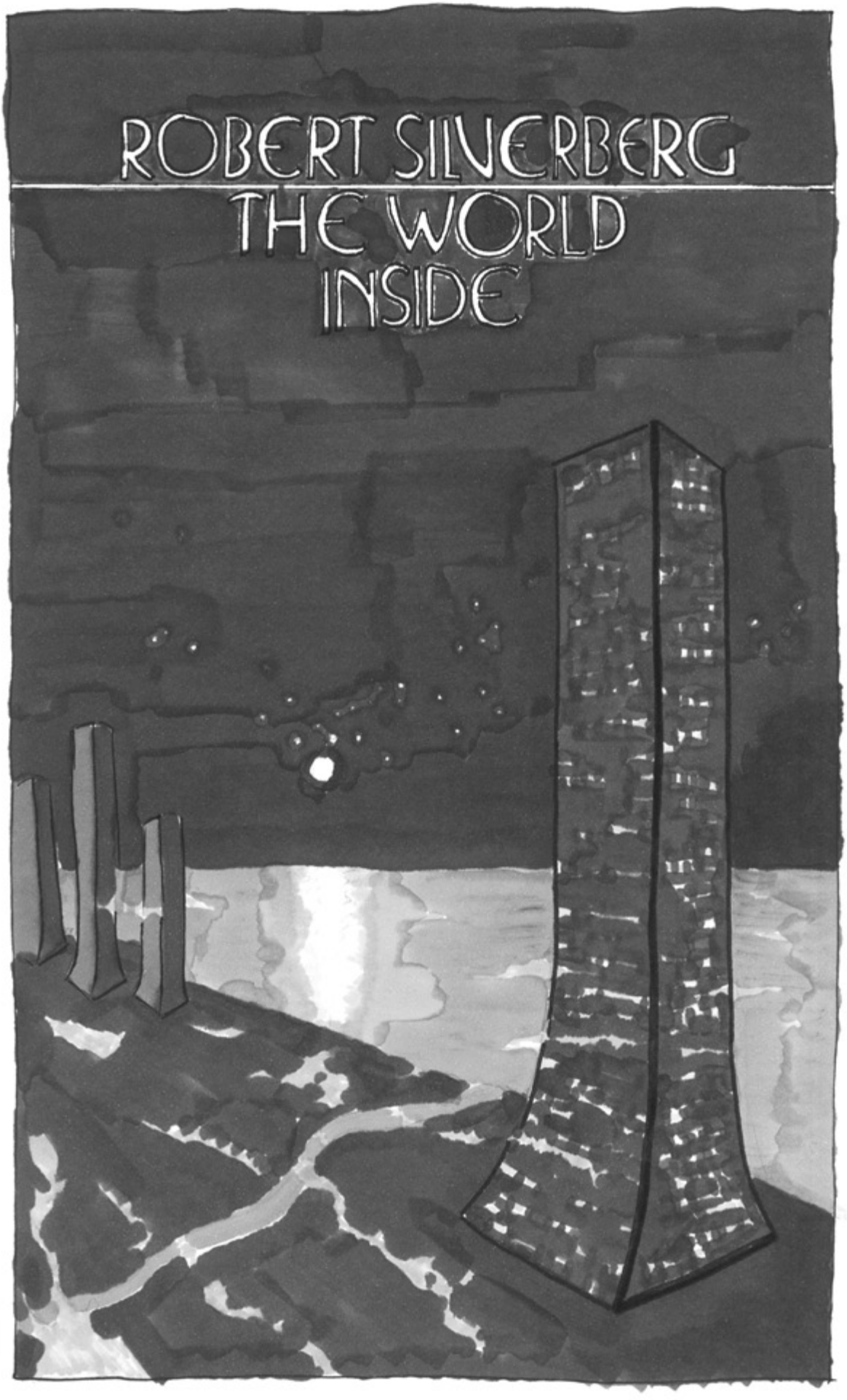
But where is the exit? This? Just a tiny hatch.[20]

MICHAEL

Next, we meet Michael Statler a self-termed "throwback" to the pre-urbmon era. Rather than being repelled by the elsewhere, he is drawn to this vast unknown. He is driven by a desire to explore that which has been all but bred out of the urbmon man: a longing to experience horizontality. He eventually summons up the courage to step out of the urbmon, afraid to even say goodbye as it might threaten his resolve. As he shows his pass to the scanners, the tower opens a small hatch, its size a symbol of this ignominious exit. Stepping out for the first time, he stumbles, legs physically unable to carry him through the landscape, muscles weakened by lack of use within the level floors.

Beyond the tower are the agricultural communes, without any other buildings or trees to break the horizontal expanse. Despite having escaped the towers, they are a constant presence on the horizon, their influence reaching beyond their boundary walls, their shadows cast across the surrounding landscape.[21]

The frightening mass of a nearby urbmon looms in front of him, at a distance sufficient to give him a truer picture of its size. Jabbing the stars, almost. So much, so much![22]



Drawing of cover illustration of *The World Inside* by Tristan Main, 2014. (Original cover design by Signet, 1972.)

As he struggles to comprehend this new life, he begins to realize that he cannot forge a life for himself in the world outside. Eventually, it is the height of the towers that forces him to return, their scale a visible demonstration of his own insignificance. On his way back to the tower he readjusts himself, once more becoming subservient to the demands of urbmon life, but the adjustment comes too late. Observed by the scanners as he re-enters the building, he is promptly engulfed in a hardening gel, summarily sentenced and destroyed on the spot for his dissent.

> *The world is wide and flat here, and the distant urbmons are glossy brown spikes on the horizon, receding east to west. There are no trees.*[23]

SEIGMUND

Finally, we follow Seigmund, an ambitious civil servant who finds purpose in the delicate complexity of the urbmon. As its most perfect inhabitant, he does not experience the sense of confinement that the other protagonists do, but rather strives to attain a position of influence; his challenge to the stasis of the urbmon takes the form of political ascent. He draws a sense of power from the physical location of his apartment, as the privileged position of height corresponds literally to social status.[24] But in order to govern, he removes himself from the society he inhabits, an isolation bred from an abstract knowledge of the urbmon's inhuman scale.[25]

Ultimately, it is this isolation which leads to his discontent, to his inability to draw satisfaction from his life in the urbmon; and so he immerses himself in its apparent freedoms: intoxicants, therapy, sex, and finally an on-demand religious experience which takes the form of a view of the stars—an attempt to negate the sense of limitation by offering a glimpse into a dizzying expanse.

> *The boundaries of our world, that is to say our building, seem too narrow.*[26]

While wandering through the building, he begins to feel it act physically upon him: in the basement, the knowledge of the weight of floors above is physically crushing and he is driven upwards to escape its pressure. He is propelled to the pinnacle of the tower, to find only the expanse of sky and the certain knowledge that he is truly confined by the tower walls. And so he takes the only action that still lies within his control, the only action that allows escape—he steps up onto the rails and throws himself into the void. Yet even this most extreme and final action eventually serves to sustain the balance of

this environment. Seigmund has removed himself from the tower, which continues without hesitation without him.

Life goes on, god bless! Here begins another happy day.[27]

Siegmund's final, drastic action is an extreme response to the fear that unites all the protagonists of this novel—the fear that our environment defines us, that it can alter us. Should we choose to exert ourselves, to break out, break down, or hurl ourselves against the walls of our enclosure with full force, no action within our power will have any impact upon it. It is a fear that the world we make will suppress us and we will have no recourse against it.

A CRITICAL MOMENT

Is the urbmon, then, the only true protagonist of this novel?[28] From its perspective, the actions of the other characters are futile, and their interwoven stories each conclude with a return to stasis. Only the building exerts influence over this reality. It not only determines the lives of its occupants, defining their constraints; it also watches them through its systems of screens and can take meaningful action against them, destroying those who rebel against it.

As we make our own escape from the confines of the urbmon walls, we are able to cast a critical glance at the future we are making. We carry with us the lingering fears of the urbmon, a fear that our environment can outgrow us and that the needs of the cities we make will overshadow our own.[29]

Between then and now exists a critical moment, the last moment in which our actions to reshape the world can take effect, beyond which we will no longer be able to change space to fit us, but will be irrevocably formed to fit it.

After that moment, there is only overwhelming scale and complexity, the point at which these dominant landscapes render us obsolete.

The towers bear no numbers. Those who live inside them know where they live. Half staggering, Michael approaches the nearest building. Its flanks illuminated with radiant dawn light. Looking up a thousand floors. The delicacy, the complexity of its myriad tiny chambers. Beneath him the mysterious underground roots, the power plants, the waste-processing plants, the hidden computers, all the concealed wonders that give the urbmon its life. And above, rising like some immense vegetable growth, its sides marvellously intricate, a hatchwork of textures, the urbmon. Within the hundreds of thousands of interwoven lives, artists and scholars, musicians and sculptors, welders and janitors.
His eyes are moist.
Home.
Home.[30]

NOTES

1 Robert Silverberg, *The World Inside* (London: Granada, 1978), 19.
2 Judith Merril, ed., *England Swings SF* (London: Ace, 1969).
3 *The Limits to Growth*, published four years earlier, was an attempt to model the impact of the seemingly exponential growth of global population. It presented two stark alternatives: the establishment of an ordered stabilized world, or the "overshoot and collapse" of the global system. Donella H. Meadows, Edward I. Goldsmith, and Paul Meadow, *The Limits to Growth* 381 (London: Earth Island Limited, 1972).
4 Silverberg, *The World Inside*, 15.
5 This role of the reader is expounded by Kathleen Spencer in her study of the textual dynamics of SF: "The reader oscillates between involvement in, and observation of, the world of the text." Through this process, the reader attempts to re-create the "absent paradigm"; the world image as constructed by the author. Kathleen Spencer, "The Red Sun Is High, the Blue Low: Towards a Stylistic Description of Science Fiction," *Science Fiction Studies* 10.1 (1983), 35–50.
6 This "cognitive estrangement" is the critical element which defines SF for literary theorist Darko Suvin: a process of critical detachment of the reader, making us 'other' and consequently allowing us to critically view both the imagined and the real alongside one another. Darko Suvin, *Metamorphoses of Science Fiction: On the Poetics and History of a Literary Genre* (New Haven: Yale University Press, 1979), 4.
7 Silverberg, *The World Inside*, 172.
8 As Yi-Fu Tuan states, "Literary works do not aspire to analytical truths; hence, they make no effort to separate experience from its environmental context." Yi-Fu Tuan, "Literature, Experience and Environmental Knowing," in *Environmental Knowing: Theories, Research and Methods* (Strousburg, Penn.: Dowden Hutchinson and Ross, 1976), 260.
9 A similar remaking is examined by Angharad Saunders with regard to the creation of the Edwardian domestic novel, which "unmade the home as a fictional setting, and remade it as a fictional subject: the home became the very problem of the novel." Angharad Saunders, "Violating the Domestic," *Home Cultures* 11:2 (2014), 219–236.
10 Silverberg, *The World Inside*, 34.
11 Ibid., 76.
12 For a utopian reading of Silverberg's *The World Inside*, refer to Meritt Abrash, who examines the tower society as a "hive": highly organized, rigidly hierarchical, and enclosed. Meritt Abrash, "Robert Silverberg's *The World Inside*," in *No Place Else: Exploration in Utopian and Dystopian Fiction*, eds. E. Rabkin, M. Greenberg, and J. Olander (Illinois: Southern Illinois University Press,, 1983), 225–243.
13 Raffaella Baccolini's examination of the traditional utopian/dystopian novel identifies the role of a "character who questions"; who acts as a guide for the reader, a narrative device to enable a description of the social and spatial dynamics. This role is traditionally played by a traveller or an explorer who discovers the utopia in an 'other' place, either physically or temporally distant. Raffaella Baccolini, "Breaking the Boundaries: Gender, Genre, and Dystopia" in *Per una definizione dell'Utopia. Metodologie e discipline a confronto*, ed. Nadia Minerva (Ravenna: Longo, 1992), 137–146.
14 As suggested by author and literary critic Samuel Delany, the setting of the novel is the driving force behind its creation, and that motivates the principal characters. Samuel Delany, "Reading Modern American Science Fiction," in *American Writing Today*, ed. Richard Kostalanetz (New York: Troy, 1991) 517–528.
15 In her study of utopian form, Elizabeth Grosz delineates the defining temporal features of a utopia; its existence in a time beyond change, an end of history that acts as demonstration of the immutable perfection of the utopian ideal. Elizabeth Grosz, *Architecture from the Outside* (Cambridge, Mass.: MIT Press, 2001).
16 Silverberg, *The World Inside*, 17.
17 Ibid., 26.
18 Ibid., 128.
19 Aurea exhibits what literary theorist David Nye terms "magisterial vision." Her physical detachment from the ground below provokes a mental detachment, and the gardens far below are rendered unreal to her. David Nye, "The Sublime and the Skyline" in *The American Skyscraper*, ed. Roberta Moudry (Cambridge: Cambridge University Press, 2005), 261.
20 Silverberg, *The World Inside*, 25.
21 As hypothesized by Louis Marin, the very visibility of a tower ensures that it exists in what he terms "the immediacy of an absolute presence." As a result of its visual presence over the tops of surrounding buildings, all surrounding space are defined in relation to it. Louis Marin, "Frontiers of Utopia: Past and Present," *Critical Inquiry* 19:3 (1993), 397–420; 264.
22 Ibid., 130.
23 Silverberg, *The World Inside*, 131.
24 For a Marxist examination of the social stratification within Silverberg's *The World Inside*, refer to the work of Jeff Hicks. Hicks' conclusion is that the novel illustrates residential differentiation despite equal distribution of land, that "location within the Urbmon, and its indication of professional status, has become a shorthand for social distinction." Jeff Hicks, "Residential Differentiation in the Vertical Cities of J.G Ballard and

Robert Silverberg," in *Marxism and Urban Culture*, ed. B. Fraser (Plymouth: Lexington Books, 2014), 137–156.

25 Following Foucault's study of the mechanisms of panopticism, Siegmund's attitude towards the other inhabitants has been created by the hierarchical structure of the tower allowing observation of those below. As he occupies the position of observer, he views the crowd as an abstract, as "a multiplicity that can be numbered and supervised."

> Michel Foucault, *Discipline and Punish: The Birth of the Prison* (New York: Vintage Books, 1995), 165.

26 Silverberg, *The World Inside*, 179.

27 Ibid., 188.

28 For an interrogation of the living spaces of Silverberg's *The World Inside*, refer to the work of Dunn and Erlich.

> Thomas Dunn and Richard Erlich, "The Mechanical Hive: Urbmon 116 as the Villain-Hero of Silverberg's *The World Inside*," *Extrapolation: The Journal of Science Fiction and Fantasy* 21:4 (1980), 338–47.

29 This reciprocal relationship between the city and its inhabitants is poetically expressed by Robert Park: "But, if the city is the world which man created, it is the world in which he is henceforth condemned to live. Thus, indirectly, and without any clear sense of the nature of his task, in making the city man has remade himself." Robert Park, *On Social Control and Collective Behavior* (Chicago: University of Chicago Press, 1967), 3.

30 Silverberg, *The World Inside*, n.p.

Amy Butt

Between the image and the building: an architectural tour of *High-Rise*

> Their real opponent was not the hierarchy of residents in the heights far above them, but the image of the building in their own minds, the multiplying layers of concrete that anchored them to the floor.[1]

As an architect and avid science fiction reader, whenever I introduce my dual passions for the first time I am inevitably asked, 'So you must love J.G. Ballard then?' The science fiction author of choice for architects, Ballard's writing contains a subversive appreciation for the power of the built environment; its latent potential to influence individuals and structure society.[2]

In Ballard's 1975 novel *High-Rise* the building is more than a backdrop or plot device; it acts as the central protagonist in a narrative of social disintegration. It both permits and facilitates the darkest desires of its residents, making manifest their subconscious impulses[3] and physically removing them from the rules of the society they once inhabited. As Ballard has described it, 'their behaviour only makes sense if you assume they want this apparent descent into barbarism … the environment makes possible the whole set of unfolding logics.'[4]

In Ben Wheatley's 2015 film adaptation, the high-rise as designed and realised by Mark Tildesley emphatically conveys this atmosphere of barely repressed menace through its striking spatial form and materiality becoming an active participant in its residents' fall from grace, a spatial incitement to social violence.

Rather than follow the film's narrative sequence I will take an architectural tour; and you have my apologies for the spoilers that this entails, in order to appreciate *High-Rise* as both an architectural site and a protagonist, a space whose influence is always forcefully present directing its inhabitants' actions. As we move through Wheatley's high-rise from the ground floor to the penthouse, I refer to Ballard's novel as a guidebook to this imagined place, albeit transformed by the intervening forty years of regeneration.

Approaching from the outside, the high-rise which forms the setting of the narrative sits as one of five towers arranged around a central open plaza. From this vantage point, Dr Robert Laing, the tower's 'most perfect' inhabitant is able to observe the other towers in their varying stages of construction.[5] They encircle him and, as he watches their construction, the connections between this place and the world outside are bricked up. The landscape beyond is flattened, transformed

into mere backdrop scenery. This differs from the novel, where the group of towers loom like a 'palisade'[6] overshadowing the suburban streets in which they sit and metaphorically overpowering traditional society as represented in the bland ubiquity of suburban housing. Here the encircling towers' control is more absolute, there is no need to demonstrate defiance of previous modes of living, they are simply rendered irrelevant. For Laing and the other residents, the completeness of the surrounding towers divorces them from life beyond their high-rise. Its power over their lives is as absolute as its dominance over the landscape.[7]

Looking up from ground level, the form of the tower itself further encourages this mental retreat from life beyond its walls. In Wheatley's interpretation it has an angled slant partway up like the crooked bend of a finger, creating an immediacy between the rooftop and the ground on one side with nothing but air between them. On the other side of the tower, it establishes an intimacy between the floors as the angle allows for balconies to directly overlook one another, creating a clearly defined hierarchy of power.[8]

As we enter and move up through the building, we ascend through these tiers of social stratification, stopping first at the flat of filmmaker Richard Wilder and his family on the fifth floor of this forty-storey tower. There is no distinction between the materials of the corridors and the foyer and those of the flats, the exposed plaster and concrete are raw and unapologetic, a physical metaphor for the psyche which the high-rise cultivates. Inside Wilder's apartment, sections of bush-hammered concrete project into the rooms, appearing to push through the internal walls, the rough ridged texture an expression of the brute force of their construction.[9] Seemingly unsuited to the tower's brutish nature, Helen Wilder has attempted to softened its edges by decorating their apartment with floral prints, furniture and house plants. These attempts serve only to heighten the psychological impact of these materials; hard and unyielding, they offer no scope to be softened by human inhabitation, rather they demand that the inhabitant be remade to fit.

On this floor, as throughout the building, exposed concrete columns sit in the centre of rooms, disrupting the lives they contain and making the building's physical form impossible to ignore. They are tapered in a modernist reinterpretation of classical entasis, physically expressing the load of the building which they bear, and they act as a constant reminder of the levels above.[10] In the novel the psychological 'weight' of the building is felt particularly strongly at the lower levels, and it pushes the filmmaker Wilder to ascend the tower and confront its architect, Anthony Royal, who inhabits the penthouse.[11] By comparison these tapered columns throughout the floors in Wheatley's high-rise make the force of the building ever-present, and this symptom of lower-class strife is transformed into a psychological pressure which the building brings to bear on all its inhabitants.

As Wilder attempts to scale the tower, he makes slow progress up through the stair wells, over barricades and under assault from the floors above. They are a featureless extension of the corridors, and the site of more entrenched class division. In the novel, Ballard dwells on these spaces of circulation to make manifest the human tendency towards tribalism, providing the residents with a social hierarchy defined by floors which could be delineated and defended, until even these tribal bands dissipated into their isolated individuals.[12] Wheatley shifts our focus from the stair well to the lift as a contested space, and in doing so renders the subtle floor by floor gradation and its associated arbitrary affiliation less immediately apparent.

As we climb further up the tower of the film, on the tenth floor we find the public spaces of the supermarket and the swimming pool. Initially sterile monuments to modernist visions of health, their communal use establishes them as the first contested spaces and sites for tribal violence, and they rapidly degenerate into squalid and fetid spaces. Laing, driven by a desire to make a home for himself in this new vision of high-rise life, ventures out to the supermarket where amongst the rotting produce sits the last tin of household paint, and he viciously attacks another resident, using the paint tin as a weapon in order to claim it. It is his first act of intentional and disproportionate violence and it marks his participation in this aggressive aspect of the life of the tower.

When Laing first moves into his apartment on the twenty-fifth floor, we see it in its uninhabited state, the concrete column in the centre, the hard sheen of the stainless-steel worktops and bare plaster, all exposed and unadorned. Wheatley introduces Laing's act of decorating his flat into the narrative, and it provides a demonstration of the shift in his role within the high-rise, from passive observer to disinterested participant. The paint colour he has chosen is an exact match to the slate blue/grey of the sky seen from his balcony, unmarred by clouds and utterly detached from the ground below, the true site of the high-rise.[13] As he paints, he stacks up his unpacked moving boxes, wedging them on top of one another until they sit as compressed towers or columns between floor and ceiling. They are physical and psychological totems, supports which prevent the weight of the tower above from crushing him, and he makes a place for himself within a small-scale cardboard replica of the tower complex he now calls home.

Out on the balcony Laing's flat is directly overlooked by that of Charlotte Melville and she is able to balance her drink delicately on the ledge and calmly observe him below, vulnerable to the dropped bottle or the disdainful downward glance. She becomes a voyeur, physically close but emotionally distant from all she observes. The casual nature of their interaction belies the precariousness of their physical location, the cascading effect of the balconies which tumble down the face of the building demands that the residents adjust to a life on the edge of falling.

High-Rise: Charlotte Melville (Sienna Miller) as voyeur. Photo by Aidan Monaghan courtesy of StudioCanal / Hanway.

On the other side of the tower the projecting face of the building seems to invite the experience of vertigo and the contemplation of falling, and it offers no resistance to the suicidal leap of one of the residents, medical student Munrow, from his balcony. As his corpse lies below, the tower's form allows the residents to observe his death from their balconies, crowding over his body while retaining their physical and emotional distance. Ballard describes these balconies as 'boxes from an enormous outdoor opera theatre',[14] the building transforming life outside into something unreal, played out for amusement, observed from a position of privileged detachment.

The lift conveys us up to the higher floors, its mirror lining reflects its role as a transformative space, where the outward projection of the self is endlessly replicated. Wheatley uses the lift as a source of juxtaposition and a critical space of instantaneous social reinvention. It lifts Laing up to the dizzying heights of the penthouse elite and just as quickly spits him back out, used and beaten. In contrast to Ballard's focus on the subtle layering of social strata expressed in the stairwells, Wheatley creates a stronger differentiation of class and tribal identity, and a greater incitement to violence.[15]

On reaching the top floor of the tower we are confronted by the sight of an architectural folly, a thatched cottage in an English country garden. It is a space entirely out of context, lavish in its scale and denial of its physical location. It allows Anne Royal to act out the part of Marie Antoinette, dismissing the world outside and the brutality of high-rise existence as literally beneath her. In Wheatley's interpretation, the roof exists as an exclusive playground for the super-rich, a further demonstration of class differentiation through wealth and taste, a testament to stratified privilege. It makes visible a social system so entrenched

and iniquitous that its dissolution into the anarchy of the individual seems almost inevitable.[16]

This is a departure from the use of the roof in the novel, where it is a sculptural children's playground, an echo of the playground at the top of Le Corbusier's Unité d'Habitation and a visible reminder of the moral complexity of the tower's architect, Anthony Royal, and, by inference, those of all modernist architects.[17] The playground is a demonstration of a noble social vision, a dedication of the most valuable space to a communal purpose. Through this space Royal is understood to be a misguided patriarch, a Frankenstein bemused, dismayed and finally destroyed by his own creation.

In a corner of the penthouse garden sits Royal's studio and he proudly displays an architectural model of the finished blocks, describing them as fingers on a welcoming 'open hand'. Tellingly, the model extends no further than the site boundary, it is contextless, conceptually limiting the inhabitants' lives to the spaces Royal has created.[18]

In the novel, Wilder ascends the stairs to confront Royal on the rooftop, and as he climbs he continually smears the stains of this collapsing society across his face as a form of warpaint; the blood and grease worn as proud testament to its descent into violence. In Wheatley's interpretation, Wilder's application of a warpaint is mirrored by Laing, who streaks the grey paint of his apartment across his suit, face and hands. Where Wilder celebrates the fleeting burn of violence in the high-rise, Laing embodies its underlying cause; an emotional and physical distancing from society and an ability to thrive in isolation, an almost psychotic break from previous empathetic connection.[19] Through this middle-class, and ever-so-tasteful warpaint, Laing engages with the high-rise as home; he has remade himself to fit, and the last vestiges of his life in the outside world are remade by the stains of this new one.

Ballard's novel used the high-rise as a method for exploring the alien worlds of the inner self, transformed and released by the technological reshaping of the built environment, an extrapolative response to discussions around environmental determinism.[20] Throughout the novel the building encourages its residents to release some inner primitive self, a self which exists outside of notions of society. In this the building is a gateway, the height distances residents from their surroundings and the social rules which govern them, while the stratification of floors encourages tribal violence. In doing so it triggers the release of a repressed part of all of the residents, something they actively desired but were afraid ever to want.

In Wheatley's interpretation the high-rise plays a more active role, and it pushes the residents towards anarchy through its physical presence. Through its architectural form it enforces a detachment from the world beyond its walls and places the residents in spaces which heighten their sense of physical vulnerability and emotional isolation. Within the tower the distinct social stratification demands

violent dissolution, while the exposed materiality and spatial arrangement expresses uncompromising force and demands that residents remake themselves to fit.

Revisited in the London of 2015 the construction of a high-rise of forty storeys seems modestly sized by comparison to the cities we currently inhabit, a quaint throwback to an earlier vision of the future. But the fear that Wheatley conveys has, if anything, become more overwhelming; the fear that the sheer scale of the cities we construct grants them an unknown power to radically reshape our societies and our selves, the fear that our built environment may render us obsolete.

Notes

1 J.G. Ballard, *High-Rise* (London: HarperCollins, 2012), 58.

2 For discussions regarding the relevance of the writing of J.G. Ballard to architecture and urban studies, see for example: Lucy Hewitt and Stephen Graham, 'Vertical Cities: Representations of Urban Verticality in 20th-Century Science Fiction Literature', *Urban Studies*, 52:5 (2015), 923–37; Simon Sellars, 'Stereoscopic Urbanism: JG Ballard and the Built Environment', *Architectures of the Near Future*, special issue of *Architectural Design*, ed. Nic Clear, 79:5 (2009), 82–7; Jonathan Taylor, 'The Subjectivity of the Near Future: Geographical Imaginings in the Work of J.G. Ballard', in *Lost in Space: Geographies of Science Fiction*, ed. Rob Kitchin and James Kneale (London and New York: Continuum, 2002); Nic Clear (ed.), *Architectures of the Near Future*, special issue of *Architectural Design* (John Wiley and Sons, Ltd, 2009); Zeynep Ultav, 'Reading Science Fiction Novels as an Architectural Research', *The 'Radical' Designist*, 1 (2006).

3 Jonathan Taylor draws on the work of Steve Pile (1996) and Laura Colombino (2013) to discuss Ballard's work in terms of surrealism and psychoanalysis, where the built environment can be read as a physical manifestation of the unconscious. (Taylor, 'The Subjectivity of the Near Future').

4 J.G. Ballard, quoted in Vivian Vale and Andrea Juno, *J.G. Ballard* (San Francisco CA and Enfield: V/Search Publications, Airlift (distributor), 1984), 162.

5 'Dr Laing, staring out all day from his balcony under the fond impression that he was totally detached from the high-rise, when in fact he was probably its most true tenant' (Ballard, *High-Rise*, 74).

6 'The five apartment buildings on the eastern perimeter of the mile-square project formed a massive palisade that by dusk had already plunged the suburban streets behind them into darkness. The high-rises seemed almost to challenge the sun itself' (ibid., 19).

7 This association of the height of a building with a sense of control has been explored in depth by spatial theorists and Louis Marin hypothesised that the very visibility of a tower, over the tops of surrounding buildings, ensures it exists in what he terms 'the immediacy of an absolute presence'. The viewer is forced to define all other places in reference to it; within its sphere of visibility its influence is absolute. (Louis Marin, *Utopics: Spatial Play* (London: Macmillan, 1984) 264).

8 For discussions regarding implied hierarchy of the vertical, see for example: Lucy Hewitt and Stephen Graham, 'Getting off the Ground: On the Politics of Urban Verticality', *Progress in Human Geography*, 37:1 (2013), 72–92.

9 Bush-hammered concrete refers to a process by which the smooth finished layer of concrete is removed to expose the aggregate stones and create a rough or serrated texture, achieved either by hand chiselling or using a percussive pneumatic hammer.

10 Entasis refers to the curve added to a column thickening it around the centre, historically noted in Greek temple design. It is commonly understood as a corrective to make columns appear straight, but is also applied in a more exaggerated fashion where the intention appears to be the expression of load or strain, of the weight of the building pressing down.

11 '[Wilder] was constantly aware of the immense weight of concrete stacked above him … conscious of each of the 999 other apartments pressing on him through the walls and ceiling, forcing the air from his chest' (Ballard, *High-Rise*, 48).

12 'For the next two hours a series of running battles took place in the corridors and staircases, moving up and down the floors as barricades were reassembled and torn down again' (ibid., 108). 'However, the open tribal conflicts of the previous week had now clearly ceased. With the breakdown of the clan structure, the formal boundary and armistice lines had dissolved, giving way to a series of small enclaves, a cluster of three or four isolated apartments' (ibid., 126).

13 'These huge buildings had won their attempt to colonise the sky' (ibid., 19).

14 'All around, people were leaning on their railings, glasses in hand, staring down through the darkness. 'Far below, embedded in the crushed roof of a car in the front rank, was the body of a man in evening dress. … Laing held tightly to the metal bar, shocked and excited at the same time. Almost every balcony on the huge face of the high-rise was now occupied, the residents gazing down as if from their boxes in an enormous outdoor opera house' (ibid., 41). It is worth noting that in the novel this suicide is of an unknown jeweller, barely recognised by Laing, whereas in Wheatley's interpretation Laing bears some direct responsibility for the medical student's decision to leap, a reflection of his more active role in the psychological violence of the high-rise.

15 The lived reality of lifts within towers, and their social role, has been studied by human geographers such as Donald McNeill, 'Skyscraper Geography', *Progress in Human Geography*, 29:1 (1 February 2005), 41–55.

16 For contemporary discussion on the exclusive role of the rooftop, see for example: Oliver Wainwright, 'The "Sky Pool" Is Just the Start: London Prepares for a Flood of Bathing Oligarchs', *Guardian*, 20 August 2015, sect. Art and Design; http://www.theguardian.com/artanddesign/architecture-design-blog/2015/aug/20/london-sky-pool-trend-swimming-oligarch.

17 Completed in 1952, Le Corbusier's Unité d'Habitation in Marseilles has been argued to be one possible source of inspiration for Ballard's high-rise, and the public facilities on the roof included a nursery, a running track, and pools for paddling and swimming, all formed from highly sculptural concrete forms. (For discussions on Ballard and Le Corbusier, see for example: Jeff Hicks, 'Residential Differentiation in the Vertical Cities of J.G. Ballard and Robert Silverberg', in *Marxism and Urban Culture*, ed. Benjamin Fraser (New York: Lexington Books, 2014), 137–56; Andrzej Gąsiorek, *J.G. Ballard* (Contemporary British Novelists) (Manchester: Manchester University Press, 2005), 108.)

18 'Already his attention was fixed on the events taking place within the high-rise, as if this huge building existed solely in his mind and would vanish if he stopped thinking about it … As he walked across the parking-lot Laing looked back at the high-rise, aware that he was leaving part of his mind behind him' (Ballard, *High-Rise*, 34).

19 'A new social type was being created by the apartment building, a cool, unemotional personality impervious to the psychological pressures of high-rise life, with minimal needs for privacy, who thrived like an advanced species of machine in the neutral atmosphere. … Perhaps the recent incidents represented a last attempt by Wilder and the airline pilots to rebel against this unfolding logic? Sadly, they had

little chance of success, precisely because their opponents were people who were content with their lives in the high-rise, who felt no particular objection to an impersonal steel and concrete landscape … These people were the first to master a new kind of late twentieth-century life. They thrived on the rapid turnover of acquaintances, the lack of involvement with others, and the total self-sufficiency of lives which, needing nothing, were never disappointed' (ibid., 36).

20 Debates about the oversimplification of a deterministic reading of the physical environment are summarised by Karen Franck, as concerns regarding the 'exaggeration of the influence of the physical environment, its assumption that the physical environment has only a direct influence on behaviours, its perception of people as passive in the environment-behaviour relationship with no choice or goals, and its assumption that the environment is a constant unlikely to be changed or modified' (K.A. Franck, 'Exorcising the Ghost of Physical Determinism', *Environment and Behavior*, 16:4 (1 July 1984), 412.

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This article argues for the value of reading science fiction among architects and urban theorists, to reimagine and critically reconsider cities currently under construction.

'Endless forms, vistas and hues': why architects should read science fiction

Amy Butt

Most of an architect's life is concerned with that which has not yet taken place, both foreseeing the near future and expressing an intention of how this future world should be remade. However small the intervention, all design proposals are utopian works. With this in mind, this article is a celebration of the utopian potential of reading science fiction (SF); to make the familiar strange, to reveal fears about the future, to confront us with ourselves, and to shape the world we inhabit. It is an unabashed call from an architect and avid SF reader for architects to raid the bookshelves, find the most lurid cover and glaring font and lose themselves in the exuberant worlds of science fiction.

Introduction: 'a dignity befitting its role'

> *The meeting chamber, though its location was secret and it possessed neither door nor windows, had a dignity befitting its role.*[1]

The opening lines of this short story provide us with an imagined space to meet, a suitably otherworldly site to discuss architects reading SF. It is a room sealed within itself, defined by its startling lack of familiar features, yet requiring a memory or idea of 'dignity' to furnish it. In reading these two lines we are already engaged in a multitude of imaginative and critical practices; constructing a room, a city, a society, a world in which this space would exist, then holding it up to the light to see how it was made, picking out the joins where pieces of the street you live on or the office you work in have found their way into the fabric of this strange sealed room.

While some of these practices are shared with SF film, graphic novels, poetry, and literary fiction, they accumulate in SF literature to provide a unique set of overlapping tools and perspectives for architectural imagination and critical thought. This article brings together existing frameworks of thought, to consider the spatial disciplines alongside literary theory and criticism, science fiction studies, and utopian studies. Together these create an interdisciplinary overview of some of the many ways that SF can be read. Each section explores one approach in turn; reading the worlds constructed within SF as prediction, as inspiration, as reflection, and as critique. These approaches are modes of reading *into* and ways to read *from*; demonstrating the value of SF to architects by providing a way to interpret the world of the text and an opportunity to reflect on design practice. Throughout, quotes from a single SF short story, 'An Overload' by Barrington Bayley, introduce each section to provide a common narrative point of reference to frame and demonstrate the mode of reading under discussion.

'… to provide a unique set of overlapping tools and perspectives for architectural imagination and critical thought …'

This is an argument for broad engagement with the genre of SF as a whole and with the spaces in which these stories are set. As such, it will reflect on how these modes of reading can be applied to this single short story, a slim twelve pages which will stand as proxy for an entire genre and demonstrate the visceral and vital value of SF to the architect as reader. As an architect I acknowledge that I exhibit a professional bias and use the term to cover all those persons involved in the design and construction of the future city. While architects hold a privileged position in the material reconstruction of the city this reading of SF holds critical value for a much wider audience, as we are all intimately involved in the reimagining and remaking of our cities, the reading and writing of our built futures.

'An Overload' was written in 1973 by Barrington Bayley, an author well known in SF studies despite the wider impact of his work being 'seriously underestimated'.[2] The story was published in *New Worlds 6: The Science Fiction Quarterly* edited by Michael Moorcock with Charles Platt, the sixth in an eight-book run showcasing authors from *New Worlds* magazine during a hiatus in its publishing. This magazine and Moorcock's role as editor were

seminal in the development of New Wave SF. Bayley was a prominent author in this movement which was concerned with the psychological or social impact of imagined worlds, what its most well-known author, J. G. Ballard, termed '"inner space", rather than "outer space"'.[3]

So, 'An Overload' is a story written by a respected but not widely celebrated author, part of a pivotal movement in SF but not its most well-known proponent, a representative but not seminal example of his work, published by an innovative magazine but not at the height of its influence, edited by a key voice in the field but shared in a short-lived anthology series, in a subgenre of SF where the built environment plays a supporting role. As a proxy text for all SF, it offers as much as any to the architect as reader.

Sadly, there is not space here to reproduce the story in full, so a précis will have to suffice. The plot follows the rise of a new political power within Megalopolis. A new challenger in a plutocratic democracy who attempts to break the stranglehold of the syndicate who govern the lower levels of Under-Megapolis. Through complex political machinations this radical politician obtains the right to use holographic technology to project himself into the rooms of the electorate as effectively as his opponents. Meanwhile his researcher and our protagonist Obsier has uncovered the dark secret that the personalities of the syndicate cartel share a startling resemblance to film stars of the 1920s. They realise the truth too late: in a city this complex the human leaders were long ago replaced by machines as the scale of this mass of humanity is simply too much for human consciousness to comprehend, and the political hopeful is irrevocably overwhelmed by the city.

> *And then the impressions began to hit him. It was merely a tidal wave at first and he was able to ride with it. But in the next few seconds it became stronger.*[4]

As radical imagination: 'Millions upon millions of scenes'

> *Millions upon millions of scenes, tens of millions of human consciousnesses, were forcing themselves into his consciousness, which like a balloon expanded, expanded, expanded* [...] [5]

The practice of architecture is reliant on imagination, an iterative creation of possible worlds and their refinement into possible realities. Perhaps the most fundamental thing SF can offer an architect then, is imaginative freedom. That is not to say that the escapism offered by SF does not adhere rigorously to the internal logics of the fictional world, but that this world can be radically different from the one we currently occupy. For SF and political theorist Frederic Jameson, this radical imaginative freedom is the critical factor that differentiates SF from other forms of literary expression. Jameson argues that this is rooted in the genre's 'para-literary' character, its self-definition as existing outside of literary fiction giving it the 'capacity to relax that tyrannical "reality principle" which functions as a crippling censorship over high art'.[6]

'The practice of architecture is reliant on imagination, an iterative creation of possible worlds and their refinement into possible realities. Perhaps the most fundamental thing SF can offer an architect then, is imaginative freedom.'

The radical freedom of SF allows authors to undertake expansive and exhilarating world-building, from the surreal tweaking of the disconcertingly familiar, to the construction of coherent universes. This is a space for architectural imagination to be unleashed, for new technologies to bend old rules.[7] It is a site for architects to stretch out into the breathtaking scope of all that can be imagined, beyond that which can be realised.

'An Overload' can be enjoyably read as sheer imaginative free fall and it offers the architect as reader the chance to be imaginatively enriched and expanded by its 'millions upon millions of scenes'. But while SF revels in its imaginative freedom, this single mode of reading as an entertaining escape overlooks the much greater potential for this genre to inform architectural thinking and design.

As inspiration: 'spreading up and out'

> *Perched above it, using it for a foundation, was SupraBurgh, spreading up and out like a great tree to glory in the sunlight that struck, to Obsier's mind, almost supernaturally out of a naked sky. Occasionally interstellar ships arrived to settle like birds in that tree.*[8]

Just as we escape into the worlds of SF, the imaginative visions conjured within SF worlds do not remain confined to the page. As urban theorists Stephen Graham and Lucy Hewitt have argued, SF images of the city have directly informed the design of the built environment.[9] So, the image of the Emerald City from *The Wizard of Oz* (1939) can be extracted from its plot and directly appropriated as an aesthetic for Burj Khalifa because the Emerald City *looks like* a utopian city on the hill.[10]

Certainly, the description of SupraBurgh offers aesthetic inspiration to the architect as reader. It is a city resonant with natural simile, a manmade tree with space-craft birds. Poetic language that implies a glittering tower in harmony with its environment, establishing an alluring image of the future.

Within the architectural profession, arguments for the value of SF have typically focused on its use as a source of aesthetic inspiration.[11] But, as described by architect Nic Clear, this process of aesthetic extraction replaces 'a vision of the future with an image of the future'.[12] While SF, and in particular, the visuals of SF film provide architectural readers with a rich source of aesthetic inspiration, this mode of reading overlooks the plot and as such provides only a context-less precedent study.

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As prediction: 'developing their own forms'

> *Long ago the two conurbations had gone by a single name, Megapolis. They had been governed as one super city by Central Authority. But gradually its functions had withered away. The upper and the lower parts of the super city had diverged in social and economic terms, developing their own forms of government, institutions, even languages, until now they were aliens to one another and forbore all contact except for a certain amount of trade.*[13]

As architects and urban planners are influenced by the images of science fiction, it seems almost self-fulfilling that SF should be read for predictions of the city yet-to-come. Within SF literature, the subgenre of what SF theorist and author Samuel Delany calls 'predictive tales' can provide thought experiments that directly extrapolate from the present to test out a possible future.[14]

For architects, this process of projection, of visualising the construction of a space in the future inhabited by imagined users is analogous to the process of architectural design itself. As such, SF offers architects an imaginative exercise to extend the line of extrapolation beyond the completion date for the architectural project, a space to dwell in the effect of architectural design far beyond any post-occupancy evaluation.

'… a space to dwell in the effect of architectural design far beyond any post-occupancy evaluation.'

A similar process of extrapolation is undertaken *within* the story of 'An Overload'. Bayley provides us with the city's own linear history, the gradual division of Megapolis into above and below. The upper section is the mega-city of SupraBurgh, while the lower half, UnderMegapolis, is self-contained and sealed from the outside world. Read in this way, Bayley starts his city history with the futuristic vision of the mega-city in a single structure and provides an extrapolation of a future far beyond that. Both cities are still contained within an indivisible architectural whole, but the small social and economic distinctions that were allowed to develop have split the city into two halves. While the initial jump to a future state is too abrupt for this to be a 'predictive tale', 'An Overload' offers a hypothetical extension of processes of urban segregation, a potential warning to resist the nascent signs of ghettoisation before they split our cities irrevocably.

In this way, the subgenre of 'predictive tales', which explicitly follow a rigorous process of extrapolation from the known circumstances of the present, can be usefully considered as a form of imaginative testing of possible urban futures. However, this extrapolative reading limits the potential of SF for architects as it suggests that the text becomes irrelevant once the circumstances that underpinned its imaginative construction are surpassed.

As reflection: 'a brief limbo-like transit'

> *As the vert tube dropped mile on mile the golden glitter of SupraBurgh vanished. After a brief limbo-like transit through the abandoned area of Central Authority, Obsier was plunged deep into the planet and entered UnderMegapolis.*[15]

A SF text does not have to directly follow on from our current situation for it to provide a useful source of reflection on reality. As Jameson describes, SF presents 'messages of otherness, but transmitted in the past' analogous to memory trace.[16] This idea extends the utility of extrapolative fiction beyond its contemporary moment, to provide fresh 'messages of otherness' in a changing present.

These qualities of alienation and estrangement, whereby fiction reveals truth by holding up a mirror to the world are not unique to genre fiction. But in SF, for literary critic Robert Scholes, estrangement is 'more conceptual and less verbal. It is the new idea that shocks us into perception, rather than the new language of the poetic text.'[17] Within the para-literature of SF, the literary quality of the text itself is secondary to the exploration of a critical idea and the reflection that this provides the reader on reality.

This tension between the 'idea' of the fiction and the fact of reality is described as the 'privileged site' of SF by geographers Rob Kitchin and James Kneale,[18] and the opportunities offered by the co-consideration of SF and contemporary urban theory are reflected within a growing field in geography, planning, and urban studies.[19] However, much of this work this remains focused on a 'canon of "approved" authors, novels and films', which centres on the work of H. G Wells, Philip K. Dick, J. G. Ballard, and William Gibson, and films such as *Metropolis* and *Blade Runner*.[20] While these texts have achieved their position through their originality and poetic clarity of expression, as well as their direct critical engagement with the built environment, urban studies theorists continue to call for an expansion of the current 'valid' sources of critique. There is a particular call for the extension of considerations of SF to study the 'vertical and volumetric nature of the urban environment',[21] as the prevalence of the trope of the vertical city within SF offers a rich site through which to reconsider the implications of vertical living.

There are notable examples of the vertical city throughout SF literature; from HG Wells's seminal novel *When The Sleeper Wakes* (1899) or Zamyatin's *We* (1921), through to more contemporary visions such as Paulo Bacigalupi's *The Windup Girl* (2009) or Robinson's *New York 2140* (2017). But it was a particularly prevalent as a trope in New Wave SF as a response to significant social and structural change within the fabric of the city. A by no means comprehensive list of novels that feature urban towers might include: *Beyond the Sealed World* (1965), *Make Room! Make Room!* (1966), *A Torrent of Faces* (1967), *Stand on Zanzibar* (1968), *Tower of Glass* (1968), *The City Dwellers* (1970), *The World Inside* (1971), *334* (1972), *The Castle Keeps* (1972), *Growing*

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up in Tier 3000 (1975), *High Rise* (1975), *Cinnabar* (1976), and *Catacomb Years* (1979). 'An Overload' was a product of this period, written by an English author confronted by the rapid proliferation of high-rise urbanism in the UK and as such it offers an estranged perspective on the experience of vertical living.

While our ability to visualise the city in 'An Overload' is shaped by its description as a 'great tree', its height is conveyed by Obsier's journey downwards. He travels in a 'vert-tube' allowing him to see the levels flash past for mile after mile. While heightening his vulnerability, his apparent free-fall downwards makes it difficult to imagine ascent through the same mechanism, his bullet-fast drop is more like an ejection or social rejection. This description reflects the lived reality within high-rise towers, where the social role of lifts has been studied by human geographers such as Donald McNeill[22] and the ability to ascend is historically associated with the ability to escape what travel writer Jonathan Raban terms 'the realm of failure and menace' which is life on street level.[23] 'An Overload' thus exaggerates the reality of what Hewitt and Graham call 'uneven social geographies of vertical mobility',[24] providing an estranged point of reflection on social structures within contemporary vertical urbanism where social exclusion is established through access to differentiated systems of vertical circulation.

This reading of the SF text as a site of estrangement widens its application to the architect as reader, beyond consideration as a *prediction* of the future, to a site for critical commentary on the changing present, a mode of reading it shares with literary fiction. However, this reading limits the scope of texts that might be considered useful to those that have some grounding in lived reality and potentially overlooks the sheer breadth of SF visions.

As critique: 'sunk by its own weight'

> *What once had been on ground level, was now half a mile into the earth. Megapolis was a great plug drilled into the planet's skin and it had sunk by its own weight. So close was the floor of UnderMegapolis to the floor of the Earth's crust that it was able to draw heat from the basaltic mantle beneath.*[25]

The seminal definition of SF provided by literary theorist Darko Suvin builds upon Scholes's identification of its estranging potential, defining it as the genre of 'cognitive estrangement'. For Suvin, the mirror held up to reality by genre fiction is 'a crucible'.[26] It does not reflect the world as it is, but a world made strange, a reflection where reality is re-forged. While this quality of strange – estrangement is present in much genre fiction, the quality of cognitive estrangement requires that it serves some critical purpose, differentiating SF from other genre fiction such as Fantasy. In this way, Suvin defines SF as a *process*; of detachment that makes both us and the world we occupy 'other', and reflection that allows us to view both the imagined and the real alongside one another, provoking a critical new perspective on reality.

'It does not reflect the world as it is, but a world made strange, a reflection where reality is re-forged.'

'An Overload' touches on many social and political themes that were prevalent in New Wave writing of this period, which aspired to use its critical voice to explore contemporary issues such as environmental damage and resource scarcity. In this light, Bayley's depiction of Megapolis can be read as a critical reflection on the pervasive popular concern regarding overpopulation. As the weight of the city above has pushed through the Earth's crust, it has physically submerged UnderMegapolis and it now moves at a geologically slow pace towards its own destruction.

When read as a predictive tale, this sinking city provides an estranged point of reflection on issues of population and subsidence affecting contemporary cities such as Venice. However, it also offers a critical perspective on the issues of global population by manifesting their tangible impact on an enclosed environment. SupraBurgh's indifference to the plight of UnderMegapolis becomes a critique on complacent attitudes towards over-population, accompanying resource scarcity, and the resultant suffering of those plunged under and unable to escape the impact of environmental change.

For the architect as reader, 'An Overload' reframes broader social issues within a single building, providing new ways of looking at contemporary concerns. It manifests Ally Ireson's and Nick Barley's contention that floors within towers should be considered as distinct contexts creating differing types of interaction.[27] By bringing the world inside the building walls, it provides an imaginary framework to discuss the spatialisation of hierarchies of power in contemporary multilayered cities.

This engagement with SF as the literature of cognitive estrangement allows architectural and urban theory to be brought to bear on abstract spatial issues made manifest in the worlds of SF. But, this mode of reading prioritises texts where cognitive estrangement is achieved through a *physical* world made strange. While these are critical to architects, it can overlook SF texts where the built environment plays a supporting role in social forms of cognitive estrangement.

As symbol: 'The dividing line between these two spaces'

> *The dividing line between these two spaces is the Central Authority; now abandoned it echoes a de-militarised zone or no man's land, but one formed by the establishment of barriers of privilege so impenetrable that two sections of society are formed.*[28]

As much as it is deployed through the estranging transformation of the built environment, the process of cognitive estrangement can also be undertaken through the transformation of a social, cultural, political, or economic framework.

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Writer and SF scholar Ursula K. Le Guin described SF as the genre of new metaphors[29] and that the landscapes and built environments of SF fiction often take on a symbolic role as representation of social structures,[30] economic systems, or even the collective psyche[31] of their inhabitants.

'For the architect as reader it also provides a glimpse into the symbolic impact of the built environment, a way to attend to the associations and implicit power relations established by common architectural tropes. This reading can be complemented by an appreciation of the built environment's role as an active narrative device.'

In 'An Overload', Obsier's struggle to challenge the dominant structures of power in UnderMegapolis has driven him upwards through the building, a transformative physical relocation to echo the political and social change he hopes for. But, he finds that the gulf of understanding between under and over cannot be reconciled, that the city has established an entrenched power imbalance with literal barriers of privilege. This physical city structure is also a metaphorical reflection of the political system within UnderMegapolis, which is the primary focus of the plot. The city above stands as distant as the controlling political elites, while the city below is symbolic of the voting population on a course to destruction. There is no subtle floor-by-floor gradation of society or class; there exists one single division between above and below, a dichotomy of sunlight and darkness. This could be interpreted as a literal transposition of our lived reality, of glittering towers on the skyline and the physical and social infrastructure that supports them, or, in a Marxist interpretation, the stark division of capital and labor.

'An Overload' is one of many texts that depict a vertical city as a symbol for concerns regarding social stratification or inequality.[32] This has been identified in SF film, where the vertical city is a representation of patriarchal systems of dominance or stratified social conflict.[33] While Hewitt and Graham have studied the seminal vertical city works of Ballard, Gibson, and Wells in terms of their metaphorical exploration of social and class inequalities.[34]

In this way, the built environment of SF literature can act as a spatial metaphor for dominant social or economic structures, it makes manifest the systems and influences that are present within the world of the text so that critical comparison can be drawn to those same systems less overtly present in existing reality. For the architect as reader it also provides a glimpse into the symbolic impact of the built environment, a way to attend to the associations and implicit power relations established by common architectural tropes. This reading can be complemented by an appreciation of the built environment's role as an active narrative device.

As plot device: 'it impressed him anew'

> *In a frightening, alien way SupraBurgh was stunning, but here in UnderMegapolis was the kind of immensity, the kind of power he was familiar with, and it impressed him anew to return to it this way, falling like a bullet in the v-tube. Here it was, deep thrusting place of hegemonies, below reach of the sun, ancient and yet eternally modern.*[35]

While the built environment can be effectively deployed as a symbol for the social or political complexities of the SF world, it is also the site within which that society must operate. As described by cultural theorist Vivian Sobchack, within SF the setting defines the constraints of the possible, providing the literal premises for narrative action.[36] This active role of the built environment in SF film has been explored by John Gold, for whom 'the city is more than just a back-ground, indeed it is often as much a part of the action as the actors themselves'.[37]

In 'An Overload' the built environment plays a pivotal role in the development of the plot. Obsier's journey back provides him with a literal change in perspective and prompts a shift in critical relationship to the space being surveyed, a psychological reaction to the view from above that reflects that noted by spatial theorists including Mark Dorrian[38] and Louis Marin.[39] From here, Obsier is able to comprehend the spatial, and by extension political, reality of his situation. The view from above both makes him an outsider, to provide the reader with an estranged perspective within the word of the text,[40] and also provides him with the perspective to transform it. In this way, the setting drives the plot forward, providing a critical vantage point that both directs the action and establishes the scope of possibility.

For the architect as reader, the active nature of the setting provides an insight into the imagined impact of the built environment. SF strips away the nuances of a multitude of influences that make architecturally deterministic readings of real space so problematic, to reveal commonly held assumptions about how space directs behaviour. Following utopian theorist Tom Moylan, SF contains the 'ability to register the impact of an unseen and unexamined social system on the everyday lives of everyday people'.[41] For the architect as reader, the active role of the setting

'SF strips away the nuances of a multitude of influences that make architecturally deterministic readings of real space so problematic, to reveal commonly held assumptions about how space directs behaviour.'

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'This reading of the setting as plot device can be extended with an appreciation of the emotional impact that the setting can have on its inhabitants as another form of narrative influence.'

offers the opportunity to register the unseen and unexamined impact of a *built environment* on the everyday lives of everyday people.

This reading of the setting as plot device can be extended with an appreciation of the emotional impact that the setting can have on its inhabitants as another form of narrative influence. As in literary fiction, the reader's empathetic engagement with the protagonists of a SF text is critical to understanding their emotional experience of place.

As enacted empathy: 'they've conditioned us to hate'

> *They're machines, imprisoned down here and keyed into this subterranean super city. So they hate the stars and the open sky. And that's why, over the generations, they've conditioned us to hate them too.*[42]

For Delany, the setting is the driving force behind the SF novel's creation, establishing social patterns and exerting influence which motivates the principal characters.[43] All of which is experienced by the reader through the protagonist's interaction with this space. As such, SF requires that the reader engage in empathetic imagination to interpret the reactions of the imagined inhabitants and appreciate the impact setting has on this imagined society.

Our capacity for empathetic engagement is biologically ingrained.[44] But watching something happen to someone else prompts a different set of cognitive responses to reading about an experience, as reading can cause emotions to be 'imaginatively enacted' by the reader.[45] In this enactivist conception, reading about the imaginary city not only causes the reader to empathetically relate to a character's emotional reaction, but also to undergo an embodied imaginative recreation of their experience. This process requires the reader to recollect and immediately re-live similar experiences to those being described, intertwining their emotional reactions to both real and imagined.[46] The engagement with the emotional impact of place possible through literature has been used in the field of geographies of emotion.[47] For example, planners Ansaloni and Tedeschi used J. G Ballard's *High Rise* as a narrative which 'closely tracks' the reality of socio-spatial division to discuss the emotional impact of these divisions in London housing developments. In particular, they examine the affect of 'poor doors': entrances that are segregated by tenure so that the perceived value of owner occupier properties is not reduced through association with social housing tenants, who in turn, are provided with a lower-quality spatial experience.[48] Ansaloni and Tedeschi present a methodology for the application of SF as a common ground to discuss the emotional impact of experiences of place, but one that could be extended beyond the limits of extrapolative SF.

In 'An Overload' the affective impact of the city is so entrenched, its physical form is so embedded in the worldview of its inhabitants, that contemplating space *beyond* provokes a physiological response:

> *'I saw an interstellar ship taking off once, just disappearing up and up into the blue sky without limit –' He broke off, attacked by sudden nausea.* [49]

Obsier is physically repulsed by the idea of the open sky, and he realises that the inhabitants of the city below have grown so accustomed to their subterranean life that their need to escape upwards cannot overcome their dread of the surface. This condition, which seems entirely unfathomable to the reader must also be empathetically understood in order to comprehend the story's wider critical commentary on the dangers of entrenched systems of power and control. We must feel as repulsed as Obsier by the notion of the surface to truly appreciate the devastating realisation of his triple confinement, within an enclosed physical structure, within an oppressive political system, and within his own psychological constraints.

'It enables us to inhabit impossible worlds, and to experience the emotional impact these might have on their inhabitants.'

'An Overload' asks the reader to inhabit a perspective where an emotional response to the environment is so ingrained that change is impossible. As with literary fiction, this empathetic engagement with the protagonist requires that we internalise and re-enact their responses as our own. This process enables us to better appreciate the emotional impact of the built environment, to viscerally experience the response it might provoke and to exercise the imaginative inhabitation that is such a critical requirement of considered architectural design. SF pushes this experience of inhabiting of another individual's perspective of place further than the reality principle of literary fiction would allow. It enables us to inhabit impossible worlds, and to experience the emotional impact these might have on their inhabitants.

As self-reflection: 'came to a halt'

> *The v-tube decelerated fiercely and came to a halt under the greenish radiance of serried strip lights that stretched away into the distance.*[50]

Imaginatively inhabiting the worlds of SF requires a reader to engage in a complex set of textual dynamics. The critical challenge for a SF author is to convey enough information to build this world in the reader's mind, so that we can appreciate its atmosphere as well as its implicit social, geographical, and temporal limitations, while still maintaining an entertaining narrative.

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SF theorist Kathleen Spencer describes this process of world building as something that is particular to SF.[51] For Spencer, the world of the novel exists as a whole behind the text of the novel, as an 'absent paradigm' and the reader is shown only fragments of this whole through description or the implied impact the environment has on the narrative. To form a complete setting the reader must construct their own image of this world from these glimpses, drawing on their own experience or imagination.

In 'An Overload' as Obsier returns to UnderMegopolis, there is only a sparse description of the setting, and we are forced to construct an entire city from these fragments. Bayley requires us as readers to provide memories of strip-lit spaces, to establish a collage of underground car parks and internal corridors, and to overlay onto these the knowledge that in this city there is no short walk back to the sunlight. In imagining this world, we bury ourselves in layers of remembered places, creating a landscape of endless corridors that never lead outside.

Rather than a passive reading that basks in the reflected imaginative freedom of the author, as readers of the SF text we are emotionally and imaginatively involved in its production, drawing on our experiences of the city to construct a highly personal vision of this imagined world. As architects, it is an opportunity to engage in an exercise of imaginative construction, to test our ability to visualise, populate, and inhabit entire worlds.

This also offers architects and readers of SF an opportunity to gain a critical distance from our own entrenched opinions and assumptions about the built environment. As our memory of a particular place is woven into the SF world, it is subject to the same mechanisms of cognitive estrangement as the rest of the text. We are able to draw direct comparisons between the world we inhabit and that we are visualising, to see our lived experience of a darkened underpass redrawn as a subterranean prison. It provides a critical perspective on our own perception of space, a process that opens our own environmental associations to estranged analysis.

As reality: 'it changes your outlook'

> *It makes me wonder – you know, everything's so different up above. If it changes your outlook at all when you come back?*[52]

As has been explored in this article, the act of reading a SF text can disrupt, distance, and critically reframe our perception of the built environment. In turn, it can also influence the ways in which we interpret our experience of reality, working 'in complex ways to effect the imagination, experience and construction of contemporary urbanism'.[53] As delineated by spatial theorist Henri Lefebvre in his trialectic of space, imagined spaces are integral to our experience and production of space as part of the 'spaces of representation'.[54] In this way, the perception of the real city that we inhabit, the way we react to and recreate this space, is informed and

'… an opportunity to gain a critical distance from our own entrenched opinions and assumptions about the built environment.'

influenced by the spaces of representation, of which SF is a critical element.

This relationship between the imaginary and the experience of reality can be traced in the depiction of the tower city in 'An Overload'. Within the imaginary spaces of SF, as in architecture or urban studies, the abstract idea of the 'city' forms part of a shared 'mega-text'[55] of the genre as a common conceptual language.[56] Within this, the vertical city is an identifiable trope, as described by Graham it is one that has 'so dominated science fiction as to be almost a cliché'.[57] Another trope is that of the enclosed city or 'keep' and these basic forms of imaginary city overlap in stories about enclosed vertical cities, what I would term the 'tower city'. This setting is apparent in a number of novels, short stories, and comics of which 'An Overload' is one example, ranging from Mega City One's Blocks in *Judge Dredd* (1977), the Urbmons of Silverberg's *The World Inside* (1971), and the knowingly architectural depictions in J. G. Ballard's *High Rise* (1975).

The tower cities of these texts are drawn from a collage of personal experiences of high-rises: newspaper stories about estates on the edge, architectural representations of the noble skyscraper, and in turn, SF films that pan past looming towers, and novels set in the suffocating cities of the future. This overlaying of texts creates the 'high-rise' as a space of representation and a symbol for a certain kind of lived experience; in the UK one particularly related to the failing social aspirations of the social housing movement. The combination of iconic form and publicised instances of social failures has resulted in myths that firmly link the architectural and the social. As Anne Power describes, the fact that high-rises in the UK did not blend in to town or country 'made it easier to attach social "myths" to them'.[58] Environmental planners Chen and Shih describe how the high-rise 'emerges as a powerful site and symbol for collective aspirations and imaginations',[59] a popular pervasive symbolic value, that transforms it into a shared cultural artefact.

This image of the 'high-rise' is an expression of the myths, the fears, and the experiences of vertical living, and its extrapolation in SF exaggerates and makes visible the imagined impact of living at height. As argued by Clive Bloom, freedom from convention in 'non-serious' publications and 'para-literature' like SF allows a greater and perhaps more truthful exploration of our innermost desires and fears.[60] As described by Sobchack in reference to SF film:

> *Because it offers us the most explicitly poetic figuration of the literal grounds of contemporary urban existence, the science-fiction city and its concrete realisation in US cinema also offers the*

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'The cognitive estrangement of SF pushes us into a position where we are "other" to the familiar city we inhabit, a perspective that opens up the possibility to imagine the city differently.'

> *most appropriate representational grounds for a phenomenological history of the spatial and temporal transformation of the city as it has been culturally experienced.*[61]

In this way, 'An Overload' provides us with an insight into the public perception of the high-rise, a site with deeply rooted associations of social inequality and entrenched hierarchies of power. In fiction architects are offered an insight into a common language of stories that are a critical part of how we communicate the experience of place,[62] one which SF extrapolates to expresses the pervasive cultural experiences of the built environment and to offer insight into the spaces of representation which define the present. But, in doing so, it also allows us to imagine a world otherwise and opens up the possibility of constructing alternatives.

Conclusion: 'Endless forms, vistas and hues'

> *Endless forms, vistas and hues slid into one another as the level within level mightiness of Obsier's home supercity swung past him.*[63]

The cognitive estrangement of SF pushes us into a position where we are 'other' to the familiar city we inhabit, a perspective that opens up the possibility to imagine the city differently. As discussed by utopian theorist Ruth Levitas, this critical engagement with the spaces of representation offers a way into a 'dialectical utopianism',[64] what Moylan terms an 'empowering escape to a different way of thinking about, and possibly of being in, the world'.[65]

This critical position is vital to architects, because this desire to project a 'different way of being in the world', could be considered the common driving force behind architectural design.[66] The architectural desire for incremental improvement through design is a utopian impulse, a desire to direct the shaping of our environment, through 'a movement beyond set limits into the realm of the not-yet-set'.[67] In order to act on this utopian desire to change the built, architects need to examine the assumptions and experiences that inform our perceptions of place and broaden our collective scope of imagined possibility.

In 'An Overload', the built environment is more than setting. It acts as metaphor or symbol for the social structures and political organisation within the text, extrapolating cultural associations of height into tangible experiences, which can then be critically examined and responded to. Its role is exaggerated to become protagonist acting upon the narrative, providing a way of opening the reader to the emotional and phenomenological impact of the built through empathetic imagination. It allows us to inhabit the common cultural associations of architectural design tropes, the pervasive hopes and fears that underpin the social experience of place. As a consequence, SF texts like 'An Overload' allow us to inhabit the perspective of the 'other' and gain a new view of our own social and architectural situatedness.

As either architects or inhabitants involved in the creation of the future city, we are better able to understand our own experiential reactions to the built environment and thus better able to make manifest our utopian architectural impulses, as readers of SF. More than just thought experiments that test possible futures, SF acts upon the reader to critically re-examine their own urban visions in relation to their experiential and imaginative implications and provoke the estrangement necessary to see both the everyday, and the architectural utopian impulse from the outside.

'... to make manifest fragmentary built elements of utopian potential.'

For those who feel a weight of responsibility for shaping and directing the development of the built environment, reading SF offers a space of exhilarating exploration, of the self, of the city, and of the infinite wealth of imaginable alternatives. It is my contention that the act of reading SF can be a utopian process for architects, that through this action and the awareness it provides we are better able to shape the cities we make, to challenge entrenched systems of inequality and oppression, to make manifest fragmentary built elements of utopian potential.

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Vicarious vertigo: The emotional experience of height in the science fiction city

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1. Introduction

In March 2016 *High Rise*, the film adaptation of JG Ballard's 1976 novel set in a 40 storey tower in London's Docklands, had its premiere screening in London. In the same month that this retro-futuristic vision of high-rise urbanism was aired, New London Architecture updated its comprehensive review of the current status of high-rise development (New London Architecture, 2016). It details the 436 tall buildings currently in the pipeline in London; a dramatic enough figure in isolation, it also revealed that 119 of these were new developments submitted for planning permission in the preceding 12 months. Alongside the well-documented iconic heights of buildings such as the Burj Kalifa, which at 163 storeys high dwarfs the vision of Ballard, this abundance of high-rise development in cities such as London demonstrates the extent to which vertical urbanism and the experience of living at height are rapidly becoming ubiquitous and inescapable parts of everyday urban reality.

This surge in construction of new high-rise developments has led to a vital body of criticism. Studies such as those undertaken by urban geographers Lees et al. (2009) and Watt (2009) delineate the dizzying spatial inequality inherent in the construction of towers that maximise inner city land value, alongside the privatisation and demolition of existing social housing. These texts draw much needed attention to these developments, creating a body of resistance against this insidious spatial segregation. However, in focusing on the economic or social implications of these processes, the emotional affect of these spaces is often overlooked.

Within the fields of planning, geography and urban studies, Brown and Pickeril (2009, p. 33) state it is necessary to "overcome the fear among some activists that to engage in emotional reflexivity is narcissistic and time-wasting, instead making explicit the link between understanding our emotions and prefiguring social transformation." Ansaloni and Tedeschi (2016, p. 15) note that this requires an appreciation of "affect and emotion as politically crucial subjects for understanding socio-spatial processes in urban contexts".

This paper builds on debates around the role of emotion and affect in the co-production of space, which underpin its critique in the design of urban environments (for example: Anderson, 2009; Johnson, 2011; and McGaw and Vance, 2008). I argue that there is scope for greater consideration of the role of emotion in the co-production of urban space within the fields of urban design, planning and architecture. There is critical work being done in this field, such as the projects of Sandberg and Rönnblom (2016), who gather and examine emotional narratives around urban transformation. However, Baum (2015) decries the fact that this aspect of design remains overlooked by practitioners who focus on the "rationality" of planning.

While Thrift's statement that "generally speaking, to read about affect in cities it is necessary to resort to the pages of novels," (2004, p. 57) may no longer be true, this paper argues that science fiction (sf) novels can continue to form a critical part of discussions into the emotional impact of the future city. Novels such as *High Rise*, written during a period of similarly untrammeled vertical construction, explicitly address the emotional experience of living at height. As many cities grow upwards into the heights that were previously the realm of sf, these novels provide their readers with ways to both imagine and empathetically experience the emotional impact of the built environment. Critically, these novels also provide architects, designers and planners with a space to reflect on the emotional implications of the cities currently under construction.

2. The experience of vertigo

Throughout this paper I use the term 'vertigo' to refer to the symptoms of 'height-vertigo' or 'distance-vertigo' (Guerraz et al., 2001). It is a term commonly conflated with acrophobia or fear of heights, the psychological desire to avoid environments where the sensations of vertigo might be provoked. LeBlanc (2011) describes

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how, through reading Sartre, vertigo can be understood as the as a fear of an external threat that becomes internalised as existential anxiety. For those who are susceptible, vertigo can be both physically and emotionally destabilising, as LeBlanc summarises, "vertigo prompts serious questions about the nature and stability of one's self" (2011, p. 2). While these severe responses are rare, the sensations of vertigo itself are an innate biological response to distance or height (Walk et al., 1957 cited in Brandt, 2003, p. 422). As such, the experience of vertigo can be considered as a common embodied response to the built environment.

The sensation of vertigo is characterised in neuroscientific study by feelings of dizziness, loss of balance, disorientation and sensations of movement or rotation (see Brandt et al., 1980; Whitney et al., 2005). These sensations are created by an inter-sensory conflict, as visual information regarding relative stability is at odds with the other sensory inputs. When, as described by Brandt, "the distance between the observer's eye and the nearest visible stationary contrast becomes critically large" (Brandt, 2003, p. 418). In this way, it is distance rather than direction which provokes height-vertigo, and in the context of the built environment it can be created by either a downwards glance to the streets below, or upwards gaze towards the looming heights of the tower.

Critical to the understanding of the use of vertigo in fictional representations of the city is the appreciation that, as a physiological reaction, it can be considered a universal experience. It is a fundamental human response to our embodied sense of self within our environment, which is overlaid with potent emotional or existential connotations. Within the vertical cities of sf, the experience of vertigo offers an opportunity to consider the role an embodied sense of location plays in our emotional appreciation of place.

3. The city and the imagination: a conceptual role for sf

This paper follows urban geographers Hewitt and Graham's (2015, p. 925) call for greater study of the "vertical and volumetric nature of the urban environment and experience that is at the core of contemporary urbanism". They identify an embedded horizontalism in urban research which is unable to respond to the radical reshaping of the vertical and volumetric built environment (see also: Elden, 2013; Harris, 2015; Hewitt and Graham, 2013; McNeill, 2005). As described by Graham (2016a, p. 41) the "flattening effects of both geographic and urbanistic traditions work to seriously undermine the emergence of a fully three-dimensional understanding of these crucial transformations". The existence of what Harris (2015, p. 601) has referred to as "a vertical blind-spot" across contemporary urban theory restricts our conceptualisation of the city and fails to reflect the multi-layer urban reality which we are beginning to inhabit.

Ireson (2000) argues that a shift in perspective is required to examine and critique vertical urbanism, to develop an appreciation of different levels as distinct contexts, each creating specific patterns of architectural design, or types of interaction. The need for this conceptual shift is reflected in the lived experience of multi-layer vertical urbanism in Hong Kong, where stacked and overlapping malls, skyways and towers create a multiplicity of planes on and between which city life occurs. Here, ground level is no longer the predominant site of public lived experience, leading to a description of Hong Kong as a 'city without ground' (Frampton et al., 2012; Shelton et al., 2014; Steyerl, 2011). This 'loss of ground' is a fundamentally destabilising act, literally undermining traditional modes of mapping and navigating the city.

In response to the rapid pace of change within urban development, and the embedded horizontality of traditional modes of urban studies theory and critique, Hewitt and Graham (2015) have argued that sf provides a site for the potential reconceptualisation of the city. Within geography, planning and urban studies, extrapolative sf is predominantly considered as either a prediction of the future of cities, or as a vehicle for critique of the city contemporary to the time of writing. I argue for an extension to this reading, drawing on work that examines the ways fiction and contemporary theory can be co-considered, to critique current theoretical understandings of the city (Abbott, 2007; Collie, 2011; Davis, 1992; Gold, 2001; Hewitt and Graham, 2015; Kitchin and Kneale, 2002; Lewis et al., 2008). Kitchin and Kneale (2002, p. 9) extol the value of this "privileged site" of sf in particular as creating a tension between reality and fantasy, between science and fiction, "from which to contemplate material and incursive geographies and the production of geographical knowledges and imaginations."

Sf theorist Suvin (1979) considers this potential to create a new site from which to contemplate the real alongside the imaginary as the defining characteristic of sf. Through his conception of 'cognitive estrangement' he identifies a process of critical detachment for the sf reader. For political theorist Jameson (2005, p. 99) this estrangement through idea acts both on the fiction being presented and the reality from which the reader views it, and he describes sf as presenting "messages of otherness, but transmitted in the past". The cognitive estrangement of sf comes from its ability to make the reader 'other', to view both the real and imagined alongside one another, and provide a detached and elevated perspective on the trends and concerns of the everyday present.

For Jameson, imaginative freedom is the critical factor which differentiates sf from other forms of literary expression. This is in part rooted in the genre's 'pulp' character, its self-definition as existing outside of high art (Bloom, 1996; Fisher, 2014). As Jameson states it is only in sf that there is the "capacity to relax that tyrannical 'reality principle' which functions as a crippling censorship over high art" (2005, p. 270).

Following Suvin and Jameson, I argue that the value of sf in relation to the built environment is twofold. Firstly, the radical imagination of an environment which is entirely 'other' allows the reader to imaginatively inhabit and experience place. Secondly, through this othering, the reader gains critical distance from the built environment as it is currently known, to examine their own emotional experience of space.

4. The vertical city in sf cinema

While the vertical has been overlooked in urban theory, Graham (2016b, p. 382) describes how "the image of the radically verticalised cityscape has so dominated science fiction as to be almost a cliché." This is certainly the case across science fiction film, where, as argued by Barlow (2005, p. 43) "the 'standard' version of the city of the future now comes from the Los Angeles that Scott and his 'visual futurist' Syd Mead created for Blade Runner."

While the vertical city may be considered as a 'standard', its metaphorical role is far from constant. In her analysis of the city throughout the history of sf film, media theorist Sobchack (1988) details how these representations offer a situated glimpse into the symbolic role of the vertical city. How it has been transformed; from a utopian space in films such as *Things to Come* (1936); *Lost Horizon* (1937) and *The Wizard of Oz* (1939) to a "symbol of modern civilizations aspiration and pride" (1988, p. 10). As noted by Sontag (1964), these buildings became the focal point of sf cinemas dominant "aesthetic of destruction," used to denote civilization in ruins. Sobchack (2014) goes on to chart how this association of verticality has become synonymous with; an asphyxiating oppressiveness in films such as *Soylent Green* (1973) and *Logan's Run* (1976), through the "dense, complex and heterogeneous" spaces of *Blade Runner* (1982) and *Brazil* (1985), and the bottomless

and unfathomable spaces of *Fifth Element* (1997) and *Dark City* (1998).

5. The active reader

These films convey the affective impact of the city through both the scenography, and through empathetic sharing of the protagonist's responses. Keen (2007), in her examination of the role of empathy in fiction, outlines this spontaneous sharing of affect as biologically engrained, what neuroscientists including Gallese (2003) call a 'shared manifold for intersubjectivity'. As we witness the protagonists experience physiological sensations of vertigo, we empathetically experience the emotions which accompany these sensations; feelings of uneasiness, helplessness and panic which can develop into existentially challenging feelings of loss and fear.

One distinction between the comparative impact of reading about an experience versus witnessing that experience on film is espoused by 'enactivist' literary theory. This is framed by the conception of emotion as inherently embodied (McGann and Torrance, 2005), and reflects the work being done in the field of geographies of emotion (Davidson et al., 2005). In this conception, written descriptions of an experience cause them to be imaginatively enacted by the reader (Keen, 2007). In this way, reading about the imaginary city not only causes the reader to empathetically relate to a character's emotional reaction, but also to undergo an embodied imaginative recreation of that experience, intertwining their emotional reactions to both real and imagined.

As well as being subject to a heightened engagement with the environment, the reader of a fictional text can also be considered actively involved in its creation. Following the work of literary theorist Iser (1978), descriptions of a fictional world cannot be exhaustive. As such there are 'gaps' which require the reader to actively infer from or interpolate into the text. Within sf, the 'gaps' can be considerably greater than those in literary fiction, requiring what Spencer (1983) has termed "reciprocal reading protocols". Here, the reader fills in gaps with their own experience to create a cohesive whole, while simultaneously observing the implications of that world on the narrative. As Spencer describes, "the reader oscillates between involvement in, and of observation of, the world of the text" (1983, p. 36). I argue that this process of construction and reflection is a critical part of the 'cognitive estrangement' of sf. Subsequently, the reader is offered a critical perspective on not only the world of the text, but also their own subjective experiences that are woven into it. When considering the affective emotional experience of the city, this engagement with its imaginary construction draws readers to both empathetically engage with the experience of the protagonist, and also to reconstruct, re-live and reconsider their own emotional experience of place.

6. Verticality in sf literature

There are notable examples of the vertical city throughout sf literature; from HG Wells' seminal novel *When The Sleeper Wakes* (1899) and the oppressive towers of glass in Zamyatin's *We* (1921), through to more contemporary visions such as the isolated high-rise refuges in Maggie Gee's *The Flood* (2004), and Paulo Bacigalupi's *The Windup Girl* (2009). However, there was a particular proliferation of texts in the period from the mid-1960s to late 1970s which specifically address the emotional implications of the vertical city.

These texts were part of the New Wave (NW) movement within sf, which developed in the 1960s in response to wider countercultural movements in the UK and US (Broderick, 2003). These authors saw the role of sf as the exploration of what J.G Ballard termed "'inner space', rather than 'outer space'" (1962, p. 118). Greenland notes that they avoided the prevalent tropes of alien invasion or deep space exploration, to focus on "the external worlds as transformed and encoded by the individual consciousness" (2013, p. 51).

This concern for social structures and inner lives is reflected in texts which explore the impact the built environment has on both its inhabitants, and its imagined development. Greenland describes how they "used their novels to criticise not only the society within which they wrote, but also the possible utopian alternatives" (2013, p. 51). In this way the prevalence of high-rise futures within sf in the period from the mid-1960s to late 1970s can be understood as both an extrapolation of the world in which they wrote and as a setting which allowed them to critique alternatives.

The vertical city is prevalent as a trope in NW sf of this period, and a by no means comprehensive list of novels which feature urban towers might include; *Beyond the Sealed World* [1965], *Make Room! Make Room!* [1966], *A Torrent of Faces* [1967], *Stand on Zanzibar* [1968], *Tower of Glass* [1968], *The City Dwellers* [1970], *The World Inside* [1971], *334* [1972], *The Castle Keeps* [1972], *Growing up in Tier 3000* [1975], *High Rise* [1975], *Cinnabar* [1976], and *Catacomb Years* [1979].

There is much potential for further scholarship to be done on these novels as a group, however, *High Rise* and *The World Inside* provide the most rigidly delineated examples of vertical cities. The buildings they depict are almost entirely self-contained, and as a consequence the inhabitants are offered no respite from the psychological pressures they exert and their lives are intrinsically intertwined with the experience of the vertical city.

These novels have been examined in terms of their representation of social hierarchy (Abrash, 2002; and Hicks, 2014), but these readings tend to overlook their evocative representations of the individual emotional experience of place. A notable exception is the work of planners Ansaloni and Tedeschi (2016) who use the novel *High Rise* as a site for considering the emotional affect and social implications of 'poor doors' in London. This study unpicks the escalation from humiliation and uneasiness to fear and rage in both reality and fiction, using the language of the novel to convey emotional reactions. This provides a useful tool to engage in discussions of emotional affect, through an expressive common narrative which "closely tracks" the reality of socio-spatial division (2016, p. 15). However, this reading of *High Rise* risks flattening the critical potential of these novel by considering them only as expressive extrapolation. Rather, the estrangement of sf also provides a necessary moment of critical reflection on the cities we are creating and our emotional reactions to them.

7. The myth of the high-rise

While the NW broadened the number of contributing writers and readers of sf (Le Guin, 1997) it remained focused on the existing sf communities in the UK and the US. Within the UK, the NW movement was loosely centered in London (Roberts, 2005). JG Ballard who was central to this movement, was living in a suburb of London when he wrote *High Rise*. NW editor Merril (1967) notes that the movement was "less cohesive" in the US, without the defined center of a particular place or publication. But at the time of writing *The World Inside*, Robert Silverberg had recently moved from his native New York to San Francisco.

While it would be an oversimplification to say that the setting of these novels is a direct extrapolation of high-rises in London and New York, they can be read as a response to the dominant narratives which surrounded these buildings in the UK and US. The historical complexity of the development of modernist high-rises is beyond the scope of this paper. However, studies such as

Glendinning and Muthesius's comprehensive text *Tower Block* (1994), demonstrate that these developments were primarily driven by a shared belief which can be considered as a utopian programme. This reconstruction of the physical fabric of the city can be understood as a critical part of the wider 'modernisation' of socio-political values (Pinder, 2005; White, 2009).

In this way, the extensive construction of high-rise housing in the 1960s, rising from 6,000 blocks of 6 or more storeys in the UK in 1956 to 44,000 blocks in 1966 (Dunleavy, 1981), was linked in popular imagination to an implicitly utopian programme for social progress. As environmental planners Chen and Shih describe, the high rise emerged "as a powerful site and symbol for collective aspirations and imaginations" (2009, p. 330).

However, for Glendinning and Muthesius "what makes the story of the 'reception' of Modern housing so immensely complicated and controversial is not so much the complex debates of the time, but the criticism which developed afterwards" (1994, p. 5). This public criticism centered on a still prevalent narrative arc of dystopian 'failure' that equates the high-rise building form with notions of social unsuitability, and largely ignores wider social, political or economic contextual considerations.

In both the UK and the US the destruction of single iconic blocks were held as evidence of the 'failure' of this programme. In the UK, social historian White speculates that the "death knell rang loud and sudden for the tower block on 16 May 1968" (2009, p. 56) following the tragically fatal collapse of the Ronan Point tower block in East London. The demolition of the Pruitt-Igoe housing development was a similarly symbolic moment in the US, which led architectural historian Jencks to declare that "modern architecture died in St. Louis, Missouri on July 15, 1972 at 3.32pm" (1977, p. 9).

Despite the contextual complexities of individual high-rise buildings which preclude generalisation, extensive academic study has been undertaken into whether these buildings can be deemed to have 'failed' in any objective sense (Gifford, 2007; Hillier, 1973; Spicker, 1987). Critical to this inquiry is an appreciation that the perception of the built environment is fundamentally shaped by cultural context (Ingold, 2000). This is supported in empirical studies of high-rise homes in cities such as Hong Kong or Singapore (Jacobs and Cairns, 2008; Yuen et al., 2006), whose work suggests that the affective implications of living at height are far more culturally situated and socially complex than the predominantly western cultural narrative of 'failure' intimates. However, when considering the role of these buildings in sf, the validity of this narrative of failure becomes less critical than its subsequent interpretation. As elucidated by Forty, with regard to the perception of British modernism, "we need not concern ourselves now with whether or not it actually was a failure … what matters is that it has been perceived to have been a failure" (Forty, 1995, p. 25).

These novels draw upon this conflict within the history of the high-rise; existing as both a symbol of utopian promise, and a demonstration of the failure of a utopian programme. An emotionally evocative space, it promises the joy of enlightened existence, but becomes associated with depression and isolation, pushing its inhabitants towards frustration and rage.

8. High Rise

The tower block in JG Ballard's *High Rise* most closely resembles the present-day incarnation of the high-rise, a 40 storey tower block in an alternative present of suburban London. Ballard's inspiration is reported to have been existing modernist blocks (see Heil as cited in Frith, 2009; Gąsiorek, 2005), including Le Corbusier's Unité d'Habitation and Ernö Goldfinger's Trellick or Balfron Tower.

> With its forty floors and thousand apartments, its supermarket and swimming pools, bank and junior school - all in effect abandoned in the sky - the high rise offered more than enough opportunities for violence and confrontation. (Ballard, 2006, p. 7)

Ballard radically departs from the reality of lived experience in these blocks to present a violently exaggerated response to the high-rise. In *High Rise*, the building encourages the residents to isolate themselves within the tower, enabling their descent into savagery. Its unyielding concrete materiality lends it a brutal and dehumanising aspect, and this brutality becomes embedded in the collective psyche of its residents. This is exacerbated by its implicit hierarchical organisation which encourages tribalism, and the buildings spatial detachment from its surroundings which symbolically removes them from the social rules which govern the world outside (Butt, 2016). As a result, the apparently heinous acts committed within the high-rise are undertaken without any accompanying emotional turmoil, rather they are accepted with serenity as a new form of truth.

Throughout the novel Ballard repeatedly refers to the building as a "cliff face" into which the residents have "slotted themselves". This vertiginous metaphor suggests that, while to the outsider the block presents an unyielding and dominant fa ade the residents within feel a growing complacency towards their vertical location. Bould (2016) has interpreted these references as an allusion to the first high-rise novel, Henry Blake Fuller's *The Cliff-Dwellers* (1893). The cliff implies a natural phenomenon, and it casts the block as a series of stacked caves into which a more primal version of humanity can retreat.

This shift in the emotional state of the inhabitants can be traced in two scenes which make the scale and physical detachment of the high-rise apparent through the experience of vertigo. These are experienced from the perspective of Dr Robert Laing, the "truest" inhabitant of the high-rise and one of the first inhabitants to emotionally reconfigure himself to suit high-rise life. The first scene, occurs towards the beginning of the novel;

> A bottle of sparkling wine had fallen from a floor fifty feet above, ricocheted off an awning as it hurtled downwards, and burst across the tiled balcony floor …. He leaned out over the rail and peered up at the face of the building, carefully counting the balconies. As usual, though, the dimensions of the forty-storey block made his head reel. Lowering his eyes to the tiled floor, he steadied himself against the door pillar. The immense volume of open space that separated the building from the neighbouring high-rise a quarter of a mile away unsettled his sense of balance. At times he felt that he was living in the gondola of a ferris wheel permanently suspended three hundred feet above the ground. (2006, p. 8)

The second scene is an echo of the first, occurring a few nights later in the timeline of the novel.

> They had reached the french windows when there was an explosion of breaking glass from a balcony high above them. Fragments of glass flicked away like knives through the night air. A large, ungainly object whirled past, no more than twenty feet from the balcony …. All around, people were leaning on their railings, glasses in hand, staring down through the darkness. Far below, embedded in the crushed roof of a car in the front rank, was the body of a man in evening dress. … Laing held tightly to the metal bar, shocked and excited at the same time. Almost every balcony on the huge face of the high-rise was now

> occupied, the residents gazing down as if from their boxes in an enormous outdoor opera house. (2006, p. 41)

The first experience of vertigo is expressed as sensation of spinning and movement, enacted in the mind of the reader as we imaginatively follow the falling trajectory of the bottle down the building fa ade. We empathetically engage with Laing's experience of vertigo, physically manifest in his need to grasp the building to reassure himself of its solidity and to hold himself from falling. This is accompanied by feelings of disorientation and loss of control, an unsettling of self and a slight thrill in surrendering to helpless reliance on the building.

As these descriptions cause the reader to empathise or enact the sensations felt by Laing, the description of the physical form of the high rise becomes irrevocably intertwined with its emotional affect. The 'immense volume' of open space between the buildings and the 'dimensions of the forty-storey block' become aspects which are too vast for Laing to intellectually comprehend. His physical response, to seek reassurance in the solidity of the block and certainty in his own position, reflect his feelings of fear and establish the building as the source of both disorientation and reassurance.

In the second scene, Laing witnesses a fall from the tower which results in the death of a resident. While the trajectory of the fall is again described, it is met with none of the unsettling sensations of dizziness or disorientation which accompanied the earlier descent of the wine bottle. Laing and the other residents are now able to lean out over the balcony edges, steadied only by the railings. Laing has become emotionally numbed to the surroundings, anesthetized by exposure and alcohol.

This detachment and withdrawal from the emotional impact of the environment is echoed in Laing's reaction to this tragic death. Rather than being horrified or disgusted, Laing is shocked but exhilarated. Around him residents look down into the darkness, observing the mangled body with the same sense of contented detachment as they would observe a scene played out on stage, as if the height has rendered the world below unreal.

For the reader, this lack of emotional reaction is disturbing. For the reader, the descriptions of the death prompt the same unsettling and disorienting emotions which accompanied the sensations of vertigo in the first scene, coupled with horror and disgust at the 'mangled body'. But our empathetic mirroring of Laing's emotional state conflicts with these feelings, and his exhilaration is all the more discordant by comparison. The vertigo which had troubled Laing previously has been lost, and this loss appears symptomatic of a loss of perspective; as the residents have become numbed to their location they appear to have relinquished a critical part of their emotional selves.

> A new social type was being created by the apartment building, a cool, unemotional personality impervious to the psychological pressures of high-rise life. (2006, p. 35)

The initial descriptions of the high-rise encourage the reader to link this fictional space with real spaces which have elicited similar experiences of vertigo. This accord is then disrupted as the building transforms the anticipated reactions of the residents. In creating this discord between the emotional state of the reader and the character, Ballard foregrounds a tension between the subjective reality of the reader's own experience of the city and the fiction of the novel. Following Kitchin and Kneale (2002), this tension provides a critical site for the reader to examine their own reactions to the descriptions of height and scale, to question why the contentment of the residents is so jarring. In doing so the reader is able to view their own reactions from an estranged position, from the viewpoint of the 'other' to both reality and the perspective of the *High-Rise* residents. When viewed from this critical distance we are forced to confront the memory of spaces which filled the 'gaps' to enact the experience of vertigo, and view these spaces critically.

By creating this slippage between apparently banal reality and the violent space of the novel, Ballard forces us to confront the potential for terror within our cities. The novel implies there is a delicate threshold in terms of scale and height which designers and architects must consider carefully. Exceeding these limits holds the potential to inspire terror in the short term, but it may also force us to adapt, to detach ourselves emotionally from the impact of these spaces. In this way, *High-Rise* prompts us to question to what extent an emotional reaction to height or scale, either as awe or terror, is an intrinsically human response. It asks if the mass proliferation of spaces which gradually push us beyond these limits might numb us to a critical aspect of our emotional sense of place.

9. The World Inside

Rather than an alternate present, Robert Silverberg's *The World Inside* (1971) explores the spatial implications of a dramatic future increase in global population. To sustain these growing cities the pressure on arable land has increased, and this has forced the cities to coalesce, pushed upwards by the demands of intensive agriculture. The physical constraints of the tower have redirected the development of humanity and society is consequently defined by this urban form (Butt, 2015).

> The towers of the Chippits constellation, fifty mighty concrete piles, each a self contained entity housing some 800,000 human beings. (Silverberg, 2011, p. 26)

Access to the outside is forbidden and the primary purpose of govermnment has become the delicate management of humanity within this confined space. Those who are unable to adapt are branded 'flippos' and thrown down the chute to be burnt for fuel.

> How could trouble makers be allowed to remain in the tight, intimate, carefully balanced structure of an urbmon? He knows that the probable result of tossing flippos down the chute has been, over a couple of centuries, the creation of a new style of human being through selective breeding. Is there now a homo urbmonensis, placid, adjusted, fully content? (2011, p. 76)

One of the repercussions of this rigid enforcement is that the experience of vertigo has been almost eliminated, either bred out or supressed as an incapacitating weakness in residents who live hundreds of floors above ground level. The disruptive potential of an emotional response to the overwhelming scale and suffocating enclosure of this future city is exemplified in the experiences of two residents. For both an experience of vertigo is synonymous with a breakdown in their spatial conditioning.

Aurea, an inhabitant of the 735th floor, is able to look down from the tower during the day with a numbed neutrality. She observes the ground below without any physiological response, feeling a proud and placid ease in her environment.

> Aurea halts by the majestic window at the dormitory's western end and stares out. The sunset is beginning. Across the way the magnificent bulk of urban monad 117 seems stained with golden red. Aurea follows the shaft of the great tower with her eyes, down from the landing stage at its thousandth floor tip, down to the buildings broad face. She cannot see at this angle

> very far below the 400th floor of the adjoining structure. (2011, p. 25)

While Aurea has managed to supress her reaction to height during the day she finds that in her dreams she is always falling, plunging and spinning down from the heights of the tower.

> In her dizziness she seems to vault to the edge of space … she tumbles through the cold air, and she sees the spiky tips of the Chippitts tower below her, and she drops towards it … And she wakes, sweating and shaking, her tongue dry, her mind dazed by a vision beyond her grasp. (2011, p. 34)

In the initial quote, Aurea's peaceful and sedate state in response to this "magnificent bulk" is startling, and it shocks us into an awareness of the social and emotional difference between our own perception of space and that being portrayed. As in *High-Rise*, the reader is prompted to anticipate sensations of vertigo by the downwards glance, and when this reaction is not forthcoming it makes the reader's own empathetic response jarring. While in *High-Rise* the reader is made continually aware of this emotional disconnect between reality and text, in *The World Inside* the reader is drawn into this city and prompted to empathise with the contentment and joy which Aurea apparently finds in her environment.

Having thus established an emotional baseline of placid contentment, a further process of estrangement is created through Aurea's own shift in perspective during her nightmares. Her dreams of falling prompt a mortal terror, and these scenes seem to exaggerate and extrapolate the vertiginous sensations felt by the reader when the tower is first introduced.

Within the novel, these vertiginous visions define Aurea as an outsider within her society, and are treated as a symptom of mental illness. In this way the experience of vertigo is used to demonstrate the inflexibility of the tower, unable to accommodate human frailty. It makes vertigo synonymous with weakness, an inherited trait which can be selected and suppressed, undesirable in this new type of human created to suit this inhuman environment.

Similarly apparently well suited to this new future, Siegmund is an ambitious civil servant who strives to attain a position of influence within the governing elite of the tower. His political ascent is mirrored in his physical relocation upwards, as in *High Rise*, social stratification has been literally translated into the floorplates.

His ascent requires him to climb the tower via the single spiral staircase which winds its way up the building, all 1000 floors connected via a single void. As inhabitants are unable to leave, this is the only place within the tower where its height can truly be appreciated. In this space he is finally confronted with the true scale of his environment.

> Plodding up the great coil that runs the whole thousand floor height of urban monad 116. He looks up the mighty helix and sees the levels stretching toward infinity …

He grasps the rail and looks down, eyes spiralling along the descending path. …. A dizzying vortex, a monstrous well through which the light of a million globes drifts. (2011, p.172.

The visual spiralling effect overwhelms Siegmund, and he experiences a dizzying and disorientating sensation of vertigo induced by height and depth. He grasps on to the railing in an attempt to steady himself, a fragment of reassurance in the face of the "monstrous" void. The existential fear and disorientation he experiences is described as "a sense of coming apart. A dislocation of the soul" (2011, p. 175).

The sparse descriptions of the 'coil' and 'spiral path' requires that the reader fill in the gaps with similar spaces from their own experience. As with the previous examples, these remembered experiences are then overlaid with the visual tracing of movement, of falling or "spiralling" downwards in a way that prompts an enactment of any personal experience of vertigo.

For Siegmund, his feelings of panic and despair are perceived as a sign of mental instability. His inability to cope at the higher levels means he is physiologically unsuitable for the social and physical position he has striven to attain, and the accompanying sense of loss and rejection overwhelms him.

Within *The World Inside,* society is rigidly defined by the experience of the city and the individual defined by their vertical location. In this setting, Siegmund's experience becomes a spatialised narration of anguished instability. As described by Davidson (2003, p. 3), vertigo can be "experienced as an unbearable attack on one's sense of self in space, constituting an unmitigated existential threat," which centers on the loss of self. Siegmund is confronted by a glimpse of a city whose scale overwhelms even the most well adapted, and he shatteringly fails to retain his previous equilibrium and peace. Unable to reassure himself or regain his previous contentment he is driven to feel he has no place in this society, and he is consequently overcome with depression and despair, and is eventually driven to suicide.

In creating this profound loss of place, Silverberg establishes a tension between the reader's initial response to this overwhelming and oppressive world, and the desire of its inhabitants to call it home. The estrangement created between the way we imagine we would feel within these spaces, and the way these inhabitants respond provides us with critical space to examine the social, cultural and psychological bias we hold towards certain configurations of space. While Ballard prompted us to question the intrinsic links between emotional and environmental limits, Silverberg questions just how malleable those limits are by pushing the notions of environmental adaptation to an extreme.

In this novel the feelings of loss are intrinsically linked to the sense of being lost, that without a sense of place it is impossible to feel contentment. The initial feelings of ease expressed by Aurea and Siegmund prompt the reader to reflect on similarly comforting spaces, and the shattering grief which accompanies the loss of 'home'. From this critical perspective, the scale of the fictional city becomes less critical than the inhabitant's ability to navigate it. For architects and designers, the critical challenge posed by this novel is how to establish a sense of place in cities or towers whose scale can be considered 'ground-less' and mystifying.

10. Conclusion

As demonstrated in this paper, the radical imagination and cognitive estrangement of the sf novel provides a way to critically reimagine the impact of the vertical cities currently under construction. While there is scope for greater scholarship into both vertical urbanism and into the critical space offered by sf for the consideration of urban development, I would extend this call to encompass the wider reading of sf novels. As argued here, scholarship into the use of estranged critical perspectives offers opportunities to reflect on the emotional affect of place. These novels provide a shared language and narrative which can be used as a tool to describe the emotional impact of urban change, offering a common point of departure for design discussions. More critically, I argue for study into the potential for reading sf as a critical or pedagogical tool for urban designers and architects. As a space which is radically 'other' they hold the potential to encourage creativity and alternative conceptions of development within spaces whose narratives are driven by an awareness of the

emotional affect of place. While their creation of 'cognitive estrangement' also provides a space for designers to critically examine their own emotional responses to urban space, and consider the critical importance of emotional affect in design development.

The analysis of the experience of vertigo within these novels offers two critical points of reflection for those engaged in the design and development of the future city. The first is the physiological impact of experiences of vertigo, a problem that can be considered to be intrinsic to the creation of vertical urbanism. When designing ever-taller towers and cities it is necessary to ensure that we do not create spaces which exacerbate this deeply unsettling condition. The second, and more often overlooked, is the emotional affect of the multi-layer city which is synonymous with the experience of vertigo in these novels. Here the sensations of disorientation are presented as an embodied reaction to overwhelming scale, acting both as a metaphor for the overwhelming confusion of the city and as a prompt for the reader to imaginatively enact the experience of being lost.

It is this subtle but critical need to locate ourselves within the city which these novels bring into focus, and in comparison to the physiological impact of vertigo it is not inherent to the form of the vertical city. However, the increasing complexity of the multi-level city contains within it a growing potential for disorienting and alienating places. The impact of the cities in these novels on their inhabitants acts as a call to designers to attend to the affective emotional impact of the cities we design. By continually confronting their occupants with incomprehensible complexity and overwhelming scale, these novels powerfully demonstrate the need for our cities provide us with moments of respite or clarity where we can feel secure and grounded. They demonstrate the need for designers to consciously create spaces that are legible and welcoming, that can become familiar and comforting, that can become home.

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14

‘Crowding the Stoop’: Climbing the Mega-Structures of Science Fiction

Amy Butt

To read a story is to undertake a journey.[1] I sit curled up on my sofa, the familiar weight of a science fiction novel balanced on my knees, the bible-thin pages crinkling at the edges from the heat of my fingers. As I read, the dense set lines of text are transformed into an image of our urban future, the stratified floor levels of a science fiction megacity. Line by line, level by level, I scale the cities caught in these pages.

To understand a building, you must move through it.[2] Both a story and a building require us to take action, to move through them to understand the worlds they contain. As a mountain demands to be climbed just because it is there, so the idea of the multi-level tower city which looms over the genre of science fiction presses itself upon our collective imagination. It is a space that longs to be understood, experienced and created through the act of ascent.

It is an image of such lyrical potency that it has permeated our cultural subconscious and influenced the direction of urban progress to provide

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the foundational vision for the future city. But while the urban worlds we now inhabit extend beyond the limits of what was once science fiction, we have yet to adjust our ways of reading the city to account for our multi-layered lives.[3]

If it is possible to offer a rallying cry while supine on a sofa, I would urge a return to these lurid paper back novels. I would ask you to look past the alluring vision of the future captured in chrome and capital letters, to undertake the journey within. While the image of the tower may have proliferated as a visual shorthand for dichotomies of power and progress, the stories these novels contain persist in their nuance and complexity.[4] They offer us a site to develop the reading of vertical space beyond its role as a symbol, attending to the embodied and emotional nuance of life within an urban megastructure.

The stack of books on my bedside table offers a myriad of visions of the urban megastructure, but I find myself reaching past texts which promise glittering heights to three novels which dwell in the everyday lives of the city. In these novels the protagonists attempt to understand their place by undertaking architectural ascents, scaling the heights of these man-made mountains. They stolidly climb the staircases which connect up here to down there and move through all the possible worlds in-between.

In Harry Harrison's *Make Room! Make Room!* (1966) New York is so overpopulated that the sprawl extends out onto the river, creating a megastructure by filling in the gaps in our existing vertical cities. By comparison, J. G. Ballard's *High-Rise* (1975) contains its inhabitants within the tower walls, a megastructure which shuts off the need for a world outside. While in Scott Russell Sanders' *Terrarium* (1985) humanity has enclosed itself within the structures of the city to escape the dying world outside, a megastructure designed and constructed as a single building. Written a decade apart, these stories chart the possible paths of development of the megastructure city; from the gradual agglomeration of contemporary urbanism, through the intentional construction of individual megastructure buildings, to the wholesale remaking of a homogenous future. In each, the stairwell operates as a critical site of awareness of the city, a space where the complexities of urban living can be simultaneously enacted and understood.

Make Room! Make Room!

> He had to make his way through the women who already filled the steps of the building, walking carefully so that he didn't step on the children who were playing below.[5]

In the New York of *Make Room! Make Room!* the familiar brownstones and skyscrapers of Manhattan are home to an ever-increasing mass of humanity. Every room has been sub-let and sub-divided, carved up to provide the lucky few with a meagre minimum of living space in this densely populated future (Fig. 14.1).

There is a single stark spatial division within the towers; those with access to a room and those without. Beyond the apartment walls New Yorkers live in the left-over spaces, making their homes in parked cars, underpasses, porch steps, fire escapes and the floating shanty towns which spread across the bay. As our protagonist Andy Rusch, a police detective, ascends the staircase of his apartment block he rises above the social vulnerability of the street level to occupy a literally and figuratively higher social plane.

This reading of a high-rise as a top-down hierarchy is prevalent in both literary and urban studies. Height is understood to be the ultimate luxury location by virtue of the view it offers over the city below. It offers a sense of detachment and power to its occupant generated by the ability to visually dominate the land surveyed.[6] The impact of this physical and psychological detachment has been the subject of vital work within the spatial disciplines on the politics of verticality, exposing the potential for vertical towers to exacerbate segregation, particularly in spaces of conflict or heightened economic disparity.[7]

In our contemporary cities, comparisons of economic status or power based on the relative height of vertical buildings are such an intrinsic part of urban design as to go almost unnoticed. However, in fiction the creation of such comparison relies upon descriptions of the spaces in-between, creating a context against which we can measure relative location. Literature and philosophy scholar Ruth Ronen considers the stair as a space between, a point of connection and comparison between

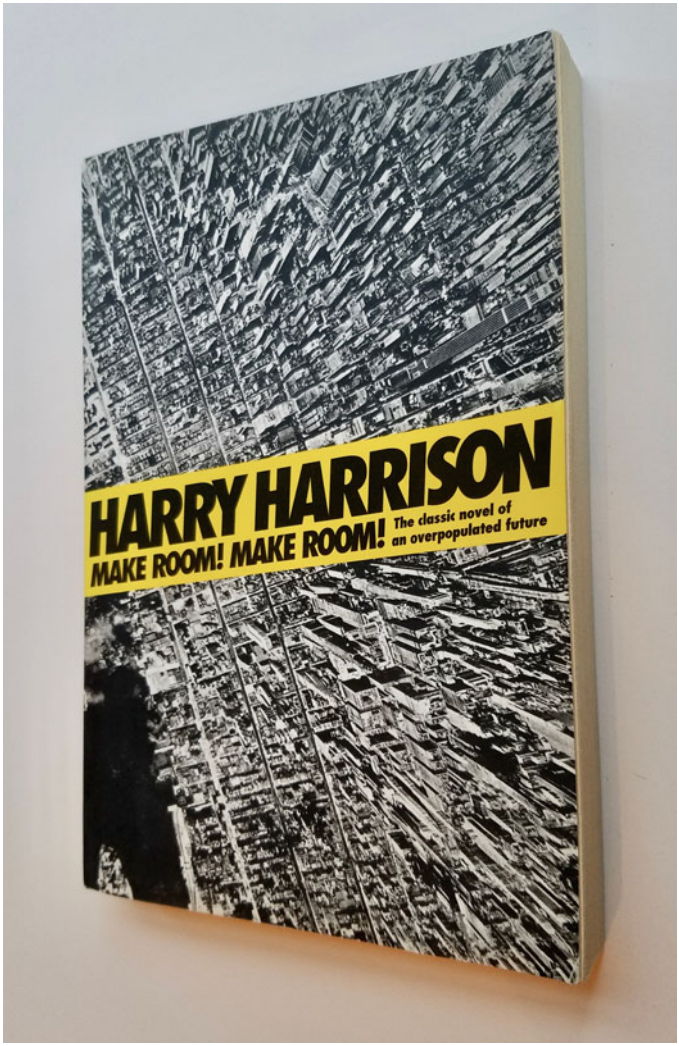

Fig. 14.1 Jamie Stafford-Hill cover design, with Echoes/(re)view/Jupiterimages photograph for *Make Room! Make Room!* New York: Orb Books, (2008). Photograph: Amy Butt (2020)

distinct locations establishing their interrelation.[8] While Andy's apartment is a fixed point architecturally and socially, reaching it requires a movement through the interstitial space of the stair. The relative superiority of the apartment must be continually reperformed and renegotiated against the ambiguous social relations of the stair.

This relative social valuing of above and below relies upon acceptance of orientational metaphors that grant concepts such as 'good' a spatial orientation such as 'up'. When tracing the source of these metaphors, scholars in linguistics such as George Lakoff and Mark Johnson, refer to an embodied understanding of orientation where the upright body is superior to the fallen,[9] revealing how the symbolic reading of spatial arrangement is inexorably intertwined with our embodied understanding of 'good'. The same basic orientational metaphor allows the stacked floors of a tower to be equated with a relative position in social hierarchy.[10] Within these hierarchies, the staircase acts as a link between classes, a space to encounter social difference and bring differentiated individuals together. It is the vertical realm where, as comparative literature scholar Marshall Brown notes, the ethical encounters of everyday life are played out and each step articulates 'nuances rather than fields'.[11] In literalising this social layering the stair manifests the processes of differentiation, the gap between the penthouse and the street is broken down and subdivided, floor by floor and step by step, until it becomes a gradation which can be scaled and surmounted.

> Climbing the stairs in his building was worse than usual, the people who normally crowded the stoop and curb were sitting here, some of them event lying asleep across the steps. He pushed by them and stepped over the recumbent ones, ignoring their mumbled curses.[12]

Andy's attempts to return home at the end of his working day requires the repeated performance of his own idea of his place in the world, an exercise of will to climb over the bodies of those he perceives as literally and figuratively beneath him. In this way, the space of the stair acts both as a metaphor for social hierarchy and as a site of social struggle. As described by literary theorist Joshua Parker, characters' movements through the spaces of fiction can act as a 'symbolic shorthand in and

of themselves', mapping of moral or emotional progress through relative changes in spatial fortune.[13] As such, the stair is a powerful site for such allegorical narratives of the 'rise and fall'[14] as identified by comparative cultural studies scholar Lily Alexander, where it offers as a passage from one mode of being to another.[15]

For author and perceptual psychologist Rudolf Arnheim, the stair 'reverberates with the connotations of […] rising victoriously towards the heights'.[16] But while the stair as an architectural element can be a transcendent space, Andy's ascent is more morally complex. This apparent void which winds its way up through the apartment block is a richly inhabited space of encounter, creating linkages as well as delineating divisions. Here the daily lives of have and have-not overlap in fleeting moments of social interaction. In order to reach the relative security of his apartment Andy must pass through this interstitial space, where his perceived need to defend his social and spatial position against the continual physical presence of the disenfranchised other results in ever-increasing acts of incidental violence.

> Going up the stair in his building, he trod heavily on some of the sleepers but was too fatigued to care – or even notice.[17]

As the novel progresses, the pressure on basic resources steadily escalates with sustained heat and drought leading to food and water shortages with riots and outbreaks of violence on the streets. The number of inhabitants on the stairwell increases in a rising tide of humanity, a symbolic closing of the distance between their precarious existence and the apparent refuge of the tower. In response, Andy's attitude towards these faceless figures hardens, shifting from disinterest to dehumanising disregard in a brutal microcosm of this new social order.

These comparatively subtle shifts in interaction on the stair can be read as significant because we are aware of the patterns of inhabitation which exist for this particular building. They are made meaningful by our understanding of Andy's individual emotional and social experience. We bear witness to a notionally 'good' man, an upright citizen, failing to uphold his own standards of care and compassion. Through the performed moments of social interaction on this stair, we are given

an emotionally affecting insight into the social and economic relations for an entire city.

Through this narrative, it is evident that Andy's lived experience and patterns of inhabitation act to establish the apartment's status as a space of privileged retreat, as much as its relative height. As argued by urban geographer Andrew Harris:

> Meanings of vertical buildings and structures need to be understood as generated and negotiated as much through the ideas, imaginations and memories of their users, dwellers and observers as their original designers. … to open up thicker narratives and alternative stories, voices and experiences … developing a greater emphasis on popular, every-day and embodied interpretations of urban verticality.[18]

The implicit association of height with power as a singular factor determining spatial hierarchy has been subject to critique in urban studies. In response to the limitations of such cartographic reading of vertical space, urban theorist Christopher Harker proposes a 'topological' sensitivity within discussions of vertical urbanism which can work alongside 'topographical' understandings of space to consider the 'experience, embodiment, and inhabitation of verticalities'.[19] This is explored in critical geographies of architecture which examine the lived experience at the level of the individual building.[20] Through studies such as Richard Baxter's work on high-rise living in London this verticality is understood as a practice, not something which is pre-given but something which is 'activated and engrained through everyday life',[21] given weight, meaning and presence through the act of engagement.

It might seem counter-intuitive to turn to the symbolically stratified megastructures of science fiction to disrupt the cartographic readings of vertical space which assume top-down power relations, however, the richly experiential accounts of individual perceptions of place within these fictions serve to demonstrate the way in which individual experience and networks of connection complicate linear associations of power and geometry. Economic geographer John Allen describes this as a need to develop an understanding of vertical space where 'the gap between

"here" and "there" is measured less by miles or kilometres and more by the social relationships, exchanges and interactions involved'.[22]

In Harrison's New York, the top-down patterns of power and social hierarchy are readily apparent and reinforced through the heightened vulnerability of those at street level. But the experience of these vertical spaces is also understood as being inherently subjective, continually created by individual emotional responses and the everyday patterns of inhabitation which make up the space. The stair is a space where these complexities and contradictions can co-exist; it is a space of fear which must be moved through swiftly, while also being a space of safety which must be fought for. For the reader, the stair provides a space to acknowledge the complexity of the politics of vertical urbanism and confront the encroaching establishment of urban segregation in all its spatial configurations.

High-Rise

> Only one direction lay before him – up. Like a climber resting a hundred feet from the summit, he had no option but to ascend.[23]

In J. G. Ballard's *High-Rise* the social stratification of the inhabitants of the tower is built into the fabric of the building, a hierarchy made manifest in the divisions between floors. Richard Wilder, a documentary film maker, is initially driven to climb the building by a professional desire to comprehend and record the society he finds himself in. But, as the residents close themselves off from the world outside and society in the high-rise takes on a brutal aspect, Wilder's desire to document is similarly warped into a violent desire to confront the architect who occupies the penthouse, to challenge him with the reality of his creation (Fig. 14.2).

As well as being a potent symbol of the social structure it contains, the building in *High-Rise* acts upon the narrative, influencing and directing the actions of the inhabitants.[24] It exerts an emotionally affective influence over their behaviour and also defines the boundaries of the world

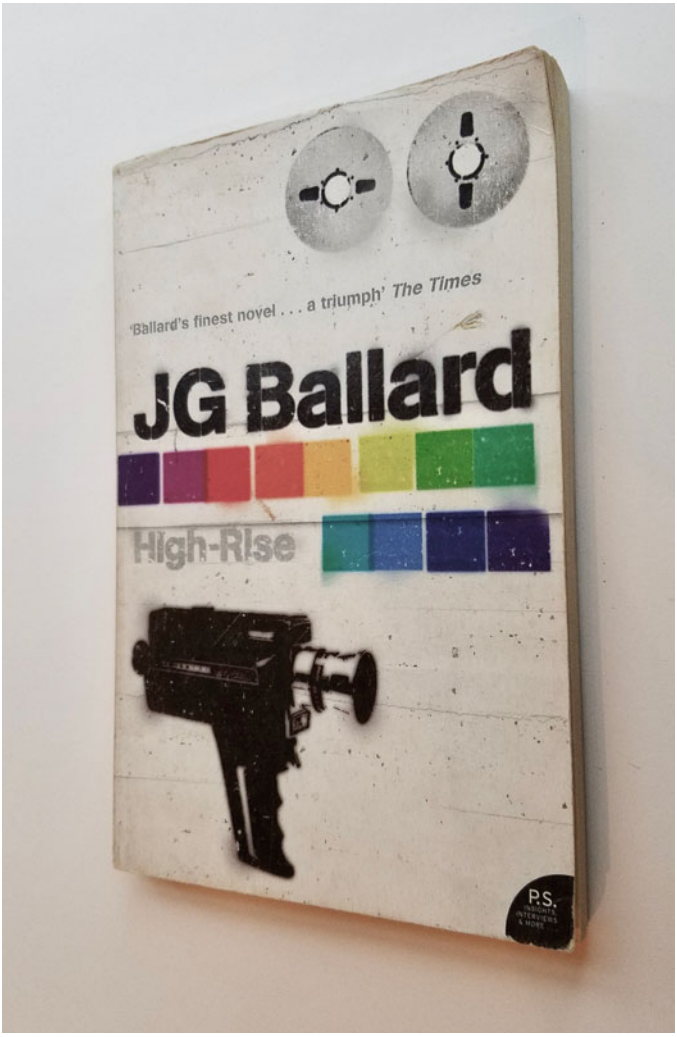

Fig. 14.2 David Wardle, cover art for *High-Rise*, London; New York: Harper Perennial (2006). Photograph: Amy Butt (2020)

within which they can react. In this way the setting plays an active role in delineating the course of possible narratives,[25] defining the constraints of the possible by providing the literal premises for narrative action as noted by cultural theorist Vivian Sobchack.[26]

> Holding his neck, he looked up at the face of the high-rise. He could almost pick out the lights of the 37th floor. He felt suddenly exhausted, as much by the building's weight and mass as by his own failure.[27]

The psychological influence which the high-rise exerts on Wilder can be read as a fictional extrapolation of the affective impact of the built environment, following urban geographers Peter Kraftl and Peter Adey's definition of affect as 'the push that the particular relationship between a body and a building could bring about',[28] acting to supply 'the perceptive body with a set of possible actions or movements to perform'.[29] *High-Rise* provides an exaggerated perspective of the affective impact that vertical urbanism is perceived to have on its occupants. Indeed, urban geography scholars Megan Nethercote and Ralph Horne cite the work of Ballard as providing the reader with a 'three-dimensional awareness of the building's "inter-floor" wrangles', which can be used as a critical tool to discuss everyday experiences of verticality.[30] By making visible of the assumed impact of the built, it becomes possible to use fiction as a valuable shared reference point for the discussion and critique of these assumptions.[31]

As Wilder moves through the building its affective impact shifts and the pressure created by the weight of floors above him begins to dissipate, but his ascent is impeded by barricades and obstacles placed in his path by those on the floors above. These defensive positions are established by the 'informal clans' that have formed within the tower, who each defend their 'hostile enclaves'.[32] These differentiated groups have formed around class distinctions as much as physical proximity into networks of social affinity defined by the lived experience and contextual affect of that specific floor. Between these defined floors the staircase acts as a space where the various lived experiences within a single megastructure can be understood in relation to one another, implying and enacting the possibility of connection. As described by architectural historian Iain Borden,

the stair is 'an intellectual as well as material endeavour… the stairway offers the continual reminder that there are other spaces'.[33] In this way, the stair can be an estranging space, offering a critical position poised between defined roles and patterns of lived experience, as well as being a space for encounter to take place, a border territory of the everyday.

> For several hours the previous night Wilder had reached the 20th floor and even, during a few minutes of an unexpected skirmish, the 25th. By dawn he had been forced to retire from this advance position to his present base camp, an apartment on the 17th floor.[34]

Wilder's rejection by the inhabitants of the upper levels prompts him to react to the barriers as a symbolic defense against social mobility, reframing his ascent as an act of social climbing. The manifest social divisions in the tower establish an emotional imperative to prove himself in the face of this impassive and overwhelming monument to power.

This response serves to demonstrate how building affect is inseparable from an awareness of the symbolic power structures it materializes. As argued by cultural geographer Divya Tolia-Kelly, issues of power and difference and the emotional reactions that these provoke can be overlooked or obscured in literatures of affect.[35] The fact that Wilder alone is driven to ascend underlines that this is a subjective emotional response, an affective impact created as much by his personal distaste for the tower hierarchy and internalized anger towards its creator, as by the fabric of the building itself.[36]

> He was well aware of the disparity between the simple business of climbing to the roof … and the mythologized version of this ascent that had taken over his mind.[37]

While he ascends, Wilder sees the penthouse as a pinnacle of power from which the architect must be deposed. But his unwitting opponent occupies a place of greater ambiguity in the high-rise hierarchy; the architect may symbolically dominate his creation but in this isolated location he is also held captive by it. This conflict, between the symbolic reading of the tower and its lived reality is apparent to Wilder when he refers to the

mythological version of his ascent. While the stair expresses the tantalizing possibility of such a quest, climbing them reveals the banal and sometimes brutal reality.

This conflict between symbolism and lived experience is explored in geographies of affect which attend to the complexities of emotional responses to the built environment. As delineated by Loretta Lees and Richard Baxter in their study of a 'building event of fear' it requires a conceptual balance between the material and immaterial, the affective impact and the 'subjective emotional implications of this experience'.[38] Following geographers Gillian Rose, Monica Degen, and Begum Basdas' work into buildings and feelings, necessitates an appreciation of individual perspective and personal history to accommodate inconsistencies in the impact of material affect, shifts in emotional reaction governed by the circumstances, memories, associations and self-perception which inform a response in that given moment.[39] A highly personal experience of space, it is one which can be empathetically understood in part through storytelling, the way in which we frame and narrate our lived experience.[40] Within fiction we are able to inhabit this subjective experience of the other, and empathetically enact their emotional response to their environment. Critically this provides an understanding of their individual subject position, allowing the affective impact to read through the experiences which have shaped the way they will respond.

As readers, we understand the building through Wilder's act of ascent. It links events temporally through the continued narrative line of his lived experience while relating them spatially through his pattern of movement.[41] By engaging with his perceptions of the tower, his shifting motivations to climb and his different responses to the distinct levels, we are able to attend to the complex interplay between symbolic, affective and emotional influences on behaviour.

Terrarium

> As he rose in thought to that arched ceiling, his inner space swelled to include the million windowed towers, the hurtling gliders, the citizens

> meandering through the city like molecules in a blaze of light … swelled to encompass the whole of Oregon City. It was a mighty place, technology's cathedral, architecture of a dozen centuries of thought. How could he leave it? The city fed him, kept him warm, sheltered him from beasts. The city was the climax of evolution on the planet.[42]

The layered megacity of *Terrarium* contains a society isolated from the world outside. Within this overcrowded city the pressures of physical proximity are almost overwhelming. In response, a society has developed where any sign of bodily presence through scent or touch is ritualistically obscured with intricate masks and wraps. To maintain this sterile environment circulation spaces which demand physical exertion are abandoned, replaced by motorised circulation systems, and the stairs are transformed into a subversive space (Fig. 14.3).

Through our protagonist, Pheonix, we are introduced to Teeg, the daughter of a city planner who leads a revolutionary cell who plot to escape from the city. The staircase provides her with a secluded space where her radical desire to exercise bodily autonomy can go unobserved, as well as providing a training site to prepare her for life outside the city dome.

> Something about the determined swing of her hips, something in the angry strength of her climbing, so alien to everything he had been raised to believe about the body, convinced him that she would slip away from Oregon City one day, enter the chaos of the map, and never look back.[43]

This performance of climbing allows Teeg to gain an awareness of the scale of the city against the scale of her own body. Her proprioceptive awareness of distance is generated through the cumulative measure of lifting of each foot, the height of the building portioned out in the fractional measures of a step. The stairs provide Teeg with an embodied understanding of the city and fosters a critical conception of her own place within the world. While Phoenix perceives the city as an overwhelming and pervasive system of living, the awareness of scale Teeg practices in her climbing allows her to understand it as space with physical limitations which she can train herself to overcome.

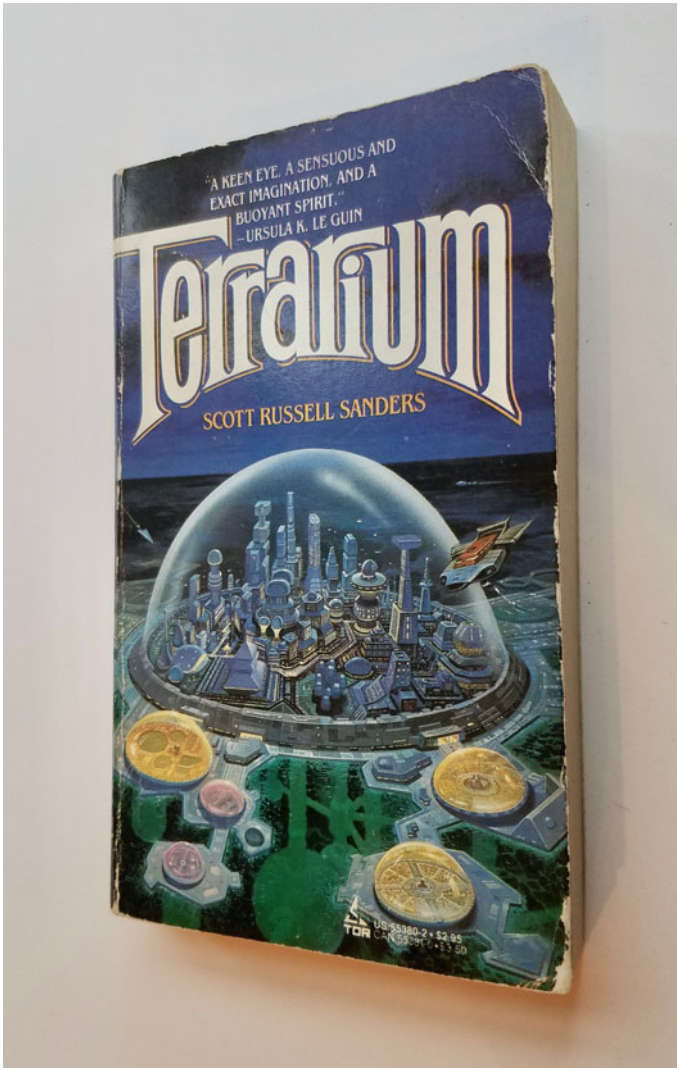

Fig. 14.3 Angus McKie, cover art for *Terrarium*, New York: Tom Doherty Associates (1985). Photograph: Amy Butt (2020)

The staircase is the space where the vertical height of space is made visible in the void cut through floors, and made tangible in stair treads which measure out height on a human scale. By comparison, the automated pedways and elevators remove any sense of scale by compressing space and time, and in doing so remove this opportunity for understanding in relation to the environment.[44] While mechanized circulation systems have made high-rise living possible and underpin the association of height with privilege, as described by architect and urbanist Keller Easterling, there is a loss of spatial understanding which accompanies the elevator as a 'black box that erases notions of scale, external points of reference, and sometimes, in our imagination, memory, time, or distance'.[45]

In science fiction literature, this embodied awareness of scale is used as a common measure against which the reader can comprehend the vast scales of alien construction, a more immediate and visceral point of comparison than numerical dimensions. For example, Iain M. Banks' novel *Matter* and Arthur C. Clarke's *Rendezvous with Rama* both draw upon the embodied and sequential experience of climbing a stair to allow vast structures to be understood, measured out in the days or weeks required for a body to ascend. While in *The Day Before the Revolution* by Ursula Le Guin, science fiction scholar Katie Stone observes how the act of climbing a stair is part of a moment of personal recognition, of the public and private self, of aging and childhood.[46] It is a trope exploited in the early Doctor Who encounters with the Daleks, whose inability to ascend a staircase is a marker of their cybernetic inhumanity which repeatedly thwarts their attempts to exterminate life on Earth.[47] In response, the Doctor and his companions are able to use the ergonomics of the built environment designed to suit human (or Time Lord) embodiment as a weapon to literally gain the upper ground. Throughout these texts, the stair provides a unique space for comprehension, both of the built environment and of the protagonist's place within it.

> Breathless from the stairs, he halted at the next landing and let Teeg climb ahead by herself.

> … Dizziness sat him down upon the landing. The metal felt cold through his gown. With his closed he listened to Teeg's bare feet slapping the stairs above him, fainter and fainter as she climbed.[48]

As Teeg climbs she is physically enacting the possibilities which are inherent in the staircase, utilizing an embodied engagement with space to understand both her own physical potential and the inherent limits and scale of the city she occupies. As architecture scholar Lena Hopsch observes, the staircase is the architectural element which interacts most palpably with our bodies,[49] and as such it is the site where we have greatest awareness of the role our senses plays in our perception of space. We exercise our sense of touch to exert pressure upon a stair tread, utilize our sense of balance to remain upright and draw upon our kinesthetic understanding of our own bodies to generate a rhythm which allows us to move through space.[50]

In the stairwell, as on ramps and slopes, the ground plane which provides the primary point of postural spatial reference is transformed. As described by historic preservation planner Roy Malcolm Porter Jr. this results in an awareness of the influence 'of site—the earth itself—as the very basis for our sense of our own corporeality and our uniquely human orientation'.[51] This understanding of the stair as a space of vulnerability is present in science fiction novels such as Yoshio Aramaki's *The Sacred Era*, N. K. Jemisin's *The Fifth Season*, Jeff VanderMeer's *Annihilation* or William Sleator's *House of Stairs*, which use twisted and distended stairs to distort the perception of grounded reality and provoke psychological destabilization.[52]

> When he finally did track her down, overtaking her at the bottom of the fire stairs as she began her daily seventy-storey climb, she told him she was about to leave.[53]

Architect Juhani Pallasmaa's close reading of the staircase highlights its critical role as a 'deep architectural image' which 'alters our experience of reality … frames, articulates, structures, relates, separates and unites, facilitates and prohibits'.[54] Rather than being an architectural element able to be extracted and considered in isolation, the staircase is

an architectural image constructed with and through the performance of the body. In *Terrarium*, Teeg's performance of climbing physically prepares her for life without the comforts of the city but it also alters her perception of built reality. Her ascent creates the staircase as a space of connection and establishes the possibility of movement between her current world and life outside.

In Sanders' depiction of the megacity, the scale of building is so vast that height has become almost irrelevant. As the vertical axis loses its political or economic significance, the act of climbing is transformed into a declaration of personal agency, an act of dissent against an undifferentiated world. Teeg's decision to climb requires a physical effort to overcome gravity which mirrors the effort of will required to overcome the social pressures of the city. It is a subversive act which requires that dominant patterns of behaviour be cast off in a strengthening of both muscles and resolve. In this way, the space of the stair can be understood through the embodied act of ascent, overlaid with symbolic connotations constructed from an understanding of personal history and subjective experience.

Crowding the Stoop

When I am reading I am consumed by the text. Even as I lift my eyes from the page, eyelids flickering as I re-attune my gaze to depth perception, the after-image of the worlds they contain lingers. As I once moved through them, they continue to move through me, and a palimpsest of imagined futures settles uneasily over my perception of the world.

These images of the vertical city inform and influence the way I engage with the city I inhabit, offering a critical site for the consideration of the vertical and volumetric nature of the urban environment.[55] And I am not alone. The co-consideration of fiction and contemporary urban theory is being explored by a growing field of theorists in architecture, geography, planning and urban studies.[56] These imaginary worlds allow us to inhabit the common cultural associations of architectural design, to explore the pervasive hopes and fears which underpin the social experience of place.[57] We climb the staircases of the future together.

In the megastructures of science fiction, the emotional, embodied and symbolic interpretations of vertical urbanism are made material. In these texts it is possible to engage with the multiple implications and embedded readings of urban megastructures by tracing a given character's experience. The symbolic manifestation of hierarchies can be re-contextualized through an act of ascent which allows the topological reconsideration of vertical structures of power. At the same time, an exaggeration of the affective impact of height can render cultural associations into tangible experiences, opening them up to critical examination. The uniquely intimate position granted to a reader who empathetically becomes the protagonist provides insight into the embodied act of climbing, opening it up to be understood as an act of resistance against the megastructure constructed on an inhuman scale.

As I drift back into myself, I stretch and gently rest this book on top of one of the stacks which fill the recesses and cover the surfaces of my home. These precarious piles grow slowly, each an accretion of time made material in drifts of paper. To scale one of these stacks is to climb through the space of these novels, to imaginatively enact the acts of ascent they contain. From the vantage point at the end of these journeys I see the landscapes below in light of fresh strangeness, a momentary break in the cloud cover which directs my future endeavour.

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Notes

1. The act of reading is an intellectual and emotional journey into the perspective of another. While the story itself also *moves* the reader, the stories we tell transport us. As described by Michel de Certeau, 'every story is a travel story - a spatial practice'. Michel de Certeau, *The Practice of Everyday Life* (University of California Press, 2011), p. 115.
2. This is discussed by Sigfried Gideon in relation to Cubist art where the experience of space is transformed by the relative position of the viewer, thus 'in order to grasp the true nature of space the observer must project himself through it'. For Gideon, the earliest architectural manifestation of this interrelation or interpenetration of physical outer space and the inner space of the self, is the staircase of the Eiffel tower. Sigfried Giedion, *Space, Time and Architecture: The Growth of a New Tradition* (Harvard University Press, 1967), p. 436.
3. Andrew Harris refers to this as a 'vertical blind spot' in contemporary urban theory. Andrew Harris, 'Vertical Urbanisms: Opening up Geographies of the Three-Dimensional City', *Progress in Human Geography*, 39.5 (2015), 601–620 (p. 601).
4. For political and utopian theorist Frederic Jameson, it is the ability to break from simple extrapolative exploration by making radical imaginative leaps into the unknown which allows science fiction to be revisited by later generations of readers to cast fresh strangeness on our contemporary condition. Fredric Jameson, *Archaeologies of the Future: The Desire Called Utopia and Other Science Fictions* (New York: Verso, 2005), p. 99.
5. Harry Harrison, *Make Room! Make Room!* (New York: Orb Books, 2008), p. 20.
6. This detatchment of vertical distance is discussed by Certeau in relation to the view from the top of the World Trade Center. Certeau, p. 93.
7. See for example: Stuart Elden, 'Secure the Volume: Vertical Geopolitics and the Depth of Power', *Political Geography*, 34 (2013), 35–51; Stephen Graham, 'Super-Tall and Ultra-Deep: The Cultural Politics of the Elevator', *Theory, Culture & Society*, 31.7–8 (2014), 239–265 (p. 252);

Lucy Hewitt and Stephen Graham, 'Getting off the Ground: On the Politics of Urban Verticality', *Progress in Human Geography*, 37.1 (2013), 72–92 (p. 74); Eyal Weizman, *Hollow Land: Israel's Architecture of Occupation* (Verso, 2007).

8. Ruth Ronen, 'Space in Fiction', *Poetics Today*, 7.3 (1986), 421–438 (p. 437).
9. George Lakoff and Mark Johnson, *Metaphors We Live By* (University of Chicago Press, 2008), p. 14.
10. Within science fiction, examples of narratives of verticalized spatial hierarchy which also explore the role of the stair range from; works which bury humanity under the surface of the Earth, such as W. E. B. Du Bois' *The Comet*, Philip K. Dick's *The Penultimate Truth* or Hugh Howey's *Wool*; works which explore architectural verticality such as Robert Silverberg's *The World Inside* or Thomas M. Disch's *334*; to works where this layering of privilege occurs on structures which have escaped the planet entirely, such as *An Unkindness of Ghosts* by Rivers Solomon.
11. Marshall Brown, 'Transcendental Ethics, Vertical Ethics, Horizontal Ethics', in *Ethics in Culture: The Dissemination of Values Through Literature and Other Media*, ed. by Astrid Erll, Herbert Grabes, and Ansgar Nünning (Walter de Gruyter, 2008), p. 65.
12. Harrison, p. 151.
13. Joshua Parker, 'Conceptions of Place, Space and Narrative: Past, Present and Future', *Amsterdam International Electronic Journal for Cultural Narratology*, 7 (2014), 74–101 (p. 97).
14. Lily Alexander, 'Storytelling in Time and Space: Studies in the Chronotope and Narrative Logic on Screen', *Journal of Narrative Theory*, 37.1 (2007), 27–64 (p. 31).

    In science fiction, this is explicitly referenced in works which re-tell allegorical 'rise and fall' narratives such as Ted Chiang's *Tower of Babylon*, or Robert Silverberg's *Tower of Glass* which both focus on the re-construction and ascent of a Tower of Babel.
15. See for example: Leonard Lutwack, *The Role of Place in Literature* (Syracuse University Press, 1984), p. 66 and Jeannot Simmen, 'A Cultural History of Elevators and Lifts', in *Designing Circulation Areas: Staged Paths and Innovative Floorplan Concepts*, ed. by Christian Schittich (Walter de Gruyter, 2013), p. 29.
16. Rudolf Arnheim describes the stair as the space which makes manifest all of the poetic and symbolic potential of 'height' as an abstract state. It is a space where the desire for ascent can be realised by overcoming the weight

of the body, hinting at the greater possibility of ascent to euphoric enlightenment. Rudolf Arnheim, *The Dynamics of Architectural Form* (University of California Press, 1977), p. 210.

17. Harrison, p. 214.
18. Harris, p. 610.
19. Christopher Harker, 'The Only Way Is Up? Ordinary Topologies of Ramallah', *International Journal of Urban and Regional Research*, 38.1 (2014), 318–335 (p. 319).
20. See for example: Jane M. Jacobs, 'A Geography of Big Things', *Cultural Geographies*, 13.1 (2006), 1–27; Richard Baxter and Loretta Lees, 'The Rebirth of High-Rise Living in London: Towards a Sustainable, Inclusive, and Liveable Urban Form', *Regenerating London: Governance, Sustainability and Community in a Global City*, 2009, 151–172.
21. Richard Baxter, 'The High-Rise Home: Verticality as Practice in London', *International Journal of Urban and Regional Research*, 41.2 (2017), 334–352 (p. 337).
22. John Allen, 'Topological Twists: Power's Shifting Geographies', *Dialogues in Human Geography*, 1.3 (2011), 283–298 (p. 284).
23. J.G. Ballard, *High-Rise* (London; New York: Harper Perennial, 2006), p. 122.
24. Amy Butt, 'Between the Image and the Building: An Architectural Tour of High-Rise' *Critical Quarterly*, 58.1 (2016), 76–83.
25. The role of spatial reference is further discussed in David Herman's, *Story Logic: Problems and Possibilities of Narrative* (U of Nebraska Press, 2004), where it is described as an integral part of the 'narrative domain', p. 296.
26. Vivian Sobchack, 'Cities on the Edge of Time: The Urban Science-Fiction Film', in *Alien Zone II: The Spaces of Science-Fiction Cinema*, ed. by Annette Kuhn, 1999, pp. 123–143.
27. Ballard, p. 88.
28. Peter Kraftl and Peter Adey, 'Architecture/Affect/Inhabitation: Geographies of Being-In Buildings', *Annals of the Association of American Geographers*, 98.1 (2008), 213–231 (p. 216).
29. Kraftl and Adey, p. 227.
30. Megan Nethercote and Ralph Horne, 'Ordinary Vertical Urbanisms: City Apartments and the Everyday Geographies of High-Rise Families', *Environment and Planning A: Economy and Space*, 48.8 (2016), 1581–1598 (p. 1582).

31. Francesca Ansaloni and Miriam Tedeschi, 'Understanding Space Ethically Through Affect and Emotion: From Uneasiness to Fear and Rage in the City', *Emotion, Space and Society*, 21 (2016), 15–22.
32. Ballard, p. 88.
33. Iain Borden, 'Stairway Architecture: Transformative Cycles in the Golden Lane', in *Architecture: The Subject Is Matter*, ed. by Jonathan Hill (Psychology Press, 2001), pp. 119–130 (p. 8).
34. Ballard, p. 114.
35. Divya P. Tolia-Kelly, 'Affect—An Ethnocentric Encounter? Exploring the "Universalist" Imperative of Emotional/Affectual Geographies', *Area*, 38.2 (2006), 213–217 (p. 214). Cited in Loretta Lees and Richard Baxter, 'A "Building Event" of Fear: Thinking through the Geography of Architecture', *Social & Cultural Geography*, 12.2 (2011), 107–122.
36. For discussions on the relation between affect and emotion see for example: J. Simon Hutta, 'Geographies of Geborgenheit: Beyond Feelings of Safety and the Fear of Crime', *Environment and Planning D: Society and Space*, 27.2 (2009), 251–273. Jane M. Jacobs, Stephen R. Cairns, and Ignaz Strebel, 'Windows: Re-Viewing Red Road', *Scottish Geographical Journal*, 124.2–3 (2008), 165–184.
37. Ballard, p. 60.
38. Lees and Baxter, p. 117.
39. As noted by Rose et al. '…those geographers inspired more by affect theory evoke the 'feelings' that buildings may provoke but evacuate human subjectivity from their accounts of buildings' performances'. Gillian Rose, Monica Degen, and Begum Basdas, 'More on "Big Things": Building Events and Feelings', *Transactions of the Institute of British Geographers*, 35.3 (2010), 334–349 (p. 334).
40. Amy Butt and David Roberts, 'Narrative Arcs', in *Regeneration Songs*, ed. by Alberto Duman (Repeater Books, 2018).
41. The relationship between narrative and travel is further discussed by Kai Mikkonen, in 'The "Narrative Is Travel" Metaphor: Between Spatial Sequence and Open Consequence', *Narrative*, 15.3 (2007), 286–305 (p. 287).
42. Scott R. Sanders, *Terrarium* (New York: Tom Doherty Associates, 1985), p. 118.
43. Sanders, p. 38.
44. David Harvey, *The Condition of Postmodernity* (Oxford: Blackwell, 1989). Cited in Graham, 'Super-Tall and Ultra-Deep: The Cultural Politics of the

Elevator', p. 243. Also, see: Andreas Bernard, *Lifted: A Cultural History of the Elevator* (NYU Press, 2014), p. 18 and Brown, p. 66.

45. Keller Easterling, 'Conveyance "Germs": Elevators, Automated Vehicles, and the Shape of Global Cities', in *Up Down Across: Elevators, Escalators, and Moving Sidewalks*, ed. by A. Goetz (London: Merrell, 2003), pp. 124–139 (p. 125).
46. Katie Stone, 'Dreaming of Utopia: Reading Ursula K. Le Guin and Octavia E. Butler on the Day Before the Revolution', *IAS Think Pieces* (Spring 2020).
47. It should be noted that in the Russell T. Davies reboot of Doctor Who this design flaw is overcome by the Daleks ability to 'elevate!'
48. Sanders, p. 38.
49. Lena Hopsch, 'The Spanish Steps: Rhythm and the Body in Space', *Environmental and Architectural Phenomenology*, 22.3 (2011), 11–13 (p. 12).
50. See: Lena Hopsch, Rachel McCann, and Malcolm Porter Jr, 'Perceptual/Spatial Unfolding: Body, Rhythm, Depth', *Environmental and Architectural Phenomenology*, 22.3 (2011), 8 (p. 7).
51. Roy Malcolm Porter Jr, 'The Stairs at Säynätsalo Town Hall: The Perception of Depth and the Experience of Space', *Environmental and Architectural Phenomenology*, 22.3 (2011), 14–15 (p. 14).
52. This twisting of the space of a stair is also used as a stunningly disorienting device in SF film and television including the films *Inception* or *Labyrinth*, or the Doctor Who episodes set in Castrovalva.
53. Sanders, p. 38.
54. Juhani Pallasmaa, 'Stairways of the Mind', *International Forum of Psychoanalysis*, 9.1–2 (2000), 7–18 (p. 8).
55. The unique position of sf in relation to vertical urbanism is discussed by Lucy Hewitt and Stephen Graham, in 'Vertical Cities: Representations of Urban Verticality in 20th-Century Science Fiction Literature', *Urban Studies*, 52.5 (2015), 923–937 (p. 925); and Stephen Graham, in 'Vertical Noir: Histories of the Future in Urban Science Fiction', *City*, 20.3 (2016), 382–399 (p. 382).
56. See for example: Carl Abbott, 'Cyberpunk Cities: Science Fiction Meets Urban Theory', *Journal of Planning Education and Research*, 27.2 (2007), 122–131; Natalie Collie, 'Cities of the Imagination: Science Fiction, Urban Space, and Community Engagement in Urban Planning', *Futures*, 43.4 (2011), 424–431; David T. Fortin, *Architecture and Science-Fiction Film: Philip K. Dick and the Spectacle of Home* (Ashgate Publishing, Ltd.,

2011). *Lost in Space: Geographies of Science Fiction*, ed. by Rob Kitchin and James Kneale (A&C Black, 2005).
57. Amy Butt, '"Endless Forms, Vistas and Hues": Why Architects Should Read Science Fiction', *arq: Architectural Research Quarterly*, 22.2 (2018), 151–160.

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IMAGINARIES OF THE FUTURE 03: UTOPIA AT THE BORDER

City Limits: Boundary Conditions and the Building-Cities of Science Fiction

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Can the rigidly bound city-buildings of science fiction (SF) provide a critical space to resist a movement towards structural divisions within the urban realm? Drawing on the growing body of urban studies research that utilizes the radical imagination and cognitive estrangement of SF as tools for critiquing the modern city, this paper focuses on three SF texts which explicitly address the architectural and social implications of extreme urban enclosure: Larry Niven and Jerry Pournelle's *Oath of Fealty* (1981), Isaac Asimov's *Caves of Steel* (1953) and James Blish and Norman Knight's *A Torrent of Faces* (1967). In each, the implications of gated communities are extrapolated and exaggerated to offer a glimpse into societies where a physical boundary creates spatial privilege by intensifying difference. By providing an estranging and critically distanced perspective on urban enclosure, these novels support existing movements to identify and resist damaging social division and structural segregation in the cities we currently inhabit.

Article

> *"Happy? Of course they're happy. Aristocrats usually are happy. But how many of those places can the Earth support? And there'll be more hives, hives everywhere... and they've got to be stopped, now, before they spread."*
>
> (Niven and Pournelle, 2007 [1981]: 162)

Representations of the city in science-fiction (SF) are rarely neutral on the subject of the societies they contain and create; from the stratified social hierarchies of Fritz Lang's *Metropolis*, mapped onto the vertical axis of towering high-rises; to the bureaucratic might of Isaac Asimov's Trantor in the *Foundation* series, a planet covering city sustained by the empire it administrates (Lang, 1927; and Asimov, 1995 [1951]). The world building intrinsic to much SF lends itself to the creation of visions of futures where morals are made material, and the urban and social are inexorably intertwined. One widely-portrayed vision of a socially expressive future city is that of the single city-building enclosed by a defining boundary wall that mirrors divisions and separations existing within the lived urban environment.

This paper will undertake a close examination of one-such society: the enclosed city-building of Todos Santos, as depicted in Niven and Pournelle's *Oath of Fealty* (2007 [1981]), considering how this fictional city-building reflects and reinforces the current critical understanding of the social impact of gated communities. It will use this narrative to reveal the utopian intent inherent in movements towards urban isolation; reading the city of Todos Santos alongside the enclosed cities of Isaac Asimov's *Caves of Steel* (1999 [1953]) and James Blish and Norman Knight's *A Torrent of Faces* (2011 [1967]) to demonstrate the dystopic potential for inhabitants should this intent be realised. In this way, this paper looks to utilise depictions of urban enclosure within SF to critique and resist the development of socially destructive division and segregation within the cities we inhabit.

SF in the study of the built environment

Within the fields of architecture and urban design SF has commonly been considered either for its apparent prediction of the future of cities, or as a source of inspiration for designers. This paper follows the growing call within urban studies for a greater

appreciation of the critical common ground offered by SF as a space for reflection on urban reality (Kitchin & Kneale, 2001; Hewitt & Graham, 2015). This common ground is formed by a complex reciprocal relationship, where SF both reflects and influences urban reality. As argued by urban geographer Stephen Graham, the 'linkages between sci-fi cities and material cityscapes that are actually constructed, lived and experienced are so dense as to make some clean separation impossible' (2016: 388). However, it is this inter-relation between real and imagined which makes SF such a potent site for urban critique.

For political and utopian theorist Frederic Jameson, radical imaginative freedom is the critical factor which differentiates SF from other forms of literary expression. This ability to imagine freely is in part rooted in the genre's 'pulp' character, its self-definition as existing outside of high art. According to Jameson, only SF has the 'capacity to relax that tyrannical "reality principle" which functions as a crippling censorship over high art' (2005: 270). It is this ability to break from simple extrapolative exploration by making radical imaginative leaps into the unknown which allows SF to test the limits of our conceptualisations of urban space. Radical imagination allows these texts to be revisited by later generations of readers to cast fresh strangeness on the city as they know it. In this way, SF can provide a critical perspective both as a historically situated text – in tension with the specific place and time of its writing – while also being profoundly other to any subsequent time of reading.

However, its pulp or genre status has limited the extent to which SF is considered a 'valid' source for critical study within urban studies and architecture (Abbott, 2007). Where SF is referred to, the texts are typically limited to a relatively small list of explicitly extrapolative works that consciously reflect on the urban environment, centring on *Metropolis*, *Blade Runner* and the work of JG Ballard; what geographers Rob Kitchin and James Kneale (2002: 16) refer to as 'a cannon of "approved" authors, novels and films'. Inevitably, such narrowness limits the variety of interpretations and flattens the richness of SF visions, creating a situation in which *Blade Runner* is considered the 'standard' version of the city of the future (Barlow, 2005: 58).

Literary theorist Darko Suvin defines SF as the literature of 'cognitive estrangement', identified by its potential to create a new site from which to contemplate the real alongside the imaginary. In this, Suvin builds on Brechtian notions of alienation and estrangement, as processes by which literature is able to prompt critical reflection on reality. While in literary fiction this can be achieved by holding up a mirror to the world, for Suvin in SF 'the mirror is a crucible' (1979: 5). The world viewed in this mirror is a world made strange, and SF consequently allows us to view both the imagined and the real alongside one another from a radically new critical perspective. As summarised by literary critic Robert Scholes, this estrangement occurs within other literary forms, but for Scholes in SF it is 'more conceptual and less verbal. It is the new idea that shocks us into perception, rather than the new language of the poetic text.' (1975: 4) For Suvin, this 'cognitive' aspect of estrangement is what differentiates SF from fantasy or the simply weird. It requires that the text occupies an inherently political position; that it purposefully challenges the reader by establishing a new critical perspective on reality.

Kitchin and Kneale argue for expanding not only the scope of source material under consideration, but also the appreciation of its critical value in creating these tensions between reality and fantasy. They posit that this would provide a site where the real and imagined city could be considered alongside one another, and where critical theory and the construction of knowledge could be similarly appraised; 'to contemplate material and incursive geographies and the production of geographical knowledges and imaginations' (Kitchin & Kneale, 2002: 9). Similarly, I argue for expanding the role of SF as a method of critique of current theoretical understandings of the city (Butt, 2018). In this, I build on the work of theorists who have examined the ways fiction and contemporary theory can be co-considered (see, for example: Ricoeur, 1979; Davis, 1992; Gold, 2001; Abbott, 2007; Lewis, Rodgers & Woolcock, 2008; Collie, 2011); and follow Suvin in using the particular position of SF between fantasy and reality as a fertile site for urban critique.

While Suvin's definition has been criticised for its privileging of SF over other forms of genre fiction, it is a useful definition to appreciate the potential value of

SF to urban critique. Through this continual process of making strange, cities in SF inherently resist naturalisation; they refuse to become normalised for the reader. As such SF offers a site from which to challenge both the principles of the city that seem inevitable, and the ways in which these principles are conceptualised. It makes visible processes which are often overlooked as ubiquitous and consequently allows us to resist practices which threaten to become habit.

Frontiers of Utopia

Notions of enclosure have been present in utopian literature from its inception, in Thomas More's work which gave the form its name where the act of digging a trench turned a peninsula into the island of Utopia (More, 2012 [1516]). Utopia's island location allowed it to exist contemporaneously with other social structures, with the boundary acting to define the limits of the society it contained (see Benham, forthcoming). In this way it created a space for reflection and social critique while also creating a site of tension: a line drawn between Utopia and those outside.

The influence of the *idea* of the boundary on the society it contains is perhaps most eloquently expressed in Ursula Le Guin's novel *The Dispossessed: An Ambiguous Utopia* (Le Guin, 2009 [1974]). The novel is set on the anarchist moon, Anarres, which orbits the capitalist planet Urras, from which it has seceded. The architecture of Anarres is understated, bare and simple; a literal reflection of societal policies of unflinching honesty and material simplicity, in tandem with a social desire to lay everything bare. Although there are shelters and buildings, these are seen as part of a continuous whole of the shared surface of the moon. The walls of the dwellings exist without notions of defence or ownership; there is no 'other' to be kept out. There is only one boundary wall, one point where free movement is constrained, and this boundary forms and defines the society of Anarres. It is a low stone wall, mere rubble at points, which surrounds the space-port. It is the moon's only point of connection to the universe beyond its surface; the figurative limit of its inhabitants' social existence. Seen from one side, it is a wall which confines the dangerous anarchism of Anarres onto to the moon, containing it from the planets

beyond. Seen from the other side, it is akin to the body of water that divides More's Utopia and the mainland; inside the wall lies the entire capitalist universe, with only Anarres outside of it and free. That the wall has gaps is immaterial, it is the idea of the wall which defines Anarres' freedom; even though it has 'degenerated into mere geometry, a line, an idea of boundary. But the idea was real' (Le Guin, 2009: 5).

This use of a boundary wall to define an entire society is commonly extrapolated in SF into the conception of a society housed within a single building. Just as More's Utopia was an island, so too are these enclosed societies: they are divided from the world outside by man-made constructs which clearly define the 'other' as something outside in order to establish an identity for the society within. There are notable examples of the enclosed city throughout SF literature, from its early expression as the last redoubt of humanity in William Hope Hodgson's *The Night Land* (1912), where enclosure is a requirement for survival; and Yevgeny Zamyatin's *We* (1993 [1924]), where the enclosing 'glass wall' separates the rationalism of OneState from the wilds of the rest of the world; to Isaac Asimov's seminal novel *Caves of Steel* (1999 [1953]), where enclosure is the result of systemic retreat from the outside world. But there was a particular proliferation of texts from the late 1960s through to the 1980s which specifically address the emotional implications of the sealed city building. These include the monolithic cities of Blish and Knight's *A Torrent of Faces* (2011 [1967]) and Rena Vale's *Beyond the Sealed World* (1965); the towers of Robert Silverberg's *The World Inside* (1971); the city blocks of Niven and Pournelle's *Oath of Fealty* (2007 [1981]); the encroaching domes of Michael Bishop's *Catacomb Years* (1980), Frederik Pohl's *The Years of the City* (1985) and Scott Sanders' *Terrarium* (1985); and the layered cities of David Wingrove's Chung Kuo series (see *The Middle Kingdom* [1989], for example). Perhaps the most explicitly architectural manifestation of such a self-defining and isolationist enclave within the city is *High-Rise* by J G Ballard (1975). In his review of Ballard's writing, Martin Amis describes all of Ballard's work as occupying a similarly defined and separated space; 'suspended, no longer to do with the rest of the planet, screened off by its own surreal logic' (Amis, 1975).

The city-building in *Oath of Fealty* mirrors that of *High-Rise* in that it is home to a self-selected subset of society who have, whether by choice or some sense of necessity, isolated themselves within the boundary walls. By comparison the cities of *Caves of Steel* and *A Torrent of Faces* are entirely self-contained if not exactly self-sufficient, with inhabitants having no need to step foot outside. The city-buildings described in these three novels provide a fully bounded vision of the urban environment. They extrapolate the complex social and economic segregation of urban enclaves into concretized boundary walls, and in doing so they provide opportunities for examining the social relations created by such extreme limits to the city.

Gated Communities

The implications of division within the urban environment has been the subject of extensive analysis within urban studies, with scholars reflecting on the extent to which the creation of spatial lines of differentiation both expose and enforce destructive social segregation. In his consideration of social and spatial segregation within London, urban studies scholar Rowland Atkinson identifies three levels of 'disaffiliation' of a group of inhabitants from the wider urban environment: 'insulation', 'incubation', and finally 'incarceration' (Atkinson, 2006). While not minimising the potentially devastating consequences of implicit economic, political and social causes of exclusion, this paper focuses on Atkinson's third and most extreme level of 'disaffiliation' as the point at which this segregation becomes physically manifest. For Atkinson, 'incarceration' is the point at which relative social isolation is imposed through 'boundaries and barriers that may have socio-legal, architectural or planned underpinnings' (2006: 823). The emotionally loaded connotations of the term 'incarceration' are particularly apt in expressing not only the architecture of constraint and confinement that defines prison enclosures, but also the loss of interaction with the world beyond the boundary walls that this condition structures and implies. Equally, incarceration carries with it associations of violence and crime, hinting at the culture of fear that is a primary driver in the creation of many segregated spaces.

An explicit manifestation of this physically segregated urban realm is the gated community. While gated communities can be found globally, the development of these segregated spaces in the US was the subject of considerable scholarship in the late 1990s and early 2000s, including the seminal work of Mike Davis on the proliferation of gated communities in LA. While the focus of such research communities has subsequently expanded to include notions of urban gating or soft boundaries (Bagaeen & Uduku, 2015), there has been a concurrent normalisation of this type of urban development both in the US and the UK. Estimates of the numbers of people living in gated communities vary dramatically, but analysis of the US Census Bureau's 2009 American Housing Survey shows that more than ten million households — about 8% of the national total — now live in developments set behind walls and fences, 53% more than recorded in 2001 (Benjamin, 2012). The urban geographers Gordon MacLeod and Kevin Ward (2002) have posited that this proliferation and normalisation of gated communities can be conceptualised as shift in the image of the city itself. No longer understood as a site of coherence and inclusion, the city is understood as a fragmented geography; a patchwork of what economic geographer John Allen referred to as 'indifferent worlds' (1999: 91). When considering the impact of gated communities it is this indifference which is so pernicious; they embody an individual choice to secede from the city which shows an utter disregard for the potential impact this retreat will have on those outside.

Moments of resistance to the proliferation of these spaces have surfaced around the exposure of tangible evidence of their racial or economic bias, and have provided fleeting opportunities to debate the normalisation of these spaces. Recently this has included the public outcry following the shooting of Trayvon Martin in one such community in Orlando by a member of the community's neighbourhood watch. Here the creation of a gated community carried with it an implicit fear of 'the other' who might infiltrate that community; and led to the suspicion of anyone who did not fit the racial profile of a resident and who was on foot, meaning that they had not necessarily passed through the controls of the vehicle gate (see for example: Benjamin, 2012; Blakely, 2012; Derrick, 2012; and Moser, 2012). In the UK, much public attention has been given to the use of 'poor doors', which segregate social

housing tenants from private owner occupiers within secured housing developments (see for example: Lusher, 2014; Osborne, 2014).

The close reading of relevant SF texts offers a complementary methodology to these vital public and academic critiques. Through the processes of critical estrangement, these works resist the normalisation of spatial division, and provide an external perspective from which to reflect on the city and society that these spaces create. Larry Niven and Jerry Pournelle's *Oath of Fealty,* written in 1981, is set in contemporaneous LA and directly extrapolates from the rise in gated communities later studied by Davis. It anticipates his prognosis that gated communities would develop into 'fortress cities brutally divided into "fortified cells" of affluence' (Davis, 1998: 356). It also draws upon the fractured and fragmented idea of the urban subsequently associated with the gated community, identified as inherent to the fabric of LA by the architectural theorist Reyner Banham in 1971 (Banham, 2009).

Oath of Fealty focuses on the lives of the inhabitants of an extrapolated version of the gated community, and in doing so renders the central concept of such segregated and isolationist space inherently strange. However, it was not the intention of the authors that this novel be used as a critique of gated communities. Rather, this arguably libertarian novel endeavours to explain the residents' retreat from the city by exaggerating the gang violence and riots required to provide supposed justification such a development, incorporating a fictional extrapolation of the Watts riots in LA of 1965 into the narrative. This apparent advocacy for gated communities has lead the novel to be read and criticized as a right-wing utopia (Fitting, 1991). Indeed, rather than excusing or avoiding the social criticisms levelled at gated communities by urban theorists, it reframes base self-interest as a fight for personal freedom. In this way the gated community it depicts reflects and exaggerates the qualities of existing gated communities, and its privileged secession from public life can be subject to the same critique as that levelled at gated communities by urban sociologist Richard Sennett, who sees them as the product of 'place making based on exclusion, sameness or nostalgia [which] is socially poisonous and psychologically useless' (1997: 72).

Through the contested space of its boundary walls the segregated society in *Oath of Fealty* remains connected to the world beyond it, and despite the social freedom it supposedly provides it is forced to acknowledge the imagined implications for those outside the boundary walls. In rendering the fundamental notion of the gated community strange through the crucible-mirror of SF this novel, allows this setting to be distinguished and critically considered, demonstrating the critical potential inherent in cognitive estrangement.

Oath of Fealty

Niven and Pournelle's *Oath of Fealty* explores the social, economic and environmental implications of the development of a city-building: the 'Todos Santos Independency' within the city of LA. As described in the novel by Art Bonner, the General Manger of Todos Santos, the quarter of a million people contained within the walls represent '"about the highest population density ever achieved on Earth *anywhere*"' (Niven & Pournelle, 2007: 41). The architecture of Todos Santos is based on the work of (real world) architect Paolo Soleri who developed the concept of the 'arcology'. A self-contained city structure, the model arcology would be entirely self-sustaining and Soleri hoped that an arcology could contain the detrimental impacts of human inhabitation, enabling global environmental recovery by isolating mankind from the world outside its walls (Soleri, 1973; Grierson, 2003).

In the establishing chapters Todos Santos is presented as a uniquely successful arcology, a model for new urban development which is being shown off by Bonner to Sir George Reedy, a visiting Canadian minister. Bonner and Reedy are accompanied by MacLean Stevens, assistant to the Mayor, setting up a debate between representatives of the city and of the city-building, for the benefit of an apparently neutral outsider. Reedy notes their conflict and asks how Todos Santos is 'apparently so successful despite being packed in among ten million enemies in Greater Los Angeles?' (Niven & Pournelle, 2007: 41), moving the narrative away from Todos Santos as a cause of this urban division to focus on how its apparent success was achieved and is maintained. In this initial expository exchange the novel establishes an empathetic position towards those who have chosen a life inside, and it is without irony that

the name of this enclave for the wealthy within the 'City of Angels' translates as 'All Saints'. The Todos Santos arcology is founded as part of a corporate offer to rebuild an area of LA destroyed by riots; an offer that was gladly accepted by local government. The building's location within the dense blocks of downtown, on a site cleared by the ravages of urban unrest, materially associates the existence of the city-building with the fear of violence. It acts as visible proof that this fear is justified and rational, while also offering an escape from that fear to those who are privileged enough to be eligible for entry. In this way the novel anticipates Davis' observation that 'as city life grows more feral, the various social milieu adopt security strategies and technologies according to their means' (1998: 364). The privileged access to Todos Santos establishes the city-building as an elite lifestyle community, where the privilege on offer is an escape from violence. This 'incarceration', in Atkinson's terminology, is on such a vast scale that it attempts to contain a society large enough to compensate for the *extramural* world left behind. In this way, it is analogous to a gated community, albeit one which is home to a quarter of a million people.

The significant tension between the inhabitants of Los Angeles outside the walls, referred to as Angelino's, and the 'hivers' within is expressed in the physical structure of the Todos Santos city-building itself which was built to be a defensible safe-haven from the ravages of ongoing gang warfare outside. The city-building stands uncomfortably alongside the existing city as a visible manifestation of social segregation:

> The building was a thousand feet in height rising starkly from a square base two miles on a side. It rested among green parklands and orange groves and low concrete structures so that it stood in total isolation, a glittering block of whites and flashing windows dotted with colors. The sheer bulk dwarfed everything else in view. (2007: 21)

Exclusive and exclusionary, the safety and security of Todos Santos comes at the price of steadfast isolation from the city that feeds it. As part of their retreat from the outside world the residents have their own police force, decisively isolating

themselves from any lingering civic obligation to the city beyond. They consider themselves free within the city-building, able to exist without the pressures and violence of the city beyond, and the peaceful nature of the society is seemingly reflected in the insubstantial and delicate forms of the internal structures of the city-building. This is noticed by Thomas Lunan, an Angelino journalist doing research into the hiver mentality, who concludes it is '[a] city at peace with its police force. *Our* guards, *our* police, holding *our* civilization together. And it was a civilization. That showed in their very structures. The seeming frailty of shops not built to resist weather… or vandalism' (2007: 121).

This establishment of private security forces has been identified as a factor which enables existing gated community inhabitants to 'secede' from participation in the city (Graham & Marvin, 2001), placing them outside of legislative control. In this way the physical isolation of residents is reinforced by their institutional isolation (Judd, 1995; Atkinson & Blandy, 2005). By withdrawing from public services these communities withdraw crucial financial and social support from the public realm, without regard for those who will be unable to sustain similar private provision.

In *Oath of Fealty*, the building's architect, Tony Rand, is one of the few inhabitants who reflects on the wider implications of the city he has created. Part of the city-building's social elite, his training took place under a fictional version of Paolo Soleri. In this fictional guise, Soleri has successfully completed Arcosanti – his attempt to found a town in Arizona based on the principles of arcology, which stalled in the real world – as the preeminent example of a self-sustaining arcology. While Rand is apparently aware of the ecological premise underlying Soleri's work, he sees Todos Santos as an acceptable compromise, and wilfully overlooks the need for the arcology to be self-sustaining. Rather than isolating the impact of humanity within the walls of the city-building, Todos Santos exists as a parasite, extracting the social and professional elite from the city beyond as well as supplies of food and water. This relationship between the city and the hive is all too apparent to Stevens who acts as the voice of the wider city throughout the novel. In a typically leading question, he is asked by Reedy if he is jealous of the privileged position of Todos Santos and

its inhabitants: 'The question reminded him of the ever-present sour pain he felt in his guts recently. "Of the wealth, yes. Of the money that flows into it and goes out of the country. Of the taxes it evades. I resent those, Sir George, but I am not jealous of the people who live in that termite hill"' (2007: 22). Despite this extraction of social capital, the contribution that Todos Santos is perceived to make is such that it is able to hold the city to ransom, threatening that its citizens will strike and cease engaging economically with the wider city entirely if their demands for autonomy are not met.

The ramifications of the removal of professional and economic elites into existing gated communities has been studied by urban anthropologist Setha Low, who identifies the resultant drain the wider urban environment of investment; establishing these spaces as sites for the 'internment of privilege' (Low, 2003; St. John, 2002). The abhorrent consequences of these forms of rigid segregation enforced by way of exclusionary policies, be they economic or political, has been described as a form of 'spatial apartheid' (see: Judd, 1995; Bickford, 2000; Atkinson, 2006).

The residents of Todos Santos do not acknowledge the environmental, social and economic destruction caused by the arcology and conversely justify their decision to move based on the desire to escape these very problems. As Low notes, there are many reasons why residents choose gated communities in addition to fear. These include a desire for social or spatial familiarity and community in response to changes in the urban landscape which are perceived as alienating (Low, 2001); as well as the social aspiration which is tied to the creation of 'lifestyle enclaves', or 'elite' communities (Blakely & Snyder, 1997; Putnam, 2001). This desire for self improvement and the association with an elite subsection of society is posited as the primary reason for residents moving into Todos Santos. Much of the novel focuses on the amenities offered by the building, including futuristic developments like personal AI, as well as the more prosaic delights of penthouse bars and lavish day-care. The central social space and primary lure is the vast shopping mall, a popular destination for visitors as well as residents; a space protected against political disruption (Coffin, 2000). Rather than a radical change from life outside, the residents who have chosen to live inside the arcology justify their decision as a logical progression of their previous lives in

LA's existing gated communities: 'We did care, once', one of them reflects. 'A lot of us did. But something happened. Maybe it was the sheer size of the problem. Or watching while everybody who could afford it ran to the suburbs and left the cities to drift…' (2007: 127)

In this way the novel reframes the isolationist attitude at its core as being a matter of the rights of the individual to self-preservation and self-fulfilment. Those who have chosen the life inside the walls of Todos Santos rarely question the impact that their decision to secede has had on in the wider city. Rather, they consider themselves to be fortunate escapees who have reluctantly abandoned the outside. One resident, for example, states that '"Isolation isn't just a whim to us. It's what we're selling. People come to Todos Santos because they can get free of what's outside"' (2007: 231).

For those who have the means, the 'incarcerated' space of the gated community promises closure, safety and control; a space to allay fears of otherness and detach the resident from the unpredictability of the outside environment (Low, 2003; De Cauter, 2004). In response to this fear these spaces provide what urban theorist and political geographer Edward Soja refers to as 'protected and fortified spaces, islands of enclosure and anticipated protection against the real and imagined dangers of daily life' (Soja, 2000: 299). Political theorist Susan Bickford, meanwhile, argues that the establishment of gated communities is largely predicated on a fear of exposure to danger, which once established extends into a broader fear of the unknown, both socially and spatially: 'to be exposed to the stranger, one who perceives the world from a different social location, is to be exposed to danger' (Bickford, 2000: 358). The threat from the outside established in *Oath of Fealty* has similarly extended beyond the fears of violence and rioting that were its founding principles, developing into an entrenched political conflict centering on the validity of this self-termed lifestyle-choice. The fear of individual acts of violence has escalated into a collective fear of the unknown, represented by the 'other' who perceives the world from a different political or social position.

For those within gated communities, the implications of what criminologists Eugene McLaughlin and John Muncie (1996: 117) term 'voluntary ghettoization and

self-segregation', does not correspond to an increased sense of security or the longed for 'privatopias' (McKenzie, 1994); but rather serves to increase the perception of risk beyond the gates, leading to escalating demands for 'protection' (Low, 2001). The establishment of Todos Santos has removed the threat of violence which was its founding justification, but has not resolved the pervasive fear of the 'other' which underpinned this construction. Rather, the physical manifestation of social segregation provokes attacks on the city-building from an eco-warrior terrorist group: the 'FROMATES': Friends of Man and the Earth, as well as the population of wider Los Angeles. Through this conflict the novel positions the inhabitants as valiant defenders of the American dream, and establishes the FROMATEs as the antithesis of the libertarian arcology dwellers; dangerous 'radicals' seeking to undermine the gentle rationalism of Todos Santos. This provides the residents of the arcology with a common purpose, similar to the central conflict studied by Richard Sennett in the *Fall of Public Man*. Through 'reinforcing the fear of the unknown', the inhabitants of Todos Santos are 'converting claustrophobia into an ethical principle'. But whereas in Sennett's study these internalised struggles around 'matters of internal identity, solidarity or dominance' (2003: 310) serve to distract or divert the active potential of the community from action within the larger struggles of society, here this internalised identity coalesces and Todos Santos draws strength from the idea of common enemy.

As readers we are supposed to loathe these 'radicals': they are violent, they recruit children to undertake sabotage work, they use forms of sexual intimidation and manipulation, and they resort to kidnapping and blackmail. But in undertaking such a thorough hatchet job the novel is forced to engage with these alternative perspectives and it cannot operate in what Allen identified as a state of 'indifference'. As such, even when pitted against such abhorrent adversaries it forces the inhabitants to reveal the self interest at the heart of their society.

The uncompromising boundary wall that defines Todos Santos becomes the tangible site of conflict; its sharp-edges providing distinct separation between inside and out, evoking images of a fortress—defensible and dominant. As Rand reflects, '"[t]he flat walls make Todos Santos look like a fort. Or a prison. Or a school. I could

have done something else. Different shapes. It would have been as easy to defend"' (2007: 185). This defensive envelope becomes the focus of assaults on the city-building in repeated attempts to demolish sections of the façade. These symbolic attempts to breach the defences are an expression of rage by the FROMATES, who are protesting both their being shut out and the sense of entitlement inherent in the hivers' ability to detach themselves from wider society. The voluntary ghettoization of inhabitants and the implicit privilege of retreat is not accepted passively by those who have been excluded. In their attempts to break open the seal of the building, those outside enact the hope that by shattering the physical walls of Todos Santos they can disrupt the social division it concretises.

The Utopia of the Hive

In *Oath of Fealty*, the social consequences of the gated community are extrapolated into the violence and self-delusion of the enclosed city, and despite the novel's attempt to rationalise and support the arcology's legitimacy, the inherent flaws in place-making based on exclusion as identified by urban scholars are readily apparent. Where it does succeed in softening the critique levelled at gated communities, it does so through the creation of relatable characters who have chosen this life inside. In the concluding sweep of the final pages with Todos Santos once again secure, the characters who act as voices for the wider city of LA—Stevens and Lunan— reflect on the fact that Todos Santos did not take the opportunity to secede entirely from the city:

> Free society or termite hill? Or both? Is this really the wave of the future? "For now," he told Lunan. "Just for now and for this moment they haven't quite cut loose from the human race. But can you live in that and stay human forever?" His arm swept expressively to indicate the enormous city/building, its windows glaring orange-white in the sunset light … "A hundred thousand eyes, but they're all looking inward. No privacy at all, and no interest in what goes on out here. No, that's not my life style". "Not mine either –" "Why does it have to be?… There are a lot of ways to be human". (2007: 328)

Rather than being appalled that the Hivers were able to hold the city to ransom, Stevens and Lunan's antipathy is softened to a generalised acceptance of difference. It is a conclusion which neatly circumvents more problematic discussions of the power or privilege manifest in this built fabric, but it also suggests that the city building is more than an expediency in the face of urban unrest and that it might represent a social or spatial ideal for some inhabitants.

While Davis' reading of gated communities focuses on their dystopian implications, isolated and self-defining societies within the city have also been discussed in terms of their relation to utopian theory, as spaces created through the collective will of their occupants. In their attempts to re-shape the society within their walls, these communities could be considered as utopian fragments, albeit ones shaped by the aspirations of the private sphere (Levitas, 2007). Marxist geographer David Harvey contends that because these projects exist in isolation from the society and city within which they sit they provide no critique on the existing state of affairs beyond their boundary walls, and so are 'degenerate utopias' (Harvey, 2000: 164) providing only a distortion of the utopian impulse (cf. Jameson, 2005: 4). For the inhabitants of such communities they promise a brighter future, but this future has edges as sharply defined as its walls. Rather than developing visions for the creation of a new society, these spaces appear to offer only retreat from its existing 'undesirable' elements.

However, following utopian theorist Ruth Levitas' utopian methodology the delineation and definition of implicit utopian intent can provide critical insight into the principles which underpin social, and by extension urban, developments (Levitas, 2013). Through what she calls the 'archaeological' mode of utopian thought, Levitas (2013: 154) outlines the critical value of the 'imaginary reconstitution of the models of the good society underpinning policy, politics and culture, exposing them to scrutiny'. In Levitas' methodology this is complemented by the 'architectural mode', whereby a provisional hypothesis of how society *might be* is formulated, inviting the reader to imagine the world otherwise and subsequently offering a site for the archaeological mode of analysis. In this way *Oath of Fealty* provides a useful

extrapolative future in the architectural mode, based on the implicit utopian intent of the gated community. It is a provisional hypothesis of a future society drawn from a sympathetic understanding of the desires which underpin these communities, and it provides a prospective vision of how this future might manifest. As such, it provides a site for an interrogation of these desires, where the model of the 'good society' inherent in this society can be exposed to scrutiny.

The inhabitants of Todos Santos are a self-selecting group who have willingly retreated from the world to the relative security offered by the city-building. As space within the building is finite, the corporation who manage the block can afford to be selective in their intake of residents, choosing only those who fit a particular ideal. Those selected include professionals and skilled workers who can afford higher rents, and who can continue to be productive without needing to leave the building — providing the localised economy of the building with the benefit of their higher disposable income. This, then, is a vision of society where poverty has not been eradicated, it has simply been relocated so as not to interfere with the lives of those inside. This distinction is painfully apparent when viewed from the helicopter chartered to give the visiting minster a tour of LA, although it is reframed in the novel as a division between those subsisting on government handouts and those generating wealth:

> Directly below them, where they couldn't see, was a ring of shabby houses and decaying apartments. MacLean Stevens did not look down but he was acutely aware of what was below. Block after block, a mockery to city government and all of Stevens's hopes, houses filled with families without hope living on welfare—and on the leavings from Todos Santos. (2007: 22)

The model of a 'good society' revealed within Todos Santos is one of corporate capitalism, with personal value defined by economic contribution to the city-building. With its rigidly defined boundary, space in the city-building has become the most highly-valued resource. Consequently, the relative scale of resident's apartments is a reflection of their social position: a commodity to be earned or exchanged. This

system, where power relations are based on the control of land and the service of those who inhabit the building is acknowledged in the novel as a 'feudal' system. It is presented as a convenient and socially acceptable way to manage the enclosed city, where company directors hold power over this fortified fiefdom. The *Oath of Fealty* they demand is not one of indentured service, but is reframed in terms of patriotism or company loyalty (2007: 167).

A particularly high premium is placed on an outside wall apartment, a scarce resource which offers a glimpse of that which the contained city cannot provide: views of the sun on the bay, the night sky, the experience of wind or rain. These are acknowledged as the only fragments of the world beyond the enclosing walls which the residents cannot bear to leave behind:

> Long lines of light that were streets overflowing with traffic; dotted lines of empty lighted streets; tall buildings with more patterns of light; a bank of fog rolling in from the bay; Los Angeles lay in splendor all around them... "Now that's a city" he said .... "Really lovely". "Especially from here", Bonner added. (2007: 55)

This tone of longing for the world beyond, of nostalgia for an apparently lost form of the city, presents one of the few moments of regret voiced by the inhabitants of Todos Santos. It is on the boundary line between inside and out that they are made most tangibly aware of the world outside; and their own loss of freedom to participate and engage with that world. In this way, the boundary acts as a poignant site of tension for those inside, as well as being the space of greatest exposure to threats from the world beyond. Such vistas act as visceral reminders of the extent of their incarceration and what they have given up.

Despite the framing of Todos Santos as a space of freedom (primarily figured as freedom from violence), this archaeological examination of the good society it constructs reveals a rigidly controlling internal structure with a rigid spatial and social hierarchy; and an overwhelming loss of freedom to engage with the world outside the walls. The novel allows us not only to imagine this prospective future,

but also, through its narrative form, to empathetically engage with the social and emotional impact that this incarceration has on those within such communities. In doing so *Oath of Fealty* opens up another mode of critique of the incarceration of the gated community; one grounded in an awareness of what the inhabitants of these communities stand to lose, an appeal to base self-interest.

Todos Santos exists as an extrapolated architectural and social expression of the gated community through which we can empathetically engage with the perspectives of the inhabitants as flawed people trying to make good personal choices. The impact this has on the surrounding city can be understood and extensively critiqued through existing scholarship on gated communities, but by clearly delineating the inhabitants' perspective *Oath of Fealty* also suggests an approach for resistance that draws upon the very agency and self-interest which founds these communities. The exaggerated version of the gated community it depicts lays bare the critical social and moral failures at its foundation and provides a constantly estranging reminder of the insidious impact of social segregation.

A Future within the Walls

The prospective future offered by *Oath of Fealty* is an extrapolation of the gated community at a scale within the boundaries of plausible future-gazing. This direction of movement, from the existing gated communities through the development of arcologies, is projected further forward in SF novels that address the fully enclosed city or the containment of all humanity within the city walls. Of such works, Isaac Asimov's 1953 *Caves of Steel* and James Blish and Norman Knight's 1967 *A Torrent of Faces* explicitly address the impact of the enclosure of the city on its inhabitants. They explore a future in which the entire global population is housed in mega-structure cities, similar to the Todos Santos but on a much larger scale. As such, there are no 'others' who live outside the boundary wall—rather they present an idealised vision of entirely self-sufficient and self-sustaining societies with minimal crime and conflict, both necessitated and made possible by enclosure within a boundary wall. In this way, these novels avoid dwelling on the often-overwhelming concerns regarding the social or economic impact that these building-cities have on their surroundings, focusing instead on the internal implications for the inhabitants.

They expose the devastating affect of an incarcerated life whilst allowing a level of empathetic engagement with those who have chosen a life inside, and from this perspective they proceed to question the nature of the good society formed by these enclosing walls.

Both novels use the premise of rapid population growth to rationalise the establishment of these enclosed cities, condensing the footprint of inhabited space and leaving the surrounding land free for intensive agriculture. In their introduction to *A Torrent of Faces*, Blish and Knight acknowledge that the novel is founded on a thought experiment to explore the sociological and architectural restructuring necessary to accommodate a global population of one trillion (Blish & Knight, 2011: v). The solution they settle on is one hundred thousand 'Cities', each of which houses ten million people. The resultant urban form is similar to that explored in *Caves of Steel,* in which a global population of eight billion (three times as large as the population at its time of writing) is contained in Cities of tens of millions of people. Within them, humanity 'could roof itself in, gird itself about, burrow itself under'. For those inside it 'became a steel cave, a tremendous, self-contained cave of steel and concrete. … There was no doubt about it: the City was the culmination of man's mastery over the environment' (1999: 23).

By enclosing almost all of humanity in these titular caves of steel, Asimov removes the tension between society inside and out; and instead focuses on the implications of spatial incarceration for those within in the City walls. The scale of the City is such that most residents do not have access to an external wall, and so have no sense of the world outside: '[o]utside was the wilderness, the open sky that few men could face with anything like equanimity' (1999: 8). The inhabitants have gradually acclimatized to these internalised lives and consequently suffer from a mild form of agoraphobia; something Asimov himself is purported to have suffered from. This disassociation from the world outside is reflected in the fabric of the city itself: '[t]he city was a tremendous thing to see… the neighbouring towers fell short and the tops were visible. They were so many fingers, groping upward. Their walls were blank, featureless. They were the outer shells of human hives' (1999: 11). Without windows in the outer wall there are no points at which the inhabitants would be confronted with the reminder of the world which they have retreated from.

The emotional implications of this incarceration are expressed through the disconnection from the natural world, made all the more poignant by the inhabitants' apparent obliviousness to the extent of their loss. 'On the uppermost levels of some of the wealthiest subsections of the City are the natural Solariums… there a unique thing happens every evening. Night falls. In the rest of the city… there are only the arbitrary cycles of hours' (1999: 60). Here, Asimov relates disconnection from the outside world with the greater metaphysical loss of spatial and temporal awareness. Without the ability to see the sky, night or day never truly come or go and there is only the unfolding of shapeless hours. The physical enclosure of the inhabitants can be understood as so pervasive it creates temporal enclosure. Not only are the inhabitants unwilling to step outside of the Cities, their temporal enclosure has removed any alternative future and replaced it with a never-changing present. They have lost the ability to conceptualise their existence beyond the immediate context of the City walls. Humans have become 'so coddled, so enwombed in their imprisoning caves of steel, that they are caught forever' (1999: 97).

Similarly, in *A Torrent of Faces*, Blish and Knight describe the repercussions of this density of inhabitation, as City residents live out their entire existence without seeing or experiencing the world outside. Within the massive blocks they are effectively buried in the bulk of the City, as detached from the outside as if they were miles underground, cocooned within the cities, always the centre of their own worlds. 'And for what?', wonders Kim Wernicke, one of a dwindling number of ecologists working on the bio-preserves: 'So that this frightful human termitary of vitrolith and glastic and metal, of pipes and cables and computers, of myriads of escalators and elevators and moving floors, can grow forever bigger and bigger, higher and higher, deeper and deeper?' (2011: 45)

As in *Caves of Steel*, the world outside is a world beyond the comprehension of average citizen, who spends most of their life in a single apartment room, and inhabitants have become acclimatized to their confined life. Eventually selective breeding has developed to favour those who could find contentment inside these windowless walls. Accordingly, '[b]eyond the average citizen's natural mild case of

agoraphobia, he actively enjoyed living at the bottom of a hole. The pleasure had been completely unconscious, simply because until very recently nothing had ever suggested any other way of living to him' (2011: 135).

The concept of living outside of the boundary walls of the city has become so abhorrent to the majority of humans that over countless generations a new sub-species of humanity has emerged, able to undertake the work that humans can no longer face. These 'Tritons' are relied upon by a city-enclosed humanity to take custodianship of the Earth, resulting in a distinct biological division between visions of the future inside and outside of the boundary wall.

In *Caves of Steel*, then, the concept of enclosure is stronger than its mere physical expression. For inhabitants of the City, its spatial confines are so entrenched that the difference between 'inside' and 'outside' becomes too great a barrier to be mentally or physically crossed. While the Cities offer an apparently adequate existence for those within them, Asimov implies a greater loss to inhabitants from their incarceration: an intrinsic limiting of what humanity can achieve or even imagine rooted in the physical limitations of the City.

In *A Torrent of Faces* the City presents the limits of known reality for its inhabitants. To approach its edge is to reach the border of the abyss, an open-ness without end. In this way, the boundaries of the City have been so internalized that the world beyond the walls is rendered irredeemably hostile. As a consequence, the Earth beyond has been relinquished to a new humanity, a literal creation of the alien other, who now occupies this alienated environment.

Conclusion

The authors of *Oath of Fealty*, *Caves of Steel*, *A Torrent of Faces* have each stripped away the nuances of a multitude of influences on behaviour to explore a direct relationship between society and the built environment that houses it. In these novels, the undercurrents of power and control explored by spatial theorists are translated into narratives of ideological and structural closure where the self contained city-building re-shapes society and re-moulds individuals. While the establishment of enclosed cities at such a scale as those depicted seems unlikely,

all three novels concretise the implications of existing social segregation, bringing these issues into the light for critique.

The cognitive estrangement established by these novels provides a continual site for re-appraisal of the city, a space to critique the seemingly inevitable development of segregated space and resist the patterns of habit which allow these morally unjustifiable spaces to be developed. Through the extrapolated space of *Oath of Fealty* it is possible to identify and critically question the utopian intent and assumptions which underpins the creation of privatised and segregated city spaces. For example, the civil war between the hivers and the eco-warriors is made possible by the creation of private security forces and devolved responsibility for civil defence, a provocative thought experiment against which to evaluate the proliferation of private security in existing gated communities. Similarly, the imbalanced power relations between the city and Todos Santos and the ability for the arcology to hold the city to ransom is founded on the effective removal of professional elites from the city and the concomitant extraction of social capital, a stark warning against the establishment of potentially powerful 'lifestyle' communities. These novels offer legislators, architects, urban designers, and all those involved in the creation of cities, a space from which to identify and call out these divisions as they manifest in our cities.

Through the empathetic depiction of lives within enclosed cities these novels also act as a provocation for those living in these communities to define the future that they are engaged in creating. By removing the divisions between inside and outside, *Caves of Steel* and *A Torrent of Faces* both side-step moral or social judgement on those who have chosen a life inside the boundary walls, and provide a critique based on the implications for inhabitants. They demand that even if residents of these communities deny the impact such spaces have on the surrounding city they must engage with the utopian ideal that is implicit in their secession. In this way, they place agency in the hands of those who live or might choose to live in gated communities, appealing to their self-interest by asking them to critically consider the devastating consequence of what they stand to lose. Through their extrapolation these novels also enable us to recognise the enormous financial and social investment

required to create and sustain these structural divisions; and consequently these novels highlight the agency available those of us who live and work in cities to refuse to participate in their establishment or entrenchment.

Each of these novels provides an extrapolation of these fortified cells of affluence to a terrifying, albeit logical, extreme. In doing so they provide opportunities for reappraisals of existing society, seen through the lens of radically reimagined worlds. They challenge us to critically examine not only the physical structure of future cities currently under construction, but also our own social engagement and interaction within those cities. They allow us to identify these tendencies within ourselves, encouraging us to resist the small acts of retreat into the protective bunker and challenge us to actively maintain moments of encounter. They establish a call to participate in the city, to force those who are choosing to retreat to acknowledge their incremental abandonment of the world outside, and celebrate that which they would stand to loose. Ultimately, the utopian vocation of these novels is to offer us opportunities to identify segregation of the urban realm and the creation of enclaves of entrenched privilege, to encourage us to mount resistance, and to demonstrate the critical necessity that we avoid incarcerating ourselves in worlds of our own making.

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Competing Interests

The author has no competing interests to declare.

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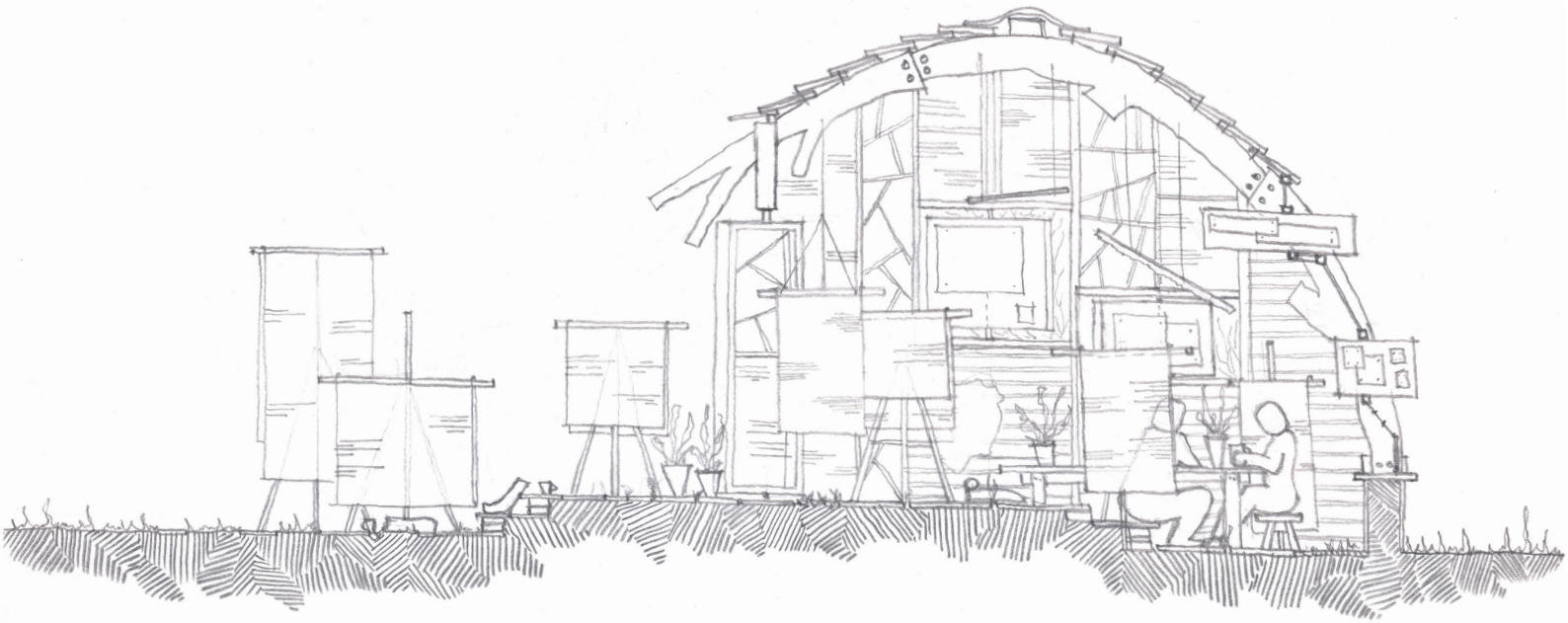

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As plain as spilt salt: the city as social structure in *The Dispossessed*

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ABSTRACT

Set against the soaring skyscrapers of much canonical urban science fiction (sf), the single storey structures of Abbenay in Ursula Le Guin's *The Dispossessed* might be easily overlooked. But, as this paper argues, the sparse description of this city 'as plain as spilt salt' offers a rich and complex vision of architectural possibility. This paper dwells within this moment of description, drawing on personal association alongside architectural and literary theory to consider how this image of a city might cast strange new light on embedded aspects of architectural practice. It explores how the sustained consideration of the built spaces of feminist sf can provide designers with an empathetic appreciation of how the built environment reflects and informs social relations.

Salt is modest,
Salt is domestic,
Salt is refined,
Salt is anything but plain,
To spill salt is to act.

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> Abbenay was poisonless: a bare city, bright, the colours light and hard, the air pure. It was quiet. You could see it all, laid out as plain as spilt salt.[1]

This is how Ursula K. Le Guin describes the most populated city on the moon of Annares in *The Dispossessed*. While *The Dispossessed* ostensibly follows the life of the Annaresti physicist Shevek as he travels between worlds and works on a device which will enable interplanetary communication, this paper will remain resolutely grounded. It will inhabit Abbenay in this fleeting moment of description, drawing on architectural and literary theory and practice alongside personal reflection to consider how this bare

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and bright built environment reflects the revolutionary ideals at the heart of Annaresti society.

Annares is defined by revolution; the revolution which led its adherents to leave the planet of Urras to establish a society on the moon which orbits their former home, and the permanent revolution which is the foundation of their collective utopian endeavour. They are the wilfully dispossessed, striving to inhabit an anarcho-communist[2] social and economic structure which rejects all notions of ownership and relies upon social pressure to establish patterns of mutual aid and collective responsibility. But this is not a linear narrative of social progress. Rather, as the subtitle to the novel suggests, Annares is 'an ambiguous utopia', a complex image of utopian becoming[3] continually situated in referent motion with the world they left behind and the image of the society they hope to become. This paper will explore how this ambiguous utopia of hard-edged idealism and collective care is architecturally expressed and enacted, revelling in the startling clarity and subtle contingency of a city as plain as spilt salt.

As plain as spilt salt.

Perhaps brushed off our fingertips after being pinched out over the steaming plate, the leftover grains from an already small measure are now scattered onto the table-top, barely there at all. Salt is small enough to be overlooked. A city like spilt salt would be modest, unassuming.

This image of the low-rise, restrained city is jarringly at odds with the vision of the city we are used to confronting in science fiction (sf). As an architect, it seems that the scope of science-fictional references I am expected to make is limited to those contained within the 'canon of "approved" authors, novels and films' in the words of geographers Rob Kitchin and James Kneale, a field that is dominated by the work of J.G. Ballard and *Blade Runner*.[4] No chance of those cities being overlooked. While there is a growing call for the study of sf within urban studies and architecture, by scholars such as Carl Abbott, Natalie Collie, Stephen Graham, Lucy Hewitt, and Kathryn Yusoff[5] the unassuming, everyday spaces of feminist sf are often lost in the shadows cast by the dystopian high-rise or the strip-lit cyberpunk city.

As noted by Graham, the representations of the vertical urban built futures are so prevalent as to become almost ubiquitous.[6] But, this is a ubiquity which denies the possibility of alternative images, the low-rise or small-scale, and in doing so it also denies the futures they contain. It is an image that becomes as inescapable as capitalism, and conditions us to consider the future as synonymous with high-density urbanisation. In her work, Le Guin challenges us to resist any such foreclosure of the future and to hold

open the scope of possibility. For Le Guin, any totalising vision should be greeted with scepticism, even when the gleaming towers are presented as an urban utopia. Rather she asks us to 'adjust to a dimmer light' and develop an attentiveness to a utopianism of process which is passive and participatory.[7] It is a call to revel in alternatives, to explore an architecture which is not as vast as empires but is as plain as spilt salt.

The Dispossessed provides a plethora of such social, economic and architectural alternatives. In fact, drifting into view alongside the moon of Annares, is the planet Urras. It is a planet of nation states, whose cities fit more comfortably with the science-fictional city trope of looming towers and stratified hierarchies. The city of Nio Essaia, the capital of the nation of A-Io, is redolent with expressions of power which speak to its governing patriarchal capitalist ideologies, present in glass-fronted corporate high-rises, gender separatist university enclaves, lavish museums of hoarded treasures, and sensorially overwhelming shopping streets.

While firmly entrenched, these structures of power are neither totalising nor unchallenged. There are protests and riots on the streets of Nio Essaia which express resistance from within, while the presence of other nations states on Urras and the further congress of planets beyond[8] serve as perpetual reminders of alterity. As the oppressed inhabitants of Nio Essaia work at revolution the diplomatic representative from the planet Terra, who stands as an inhabitant of an alternate or future Earth, is startled by their dissatisfaction. When compared to the resource scarcity and rampant inequality on Terra which has legitimised acts of aggressive inter-planetary colonialism and exploitation, A-Io already seems like 'paradise'. While Urras and Annares seem to define themselves in relation to one another, these other places and ways of being hover at the edges of the text, complicating this dichotomy with myriad ideological possibilities, each of which offers critical context to the others. This Terran's 'paradise' is found wanting by those who live there, more so when viewed in the moonlight of its revolutionary children.

In many ways the novel plays with the allure of a dichotomy, opening with maps of both the planet and moon which sit on facing pages, each a distorted mirror of the other. They form a diptych which frames the following text as a dialogue between these two socio-economic systems, or two ways of being in the world at one specific moment in time. But to map the extents of the worlds of the text is also to acknowledge the possibilities which exist beyond its edges. Like all maps, it is a slippery account of power and subjective value expressed in presence and absence, scale and orientation. To create visual parity between these two worlds the moon has been scaled up and the planet scaled down, a rejection of the notion that the relative import of an ideology is proportional to the land it occupies or the numbers of individuals who attend to that way of being. The importance of the unassuming city of

Abbenay on Annares is inflated by its presence on the page to more accurately reflect its symbolic occupation of space. It is a small but potent counterweight to both Nio Essaia, and to the shimmering images of the urban futures it echoes.

A city like spilt salt would be modest and unassuming.

As plain as spilt salt.

The salt lies glinting on the table-top, as it catches the light. Look closer at a single grain and you see a tiny crystal, hard and bright. Each crystal formed from pools filled with ocean spray, slowly evaporating off hot earth, a distillation of our primeval homes. Salt is the complexity of history boiled down to single points of white. Salt is utility. A city like spilt salt would be refined, functional, no more or less.

This restrained utility is part of the utopianism of Annares for Le Guin. It is a deliberate counterpoint to the promises of blueprint utopias, worlds of lush plenty which are sustained in a perpetually fecund present. In contrast, Annares is a world stripped back to that which is necessary, its barren landscape providing no respite from its radical premise as an anarcho-communist enclave. The absence of plenty removes the possibility of redolent ease and ensures that fundamental questions of survival are present in the everyday. Such unflinching clarity lays bare the critical nature of the utopian impulse; the questioning of possibility and the weighing of value.

This critical reflection is made possible, in part, by the arid expanse of Annares itself. As discussed by literary and political theorist Frederic Jameson, Le Guin's narrative process of world-reduction in *The Dispossessed*, is a process of simplification which acts as a precondition for us to be able to imagine inhabiting a world without capital.[9] It is not simply a counterpoint to the profligacy of A-Io, but a landscape which both symbolises and necessitates the Annaresti abhorrence of excess. In this harsh environment, the carefully cultivated timber of the hollum tree would not be wasted on construction, nor would the metals which must be exported to Urras in vital exchange. So, the Annaresti work with that which is common or drawn easily from the ground, in an architecture of stone and mud. It is a technologically advanced civilisation which chooses to use building materials familiar to the hands of our ancestors.

Le Guin has expressed a desire to explore an ideology of 'balance-in-motion and rhythmic recurrence' in her work, to dwell in alternatives to an assertive ideal of utopia.[10] The architecture of Annares reflects both Le Guin's ideals of recurrence and makes manifest Shevek's temporal principles that time is cyclical as well as linear. Here innovation and development, of

both construction technologies and socio-political upheaval, have necessitated a revolution of rediscovery. The apparent simplicity of the structures of Annares exposes the fallacy that progress can be correlated to complexity. Rather, these architectures of stone and mud are the product of collective construction and ongoing maintenance, carefully carved and compacted into being, designed to reflect and necessitate acts of mutual aid. This is a form of construction which reflects an understanding of architecture as a social product and presents a radical valuing of acts of maintenance, like the work of the artist Mierle Laderman Ukeles; where to clean, to mend, and to maintain are understood as acts of creation and acts of renewal.[11] According to Alessa Johns this focus on process is a common trait in feminist utopian fiction,[12] and a corresponding 'care-ethic' is noted by Karen Franck in much urban design established on feminist principles.[13] These structures are not only an expression of the Annaresti abhorrence of material excess, but a celebration of the delight of caring sufficiency.

Several utopian studies scholars such as Tom Moylan, John Fekete, and Nadia Khouri, have critiqued Le Guin's situation of her utopia in such a world of scarcity, arguing that it reduces utopian possibilities down to a binary opposition between material abundance and moral excellence.[14] This dichotomy of plenty and scarcity accommodates and perhaps encourages an oversimplified reading of Annaresti utopianism as analogous to the sanctimonious poverty of the hermit. But this apparent dichotomy is troubled by the challenges that such scarcity makes on moral excellence, how much easier to share much in a world of plenty than to starve together in times of famine? It also overlooks the abundance in other forms which are present within Annaresti society: the presence of music, literature, plays and poetry which are made possible in part by the social valuing of these art-forms beyond and outside of any commercial value.

Amid the low stone dwellings there are small moments of spatial poetry which hint at an aesthetic or creative abundance to be found within the utility of architecture on Annares. One such moment is held within the stark symbolism of the wall around the space port which opens the novel.

> There was a wall. It did not look important. It was built of uncut rocks roughly mortared. An adult could look right over it, and even a child could climb it. Where it crossed the roadway, instead of having a gate it degenerated into mere geometry, a line, an idea of boundary. But the idea was real. It was important.[15]

As Samuel Delany has noted in his close reading of this paragraph, this description implies a society where the technology for block cutting is available but has not been deployed.[16] For Delany, this prompts assumptions of a refusal of technology which is conceptually confusing and distracts from the more critical commentary within the paragraph; the creation of a boundary

wall which encloses all space beyond Annares. But rather than implying a rejection of technology I read this as a wall constructed over time, a cairn which marks the symbolic edge of the world. In this light it is an act driven by psychological necessity rather than structural function. As such, the blocks remain uncut because that use of material or labour is unnecessary, the act of careful placement of stones over time is its function. It is a collective performance, made possible by the continual individual acts of maintenance which accumulate to represent a shared ideal. As with all architecture on Annares the wall has been stripped back to its basic utility, be that social, political or, in this case, poetic. This wall can be allowed to degenerate to a pile of stones, because these are sufficient to hold the symbolic function as boundary. A line drawn which separates here from there, us from them.

A city like spilt salt would be refined, down to an idea.

As plain as spilt salt.

The saltshaker on my parent's kitchen table is ceramic, glazed in stripes of blue and white and chipped at the top. The salt occasionally scatters from the base where the cork plug has cracked and split. It is part of a set, with a teapot and milk jug, passed down the table and worn from frequent use, intimate parts of the life of the house. Salt is everyday and domestic. A city like spilt salt would be home.

Le Guin gives us very few descriptions of the architecture of Annares. There are the schools where the sun streams in from high windows to teach children lessons about possession of natural resources, the mass dining halls where everyone is entitled to sustenance (although some places have more frequent desserts), a university where classes are set up by student demand, and crafts workshops which open out onto the streets. The focus on these spaces reflects the social utopianism of the Annaresti, founded on principles of mutual aid and expressed in the equal distribution of resources – be that food or shelter, and the right for individual self-determination and self-expression through art and academic practice. But the spaces described in greatest detail are the dormitories and the partner dwellings. The significant moments of life on Annares are played out in domestic space. The everyday, the modest and unassuming, is shown to be significant.

All buildings on Annares are of a domestic scale, a single storey with no building or function raised above another. There is no sense of the power theorised by Michel de Certeau and Louis Marin where the looming tower stands over the individual, there is no view out from the penthouse down to the insignificant streets below.[17] This commitment to spatial equality extends to the design of the residential dormitories, each provides the

same level of comfort and a space is always available if you should need one. An Annaresti moving from one posting to another is liberated from the fear that there might be no place to rest. They will always be accommodated. More importantly perhaps, they will always be accommodated in a place which is intimately familiar. It is a radically egalitarian approach to design, which transforms anywhere into home.

I read this as a resident of London, where devastatingly high rents and privatisation of social housing have resulted in residents being driven from their homes, establishing patterns of spatial segregation on economic, class and racial lines. From here, the comfort offered by the social provision of home and the startling freedom granted by the liberation from financial obligation present in the architecture of Annares is utopian indeed.

Within the novel, the argument for shared housing is made on grounds of resource scarcity and the efficiency of communal living, but they are also designed to engender patterns of domestic life oriented towards a sense of collective kinship rather than private individualism. As Dan Sabia notes in his discussion of the community politics in *The Dispossessed*, communal patterns of living when realised in housing also act to normalise and promote communal practices, actively shaping and supporting acts of mutual aid.[18] Thus the social ideals of Annaresti society are written into its architectures of home. This flattening of hierarchies between individuals and dwellings extends to the layouts of communities with the intention that no town or city be more central than another. It is a pattern of decentralisation that Carol Pearson identifies as being common to feminist sf.[19] As a built form, this radical de-centring and flattening symbolically reflects an intention that all places and all inhabitants are equal. But it also provides the tangible measure against which the realisation of the utopian ideal can be judged. As discussed by Sarah Lohmann, it is a precondition to its operation as a complex utopian system which incorporates critical reflection.[20] For Lohmann a 'complex' utopian system is one which is continually adjusting in response to feedback, an attribute evident in the skyline of Annares which acts as both a symbol of equality and a critical baseline which provides the ability to identify and redress inequality where it surfaces, projecting above the rooftops.

This is the act of permanent revolution, the expectation and requirement that the inhabitants of Annares identify and resist the establishment of power structures, that they continually overthrow forms of social oppression. This cannot be a centrally organised or delegated effort, rather it must be enacted from within communities or the homes of individuals, incorporated into the activities of everyday life. It is a continually domestic act.

A city like spilt salt would be home.

As plain as spilt salt.

A damp fingertip is pressed into the table-top to pick up the spilt grains of salt and bring them up to the tongue. Salt brings out the flavour which was hidden underneath. But salt is fickle, too much and we must throw out the dish and start again. Salt is anything but plain. A city like spilt salt would not be to everybody's taste.

The anarchist principles enshrined within the society of Annares should support the wilful development of individual taste and the pursuit of art, a practice made for no one but the joy of the work itself. As discussed by Laurence Davis, Le Guin is acutely aware of the dangers of reducing art to its social function, so art practices are taught on Annares as basic techniques of life.[21] Art is not required to serve the desires of the wider community which might risk the establishment and entrenchment of an ideological style and curtail the radical strangeness of true self-expression. But this refutation of art as solely a social practice means that the lifework of the artists often runs counter to the needs of the community. It requires the artist to deny a posting in a vital service, to resist the pressures of moral obligation and social approbation, and choose work which may be of value only to themselves. In this environment of scarcity both art and design can be seen as excessive, a reckless expenditure of resources of material and time. As Khouri observes, even when this aesthetic excess is naturally occurring in the superfluous exuberance of leaves on a tree, the moral aesthetic judgement is ingrained so deep that the delight found there is tinged with guilt.[22]

So, there is space within the partner dormitories for Takver to hang up her metal mobiles, sculptures of movement whose shifting intricacy seem the very manifestation of permanent revolution, but they must be made in her spare moments between work postings. Meanwhile, the satirical plays written by Bedap result in his continual estrangement from the communities he lives within, and he is pushed ever outwards into a series of manual labour postings. The tension between individual and community is forcibly present in these moments of artistic practice, as the artist who throws over social custom entirely for their art must become a nomad. Abbenay makes room for the crafts-people with wire-making and textile workshops open to passers-by in a lively street scene which would delight urban planning activists like Jane Jacobs,[23] but there is no mention of the artist's studio. While the principles which founded Annares demand permanent revolution there is no stable place for the true anarchist artist. There is no revolutionary homeplace, as described by bell hooks, no place outside to regroup and resist.[24]

This moral judgement is not simply a product of the material scarcity of Annares; in a society of communal ownership design is a refutation of

equality. To differentiate this object from another is to create a hierarchy of preference, to invite a desire for possession, and Shevek's orange blanket is a source of consternation; what function is served by its orange colour? Within the confines of our capitalist present, this co-opting of design as commodity has been decried by architects and designers. In their work on speculative design Anthony Dunne and Fiona Raby note that the spectacle of design is all too often deployed as a tool to stoke the desire for consumption. They call for an alternate form of design practice, focused not on problem-solving, but which strives to take on a social or political role as a 'form of dissent expressed through alternative design proposals'.[25] In their discussion of design products Dunne and Raby argue that making the possible products of such imaginings tangibly present within the world removes them from behind the wall which separates the imaginative construct from the real and opens them for consideration. The presence of these objects hints at the malleability of reality, blurring the edges of possibility. But while the slippery status of a physical object, as both the product of a fiction and present in tangible reality, places the worlds they conjure less resolutely in the realm of the imaginary and thus imbues it with the power of counter-factual presence, I would argue that the resultant imaginative engagement of the viewer is not dissimilar to that of the active reader of sf. Following Darko Suvin's definition of sf as the literature of cognitive estrangement,[26] sf texts also offer a site of fresh strangeness from which to reflect on the world as it is experienced. Similarly, the fragmentary nature of either an object or a description offered within an sf text both rely on the construction of an absent paradigm as described by Kathleen Spencer,[27] the imaginative evocation of the entire life-world where such objects and places are everyday, woven from the glimpses shared and the reader's own experiences and memories.

The scope for manifest change inspired by the active engagement with sf is discussed by utopian sf scholars including Angelika Bammer[28] and Walidah Imarisha for whom 'all organising is science fiction'.[29] For Imarisha the space of the sf text can be claimed as a site to 'dream as ourselves',[30] to liberate the imagination and gather the resolve to sculpt reality. The active reading and writing of sf is similar to Dunne and Raby's acts of speculative design in that both ferment and realise the remaking of the world, resisting the relegation of utopian possibility to the realm of fiction. But by calling for such imaginings to be made tangible, Dunne and Raby also speak to the specific responsibility and agency that designers hold in the construction of worlds, the ability for such concerns to be manifestly made present in design practice.

This critical attitude towards design as a function of political and social being in the world, both its representation and its construction, is reflected in the attitudes towards design in *The Dispossessed*. Douglas Spencer charts how the reluctance to engage in aesthetic work beyond the

demands of strict utility which pervades Annaresti society is echoed by architects such as Superstudio,[31] who aimed to overthrow the consumer system of objects by announcing that

> 'Until all design activities are aimed towards meeting primary needs … design must disappear.'[32]

The continuous monument envisaged by Superstudio, an extensive support structure which takes the form of a grid that over-sails mountain ranges and oceans and is inhabited by a nomadic humanity, is the effective architectural reality of Annares.

So, the architecture of Annares is an architectural utopian vision realised, and yet I must admit to a sense of loss when imagining a built environment which has sacrificed the joyful exuberance of design, and a resistance to the idea that such a sacrifice might be a corollary of equality.

Perhaps a city like spilt salt *should* not be to everybody's taste.

As plain as spilt salt.

To spill salt is to be careless with something valuable. My grandmother would anxiously scrape the salt up from the table top to throw a pinch over her left shoulder to ward off the evil attracted by the waste. It sets off a pattern of movement, a ritual response. To spill salt is to act. A city like spilt salt would change.

In his work on utopianism, Jameson builds on the work of Ernst Bloch to delineate the distinction between blueprint utopias which offer a vision of a perfected state of being attained at the end of progress, and the utopian impulse which manifests in a striving for better and calls for perpetual revolution.[33] For Jameson, while literature may be used to depict a blueprint utopia novels can also be understood as 'a determinate type of praxis',[34] eliciting a utopian impulse in their readers through the radical act of disjunction which demands reflection on its own conditions of possibility. This quality of reflection is engendered most potently in what Moylan terms critical utopias, including *The Dispossessed,* which dwell in conflict or ambiguity and 'reject utopia as blueprint while preserving it as a dream'.[35] These critical utopias make manifest the desire for a world made otherwise, while also offering depictions of the sustained activism and agency necessary to reimagine that possibility into being.[36]

For Le Guin, Annares is an attempt to imagine a utopia of process. As such, it does not offer an image of settled resolution, instead it confronts the tensions between such continual revolution and the entrenchment of patterns which resist change.[37] Shevek's journey to Urras is one such moment of

conflict; an act of rebellion within a society whose truest form is one of revolution. It is an act that reflects the importance he places on the words and thoughts of the scholars of Urras, and in doing so suggests there is value to that which was left behind, lost, or simply held outside of Annares which is anathema to many Annaresti. As such this journey is an exercise of individual agency acting against both the social consensus and the insidious consolidations of power which occur within collective groups. By exposing the creeping limitations on individual freedom, Shevek's journey makes visible the wider entrenchments of position in Annaresti society, where those who strive for change are driven into exile, and words meant to inspire revolution are transformed into doctrine.[38] It is a vivid warning against the complacency of habit which allows power to gradually accumulate, an acclimation to the world as it is which muffles the call to revolution.

Stolidly built in stone and brick, the physical fabric of the buildings of Annares might be read as a potent manifestation of the act of settlement, of entrenchment within a pattern of living. The materials of their construction and their squat heavy forms resist casual modification when the radical freedom of its anarchist precepts might seem to demand it. In their permanence, these structures speak more to the stasis of the blueprint utopia than the shifting malleability of the utopian impulse. In his mould manifesto, the architect Hunderwasser called for the radical freedom for every individual to be able to construct their own home, however precarious and dangerous the resultant structures might be.[39] But this truly anarchist form of spatial autonomy with its inherent differentiation based on skills, structures and materials would produce such vividly varied results, and make such iniquitous demands on its occupants that it would be incompatible with the communitas of Le Guin's anarcho-communism.

There can be no suggestion that the radical equality of the dormitories can be compromised by differential design. However, on Annares, those who want to live in a partnership can choose to move out of the dormitories and build a space for themselves. This then is architectural change in response to social need, rather than individual will or taste. In the partners' truck trains, where rooms are added onto one another in a straggling chain, the individual may exercise spatial autonomy. It is a partial enactment of what Henri Lefebvre and later David Harvey term the right to the city, a resistance to spatial inequality alongside a reclamation of the city as a co-created space.[40] I am tempted to extrapolate from this one small example of architecture as a response to the vagaries of individual needs, to hope that Annares might also accommodate the building of dwellings which respond to other kinship and family structures, to the needs of those of different ages and mobilities. While the standardised dormitories provide equality, I long for the architecture of Annares to also provide spatial equity.

To do so, the design of the buildings would have to respond to site as much as they do to the needs of their inhabitants. A standardised design copied from one place and reproduced in another does not provide the same quality of space. The glazed office block which has become the ubiquitous architectural form for modern corporate power is foolish enough in London but becomes simply devastating in terms of infrastructural demand and energy consumption when exported to Dubai. We ignore the demands of site at our own cost.

So what of the housing of Annares, which valiantly strives for equality and equity? Here too there must be site, there are the agricultural plains, and the barren lands which Shevek travels through in times of famine. There are the remote villages where people wear jewellery and the city where the trolley cars rumble past. The dormitory block might face the rising sun to be bright in the mornings, be on a natural hill to catch small gusts of wind which ripple through, be set out alone where the quiet is palpable, or reached at the end of a long street thrumming with activity.

This is the challenge Le Guin sets down and resolutely refuses to settle within this novel. If I desire the architecture of Annares to be both equal and equitable it must suit every individual and be placed in any location, without differentiation which might lead anyone to conclude that one was better than the other. She forces me to confront this impossibility and then to laugh at the fact I had hoped it would be any more possible than a traditional blueprint utopia. I am forced to realise that the architecture of Annares must be like its society, both a negotiation between the two poles of the individual and the community, and an acknowledgement that the continual process of making and remaking is not a compromise but a choice to move beyond this dichotomy.[41] This refusal to settle is what Bammer describes as the replacement of the 'idea of utopia as something fixed … with the idea of the utopian as an approach toward, a movement beyond set limits into the realm of the not-yet-set'.[42] As Shevek notes, the time spent together on this journey is the edifice we are building with our lives.[43]

A city like spilt salt would change.

Perhaps the designers of a city like spilt salt need to change.

Through all of this, the planet of Urras has hovered behind me, the capitalist counterpoint to Annares' anarcho-communism, replete with overwhelming shopping streets and alienating tinted glazing. Here architecture is both art and product, as ornate as a Faberge egg, exuberant in aesthetic delight and heavy with the encrusted symbols of wealth. I must acknowledge that the glossy renders of upcoming developments I walk past so frequently on hoardings around building sites in London, the visions of our urban

future which we are being sold, would sit comfortably alongside the architecture of Urras.

Seen as a dichotomy the architectures of Annares and Urras ask me, as an architect, to make a moral decision as to which I want my work to be. They ask if I would give up architecture as art, if it meant that architecture could never be co-opted as commodity. But I return to the maps which open this novel and the universe beyond these two worlds hinted at by the space which surrounds them, and revel in the fact that the answer to an either-or question can be a refusal.[44] Instead, I choose to join Shevek on the transport at the conclusion of the novel moving between Urras and Annares, wilfully holding open the utopian horizon of possibility. Not yet determining a destination, but journeying towards.

A city as plain as spilt salt.

Salt is modest,
Salt is domestic,
Salt is refined,
Salt is anything but plain.
To spill salt is to act.

Notes

1. Ursula K. Le Guin, *The Dispossessed: An Ambiguous Utopia* (London: Gollancz, 2002), p. 84.
2. This social structure has also been describbrowned as anarcho-syndicalism. In the novel the distribution of resources and labour is calculated by a central authority and appears to be based on a balance of social need, individual skills and personal interests, which results in work assignments from 'DivLab'. But, in line with anarchist principles each individual can refuse a placement or develop a lifework of their own devising, although this might meet with social pressure and run counter to their internalised principles of mutual aid. They can also set up a 'syndic' which is a collective focused on a specific practice which is then allocated resources. There are syndics for art and academic practice as well as all other forms of labour including theatre collectives and the university department of theoretical physics.
3. The narrative of *The Dispossessed* grapples with the when of utopianism. As described by Fran Bartkowski: 'Utopian thinking takes us into questions of time and tense – the futures perfect that must be imagined even as they must change shape as they become the present.' Fran Bartkowski cited by Kathi Weeks in Angelika Bammer, *Partial Visions: Feminism and Utopianism in the 1970s* (Oxford: Peter Lang, 2016), p. 262. The relationship between the individual chronology of Shevek's experience, the narrative structure, the theories of time present in the narrative, and the implications this holds for the utopian imaginary are discussed further in a number of texts including Chris Ferns, 'Future Conditional or Future Perfect? The Dispossessed and Permanent Revolution', in Laurence Davis and Peter G. Stillman (eds), *The New*

Utopian Politics of Ursula K. Le Guin's The Dispossessed (Washington, DC: Lexington Books, 2005), pp. 249–62.

4. As Kitchin and Kneale note, sf scholarship within geography, architecture and urban studies has historically focused on a limited range of texts which might be referred to as an 'approved canon' which most commonly includes the work of J. G. Ballard, Philip K. Dick, William Gibson, Frank Herbert, and H.G. Wells. While there has been significant work to both expand and dismantle this canon, including the critical work within the book edited by Kitchin and Kneale to which this is the introduction, the focus on these apparently seminal texts persists. Rob Kitchin and James Kneale, 'Lost in Space', in *Lost in Space: Geographies of Science Fiction* (London, New York: Contiuum, 2002), pp. 1–16.
5. Carl Abbott, 'Cyberpunk Cities: Science Fiction Meets Urban Theory', *Journal of Planning Education and Research* 27.2(2007), pp. 122–31; Natalie Collie, 'Cities of the Imagination: Science Fiction, Urban Space, and Community Engagement in Urban Planning', *Futures* 43.4(2011), pp. 424–31; Lucy Hewitt and Stephen Graham, 'Vertical Cities: Representations of Urban Verticality in 20th-Century Science Fiction Literature', *Urban Studies* 52.5(2015), pp. 923–37. Kathryn Yusoff, *A Billion Black Anthropocenes or None* (Minneapolis: University of Minnesota Press, 2018).
6. Stephen Graham, 'Vertical Noir: Histories of the Future in Urban Science Fiction', *City* 20.3(2016), pp. 382–99.
7. Le Guin, 'A Non-Euclidean View of California as a Cold Place to Be', *Dancing at the Edge of the World: Thoughts on Words, Women, Places* (New York: Grove Press, 1989), pp. 80–100.
8. This novel can be read as part of Le Guin's Hainish cycle of novels, set in a sf universe which includes the wider interplanetary group known as the Ekumen.
9. Fredric Jameson, 'World-Reduction in Le Guin: The Emergence of Utopian Narrative', *Science Fiction Studies* 2.3(1975), pp. 221–30.
10. Le Guin, *Dancing at the Edge of the World*.
11. Mierle Laderman Ukeles, *Manifesto For Maintenance Art 1969!*
12. Alessa Johns, 'Feminism and Utopianism', in Gregory Claeys (ed), *The Cambridge Companion to Utopian Literature* (Cambridge: Cambridge University Press, 2010), pp. 174–200.
13. Karen A. Franck, 'A Feminist Approach to Architecture: Acknowledging Women's Ways of Knowing', in Ellen Perry Berkeley and Matilda Mcquaid (eds), *Architecture: A Place for Women* (Washington, DC: Smithsonian Institution Press, 1989).
14. Tom Moylan, *Scraps of the Untainted Sky: Science Fiction, Utopia, Dystopia* (Oxford: Westview Press, 2000); John Fekete, '"The Dispossessed" and "Triton": Act and System in Utopian Science Fiction', *Science Fiction Studies*, 1979, pp. 129–43; Nadia Khouri, 'The Dialectics of Power: Utopia in the Science Fiction of Le Guin, Jeury, and Piercy', *Science Fiction Studies* 7.1(1980), pp. 49–60.
15. Le Guin, *The Dispossessed*, 5.
16. Samuel R. Delany, 'To Read The Dispossessed', in *The Jewel-Hinged Jaw: Notes on the Language of Science Fiction* (Middletown, CT: Wesleyan University Press, 2011), pp. 105–66.
17. Michel de Certeau, *The Practice of Everyday Life* (Berkeley: University of California Press, 2011); Louis Marin, 'Frontiers of Utopia: Past and Present', *Critical Inquiry*, 1993, pp. 397–420.

18. Dan Sabia, 'Individual and Community in Le Guin's The Dispossessed', in *The New Utopian Politics*, pp. 111–28.
19. Carol Pearson, 'Women's Fantasies and Feminist Utopias', *Frontiers: A Journal of Women Studies* 2.3(1977), pp. 50–61.
20. 'The Dispossessed – Part 1 w/ Sarah Lohmann', Utopian Horizons. https://soundcloud.com/user-494053335/the-dispossessed-part-1 [Date accessed: 1 December 2018].
21. Laurence Davis, 'Morris, Wilde, and Le Guin on Art, Work, and Utopia', *Utopian Studies* 20.2(2009), pp. 213–48.
22. Khouri, 'The Dialectics of Power'.
23. Jane Jacobs, *The Death and Life of Great American Cities* (New York: Random House, 1961).
24. bell hooks, *Yearning: Race, Gender, and Cultural Politics* (Abingdon: Routledge, 2014).
25. Anthony Dunne and Fiona Raby, *Speculative Everything: Design, Fiction, and Social Dreaming* (Cambridge, MA: MIT Press, 2013), p. 160.
26. Darko Suvin, *Metamorphoses of Science Fiction: On the Poetics and History of a Literary Genre* (New Haven, CT: Yale University Press, 1979).
27. Kathleen L. Spencer, '"The Red Sun Is High, the Blue Low": Towards a Stylistic Description of Science Fiction', *Science Fiction Studies*, 1983, pp. 35–49.
28. The role of utopian sf including *The Dispossessed* and utopianism more broadly in feminist activism and transformative practice is discussed extensively in the roundtable dialogue which forms the conclusion to Bammer, *Partial Visions*, pp. 241–99.
29. The short stories contained within *Octavia's Brood* explore the significance of sf 'visionary fictions' in social justice movements by inviting activists, artists, educators and organisers to produce works which write new communities and new futures into being. Walidah Imarisha, 'Introduction', in adrienne maree brown and Walidah Imarisha (eds), *Octavia's Brood: Science Fiction Stories from Social Justice Movements* (Oakland, CA: AK Press, 2015), p. 4.
30. Imarisha, *Octavia's Brood,* p. 5.
31. Douglas Spencer, 'The Alien Comes Home: Getting Past the Twin Planets of Possession and Austerity in Le Guin's The Dispossessed', in *The New Utopian Politics*, pp. 95–108.
32. Adolfo Natalini, 'Inventory, Catalogue, Systems of Flux … a Statement', Lecture Delivered at the Architectural Association, (1971); cited in Peter Lang and William Menking, *Superstudio: Life without Objects* (Mila: Skira, 2003).
33. Fredric Jameson, *Archaeologies of the Future: The Desire Called Utopia and Other Science Fictions* (New York: Verso, 2005).
34. Fredric Jameson, 'Of Islands and Trenches: Naturalization and the Production of Utopian Discourse', *Diacritics* 7.2(1977), p. 6. As discussed in Peter Fitting, 'The Concept of Utopia in the Work of Fredric Jameson', *Utopian Studies* 9.2 (1998), pp. 8–17.
35. Tom Moylan, *Demand the Impossible: Science Fiction and the Utopian Imagination*, (Oxford: Peter Lang, 2014), p. 10.
36. The active role of the utopian imaginary as a vital part of social change is discussed further in Ruth Levitas, *Utopia as Method: The Imaginary Reconstitution of Society* (London: Palgrave Macmillan, 2013). As debated by Ruth Levitas and Lucy Sargisson, the 'when' of utopia is both located on the

horizon and enacted within the present moment. Ruth Levitas and Lucy Sargisson, 'Utopia in Dark Times', in Raffaella Baccolini and Tom Moylan (eds), *Dark Horizons: Science Fiction and the Dystopian Imagination* (New York and London: Routledge, 2003), pp. 13–28.

37. The extent to which *The Dispossessed* successfully presents a utopia which holds open the 'horizon of historical possibility' is discussed further in Laurence Davis, 'The Dynamic and Revolutionary Utopia of Ursula K. Le Guin', in *The New Utopian Politics*, pp. 3–36.
38. The development of a counter-revolutionary tendency on Annares which 'gives reign to the very impulses it was designed to reign in' is discussed further in James Bittner, *Approaches to the Fiction of Ursula K. Le Guin* (Wisconsin: UMI Research Press, 1984), p. 120.
39. Friedensreich Hundertwasser, 'Mouldiness Manifesto against Rationalism in Architecture', *La Arquitectura Del Siglo XX: Textos*, 1958, pp. 448–55.
40. David Harvey, *The Right to the City*, 2008; citing Henri Lefebvre, *Le droit à la ville* (Paris: Anthropos, 1968).
41. The conflicts and challenges of making architectural work outside of capitalism and the associated patterns of resource consumption are also explicitly addressed in the architectural short fictions within the collection *Gross Ideas: Tales of Tomorrow's Architecture,* Edwina Attlee, Phineas Harper, and Maria Smith (eds) (London: Architecture Foundation, 2019).
42. Bammer, *Partial Visions*, p. 9.
43. 'So, looking back at the last four years, Shevek saw them not as wasted, but as part of the edifice that he and Takver were building with their lives.' Le Guin, *The Dispossessed*, p. 276.
44. 'Will you choose freedom without happiness, or happiness without freedom? The only answer one can make, I think is: No.' Le Guin, 'A Non-Euclidean View', p. 19.

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Article

‘It was quiet’: the radical architectures of understatement in feminist science fiction

cultural geographies
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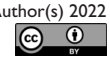

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Abstract

“Poisonless:a bare city, bright, the colours light and hard, the air pure. It was quiet.”

The Dispossessed, Ursula K. Le Guin (1974)

This is how Ursula K. Le Guin describes the city of Abbenay in *The Dispossessed*. It is modest and unassuming. It is quiet. This architectural restraint is jarringly at odds with predominant portrayals of the science fiction city. As noted by Graham (2016) and Hurley (2008) the future city has become synonymous with rapid vertical urbanisation, closing off alternative urban visions and the possible futures they contain. While there is a growing call for the study of sf by scholars in the spatial disciplines such as Abbott (2016), Collie (2011), Hewitt and Graham (2015) and Kitchin and Kneale (2002), the unassuming, everyday spaces of feminist sf are often lost in the shadows cast by the dystopian high rise. As Le Guin argues, these passive and participatory utopias become visible only when we ‘adjust to a dimmer light’ (1989). In response, this paper lingers in shared spaces of sf which are possible examples of what Washida Imarisha terms ‘visionary fiction’ which is sf that ‘has a relevance towards building new, freer worlds’ (2015: 4) including; N.K. Jemisin’s *Broken Earth* trilogy (2015–2017), Sally Miller Gearhart’s *The Wanderground* (1979) and Marge Piercy’s *Woman on the Edge of Time* (1976). By imaginatively inhabiting the utopian enclaves within these feminist texts it is possible to explore geographies of alterity – to adjust to the dim light and learn to cherish the quiet.

Keywords

architect, architecture, cities, design, Marge Piercy, N. K. Jemisin, Sally Miller Gearhart, science fiction, Ursula K. Le Guin

> Abbenay was poisonless: a bare city, bright, the colours light and hard, the air pure. It was quiet.[1]

This is how Ursula K. Le Guin describes Abbenay; the capital (or at least the most central) city on the anarcho-communist moon of Annares in *The Dispossessed*. It is a city of low rise buildings, utilitarian design and uncompromising open-ness. It is modest and unassuming. It is quiet.

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In her essay 'A Non-Euclidean View of California as a Cold Place to Be' Le Guin discusses this novel as one manifestation of her wider desire to explore a utopianism of process not progress, of balance in motion.[2] In place of the startling clarity and order of the Euclidian ideal of utopia she offers negations and obscurity. A vision of utopia that is weak, passive and participatory, that perhaps 'won't look the way it ought to'.[3] It is an alternative, but one which requires work before it can be contemplated. It requires work from me before I can contemplate it. As an architect, I am possessed by an internal restlessness to make, discuss and draw. I am all gathering in and setting out. But Le Guin's gentle provocation asks me to desist, to sit for a while with the utopia that might become visible if only I can 'adjust to a dimmer light'.[4] And yet I have failed to heed her call. In my attempt to adjust to the dim and the quiet I have sought out those authors whose worlds and works contain such moments. I am all gathering in and setting out again.

This article is the product of fleeting still moments in the summers of 2020 and 2021, an attempt to adjust to the quiet while surrounded by the all too heavy silence of loss and love held at a distance. It will dwell in turn within the comm of Castrima in N.K. Jemisin's *Broken Earth* trilogy (2015–2017), the remember rooms in Sally Miller Gearhart's *The Wanderground: Stories of the Hill Women* (1978) and the dining hall of Mattapoisett in Marge Piercy's *Woman on the Edge of Time* (1976). When replaying the stories of these novels in my mind they all seem to share fleeting moments of quiet, albeit differently textured. As I reflect on this selection of stories a year later, it is perhaps more noticeable that these are all moments of quiet set within ongoing struggles for individual and collective agency, for freedom from violence and oppression.

The spaces these novels describe are analogous to a town square, a classroom, and a dining hall. These are places of gathering, sites where collective identity is deliberated and determined, and it is here that the desire for change is mutually reaffirmed. They act as utopian enclaves, their existence manifesting the possibility of a world made otherwise.[5] As sites of acknowledged vulnerability beset by the threat of violence, the textures of quiet which permeate these spaces might be understood as a product of suppression, a subsuming of self to pass unnoticed. But I read this quiet as an integral part of that which is being fought for, perhaps an unwilling necessity but also a conscious choice to model the practices of respite and comfort. In this, these spaces echo with bell hooks' resonant ideals of homeplace, 'that space where we return for renewal and self-recovery, where we can heal our wounds and become whole', that necessary sanctuary from oppression which accommodates the gathering of community and resolve.[6]

While everyday or domestic spaces of respite and care might be overlooked as sites of resistance when compared with the vocal sites of the picket line or the protest, they can be an integral part of what Kye Askins terms 'quiet politics'. For Askins, the work of 'quiet politics' is defined by intentional acts of encounter and generosity which wilfully affirm radical belonging. These acts often take place in everyday spaces, as 'mundane spaces allow for, and demand, shifts in perceptions of Self and Other, nudging established discourses of alterity, and anticipating new social relations; they are the prosaic places in which people discover each other as multifaceted, complex and interdependent'.[7] It is this quality of purposeful quietness and understated determination which is present in the community spaces of these fictions, in these resolutely defended sites of mutual care.

Where, in our lived reality, such places of respite and recognition do not yet exist, or exist other to where we find ourselves, these novels offer imagined worlds where such utopian enclaves are not only possible but present. These novels are possible examples of what writer and activist Walidah Imarisha terms 'visionary fiction', that is sf (science fiction)[8] which 'has a relevance towards building new, freer worlds,' part of the decolonising and unshackling of the imagination from which other forms of liberation might be born.[9] Reading these texts in this light, it is possible to see that the moments of quiet contained within are not set against the fierce struggle of their

inhabitants, they are part of it. They are the spaces of dimmer light, the fragments of that which is being fought for.

This article is also a reflection on my own process of reading and the accompanying desire to unshackle my own imagination regarding built futures.[10] It moves through each text in turn, attending to the different tones and textures of quiet present in these spaces to draw out their resonant spatial qualities, to express the ways in which the hushed tones of these imagined worlds have spoken in me as an architect. It alternates between extracts of the text and my own words, in an attempt to make visible this process of reading, relaying and responding.[11] This is a method which, in its ambition to evoke the worlds within these texts, is both achingly incomplete and indelibly warped by my own desires and digressions. Rather than consider this as a failing, I will strive to express my reading as an unashamedly creative act as described by literature scholar Pierre Bayard.[12] I acknowledge that I come to these books with a specific way of seeing the world, trained and cultivated by architectural education and practice, which lures me to examine the interplay of the social and the built. So, I find myself compelled to unpick the fleeting descriptions of the built within these novels, to extrapolate from these glimpses based on my own knowledge of construction methods and science-fictional reading practices,[13] and wander through these spaces of collective congregation. These are architectures of modest radicalism, and the voice they sound in my mind is at once softly spoken and compelling. They challenge me to discard academic convention and succumb to the swells of emotion they evoke. I can only hope that the time spent on this act of writing, and the recollections of reading which run alongside it, will allow me to linger long enough in these spaces of understatement that I might adjust to the dim light and learn to cherish the quiet.

The Broken Earth trilogy: this is a place which carves out a home

> Ykka's not in her apartment. You look around, follow the patterns of movement in the comm with your eyes, and finally head toward the Flat Top. She cannot still be there. . . You see that only a few people are still on the Flat Top now—a gaggle of maybe twenty, sitting or pacing, looking angry and exasperated and troubled. . . But Ykka is here, sitting on one of the divans that someone has brought from her apartment, still talking. She's hoarse, you realize as you draw close.[14]

This is a space of quiet exhaustion.

The quiet which is embodied by Ykka as she reclines resting her worn voice, is not the crackling and heady silence of words unspoken, rather it is the slow winding down of the body once everything has been said. It has the same texture as the quiet that is present after the drilling on the road outside your house, which, having lasted all day has finally tapered off and stilled. A rest granted by the gentle absence of strain.

> The abandoned village up there is this comm's wall. Camouflage rather than a barrier. . . ."These people should've just built a wall like everyone else," you do say, but then you stop, because it occurs to you that the goal is survival, and sometimes survival requires change.[15]

This is a hidden space.

The comm of Castrima in NK Jemisin's *Broken Earth* trilogy is beset by prejudice, violence and famine. In response to dramatic shifts in climatic conditions most communities have built walls to delineate the boundaries of their caring, to mark out who is self and who is other. The occupants of this comm have already faced the hardship of being cast outside of those walls. So, they have removed themselves from the cruelties of the surface. An abandoned settlement above conceals the tunnel which leads down into the community of Castrima below, a place of retreat and respite from

the fiercely defensive villages and towns of the surface. They use the ruins of the world as camouflage. For utopian scholar Naomi Jacobs there is a utopianism to be found in digging into the earth, the act of burrowing rather than building.[16] It is a form of construction which acknowledges the ground as a living substance to be sculpted rather than conquered. In the vast expanses of the Antarctic discussed by Jacobs, this burrowing is an act of endurance, of making or finding home within a landscape of cruel and beautiful freedom. In Castrima, this digging down is an act of endurance undertaken for the sake of freedom from violence. It is made possible by the 'orogenes', individuals who have the power to shape the earth, but it is their presence within this group which heightens the necessity of their concealment. They have been driven into hiding by overwhelming fear of discovery, driven underground in all senses of the word. Their existence is deemed so intolerable to the dominant majority that walls would not be enough to protect them.

> You stare in openmouthed, abject wonder. It's a geode. You can sess that, the way the rock around you abruptly changes to something else. The pebble in the stream, the warp in the weft. . . Within that pocket, nurtured by incomprehensible pressures and bathed in water and fire, crystals grew. This one's the size of a city.[17]

This is a found space.

Castrima is located within an unnatural crystal formation which was brought into being by the skills of a former civilisation, now rediscovered by their distant oregene descendants. While its current inhabitants can sess the means of its construction – the way it has shifted the land to create this pocket of crystalline perfection, the means to undertake such work has been lost. The geode's clarity and scale are testament to the technological control of those who went before, but as environmental lawyer and policy scholar Alastair Iles discusses, Jemisin's *Broken Earth* trilogy is a critique of such hubristic techno-utopianism.[18] Here the human and environmental costs of ideals of technological progress are gradually exposed, and the hard cutting edges of this geode seem to echo the brutal rigidity of the former social order. This crystal chamber is both a monument to this lost civilisation's power, and a memorial to those killed by and for its construction. The vacant chambers are now reclaimed through occupation, inhabited by those more willing to bend and compromise.

> Figuring out how to reach the ground level is difficult, at first, because all the platforms and bridges and stairways of the place are built to connect the crystals. . . There's nothing intuitive about it, you have to follow one set of stairs up and walk around one of the wider crystal shafts in order to find another set of stairs that goes down-only to find that they end on a platform with no steps at all, which forces you to backtrack.[19]

This is a challenging space.

These crystal structures cannot be easily carved, cut or reshaped, and the knowledge of how to grow them has been lost. So, the inhabitants of Castrima have grafted timber platforms and rope bridges onto the monumental crystal. Rather than live within the limits of the structures they uncovered they have begun to forge a place for themselves in a resistant world. As they build bridges which span between previously isolated places, they overwrite uncompromising perfection with a network of paths that are conditional. Like the community, the bridges connect the possible, creating routes which can shift and be remade, accommodating of change and accepting of the uncertain.

> Amid the many sharp-tipped crystals of Castrima, is one that looks as if it's been sheared off halfway, leaving a wide hexagonal platform positioned and elevated near the center of the comm. Several stair-bridges connect to it, and there are chairs and a railing. Flat Top. . . By the time she reaches the Flat Top there's a small crowd already there. . .[20]

This space is up for debate.

In the very centre of the geode is a crystal whose top has been sheared off to create a town square. For the inhabitants of Castrima it is a place of decisions, where issues of survival are weighed and measured, and each inhabitant has their voice heard. This is where we find Ykka, in the wake of the community discussions which have rendered her hoarse. The tension which was held in every muscle of her body to withstand the swell of voices and raise her own voice to be heard can now be released into exhaustion. This space of discussion is not walled in or separated off from daily life but placed at its centre. It is a manifestation of a desire to create a society without the barriers, to welcome in those who had been so fiercely kept out of the spaces of power.

> She sounds so determined. It makes your heart ache, because you felt the same way she did, once. It would be nice to still feel that way. To have some hope of a real future, a real community, a real life. . .[21]

This is a place which carves out a home.

Castrima exists within our own far future. Earth has undergone seismic transformation and is now subject to unpredictable 'seasons' which bring with them plagues, earthquakes, acid rain. Each season is an apocalyptic event for those unprepared, so humanity walls itself off into small self-sufficient groups and builds for rugged endurance. It is a divisive mentality which pervades the social fabric, a way of living founded on a mistrust of others who might be a drain on resources, and a pathological hatred of those who are not understood – those like the orogenes who can influence the earth itself, who are only tolerated when subjugated and controlled.

This is a world beyond the end of the world. As sf scholar Gerry Canavan describes, novels like this dwell in the repercussions of climate emergency, continuing past the moment of crisis to consider the life that can be lived within and beyond.[22] Rather than presenting a narrative of apocalyptic finality and rupture, this vision of ongoing and present climate emergency reaches both forward and back in time to acknowledge the many apocalypses of racial exploitation and colonialism. In his work on environmental justice, Kyle Whyte reflects on notions of apocalyptic finality in relation to Indigenous persons 'already having endured one *or many more* apocalypses'.[23] For Whyte, sf and storytelling can be a way to both recognise and imaginatively inhabit the post-apocalyptic, to explore adaptation and flourishing which exceeds mere survival. As described by geographer Kathryn Yusoff in *A Billion Black Anthropocenes or None* which draws on Jemisin's work to consider the geophysical re-shapings of earth by extractive logics, 'the end of this world has already happened for some subjects, and it is the prerequisite for the possibility of imagining living and breathing again for others'.[24] The inhabitants of Castrima already inhabit a time past many ends of the world, and their ability to live and breathe again will depend upon further endings.

Castrima calls to those who have been cast out for fear of their difference. Its inhabitants have chosen incarceration within this buried community over death at the hands of those they love. It is an act of fear, not of hope, and one which they acknowledge will last only as long as this place goes undiscovered. But, however fleeting, this coming together creates something new. The quiet here might be a product of exhaustion but it also an indication that, just for a moment, it is safe to rest. It is a place where those who have been taught to mistrust themselves might find comfort and recognition.

The Wanderground: this is a place which strives to be better

> Clana felt gently swayed. She felt safe. She felt well-loved and excited. The rememberings were about to begin.[25]

This is a space of hushed quiet.

A silence that is not imposed, but creeps up on you nonetheless. It is the muffled noise of libraries or museums, where the weight of memory seems to ask that you tread lightly so as not to disturb the hanging dust. The carefully attentive quiet of an intake of breath before the story starts.

> She scrunched into the niche she had built for herself: a large heap of small pebbles which made a backrest and a mound of pebbles and coarse sand that curved around to rest each of her arms. . .. finding at last the magic form-fitting moment that made her suddenly completely comfortable.[26]

This is a space you make for yourself.

The remember room is a cave, a warren, a hole dug into the earth. It contains sand and pebbles which are swept into small undulations – the long-shore drift left by a multitude of children each burrowing themselves into the surface and making a place for themselves in the world. These children can see and feel their own bodily impact on this place, how they shape and change it, and how it pushes back as it slumps and slides. As loose materials are swept up in eager hands this space fosters an attentiveness to the environments being inhabited, while it acknowledges the presence of the non-human earth within these acts of recollection. As literary scholar Eric Otto discusses, the collective construction of memory in the remember rooms acts alongside the ecological spirituality of this community as integral parts of this novel's cultural ecofeminism.[27] It reflects the community's intertwined desires to challenge the oppressions of both women and non-human nature. In the remember rooms, the shifting landscape constructed by the burrowing children materialises the kinships between individuals and environments, the interrelated network of impacts, influences and mutual forms of support.

> As she absorbed every detail around her she was also aware of some of her own impatience. . .. Around her in the windowless chamber were nearly a dozen other girl-children who were digging out and settling into their places amid giggles and chattering.[28]

This is a space to listen.

This is a windowless chamber, suffused with a dim light. It is designed to be cut off from the world outside, reached only after a process of ritual bathing and preparation, open to those who are ready to listen. The lack of windows and simplicity of materials is designed to focus the attention of small children, to remove distraction. In this room, as expressed by feminist and utopian literature scholar Angelika Bammer, the experiences of the Hill Women are remembered and the community's history is formed by its own telling.[29] In sharing these stories with young people, the Hill Women hold and cherish their own lived experiences, resisting the narratives of oppression which seek to diminish or dismiss them. The focus that this space aims to instil attests to the value they place on being heard, believed and understood.

> Nova settled onto a well-worn sand pallet and was leaning against the far stone wall. Alaka picked her way carefully around the sitting and reclining bodies and knelt beside Nova. The two guides, enwrapping the whole group, also sought assurances from each girl-child woman and cat that each was ready.[30]

This is a space to take care.

Within this small and enclosed space the guides are able to attend to the wellbeing of the dozen children present, and no child is lost amongst the crowd. This care is necessary given the topics which are addressed here, the still present past that the women of this community fled from; the memories of misogyny and sexual violence, and the hunting parties which tracked those who

would not conform. Sf scholar Marleen Barr details how this novel and other 'feminist fabulations' address obscured or supressed realities of sexuality and sexual violence from within the cloak of fiction.[31] Like the stories told in these remember rooms, these spaces of fiction are a gentle yet instant reminder of violent reality. For the women and children in the remember rooms, this place is designed to gather and support them as they collectively hold traumatic memories, to acknowledge and undertake the work of care.

> She pulled a chair up and began making a memory of the kids playing in the street three stories below. Deliberately she observed the light, the texture of colors, the angles of movement. She was leaving this. She wasn't coming back.[32]

This is a space of significance.

The memories which are shared here are remnants of the cities which the women have left behind. In the surrounding rooms objects line the shelves, each a relic of this former life, accompanied by the spoken testimony of a guide who tells a story of its use. These objects and memories were carried by these women as they fled the city and are the only remaining traces of these life-worlds for those who have no intention of returning. The object stores and the remember rooms are located beyond the settlements that the Hill Women have founded, as far again as the city is in the other direction. To visit them requires the repeated act of walking away, from the city and from the shelter of found community, a repetition of the act of finding protection through distance.

> Silence. Miraculous silken. The remembering of who they were. . . A moment for the readiness to struggle, a moment for re-commitment to care, whatever the gradual outcome would be.[33]

This is a place which strives to be better.

This room is one of many dispersed spaces scattered across the Wanderground, the settlements of the Hill Women who have fled the City. In this future version of the United States, gender-based violence and environmental damage have recently reached a crisis point. The earth itself has revolted, shifting and twisting the rules which govern life upon its surface. Mechanical technologies cease to function beyond the outskirts of the cities, and men who venture beyond the city walls are rendered impotent while they inhabit this strange new terrain. Within the cities the segregation and suppression of women has escalated to systemic brutality, but those women who have escaped have developed new psychic abilities. They wind-ride and mind-stretch, in communion with the landscape and communication with non-human beings. This is a starkly gender separatist utopia, as cultural theorist Debra Shaw delineates, with all of the exclusionary problematics and erasure of experience that any such essentialising of gender entails.[34] But, as geographer Gill Valentine suggests, it also hints at ways identity can be mobilised to proclaim common needs and goals, to reassert specific freedoms and challenge gender identity-based oppression.[35]

Those women who find their way to the hills beyond the city limits are offered mutual support and environmental entanglement, but within the city patterns of hatred and isolation persist, and the conditions for community belonging the Hill Women have established are similarly exclusionary. This may be a community where new ways of being together are learnt and gathered, but its members are those who have been driven from that which they once knew as home. In the remember rooms the persistent trauma of this violence and loss is shared and held, enmeshed within the kinship networks of this place and people. It is a place where personal pain is not denied or diminished but finds its own telling, an integral part of a future that resists repeating such acts of oppression.

Woman on the edge of time: this is a place to fight for

> The room they entered took up half the dome and was filled with long tables seating perhaps fifteen at each, mostly dressed in the ordinary work clothes that Lucient wore, the children dressed is small versions. . .The pulse of the room was positive but a little overwhelming. She felt buffeted. Why wasn't it noisier? Something absorbed the sound, muted the voices shouting and babbling. . .[36]

This is a space of muted noise.

This is not the quiet of joy repressed or stifled, but the muffled thrum of music playing next door, heard through the party wall. It is the sound of the presence of others, occasionally a stifling pressure but more often a reassurance, a passive dispelling of solitude.

> Most buildings were small and randomly scattered among trees and shrubbery and gardens, put together of scavenged old wood, old bricks and stones and cement blocks. Many were wildly decorated and overgrown with vines.[37]

This is a space to soften sharp edges.

The 'fooder' dining hall in Mattapoisett in Marge Piercy's *Woman on the Edge of Time*, is constructed from timber and weather worn bricks. It is not made but scavenged and found. This is an architecture that has been assembled rather than built, the designs shifting as gathered fragments are carefully dusted off and repurposed. In their hands the discarded and the disregarded is cherished, and new meaning is wrought from old materials. This tangible celebration of reuse stands as testimony to the environmental attentiveness which underpins all their actions. While life in Mattapoisett does not address environmental crisis directly, as sociologist Lisa Garforth describes, it is a clear response to ecological concern and awareness.[38] For Garforth such depictions of environmental futures in sf serve to re-socialise climate science, providing us with space to argue about what matters ethically and ontologically as we confront notions of the Anthropocene. Bio-regional awareness and environmental concern are present in all facets of life in Mattepoisett, including the structures they have built. Building materials are chosen on the basis of social and environmental impact rather than financial cost, and the damage inflicted by extraction, transport and processing is weighed alongside the pleasure of those who do the work of making. So, the salvaged takes precedence over the machined finished, and the time spent on manual forms of making is understood as both craft and community service.

> . . .the scraps of melody and laughter, the calls, the clatter of dishes and cutlery, the scraping of chairs on the floor. . .[39]

This is a space with an openness of purpose.

People claim that they gather here to eat together. But as with so many collective meals, sustenance is simply the easiest excuse to be together, a reason to share time and the joyful labours of care. They talk while they eat, children play games around the table legs, and their laughter bursts through the strains of musical instruments. This is a space designed to encourage the blurring of uses, as multifunctional and everyday as a kitchen table. It resists labelling as a place of work or place of leisure and exists to support all forms of gathering and sharing. It reflects the social intent of this community which, as detailed by utopian scholars Raffaella Baccolini and Tom Moylan, imagines itself to exist outside of capitalist authority and patriarchal discourse which marginalises and oppresses both the environment and otherness.[40] Without a designation of use this is a space which resists the marginalising of any form of activity. By extension it resists the othering of any

individual who might perform that action. There is no physical separation of spaces for domestic, creative, manual, intellectual or caring labour, just as its inhabitants are not separated or defined by these roles. It is a collective space which strives for the liberation of its inhabitants.

> "The fooder is a home for us all. A warm spot."[41]

This is a space of gentle welcome.

The sweeping dome of the fooder is not a space of hard edges or abrupt angles. It emerges from the earth, as ground swell tapers up into the roof. A gentle curve allows for an internal area clear of supports and columns creating an undisrupted enclosure, and the space within is able to shelter and accommodate the entire community. This is a future where large institutional buildings; the church, university, museum and houses of parliament are notably absent, and so the size of this dining hall unwittingly bestows the spatial presence usually reserved for the seats of power. But it is perhaps telling that the most significant structure in this society offers sustenance to all its inhabitants. It has a purpose defined not by the accumulation of power, but the equitable distribution of resources. In this architectural celebration of a space for sharing, the community's social priorities are made evident. No permission is needed to enter this dining hall. Here every individual is expected and welcomed.

> On the translucent panels designs had been painted or baked in – she could not tell – in a wild variety of styles and levels of competence, ranging from sophisticated abstracts, landscapes, and portraits, to what must be children's drawings. "where did the art come from?" Luciente looked surprised. "the walls? Why from us – or some of us. . .."[42]

This is a space of personal expression.

The room is lined with the artistic outpourings of the community, some baked into the fabric of the structure and others temporarily displayed. A wild mismatch of styles and forms, the brightly coloured finger paintings of young children squirm exuberantly alongside the refined precision of skilled artists. This is not a curated exhibition but an expression of joyful anarchy, the collection and display drawn from anyone willing to share. It is a shifting and varied reflection of the creative life of the community, establishing the tangible presence of all who choose to produce such work within this place of coming together. By accommodating art from all members of the community, this display makes evident that individual worth is not defined by any measure of quality or quantity of output. Rather, creative work is recognised as a reflection of the vibrant variety of individual passions and forms of self-expression. Through this act of making space, value is conferred on these individual outpourings and their makers. But it also elevates the practice of artistic work. It celebrates any and all contributions to the creative life of the community as a worthwhile endeavour, work equivalent to any other and a necessary expression of self.

> "some you can see through and some not, because some of us like to feel closed in while we eat and some – like me – wan to see everything."[43]

This is a space of constant change.

Despite the chaos of multiple functions and myriad artistic styles, this is still a space which aims to support rather than overwhelm. It is designed to allow for individual modification with shifting panels which can create openness or enclosure. There is the possibility of choice that comes from spatial variety. Here it is possible to sit with a friend in the warmth of a corner while confidences are whispered, to gather in a group's boisterous openness, to find quiet solitude without isolation.

As the panels are relocated and shifted the space reflects the desires of those it holds. It is a continually flickering celebration of individual difference and the powerful necessity of change.

> ". . .there's always a thing you can deny an oppressor, if only your allegiance. Your belief. Your co-opting. Often even with vastly unequal power, you can find or force an opening to fight back. In your time many without power found ways to fight. Till that became a power."[44]

This is a place to fight for.

The fooder of Mattapoisett, Massachusetts is only one future possibility for the year 2137. We visit alongside Connie, a Hispanic woman from 1970's Harlem, for whom these visits to the future are an all too fleeting escape from a life where she is subject to domestic, racial and sexual violence and incarceration in an asylum. Depending on whose testimony you believe, she travels through time to be here, or she is experiencing delusional visions. Here she finds respite and support, reaching across time to Lucient to visit the spaces of child-rearing and decision-making, becoming a member of this community for brief moments. The inhabitants of this future have forged a world without the prejudice which has defined and imprisoned Connie in realities of persecution and brutality. But, as identified by utopian scholars Ruth Levitas and Lucy Sargisson, they have given up much which Connie considers central to human experience. In the dismantling of gender they have given up bearing children so that they might all become mothers.[45] They take up space, in ways that, as Karen Franck, Liz Bondi and Joyce Davidson discuss, challenge the fictions of gender.[46] These shifts in what it means to be human are both subtle and significant, and while Connie admires the quiet self-possession of Mattapoisett, it is a way of being in the world she cannot occupy while remaining herself. It is a place she cannot inhabit, but it is one she chooses to fight for.

It was quiet

I am reluctant to leave these places of gathering. They surround me with a promise of community which I yearn to make manifest. They are a long way from being the gleaming castle on the hill-top which Le Guin decries, but just like those Euclidian utopian models the visions of community they offer are similarly flawed. But they did not claim to be perfect – instead they set out to question whether we can do better. Each novel insistently places glimpses of community in direct contrast to a way of living which extemporises the inequities and cruelties of our own. Where the surface above Castrima models the fear of difference which tacitly supports xenophobia and fails to resist enslavement, the community below welcomes the outcast. Where the cities of the Wanderground rely on technological ideals of progress that overlook environmental cost and allow systemic gender persecution to propagate, the worlds of the Hill Women recognise responsibility and agency. Where Connie's Harlem overwhelms her with the combined and intersectional oppressions of poverty, racism, sexism and carceral responses to perceived mental illness, Mattapoisett recognises the needs and contributions of each individual. They acknowledge the world as it is and offer a fragment of a world made otherwise. Each is far from perfect, with its own weaknesses and negations, but it is an alternative, and one that just might be better.

In these visions of alternatives all three novels are deeply concerned with the space that an individual can occupy, and how this constructs social relations. They each take on the position of those who have the greatest struggle to be heard; the outcast, the overlooked, the oppressed, and strive to develop social and physical structures which recognise their agency, dismantling the barriers of exclusion constructed around spaces of power. They all focus on the interior world, the everyday and the domestic. Rather than architectures of dominance or display, these are buildings developed

from a concern for the life lived within. These societies strive to be non-hierarchical and so the structures they inhabit are low rise, modest and restrained. They are concerned with the ecological impact of the worlds they construct, as well as the labour of making and this is reflected in their architectures of craft and reuse. There are no cities here, or certainly not as we understand them.

The spaces of gathering in these novels reflect the ideals and compromises of the societies they contain; they manifest and support the passive and participatory. As such, they sit in startling contrast to the imaginaries of the future where the city seems almost synonymous with rapid vertical urbanisation.[47] As geographers Rob Kitchin and James Kneale note, those of us within the spatial disciplines all to infrequently venture beyond the 'approved canon' of sf to consider works explore alternate built futures and their socio-economic structures,[48] and the everyday spaces of feminist sf are all too often lost in the shadows cast by the dystopian high-rise. But to focus on these urban fictions which depict the futures we either expect or fear, serves only to ensure their inevitability by crowding out alternatives. It does an injustice to the breath-taking breadth and variety of sf visions, and leaves little room for the futures we might hope for.

For those of us in the spatial disciplines, who are all too aware of how the structures of power are written into and performed through the spaces we inhabit and design, these fictions provide critical distance to consider how we might design and construct spaces that engender and support such radical quiet.[49] While our existing built environments manifest and reinscribe existing power structures mired in extractivist practices and ongoing histories of violence and oppression, these spaces of sf provide us with ways to imagine the future otherwise. They resonate with the powerful work of design and activist practices which look to develop architectures of degrowth and social justice.[50] As celebrated by writer and activist adrienne maree brown, sf can act as a site to radically challenge pre-existing conceptions of the world and powerfully undertake the work of imagining alternatives. It can be 'a way to practice the future together'.[51] These imagined sites of radical quiet give us the respite required to consider what practicing the future together might feel like, and consider the spaces it might require of us.

So, this exercise of reading and writing is perhaps my own attempt to focus on that which I long to see, in the hope that my considered energy will support such futures to flourish, to bring into being the passive and participatory utopias present within these fictions.[52] I cannot help but read them and bear witness to what they ask of me as an architect.[53] As I read, I collect these scraps of imagined worlds, these half-glimpsed fragments of futures we might yet bring into being, relying on them as points of reference against which I can orient myself and my practice. I continually begin again, reminding myself that at the start of any design project there comes the work of gathering in and setting out.[54]

At Le Guin's prompting, I attend to the many forms of quiet which seem to form within and through these fictions, sitting with them so that I can adjust to their dimmer light. These imagined structures are quiet presences within the wider fabric of the city. They reject the authority of spatial presence visible in height or brash aesthetics and instead are modest and unassuming enough to grant welcome or concealed enough to provide shelter. The materials used are similarly muted, softened and worn. They are made from salvaged brick, sweeping shingle and bound timber, capable of being dismantled and remade again, resolutely provisional and adaptable. They are programmatically diffuse, not designed to celebrate their singular use as an overtly political sites of debate, but easily repurposed. Each is carefully woven into the everyday, designed to support existing practices of care and sustenance by providing collective housing or spaces of communal dining or childrearing. Within this work of necessity, they offer moments of peace, providing space for sustained activities of making and gathering enfolded within textured interiors that absorb the harsh edges of noise. Here insistent distractions might be gently transferred into the background, the soft voice of hope might be heard and held, and the powerful quiet might rise to the surface.

These are spaces for gathering in and setting out again.
They may be quiet but:
These are places which carve out a home.
These are places which strive to be better.
These are places to fight for.

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Notes

1. U.K.Le Guin, *The Dispossessed: An Ambiguous Utopia*, SF Masterworks (London: Gollancz, 2002), p. 84.
2. U.K.Le Guin, 'A Non-Euclidean View of California as a Cold Place to be', in U.K.Le Guin (ed.), *Dancing at the Edge of the World: Thoughts on Words, Women, Places* (New York: Grove Press, 1989), pp. 80–100.
3. Le Guin, 'A Non-Euclidean View of California', p. 11.
4. Le Guin, 'A Non-Euclidean View of California', p. 10.
5. The worlds depicted within these texts are not 'traditional' literary utopias. The worlds they depict are not intended as idealised versions of society existing within the temporally fixed moment of a utopian end-time, and they feature none of the crystalline perfection or uncompromising rigidity of what Le Guin denigrates as the Euclidean ideal of utopia. Rather, the communities they depict are self-aware, critical and contingent, resolutely holding open space for perpetual revolution rather than foreclosing the future. Following Frederic Jameson's definitions these are not blueprint utopias, but depictions of a utopianism in and of process, a manifestation of the utopian impulse. The future of mutual care depicted in *Woman on the Edge of Time* is revealed to be only one possible future within the novel, making it a vision of utopia which is self-reflexive, partial and unfulfilled, dependent on individual choice and collective resistance. As described by Tom Moylan, it is a critical utopia which "asserts the power of desire. . . as an anticipation and a practice." Similarly, the communities of care depicted in *The Wanderground* and the *Broken Earth* exist within wider a wider social context which necessitates revolutionary resistance. Rather than focus on the specific genre definitions of these three texts whose dominant social structures might also mean they can be usefully discussed as critical dystopian fiction, this essay explores the way all three novels depict spaces of community gathering as utopian enclaves, as sites of refusal and as a manifestation of the utopian ideals their inhabitants work to realise. These are the utopias of process which Le Guin urges us to seek out, present in fleeting and fragmentary form.

   F.Jameson, *Archaeologies of the Future: The Desire Called Utopia and Other Science Fictions* (New York: Verso, 2005), p. 2; T.Moylan, *Demand the Impossible: Science Fiction and the Utopian Imagination* (Oxford: Peter Lang, 2014), p. 147. For further reflection on the utopian impulse in critical

dystopian fiction, see: T.Moylan and R.Baccolini, *Dark Horizons: Science Fiction and the Dystopian Imagination* (New York: Routledge, 2003), and L.T.Sargent, 'The Three Faces of Utopianism Revisited', *Utopian Studies*, 5(1), 1994, pp. 1–37.

6. b.hooks, *Yearning: Race, Gender, and Cultural Politics* (New York: Routledge, 2014), p. 389.
7. K.Askins, 'Being Together: Everyday Geographies and the Quiet Politics of Belonging', *ACME: An International Journal for Critical Geographies*, 14(2), 2015, pp. 470–78, p. 476.

   The geography of quiet politics is further described by Askins as "an unassuming praxis of engaging with others, in which new social relations are built in/through everyday places, relationally connected across a range of geographies". Crucially, for Laura Pottinger, the spaces and acts of 'quiet activism' which she defines as "a form of engagement that emphasises embodied, practical, tactile and creative ways of acting, resisting, reworking and subverting" present a purposeful rather than passive expression of quietness.

   K.Askins, 'A Quiet Politics of Being Together: Miriam and Rose', *Area*, 46(4), 2014, pp. 353–54, p. 354.

   L.Pottinger, 'Planting the Seeds of a Quiet Activism', *Area*, 49(2), 2017, pp. 215–22, p. 217.
8. The term 'sf' will be used in place of 'science fiction' to reflect the expanded and interwoven sites of "science fiction, science fact, science fantasy, speculative feminism, speculative fabulation, string figures. . ." following Donna Haraway. This reflects how these novels play with and dissolve ideas of genre boundaries, slipping between and across classifications of utopian fiction, fantasy and science fiction.

   D.J.Haraway, *Staying With the Trouble : Making Kin in the Chthulucene* (Durham: Duke University Press, 2016).
9. W.Imarisha, 'Introduction', in a.m.brown and W.Imarisha (eds), *Octavia's Brood: Science Fiction Stories From Social Justice Movements* (Oakland: AK Press, 2015), pp. 3–5, p. 4.
10. As Jameson notes this reflects a wider shift in the function of utopian literature, from the prescriptive delineation of a better society to the holding open of the spaces of possibility. These novels form part of the utopian education of desire that other worlds are possible. In his reflection on Jameson's work, Moylan outlines how the work of the literary utopia cannot be reduced to its content, to the specific depiction within the text of an ideal blueprint or system, instead utopian literature "finds its importance not in the particulars of those resolutions but in the very act of imagining them, the form of utopia itself." While the spaces these texts contain exert their own quiet power of possibility, there is also utopian possibility held within the act of reading itself, and in imaginatively inhabiting the world made otherwise.

    Moylan, *Demand the Impossible*, p. 39.

    Jameson, *Archaeologies of the Future*; drawing on E.Bloch, *The Principle of Hope*, trans. N.Plaice, S.Plaice and P.Knight, Studies in Contemporary German Social Thought (Cambridge: MIT Press, 1995), I.

    F.Jameson, 'Progress Versus Utopia; Or, Can we Imagine the Future? (Progrès Contre Utopie, Ou: Pouvons-Nous Imaginer l'avenir)', *Science Fiction Studies*, 9(2), 1982, pp. 147–58.
11. I discuss the implications of reading sf and the particular value which this act of engagement might hold for those within the spatial disciplines further in A.Butt, '"Endless Forms, Vistas and Hues": Why Architects Should Read Science Fiction', *Arq: Architectural Research Quarterly*, 22(2), 2018, pp. 151–60.

    As well as offering the space for imaginative freedom, critical reflection and critique which might be particularly found in or through genre literature, the act of reading fiction elicits empathetic engagement. Through what Suzanne Keen terms the 'enacted empathy' of reading practices we are able to walk the surfaces of strange new worlds, to imaginatively relocate ourselves into the experiences of another.

    S.Keen, *Empathy and the Novel* (Oxford: Oxford University Press, 2007).
12. P.Bayard, *How to Talk About Books you Haven't Read* (London: Granta Books, 2012).
13. As John Rieder describes, readers of sf are engaged in "using the genre to actively shape their understanding of the world." These particularly science fictional reading practices include the complex construction of entire worlds from the fragments of description present in the text, spaces where the shared premise of the real cannot be assumed and each new line might require its imaginative unpicking and remaking.

    J.Rieder, *Science Fiction and the Mass Cultural Genre System* (Middletown: Wesleyan University Press, 2017), p. 22.

For further reflections on science fictional reading protocols see: K.L.Spencer, '"The Red Sun is High, the Blue Low": Towards a Stylistic Description of Science Fiction', *Science Fiction Studies*, 10(1), 1983, pp. 35–49; and S.R.Delany, *The Jewel-Hinged Jaw: Notes on the Language of Science Fiction* (Middletown: Wesleyan University Press, 2011).

14. N.K.Jemisin, *The Obelisk Gate* (London: Orbit, 2016), p. 212.
15. N.K.Jemisin, *The Fifth Season* (London: Orbit, 2015), p. 409.
16. N.Jacobs, 'The Frozen Landscape', in J.Donawerth and C.A.Kolmerten (eds), *Utopian and Science Fiction by Women: Worlds of Difference* (Syracuse: Syracuse University Press, 1994).
17. Jemisin, *The Fifth Season*, p. 338.
18. A.Iles, 'Repairing the Broken Earth: N.K. Jemisin on Race and Environment in Transitions', *Elementa: Science of the Anthropocene*, 7(1), 2019, p. 26.
19. Jemisin, *The Fifth Season*, p. 399.
20. Jemisin, *The Obelisk Gate*, p. 18.
21. Jemisin, *The Obelisk Gate*, p. 217.
22. G.Canavan, 'New Paradigms, After 2001', in R.Luckhurst (ed.), *Science Fiction: A Literary History* (London: British Library Publishing, 2017), pp. 208–34.
23. K.P.Whyte, 'Indigenous Science (Fiction) for the Anthropocene: Ancestral Dystopias and Fantasies of Climate Change Crises', *Environment and Planning E: Nature and Space*, 1(1–2), 2018, pp. 224–42, p. 236.
24. K.Yusoff, *A Billion Black Anthropocenes or None* (Minneapolis: University of Minnesota Press, 2018).
25. S.M.Gearhart, *The Wanderground: Stories of the Hill Women* (Watertown MA: Persephone Press, 1979), p. 140.
26. Gearhart, *The Wanderground*, p. 138.
27. E.C.Otto, 'Ecofeminist Theories of Liberation in the Science Fiction of Sally Miller Gearhart, Ursula K. Le Guin, and Joan Slonczewski', in D.A.Vakoch (ed.), *Feminist Ecocriticism: Environment, Women, and Literature* (Lanham: Lexington Books, 2012), pp. 13–37.
28. Gearhart, *The Wanderground*, p. 138.
29. A.Bammer, *Partial Visions: Feminism and Utopianism in the 1970s* (New York and London: Routledge, 2004).
30. Gearhart, *The Wanderground*, p. 140.
31. M.S.Barr, *Lost in Space: Probing Feminist Science Fiction and Beyond* (Chappel Hill: University of North Carolina Press Books, 1993).
32. Gearhart, *The Wanderground*, p. 85.
33. Gearhart, *The Wanderground*, p. 129.
34. D.B.Shaw, 'Amazons and Aliens: Feminist Separatism and the Future of Knowledge', in D.B.Shaw (ed.), *Women, Science and Fiction* (London: Palgrave Macmillan, 2000), pp. 128–57.

    While this binary division of male and female ways of being and the similar divisions of technology and nature was not widely seen as problematic at the time of publication, this gender essentialism leads to language within the novel and actions by the female characters which disregards, dismisses or degrades other groups, particularly gay men, and fails to recognize the lives and experiences of trans, non-binary and gender queer people.
35. G.Valentine, 'Making Space: Separatism and Difference', in J.P.Jones III, H.J.Nast and S.M.Roberts (eds), *Thresholds in Feminist Geography* (Lanham: Rowman & Littlefield Publishers, Inc., 1997), pp. 65–76.
36. M.Piercy, *Woman on the Edge of Time* (London: The Women's Press, 1986), p. 74.
37. Piercy, *Woman on the Edge of Time*, p. 69.
38. L.Garforth, 'Environmental Futures, Now and Then: Crisis, Systems Modeling, and Speculative Fiction', *Osiris*, 34(1), 2019, pp. 238–57.
39. Piercy, *Woman on the Edge of Time*, p. 75.
40. R.Baccolini and T.Moylan, 'Introduction. Dystopia and Histories', in R.Baccolini and T.Moylan (eds), *Dark Horizons* (London: Routledge, 2003), pp. 1–12.
41. Piercy, *Woman on the Edge of Time*, p. 75.
42. Piercy, *Woman on the Edge of Time*, p. 75.

43. Piercy, *Woman on the Edge of Time*, p. 75.
44. Piercy, *Woman on the Edge of Time*, p. 328.
45. R.Levitas and L.Sargisson, 'Utopia in Dark Times', in R.Baccolini and T.Moylan (eds), *Dark Horizons* (London: Routledge, 2003), pp. 13–28.
46. K.A.Franck, 'Women and Environment', in R.B.Bechtel and A.Churchman (eds), *Handbook of Environmental Psychology* (New York: John Wiley & Sons, Inc., 2002), pp. 347–62; and L.Bondi and J.Davidson, 'Troubling the Place of Gender', in K.Anderson, M.Domosh, S.Pile and N.Thrift (eds), *Handbook of Cultural Geography* (London: SAGE, 2003), pp. 325–344.
47. S.Graham, 'Vertical Noir: Histories of the Future in Urban Science Fiction', *City*, 20(3), 2016, pp. 382–99.
48. J.Kneale and R.Kitchin, 'Lost in Space', in R.Kitchin and J.Kneale (eds), *Lost in Space: Geographies of Science Fiction* (London: Continuum, 2002), pp. 1–16. It is joyfully acknowledged that the work gathered in this volume, and produced by those who participated in 'Earth and its Others: the Geographies of Science Fiction' hosted at the University of Fribourg in 2020 extends and challenges the dominance of 'canon' sf within the spatial disciplines.
49. This ability of sf to prompt critical reflection is central to Darko Suvin's definition of sf as the genre of 'cognitive estrangement'. For Suvin the mirror held up to reality by science fiction is a crucible, it does not simply reflect the world as it is but shows us a world transformed. It is a site where understandings of reality can be reforged.

    D.Suvin, *Metamorphoses of Science Fiction: On the Poetics and History of a Literary Genre* (New Haven: Yale University Press, 1979).
50. While examples of such work are too extensive to catalogue here, I want to acknowledge my own indebtedness to the practices, writing and teaching gathered in: A.Fitz, E.Krasny and A.Wien (eds), *Critical Care: Architecture and Urbanism for a Broken Planet* (Cambridge: MIT Press, 2019); S.Hall, T.Loewenson and H.Tayob, 'Race, Space & Architecture', 2020, (1 June 2022); and E.Attlee, P.Harper and M.Smith (eds), *Gross Ideas: Tales of Tomorrow's Architecture* (London: Architecture Foundation, 2019).
51. a.m.brown, *Emergent Strategy: Shaping Change, Changing Worlds* (Chico: AK Press, 2017).
52. This approach owes much to the ideas of 'gifting attention' present in the work of adrienne maree brown.

    'Gifting Attention – Adrienne Maree Brown', 2018, <https://adriennemareebrown.net/tag/gifting-attention/> (1 June 2022).
53. Jameson might describe this singular focus on the built within such rich texts as the product of sedimented reading habits and the interpretive traditions formed, in my case, by architectural education and practice. Just as I have practiced the laying down of materials, so this practice has become sedimented within myself.

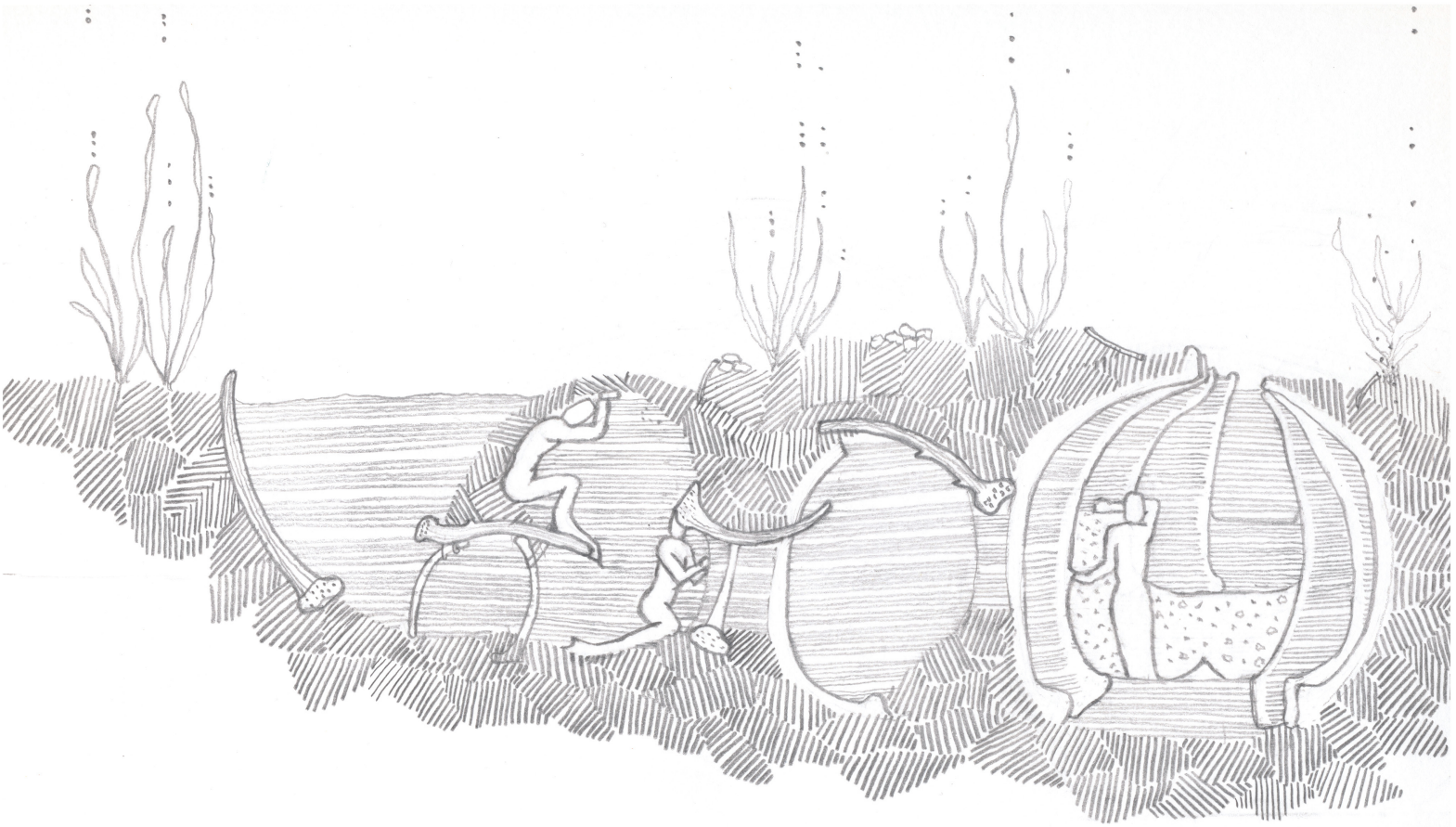
    F.Jameson, *The Political Unconscious: Narrative as a Socially Symbolic Act* (London: Routledge, 1981), p. x.
54. In construction drawing 'setting out' refers to the process of locating key reference points and levels necessary to coordinate the project.

Author biography

Amy Butt is an architect and lecturer in architecture at the University of Reading with a specialism in architectural representation and communication. In her teaching, she explores the role of narrative and empathetic engagement in design using science fiction literature to provide a critical point of reflection on cities we currently inhabit as well as future worlds currently under construction. Her research explores the way the fictional worlds we construct influence and reflect the world we inhabit, writing about utopian thought and the imaginary in architecture through science fiction literature and film. Notable publications include: '"Endless forms, vistas and hues": Why Architects Should Read Science Fiction' in ARQ and 'The Present as Past: Science Fiction and the Museum' in Open Library of the Humanities. She is a member of the science fiction research collective Beyond Gender, and a co-founder of the architectural design collective Involve.

Publications: Writing with others

Beyond Gender Research Collective (2022) 'Drowning in the Cloud: Water, the Digital and the Queer Potential of Feminist Science Fiction' in *Technologies of Feminist Science Fiction.* Eds. Vint, S and Buran, S, pp. 197 – 222. Palgrave Macmillan.



CHAPTER 10

Drowning in the Cloud: Water, the Digital and the Queer Potential of Feminist Science Fiction

Beyond Gender Research Collective

Introduction: The Medium and The Tank

In Anne Harris's *Accidental Creatures* (1998), a corporation in a near-future Detroit creates a breed of artificial beings, the Lilim, designed as a workforce able to safely and efficiently harvest bio-electronic hardware cultivated in tanks of growth medium. Harris's novel fundamentally rejects the concept of water as a wholly natural entity, bound up with notions of biological femininity, the maternal, and the spiritual.[1] Rather, in this queer, cyberpunk text, water is always already figured both as a technology in itself and as a medium that is shaped by the technologies of borders, tanks,

[1] For example, Gaston Bachelard states that the "poetic imagination nearly always attributes feminine characteristics to water […] how profoundly maternal the waters are […]." See Bachelard, *Water and Dreams: An Essay on the Imagination of Matter* (Dallas, TX: Dallas Institute of Humanities and Culture, 2006), 14.

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and pipes that seek to contain it. We argue that the Lilim's longing to "swim in the vats […] touched and embraced by the beautiful green waters" of the growth medium cannot be encoded as the naturalized desire of women for water (Harris 1998, 138). Rather, the "warm, soothing wetness" into which the post-gendered, post-human community of the Lilim are born and in which they work, have sex, and plot revolution is best understood as technology always necessarily interacting with the containing technology of the tank (139).

Following the rejection of the Natural in the work of queer theorists Susan Stryker and Donna Haraway, we look at water's function as technology in four queer, feminist sf texts: *Accidental Creatures*, Kaia Sønderby's *Tone of Voice* (2018), Nalo Hopkinson's *The Salt Roads* (2003), and Raphael Carter's *The Fortunate Fall* (1996). Our readings deploy Sophie Lewis's (2019) term "Amniotechnics," or a "cyborg conception of water" (161). Amniotechnics is a political conceptualization of water as a gestational technology, with the interlinked capacities of both "protecting water and protecting people from water" (2019, 163). As Lewis puts it, "'Water management' may sound unexciting, but I suspect it contains key secrets to the kinmaking practices of the future"—practices that explicitly leave that capitalist technology of containment, the heteropatriarchal, nuclear family, behind (164). This is a recognition of water as an essential technology for the survival of a multitude of species at a variety of scales, ranging from the gestational to the ecological, while at the same time being a force with the capacity to destroy communities and lives. At the structural level, amniotechnics demands that we imagine ways to welcome migrants crossing oceans while protecting our cities from tsunamis. At the intimate scale, it offers a means of thinking through both our own wateriness and our capacity for drowning. While the Lilim can swim freely in the growth medium, humans coming into contact with it are afflicted by "vatsickness," a wasting disease that evokes terminal illnesses associated with unsafe working conditions including radiation sickness and asbestosis poisoning. Our amniotechnical approach hopes to navigate our differing abilities to safely be in and with water. We follow Stryker (1994, 240) in her shifting relationship to water as she navigates her identity as a transgender woman and thus, as she puts it, a "herald of the extraordinary." Initially, Stryker describes herself as drowning in the "realm of [her] dreams," understood as an "underwater" space, writing: "Why am I not dead if there is no difference between me and what I am in[?]" And yet

she supplies her own answer to this question, demanding of herself that she learn to adapt, to become water, to be a herald of the extraordinary:

> 1 will swim forever.
> 1 will die for eternity.
> 1 will learn to breathe water.
> 1 will become the water.
> If 1 cannot change my situation 1 will change myself.
> In this act of magical transformation
> I recognize myself again. (1994, 247)[2]

The Medium

A medium is never neutral. Like the medium of water, the technologies of reading, writing, and knowledge production are intimately bound up with ideology. The methodology of our collective, which we term Collective Close Reading (CCR), attempts to deconstruct the unchallenged notions of knowledge production as prestigious, unique, and attributable to singular individuals.[3] CCR involves nonhierarchical knowledge production, based on the close reading of a plurality of texts in which the ideas of individuals develop and aggregate to form a collective understanding of the text(s). As Lewis (2019) indicates, writing is itself "an archetypal example of distributed, omni-surrogated" gestational labor which already and always escapes the damaging myth of individualized authorship (26–27).[4] Such a methodology pushes back, on the one hand, against the myth of the Humanities as a field of lone researchers, individually producing knowledge, which mirrors some of the worst conceptualizations of subjectivity under neoliberalism: the individual as self-sufficient and in continual competition with others. On the other hand, it resists the pseudo-scientific method of "distant reading" proposed by Franco Moretti (2013), where a

[2] When copying this section of poetry from a PDF to Sweet the "I"s were transformed into "1"s. We have retained this new formatting as a marker of the unpredictable transformations which swimming through the watery medium of digitality can provoke.

[3] The term 'Collective Close Reading' was suggested to us by Dr. Hanna Musiol at a panel we gave at (Un)Fair Cities Conference, held in Limerick in 2019, as a way of describing our methodology.

[4] In an archetypal example of collective authorship, Lewis herself quotes Mario Biagioli: "authorship can only be coauthorship."

body of researchers works to quantitatively outline a genre using data sets, whose results are published under the name of the leading professor.[5] Instead, CCR proposes a model in which a group of researchers comes together to focus on a small number of texts; recognizes the co-gestation of knowledge; and practices a horizontal structure of organization. CCR might best be understood using Hardt and Negri's (2004, 100) concept of the "Multitude," in which individuals act for a common interest while rejecting hierarchy and sovereignty: "rather than a political body with one that commands and one that obeys, the multitude is *living flesh* that rules itself." This chapter should thus be understood as what Jasbir Puar (2007, 211–212) calls a queer assemblage, "a series of dispersed but mutually implicated and messy networks […] that merge and dissipate time, space, and body against linearity, coherency, and permanency."

To practice our methodology of the multitude, we chose to develop this paper through a forum on an alternative social media platform, Sweet (coded by one of our members). Sweet functions as a virtual reading group, extending our methodology into the digital. However, as N. Katherine Hayles (1999, 13) warns, the "virtual" is never simply a replacement for the "material," but is "always instantiated in a medium." The dematerialization of cybernetic technologies, as Hayles points out, has worked at the expense of the multitude of non-normative bodies to bolster the image of the liberal subject (white, cis, male, able-bodied, middle class) as *the* body (1999, 13). By cultivating a plural, discordant, and digitally mediated collective voice, we engage with the watery, mutual gestations of queer feminist sf, deconstructing the normative production of knowledge and subjectivity. Using Sweet in this way, we try to keep in our minds the wires running along the ocean bed that make its functioning possible, along with its connection to the e-waste disproportionately affecting the waters of the Global South.

The Tank

The form of this essay is as political as the medium it contains. The tank—that which holds, bounds, and separates media such as water and knowledge—is not a passive receptacle or vessel, but an active technology, letting

[5] Moretti has set up the Stanford Literary Lab to practice "distant reading." Much of the results, such as "Network Theory, Plot Analysis," published first in *New Left Review* (2011), are listed as having only one author, often Moretti himself.

the medium in and out. This conception of seemingly passive technologies has been described by queer theorist Bini Adamczak (2016) as "circlusion," an antonym of penetration that describes the active pushing out or enveloping of an object/medium. Through circlusion, that which is signified as passive—the anus, the vagina, the receptacle—is rendered active, *holding* and *pushing* rather than being *penetrated* or *filled*. The term queers heteronormative modes of figuring sex and gender (masculinity as penetration and femininity as being penetrated) while further allowing us to foreground frequently invisibilized technologies such as the tank.

Ursula K. Le Guin's (2019) essay "The Carrier Bag Theory of Fiction" describes writing as a technology, not of the penetrating spear, but of "a sack, a bag" that holds, gestates, and circludes the medium of words. Like the popular image of Frankenstein's creature, born into "a bath full of electric brine," words, ideas, and identity are bound and produced by container technologies (Lewis 2019, 160). The conceptualization of texts and concepts as circluding receptacles, such as carrier bags or watery tanks, necessarily highlights the connections between objects within their walls (Burrows and O'Sullivan 2019, 268). It is these connections, forged through a process of containment, that we prioritize in this essay. And yet, what we are aiming for is not a holistic, watery oneness that erases difference. The authors of the texts we study were gestated and have gestated themselves in very different intellectual waters, and we want to leave space, for example, for the ways in which the current of Hopkinson's text drifts against the watery imaginaries of the other two. Where Stryker's transformative aquatic journey—in which she begins by drowning in heteropatriarchy and must learn to swim in queerer waters—typifies white, queer relations to cisnormativity, *The Salt Roads* takes queerness as its starting point. Hopkinson's writing refuses to cede the grounds of normality to heterosexuality. Instead, she shows us the truth of Grace L. Dillon's (Anishinaabe) contention that heteronormativity is a "sexual regime[s] imposed by the legacy of nineteenth-century white manifest destinies," and that, as Omise'eke Natasha Tinsley has argued, "most Haitians (and Caribbeans) live their gendered and sexual lives well outside a monogamous, heterosexual gender logic" (2016, 9–11; 2011, 417–436). Therefore, while we attempt to facilitate communication within our tanks, we also leave them open to the "ruptural possibilities" Rodrick Ferguson (2004, 17) has identified as particular to queer, Black resistance.

This chapter should be read as a series of tanks into which one can carefully dip:

([Gestating Cyborgs] [Leaky Boundaries] [Touch, Tanks, and Talking]).

They communicate with each other through the growth medium of our collective close readings that flow, uninterrupted, between them. Each tank is also designed to be comprehensible alone, and we hope that the divisions we have drawn between them bring clarity and allow for delicate ideas to be protected from one another. Moving between *Accidental Creatures*, *The Fortunate Fall*, *Tone of Voice*, and *The Salt Roads*, we endeavor to make meaning out of the watery technologies of queer, feminist sf, honoring both the vessels that contain them and the medium that allows them to grow.

Kaia Sønderby's *Tone of Voice* (2018) centers on the ocean world of Song as its inhabitants, the Hands and Voices, develop interstellar technologies, negotiate their place in an interplanetary Alliance, and confront the threat of xenophobic terrorist attack. The novel follows Xandri Corelel, a xenoliason and one of the last autistics in the universe, to consider the nature of communication and the making of kin. Xandri rejoins the crew of the Carpathia, a queer found family drawn from the many different planets of the Alliance, including her current and former lovers, Diver and Kiri. On Song, the water of the ocean holds and gathers, acting as the medium through which multiple forms of communication are made possible: the gestural language of the Hands, squid-like beings with finely dextrous arms that rely on close physical contact to transmit information, and the resonant Song of the whale-like Voices, which harmonizes across vast distances. The Voices each exist in a symbiotic relationship with several Hands, choosing one another before defining themselves as a collective we, and as Xandri moves through the waters of Song, she is welcomed into these intricate networks of queer kinship and identity.

Nalo Hopkinson's *The Salt Roads* (2003) is comprised of three interwoven narrative threads ("storystreams"): one follows Mer, an enslaved woman living on a plantation in Haiti and working along with her lover Tipingee to heal and protect their community in the years before the Haitian Revolution; the second follows Jeanne, a Parisian dancer who learns to shape her identity as a Black woman

(*continued*)

(continued)
through her many love affairs, with fellow dancer Lise, the poet Charles Baudelaire, and finally her husband, the chef Moustique; the third follows Thais, also known as Meritet, who is an enslaved sex worker turned prophet living in Alexandria in the fourth century AD. Their lives are linked by the presence of a watery, Haitian, voudou spirit who goes by many names (including Lasirèn), who they help birth into the world and who is simultaneously their mother. She journeys along "salt roads" of blood, seawater, and sweat—which mark their overlapping histories—variously observing, contemplating, and intervening in the many traumatic legacies of slavery as it has marked the lives of African diasporic peoples.

The Fortunate Fall (1996) is Raphael Carter's first and only novel, a dense, sprawling, deeply intimate post-cyberpunk epic exploring the effects of technologically modified cognition on human interaction, consciousness, and politics. It follows queer journalist Maya Andreyeva, a "camera" able to publicly broadcast her experiences via cerebral implants, which activate an electro-telepathy known as *telepresence*. Despite these abilities, Maya must artificially suppress her queerness to conform to the puritanical, oppressive laws of the state, ultimately avoiding execution or mind control. The story engages with ideas of hybrid and distributed minds, bodies, and selves, as Maya becomes embroiled in the lives of Keishi Mirabara, a media "screener" more at home in the virtual waters of "grayspace" than the physical realm; and Pavel Voskresenye, the lone survivor of the *Calinschina* genocide, who claims to share his consciousness with the last whale on earth.

Gestating Cyborgs

In her "Cyborg Manifesto," Donna Haraway (1991) offers the following origin narrative for the cyborg:

> [C]yborgs […] are the illegitimate offspring of militarism and patriarchal capitalism […] But illegitimate offspring are often exceedingly unfaithful to their origins. Their fathers, after all, are inessential. (151)

Haraway's cyborg is thus explicitly anti-essentialist. Despite being created by the military-industrial complex, the cyborg holds no loyalty to it. The cyborg, "a hybrid of machine and organism," erodes the boundaries between the organic and the technological; the natural and cultural; and the human and the animal (149). It is "a world changing fiction," precisely because it holds the potential to undermine the dominating logic that produced it. For Haraway, the cyborg as a metaphor evokes an anti-essentialist feminist politics. This is made explicit in Stryker's (1994) writing, where cyborg metaphors resurface as she describes the medical and surgical aspects of transgender experience. Stryker writes, "[a]s we rise up from the operating tables of our rebirth, we transsexuals are something more, and something other than the creatures our makers intended us to be" (248). The power of this cyborg-like consciousness, for Stryker, is that it "places its subject in an unassimilable, antagonistic, queer relationship to a Nature in which it must nevertheless exist."

Voskresenye, the technological, human–whale hybrid at the center of *The Fortunate Fall*, is one such unassimilable cyborg. When Voskresenye awakens as a test subject in an underground military laboratory, he finds "cables that trailed from [his] head and spine into a long corridor" (1996, 137). As he soon discovers, these cables form an umbilical cord that connects him to "[t]he thing that lay suspended in that tank that would not let even light escape from it" (138). This thing, Voskresenye explains, "is still alive; 'it' is a she; and *she* […] is a whale." This human–whale hybrid literalizes what Astrida Neimanis (2009) describes as "our amniotic relations to other human and more-than-human watery bodies" (161). The neural cable, a staple trope of cyberpunk science fiction, is dipped in water in order that we might ask "how vastly different bodies of water can sustain and nurture one another" (Neimanis 2009, 166). While this is the product of patriarchal militarism within the text, Voskresenye works to undermine these origins. In one provocative scene, he allows the novel's protagonist Maya, a human camera who can broadcast telepresence to the net, the opportunity to "netcast" from the whale, allowing her audience "to find out what it's like to be a whale." (Carter 1996, 223). In offering humans this collective experience, Voskresenye aims to "span the greatest gap there is, not just between one human and another, but between us and other forms of life" (236). The radical potential of this experience is that, in Neimanis's terms, it encourages us to imagine a hydrocommons that "decentres the individual human subject, and explicitly recognizes the interests of the differentiated human, animal or vegetable other who may

also rely on water" (175). Carter's hybrid has the potential to undermine the patriarchal logic of its creation, as it "explicitly connects those who have, seemingly, 'nothing in common' as a common body."

Whale-like creatures joining with both human and nonhuman others to form a hydrocommons make another appearance in *Tone of Voice*, yet here the technologies that gestate cyborg bodies are born not out of military laboratories but within the iridescent wetness of the oceans of Song. These oceans are home to a vast array of symbiotic life, including the whale-like Voices, the squid-like Hands, and the human and nonhuman crew of the Carpathia. This body of water and the watery bodies that reside within and outside of it suggest (speculatively) that Neimanis is correct when she argues "that the promotion of a radically embodied 'hydrocommons' might be better suited for negotiating the interbeing of bodies of water" than our current systems of making kin (2009, 161). Here, watery bodies and worlds are intrinsically connected to, with and through each other in webs of queer care, a relationship and state of being constituted precisely because of its wateriness (162).

Within *Tone of Voice*, earthy characters are interconnected with the Hands and Voices through their multiple forms of technological wateriness. Though they are in some ways necessarily separate (with neither able to thrive in the others' habitat), they are always linked, with their bodies and beings connected through "a multiplicitous hydrological cycle of becoming," a process that is gestated, nurtured, and sustained through the water in/on Song (Sønderby 2019, 164). Like the continually flowing water they swim in, the Hands and Voices cannot perceive themselves to be part of a static, subjective reality. Rather, they are intrinsically part of the song that they co-gestate, an omni-surrogated product of the queer gestational commune, a collective, fluid, and negotiated song. As Xandri explains: "as symbiotes the Hands and Voices didn't have words for 'I' or "me", not in the sense I was used to. They used 'we' and 'us' regardless of whether they spoke of the whole or the individual" (94).

This collectivity of watery bodies can maintain its wateriness even as it extends up and "out of" the water. Like how the coral—an organic technology that is the product of the Hands' and Voices' symbiotic relationship—grows up the land to form earth-based housing for visitors, so too does the radical kinship of the Hands and Voices emerge out of the water to incorporate earthy-beings. During periods where they are not working with the Hands and Voices in the water, the members of the Carpathia retreat within the living walls of the coral, which continue to connect

them at all times to their water-kin. Here, the coral fulfills many roles: as a living entity that exists alongside multiple watery agents, as a technology that the Hands and the Voices work with to grow buildings and ultimately starships, and as a space that holds earthy-visitors while they sleep/consume/excrete/desire/care in the way that the water holds the Hands and Voices. Through the reimagining of coral as a living space that nurtures the queer relationships between Xandri, Diver, and Kiri, Sønderby stresses that the hydrocommons is not accessible to cyborgs such as Voskresenye or the Hands and Voices simply because of their strange, science-fictional bodies, but rather is a mode of being that can be actively extended. By forming a collective in which they co-gestate one another, humans, coral, Hands, Voices are brought together, demonstrating that, as Lewis (2019) puts it, "the word 'individual' by definition never referred imaginatively to gestators anyhow" (162).

Hopkinson takes this expanded understanding of the cyborg still further. Without detracting from the specificity of cyborg consciousness, she figures the communities formed by human women as cyborg. The technologies that Hopkinson's characters fuse to their organic bodies were not built in the laboratories of GeneSys. Rather, she shows us that a healing bath, the water of the river, or a sharpened straw can all be made to function as technologies. Just as Lewis has described the work of surrogacy laborers as both "amazing" and "completely ordinary," so Hopkinson shows that the technologically mediated creation and care of new life cannot be confined to the operating tables of technocapitalism (2019, 44). In a manner both amazing and ordinary, the many queer midwives who people *The Salt Roads* gestate one another across the "watery webs" that structure the narrative (Hopkinson 2003, 213). The work of caring for one another despite the many violent and oppressive structures that bind one's life—in Judith Butler's (1992, 83) terms, of learning how to "work the trap that one is inevitably in"—is made possible by the watery, reproductive technologies Hopkinson's characters are able to deploy. For them, water, blood, and sweat are understood as what Dillon (2017) describes as an "ameliorated technology informed by indigenous tradition and practice" (471). Indeed, not only are the technologies represented within Hopkinson's narrative indebted to this framework, which privileges "indigenous scientific literacies," but the narrative itself reflects this commitment (Dillon 2017, 470). Essential to the ways in which *The Salt Roads* "works the trap" of heteropatriarchal claims to naturalness and normalcy is its foregrounding of voudou as a hermeneutic system. It is precisely

because Hopkinson takes up Tinsley's (2011, 419) call to "speak of Ezili [one of the many names of Lasirèn] the way we often speak, say, of Judith Butler," that she gives "the centuries-old corpus of texts engaging this Iwa a similar explanatory power in understanding gender and sexuality"; and that she is able to challenge the notion that white, Western heterosexuality allows for an originary or privileged access to birthing. Just as Stryker (1994) draws on her understanding of transfemininity in order to find affinity both with Frankenstein's creature and with the child gestated by her lover, who is involuntarily assigned a gender at birth, so too does Hopkinson's appeal to queer indigeneity allow her to refuse the assumptive separation between natural and cyborg birthing.

In this way, Hopkinson works to center the reproductive labor of Black women without adhering to an essentialized mode of mother worship. *The Salt Roads* acts as proof of the fact that, as Alexis Pauline Gumbs (2016) has written, "to name oneself 'mother' in a moment where representatives of the state conscripted 'Black' and 'mother' into vile epithets is a queer thing" (21). The queerness of this labor, its resistance to absorption into the naturalized logics of heterosexual reproduction, is perhaps most evident during what might otherwise be termed the "miraculous" birth of the goddess known as "water mother" (Hopkinson 2003, 29). This birthing is described in visceral detail as the queer midwives Mer and Tipingee bring a stillborn baby out of "the swamp of [Georgine's] crotch" in "a flood of bloody mucus" (29, 28). This is skilled labor, mediated by technology, as is the ensuing ceremony in which the baby's body is buried by the river—the same river in which Georgine's own mother drowned, where "they will be company for each other" (33). The goddess describes her own birth thus:

> I'm born from song and prayer. A small life, never begun, lends me its unused vitality. I'm born from mourning and sorrow and three women's tearful voices. I'm born from countless journeys chained tight in the bellies of ships. Born from hope vibrant and hope destroyed. (40)

The watery body of the pregnant woman is thus framed as one crucial site of creation but not the sole site, as all three women, along with the stillborn child, are credited with gestating this new being into existence. Georgine's pregnancy is extended from her body into the tears of her midwives, the water of the river, the trauma of the Middle Passage—a collective figuration of both the violence and the life-giving properties of

water in which these women, like Stryker, experience the "excruciating impossibility" of being annihilated by water while continuing to "swim forever" (1994, 247).

In *Full Surrogacy Now*, Lewis (2019) argues that:

> The common idiom about raising a child, "it takes a village," is an everyday way of acknowledging that the template is and always was a fantasy; a person is not the result of a mother and a father simply adding together their unique identities of "flesh and blood." (147)

Similarly, Hopkinson ends her novel by stating: "Sometimes it feels as though it takes a village to make a book" (2003, 393). In this scene of birth, the reach of that village is made clear. Extending outwards through time and space, this is a "gestational commune" as vast as the "silver-blue wetness, bigger than a universe" into which the goddess is born (Lewis 2019, 29; Hopkinson 2003, 40). No longer tied to the heterosexual dyad, birth is framed as an ongoing process encompassing mourning, healing, menstruating, caring, and weeping as well as gestating. This is the kind of queer, voudoun epistemology that Tinsley (2011, 432) has located in Haitian communities intent on "forging commonality not through gender, sexuality, or other identities but through walking together, through shared activity, experience, and support." Mer, Tipingee, Lasirèn, Georgette, the unnamed child are not tied together because they are the same, or even because they are Family, but because they walk together and share in each other's mutual birthing, in ways that are presented as, to borrow Lewis's words, both "amazing" and "completely ordinary."

In this way, we move to a consideration of how we might begin to forge our own village, our hydrocommons, our gestational commune, while exploring the dangers, violence, and joys such acts of boundary creation and permeation necessarily entail.

Leaky Boundaries

Or…

The boundary is distinct: It is the definition of self through the demarcation of what is other. A boundary is where control is enforced and where dissent is spawned.

Spatial regimes of aquatic containment are foregrounded in *Accidental Creatures* (Harris 1998). From the liquid enclosures of its tanks to the mist-rooms that house and enshroud them, amphibious architectures render technologies of containment as ecologies unto themselves. The Lilim who thrive within the growth medium are defined as other to those beyond the tanks, while the humans who linger on this inhospitable side of the boundary invite cellular degradation and mutation, a coming apart of the self at the level of the genome. But, while the Lilim of *Accidental Creatures* and Voskresenye in *The Fortunate Fall* (Carter 1996) inhabit watery tanks in order to thrive in the thin space of the air-world, the hybrid inhabitants in *Tone of Voice* (Sønderby 2019, 162) create tanks, or "chambers" of "plain air" organized like a "tiny city," deep beneath the ocean, places where they can develop the technologies required to contain the waters of their ocean within the vacuum of space. For these ocean-dwelling beings, the tank is a tool by which they access and assert agency within dominant life-worlds hitherto closed to them. The aquatic technities of the tanks invert and subvert the archipelagic imaginaries of the utopian literary tradition, reestablishing water as the site of "kinmaking practices" as described by Lewis (2019), and reasserting the materiality of water as a heterotopian technology (164). Across these texts, the tank serves simultaneously as a key function of a necropolitical order *and* as a domain for the gestation of alternative life-worlds. Containment can thus become a space of resistance, a catalyst for the agency which supersedes the system from which it emerged.

To assert a boundary, then, can be a mode of resistance to fluid forms of control. In *The Fortunate Fall*, access to the digital-ocean of grayspace demands that users are partially uploaded, a dissective process where discrete segments of the brain are parsed and coded. The assertion of a boundary that maintains the self is, in this context, an act of resistance against the grayspace's capacity to erode and dissolve subjects into a predatory equation of equivalence. In order to rescue that self from complete dissolution, navigations of grayspace are spun on a continuum between submission of self to submersion versus the reimposition of boundaries. But the location on one side or the other of the boundary does not denote equivalence; a common medium does not guarantee shared understanding. The Lilim in *Accidental Creatures* (Harris 2000, 156) must actively negotiate with the brains (computer processing units), which exist alongside them in the growth medium. Their ability to communicate by "silently saying hello with [their] hands" does not imply some kind of essentialized,

watery togetherness. In *The Salt Roads* (Hopkinson 2003, 193), an amniotechnical drive to both protect wateriness and protect subjects from it underscores the "many flows, combining, separating, all stories of African people" mediated through the roving deity Lasirèn. Hopkinson emphasizes the dense materiality of wateriness: its "streaming possibilities" are grounded in the corporeality of her characters' blood, sweat, mucus, their "feet slipping in mud, worms, and damp leaves" (318, 95). Water is full of barriers.

The Fortunate Falls's cybernetic-ocean is defined as much by its ecology of boundaries as it is by its insistent invasion of an individual subject's boundedness. As protagonist Maya traverses grayspace, she witnesses multivarious digital subroutines and speeds as differential regions, segments and membranes, each containing varying degrees of internal order and chaos. These strange spatialities shape and condition the eerie ethologies of its local algorithmic inhabitants. A digital shark moves between segments, recalibrating its speed and breaching multiple membranes, in pursuit of its prey. Emphasis is thus placed on the differentials of speed as borders that ensnare and liberate equally.

And…

The boundary is porous; it is a confluence of merging waters. That which drifts in these blurred edges is hybrid.

The water is neither one thing nor everything; rather, the medium itself is a site, a terrain that must be negotiated.[6] This reminder that the substance that contains and surrounds is not passive foregrounds invisibled technologies as described by Adamczak (2016), whereby circlusion acts as a powerful corrective to penetration. Within the waters of Song, the Hands and Voices exist in symbiotic relationships. Whilst each part remains distinct, or remains a named individual, they establish configurations of "we" that permeate the syntax of their language. In the water, bodies become entangled and fold in on themselves or into others in productive webs of queer care and collective identity, and the idea of the singular self

[6] As Dillon (2012, 8) stresses in her writing on indigenous futurisms: "The environment itself can be autonomous, resilient, and cruel." "Imagining Indigenous Futurisms," in *Walking the Clouds: An Anthology of Indigenous Science Fiction*, ed. Grace Dillon (Tucson, AZ: The University of Arizona Press, 2012), 8.

as contained within the envelope of the skin is troubled. They manifest the always hybrid nature of watery embodiment, while their efforts to communicate with the human negotiators resonates with Neimanis's (2009) call to acknowledge "our watery relations within (or more accurately as) a more-than-human hydrocommons" (2). For the Hands and Voices, the collective "we" is defined through touch as a physical meeting through the porous boundary of the skin, which establishes the hybrid identity, and in the water that moves between them and carries their song. The boundary is that which connects; it is the interstitial state of between that allows places to meet.[7]

In *The Salt Roads*, water is itself a saturated, animated source of history: The roving deity Lasirèn draws forth the "seas, breathing deep in their waters, carrying ships on their backs. Whole histories, of people, of places" (Hopkinson 2003, 212). Refusing to acknowledge the supposed normalcy of teleological models of history, Hopkinson generates a "storystream" in which the future flows through and across the many presents and pasts that comprise it—and which it continues to form (216). Through the storystream of interconnected and over*lapping* stories and myths, Hopkinson writes against the idea of a grand (linear) narrative of history, favoring a polyphonic structure that registers combined and uneven inequalities wrought by colonialism and colonial legacies.[8] Thus, *The Salt Roads* can be read as a queer, Black archive understood as "a means to create a productive counternarrative to the radical otherness of the black body" (Faucheux 2017, 567). Hopkinson's writing resists linear narratives that equate growth with a reproductive, "civilized" maturity and thus figure both queer and colonized peoples as underdeveloped. Against this narrative, she presents what Dillon (2012) has called "native slipstream [which] views time as pasts, presents, and futures that flow together like currents in a navigable stream" (3). This "navigable stream" relates to our

[7] Water is not the absence of place; it is a site, like land, like air, which can be traversed. As Thomas Gladwin (2018) has noted regarding the people of Puluwat Atoll in Micronesia: "When a Puluwatan speaks of the ocean the words he uses refers not to an amorphous expanse of water but rather to the assemblage of seaways which lie between the various islands… Seen in this way, Puluwat ceases to be a solitary spot of dry land; it takes its place in a familiar constellation of islands linked together by pathways on the ocean." See Gladwin, quoted in Stefanie Hessler, *Tidalectics: Imagining an Oceanic Worldview through Art and Science*, ed. Stefanie Hessler (Cambridge, MA: The MIT Press, 2018) pp. 31–81 (34).

[8] "Combined and uneven" in the sense of the Warwick Research Collective's conceptualization of the literary world-system. See: Deckard et al., *Combined and Uneven Development.*

understanding of the wateriness of feminist speculative fiction: water both as a medium for gestating narratives, and as co-constitutive of those narratives.

An enveloping pleasure of the porous self, cyborgian erotics demand an abhorrent yet alluring surrender. As *The Fortunate Fall* explores the re-imposition of borders in an age of digital fluidity and hybridity, it critiques the cyberpunk trope that all information is equal and equally accessible. Rather, the establishment of the cyborg self can be seen as the tactical deployment of obliquity, of that which cannot be harnessed by informatic capture. Hence, Maya seeks to make herself less knowable through the process of writing over the course of the novel. This mobilization of unreadability is both a mode of disguise for and a result of Maya's queerness. But it is possible to transgress this boundary in multiple ways, through connective tissues and passageways. The cable that connects the human and whale halves of the self in *The Fortunate Fall* acts as an umbilical cord between otherwise disparate parts of the self. Similarly, the blue polymer that seeps into the cable networks in *Accidental Creatures* removes any delay between thought within the tank and action in the world outside. So, the outside is brought within by nature of its immediacy and intimacy.

And / Or

The boundary is a shifting condition, selectively admitting and denying. It is the site of access between states, where different forms of relationality are made visible. Boundaries are a site of ambivalence and potential, a spatiality in which hybrid forms can unfold, be curtailed, or both.

In *Tone of Voice*, the Hands and Voices are rendered vulnerable through their containment, as a series of transmitters are dropped into the ocean, establishing a net around those within its boundaries. Here, the foreclosure of movement possibilities is an act of extreme violence that reconstitutes a segment of the ocean into a tank, whose borders are established and controlled by oppressive forces. This incarceration makes manifest the broader aims of the attacking forces to curtail interplanetary freedom of movement and establish lines of separation between sapient species. For those resisting, these forms of segregation are not enough to simply dismantle this barrier; the conceptual frameworks and systems of power that enabled its creation must also be dismantled.

Through Lasirèn, Hopkinson's text suggests ways in which the survival of oppressed and colonized subjects—and stories—is achieved not through transgressing boundaries but through their transformation. Following her appearance to Mer at the river, Lasirèn remains with her in the form of a piece of glass shaped like a whale, formed in the fire Mer had lit on the bank. Recalling Carter's human–whale hybrid, the little glass whale evokes Neimanis's conception of relationality between "more-than-human watery bodies" (2009, 161). Moreover, the symbolic kilning of the scene calls up the depictions of Lasirèn's (2011) *vèvè* in which "a face resembling a pear-shaped diamond" illustrates "her genesis out of a legacy of slavery in Haiti and in the Caribbean. The grueling circumstances of the plantation pushed cultural production to evolve rapidly, a situation similar to the pressurized conditions that convert raw carbon into a diamond" (200). The economies of oppression and extractivism bound up in the material and symbolic capital of the diamond, the little glass ornament, the imposition of the name "Pretty Pearl" on Thais as she performs sex work, are mediated through Lasirèn's signification as a figure of resilience, survival, and transformation.

As we conceive of these texts as circluding receptacles—watery tanks involved in nonhierarchical, asynchronous flows of relation—so too can we conceive of Lasirèn as an exemplar of how the myriad storystreams of *The Salt Roads* variously divert, disrupt, and transform one another. Without dematerializing the real systemic, colonial violence that underscores and connects individual narratives, we can see that Hopkinson's text "challenges Western notions of discrete selfhood by imagining that '[t]he oceans of consciousness are not contained, but are an endless expanse without a gulf, basin, or seabed,'" as Roberto Strongman describes (Tinsley 2011, 423). The "endless expanse" of this imaginary, which Strongman (2008) has connected to the "transcorporeality" of queer subjects in the Caribbean, recalls the "groundless and boundless movement" of Stryker's transformative rebirthing (1994, 247). Where this journey begins for Stryker (1994, 245) when she "burst apart like a wet paper bag," the "carrier bag" of Hopkinson's text takes on the scale of entire "oceans of consciousness"; the multiple storystreams that flow against and through one another give rise to a structure that "betokens a shift in our largely unthought assumptions about what histories matter and how they may serve as a precondition for any future we may imagine" (Kilgore 2014, 564).

Lewis (2019) considers an open/closed state that is either selective in what/who it allows through, or temporal in its enclosure, framing the boundary as technology and demanding that we:

> cultivate thoughtfulness as to the technologies we use—borders, laws, doors, pipes, bowls, boats, baths, flood-barriers, and scalpels—in order to hold, release, and manage water. When is it time to release a boundary? (166)

This ambiguity of enclosure is explored in *Accidental Creatures* where the tank as a bounded space becomes both a way to be separated—defined in otherness by the nature of the material it contains—but also intimately connected to all other tanks as being the containers of the same liquid. To be porous is not to be permeable, but to be able to allow things in and out, and alter them, filter them, attenuate them through allowing them through yourself, leaving some parts and taking in others. Water is full of barriers, while also seeping through that which contains it: At its edges, tide lines rise and fall, creating fertile zones of ambiguous territory.[9]

Touch, Tanks, and Talking

Further thinking about boundaries and striation folds us back into *The Fortunate Fall*, where Carter envisions channels of communication that occur across several dimensions at once, looping through the physical, the virtual, and the spiritual and blurring distinctions between all three. These forms of communication may overlap, enhance, or occlude each other, depending on their speakers. They may destroy or manipulate each other, or come together in moments of love and communion.

Carter's (1996) conception of grayspace is as a realm of coded exchange, analogous to an ocean. It's not the hyper-aesthetic, flashy, bustling, neon cyberspace associated with the genre, but something alternately quiet and enigmatic and roiling with untamed cybernetic life. The virtual petri-dish of grayspace and the vats filled with growth medium in *Accidental Creatures* share a creative kinship as generative spaces for new forms of

[9] In the work of the Settler Colonial City Project in Chicago, the ambiguous status of land reclaimed from the water has been used as a legal tool to address critical issues of indigenous land rights. To traverse this land that was once water is to walk on unceded land. Settler City Colonial Project, *Mapping Chicagou/Chicago: A Living Atlas*, (Chicago Architecture Biennial, 2019).

life, and so as progenitors of new ways of communicating. In both texts, water is imagined as a way of coagulating, making material, the space between interlocutors—not as a *gap* but as *connectivity*, conductive substrate to be suspended in. These substances are positioned as active agents in the experience of connection, holding, and transmitting streams of thought, data, speech, touch, and song inside of themselves. Through this process of experimentation and enmeshment, Carter and Harris tease out the complexities of multimodal communication, each in their own way, suggesting that characters who engage in communication across sensory realms become more—or other than—(post)human.

Tone of Voice and *Accidental Creatures* each use water as a medium for housing and hiding a range of engineered bio-organisms with distinct and revolutionary technological potential, as well as a technology of communication and exchange that in its own right is a method of doing language in a multisensorial, communal way. Tim Ingold (2010) argues that

> …the air is not a person or a thing, or indeed an entity of any kind.. It is rather, quite simply, a medium … *the medium is not so much an interactant as the very condition of inter-action. It is only because of their suspension in the currents of the medium that things can interact.* (131–132)[10]

Air as the medium and condition for human interaction is taken for granted as neutral, and thus imagined as a figure of emptiness. Water, however, makes physicality impossible to ignore: It makes us reckon with touch and materiality, and makes us rethink the ways our bodies interface with the world. As Neimanis (2009) puts it, "[w]ater extends embodiment in time—body, to body, to body. Water […] is facilitative and directed towards the becoming of other bodies" (3). Through this watery challenge to individualism, we discover that we are not autonomous, nor autochthonous, nor autopoietic. Rather, as we require other bodies to bathe us into being, so do we gestational milieus for other other(s), thus creating malleable and ever-changing communities of hybrid, interlinked existence.

In *Tone of Voice*, the song co-gestated by the Hands and Voices physically touches them all in an equal manner, by virtue of being a tangible thing, a pressure wave of sound that has physical impact on the world around it. The vibrations of language in the water are felt as a movement,

[10] Emphasis added.

a caress across the surface of the skin: This creates a point of connection between those in dialogue, bridging their distance through the act of reaching out to touch. This technology of communication—which underpins and informs the flexible but interdependent nature of this community—relies on proximity, skill, and orientation in water, rather than on biological relationships. Thus, the Hands and Voices exist within what Lewis (2019) describes as a "productive web of queer care" that deeply troubles the spectacle of the conventional nuclear family (29). This is a fleeting spatial definition of identity and community alike, one that shifts as the individuals twist and move, but which is intimately related through a shared moment of contact, with water, and with one another through water. The Hands and Voices are pluralistic and intimately connected: suspended in the medium of their interaction they are caressed by the Song they coproduce and which, in turn, gestates them.

In *Volatile Bodies*, Elizabeth Grosz (1994) notes that skin "provides the ground for the articulation of orifices, erotogenic cuts on the body's surface, *loci of exchange between the inside and outside*" (36).[11] By virtue of its reliance on touch, communication through water creates the conditions for the body's surface to become more porous, a site of communication with others, a slippery and blurred boundary. This defies the Western cultural perception—highlighted, among others, by Didier Anzieu—of the skin as an envelope for the self, an image of individual coherence and cohesiveness. As the bodies that are submerged in water are always, already touching, by virtue of their own wateriness as well as through their mutual immersion in a shared medium, they allow for the dismantling of a sense of unitary self-hood, and for the co-gestation of queer and utopic communal existence. In *Accidental Creatures*, watery communication similarly relies on close physical proximity and touch, as well as on a different definition of nonnuclear family:

> In the vat below, Lilith and her daughters were cuddling. They spent a great deal of their time in close contact with one another, grooming, feeding, but mostly, it seemed, just touching one another. (Harris 2000, 151)

The permeability of the Lilim's bodily surfaces allows for currents of information to flow between and through their bodies. Indeed, as liquids

[11] Emphasis added.

flow through epithelial barriers, distinctions between interior and exterior worlds dissolve, establishing a posthuman gestational commune that encompasses bodies and environments alike. This dynamic sense of community also allows the Lilim to connect with the multibrains, thus expanding their watery web of care to another species:

> "The brains listen to us; they like us better than you humans because we can communicate with them directly, through touch."
>
> "Through touch."
>
> "Yes… The same way we Lilim communicate with each other, through our skin." (258)

Carter, on the other hand, is more ambivalent about the communicative properties of touch and its translatability to and from the physical and the virtual. The protagonist Maya and her would-be lover Keishi argue over definitions of touch that include or exclude the physical body; Maya maintains the necessity of the body, while Keishi advocates for a digital intimacy that, in her estimation, transcends what the body is capable of:

> "Love happens in the mind, in the soul—what does the union of two sweating bodies have to do with that?"
>
> "Love without touching—"
>
> "I would touch your mind more gently than any hand." (Carter 1996, 159)

Here, Carter presents the possibility of an intimacy, even a tactility, that exists in the virtual (in *grayspace*), suspicious of the primacy of physical embodiment. Yes, there is something about *touch* that seems essential to meaningful exchange, but how can we expand our understanding of what touch can be? Enmeshment with grayspace, and a command of the electro-telepathic abilities Carter dubs "telepresence" allows characters to speak out of surprising, inanimate objects, to morph their appearance at will, to form hybrid bodies and beings, and (to some extent) to circumvent the systemic oppression of the physical world. This proposition opens new possibilities for ways of existing and communing that might not be possible, or permitted, in "meat space"—as is the case for Keishi and Maya, who live in a state with anti-LGBTQIA+ laws where their physical touch might result in mind control or execution. Similarly, thinking with Xandri's autism and her experience of touch as she navigates queer, polyamorous

relationships in *Tone of Voice*, illuminates the accessibility and intimacy afforded by expanded understandings of touch, and introduce new possibilities for queering the notion of kinship (Lewis 2019, 29).

For her part, Harris posits a simultaneity of communication that is multisensory, framing conversations that used only one sense, or at a distance, as incomplete, with Lilith saying:

> If we were in the same room together talking, there'd be a whole second conversation going on. One that we can't have, not with the constructs, maybe not even with true visual contact. The conversation between our bodies and our faces, the sensation of sharing space and time. (2000, 36)

Later in the text, the bio-engineered polymer that knits together the narratives of all characters is shown to also have the ability to establish channels of communication through the act of reaching out to touch. This electric blue polymer, described as "the colour blood would be, if blood were blue," exists as a *byproduct* (72). It is perhaps not a creature in itself, but *accidental*, in a way that neither the Lilim nor the Brains are. Coagulated in the lethal, life-giving depths of the vats, the polymer is vital in the ways in which it spreads, conducts, and makes compromise and communication possible between the other life-forms. Though seemingly created by happenstance, there is something in the gestational logic of the growth medium that brought it forth. It is able to perform this conductive role by being neither organic nor machine—a role that ends up being crucial to the survival of the Lilim, the Brains, and the toppling of the capitalist hierarchy of the company. As it spreads across the building, the blue poly replaces all the preexisting electrical and fiberoptic lines "with biological conduits, removing the need for an interface between [the] multibrains and the transmission lines they manage" (255). Thus, though the brains exist in separate tanks and cannot touch, once they meet the blue poly, they become part of a new, powerful, biological network. This eventually takes over the GeneSys building, transforming it into a being of composite consciousness, working in tandem with the Lilim to destabilize the company's control over them and the marginalized vat-divers.

In both instances, these multimodal, multidimensional forms of language and communication lead to hybrid bodies and selves and new forms

of queer(er) relationships and social structures. This communion is made possible via an understanding of liquid as a thing that touches; that actively fills space and facilitates an awareness of the conditions of meeting the other. It tints the distance between interlocutors and defines the terms of their engagement: Is the water between us poisonous? Is it revitalizing? Will making ripples in the water alert others of my presence? Is it safe to swim here? *Can* I swim here, or does the substrate merely permit me to float, or be carried along by others? Communicating via liquid technologies makes all these questions explicit, with their insistent and enveloping materiality.

An Opening

Lewis defines amniotechnics as "the art of holding and caring while being ripped into, at the same time as being held" (2019, 101). In *The Salt Roads*, the fear of ripping is central. These questions about the viability of communicating across and with water are questions of life and death for millions of Black people throughout history. Hopkinson's salt roads do not encourage the formation of an amorphous, universalized "we." Rather she stresses the effort that it takes to come together, through time, across difference, in the face of great violence. In both form and worldview, Hopkinson's novel explores the queer potentialities of asking: "what does it mean to be examining, absorbing, feeling, reflecting on, and writing about the archive as it is being produced, rushing at us—literally, to entertain an unfolding archive?" (Puar 2007, xxvii). As radical midwife Wicanhpu Iyotan Win Autumn Lavender-Wilson (Dakota) writes: "'Mni wiconi' [water is life] is not some fluffy abstract concept designed to fuel some hokey pseudo-spiritual practice. [C]lean water has the power to heal, contaminated water has the power to kill" (Lewis, 164). It is not enough to view our bodies as watery technologies, to acknowledge the power of the medium and the tank. Rather, we must view the watery capacities we have explored here—to communicate, to form and permeate boundaries, to gestate—as opportunities to act. Along with Lasirèn, the "water mother," we must learn to declare:

> I can direct my own pulse now. I see how to do it. I, we, rise, flow out of ebb, tread the wet roads of tears, of blood, of salt, break like waves into our infinite selves, and dash into battle. (Hopkinson 2003, 64, 305)

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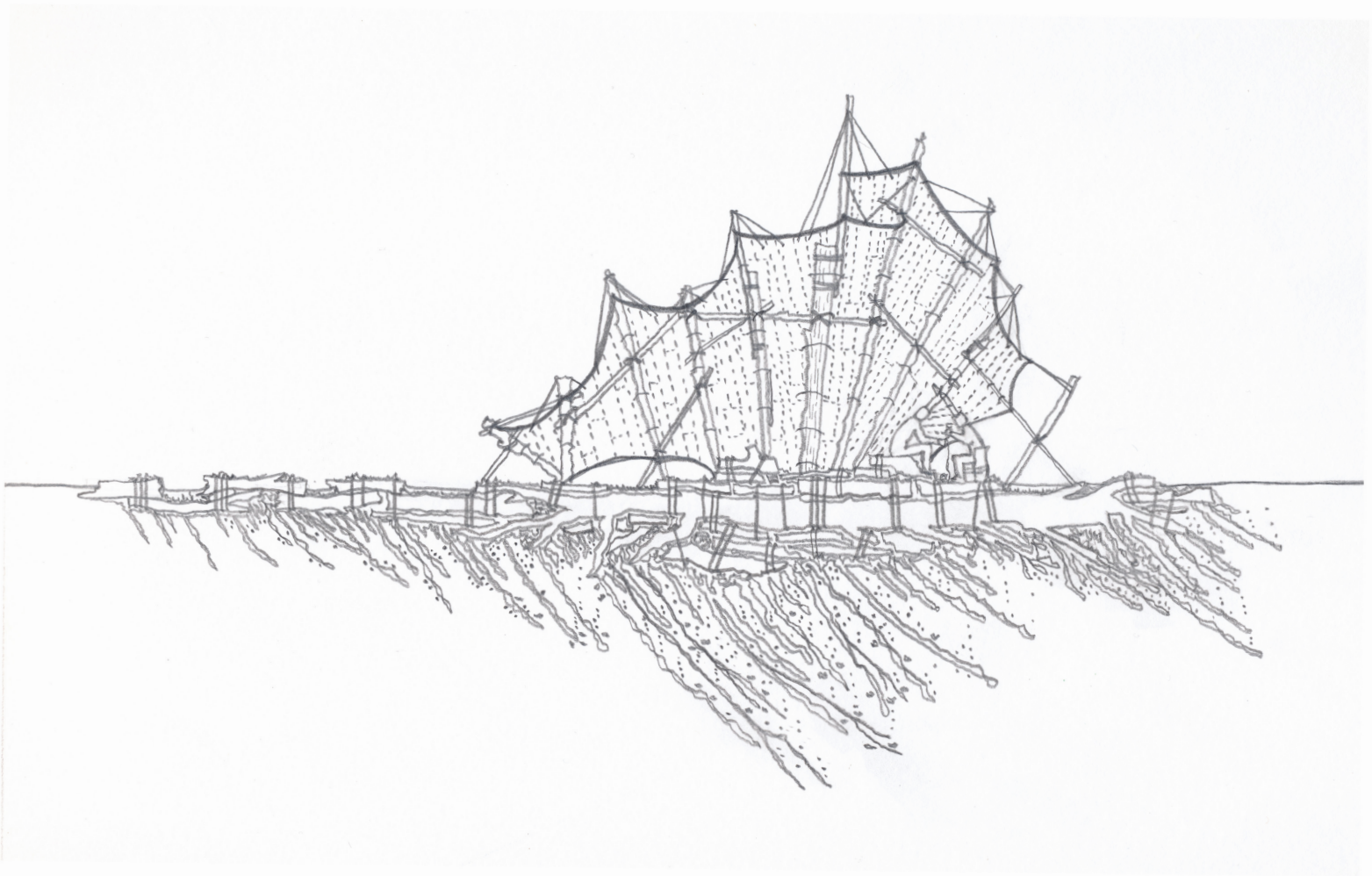

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‘Only one way in and one way out’: Staging Utopian Spaces

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Abstract

This polyphonic paper draws together methods, content and impressions from a workshop on utopian spatial practice. It provides a critical reflection on the utopian possibilities inherent in small scale performances of spatial re-organization which re-structure existing patterns of behaviour. Over the course of this workshop, held as part of the ‘Utopian Acts’ conference, the mundane space of a university seminar room was briefly transformed. Participants were asked to read extracts from three works of feminist utopian science fiction (sf): Ursula Le Guin’s ‘The Dispossessed: An Ambiguous Utopia’, Marge Piercy’s ‘Woman on the Edge of Time’ and Sally Miller Gearhart’s ‘The Wanderground: Stories of the Hill Women’. They then worked in groups to rearrange the furniture into an echo of the utopian space of the text. By inhabiting these temporary stagings of utopian space the participants disrupted existing patterns of behaviour and opened up a site for alternatives. This process of imaginative construction is extended into this paper which crosses the fields of architecture, utopian studies, drawing and performance. A series of narrative architectural drawings by the author are presented alongside commentary from the workshop participants to reflect on multiple voices and modes of interpretation which shaped these overlapping utopian acts of constructionn. This act of remaking space is considered in terms of space as social practice to ask how the re-staging of a single room can open up alternative possibilities for wider socio-spatial action. It draws on Dolan’s conception of utopian performatives to ask whether the non-hierarchical engagement of participants in an act of construction offers a utopian mode of practice. From this, it asks whether the re-staging of spaces drawn from utopian sf can be considered an ‘act of imagination’ as called for in Ruth Levitas’ ‘Utopia as Method’. Through drawings, descriptions, critical theory and transcribed conversation this paper reflects on an attempt to establish a fragment of utopian space, establishing an alternative way of being, however small and fleeting.

Keywords: Utopia; Architecture; Science Fiction; Feminism

The Conference

> Panel: Building Utopia: 13:45 - 15:15, GOR G01
> Come and re-stage the imagined worlds of feminist utopian novels, in a workshop that asks you to build and occupy the spaces of science fiction. Through the collective process of make-shift construction, we will create a common ground to discuss how architecture can reflect, shape, or support utopian social practice.[1]

An Introduction

> I am here as an architect and architectural lecturer. For me, space is a social practice, by that I mean that the way we make a space reflects and reinforces the power relations within it. Making a space solidifies the behaviours that are possible within it, which in turn reinforces the society that established it. So, what if we want to behave differently or relate differently? To do so, we need to consider how to create sites of possibility and that requires a utopian act.[2]

Architecture has a conflicted relationship with utopia.[3] Too often associated with the totalising blueprint visions of the singular individual, it is a term which seems to sit uncomfortably with the current understanding of architecture as a social practice, its meanings constructed through the subjective lens of personal experience and situated, everyday patterns of inhabitation.[4] But architecture remains a utopian practice, driven by a desire to improve, enrich or enable better ways of being in the world. If, as Lefebvre believes, 'to change life, [. . .] we must first change space', it is both the obligation and the delight of architecture to open space for alternative ways of being in the world.[5]

This workshop was an attempt to confront some of the limitations on the transformational nature of spatial practice. As an architect I am all too aware that both my architectural practice and teaching are enacted within existing frameworks of capitalist neoliberalism, and I am forced to ask whether it is possible to design spaces whose processes of construction and inhabitation resist the reproduction of existing power relations. While architecture does not direct or determine our actions, it exerts an affective influence over these subjective and situated practices, prompting patterns of behaviour or eliciting emotional responses.[6] How then can we open up spaces of possibility, a utopian enclave, within a built environment which structuralises the status quo? This workshop formed part of my continuing attempt to confront this challenge and construct an architecture of utopian intent.

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[1] Katie Stone and Raphael Kabo, eds. 'Utopian Acts 2018', September 2018. http://utopia.ac/wp-content/uploads/2018/09/Utopian-Acts-2018-programme.pdf.

[2] This text was read aloud at the beginning of the Utopian Acts workshop. Amy Butt, 'Building Utopia: Feminist Utopian Architecture Workshop' (Birkbeck: University of London, 2018).

[3] For further discussion on utopian thought in architectural education and practice see: Nathaniel Coleman, 'Recovering Utopia', *Journal of Architectural Education* 67, no. 1 (2013): 24-26; and Nathaniel Coleman, *Utopias and Architecture* (Abingdon: Routledge, 2005).

[4] For work on the subjective, emotional experience of architecture in relation to design intent see for example: Loretta Lees and Richard Baxter, 'A "Building Event" of Fear: Thinking through the Geography of Architecture', *Social & Cultural Geography* 12, no. 2 (1 March 2011): 107-22; and Gillian Rose, Monica Degen and Begum Basdas. 'More on "Big Things": Building Events and Feelings', *Transactions of the Institute of British Geographers* 35, no. 3 (15 April 2010): 334-49.

[5] Henri Lefebvre, *The Production of Space*, trans. Donald Nicholson-Smith (Malden,: Blackwell, 2011).

[6] See for example: Nigel Thrift, 'Intensities of Feeling: Towards a Spatial Politics of Affect', *Geografiska Annaler: Series B, Human Geography* 86, no. 1 (1 March 2004): 57-78.; Carmelo Gambacorta, 'Experiences of Daily Life', *Current Sociology* 37, no. 1 (1 March 1989): 121-40; and Divya P. Tolia-Kelly, 'Affect – An Ethnocentric Encounter? Exploring the "Universalist" Imperative of Emotional/Affectual Geographies', *Area* 38, no. 2 (16 June 2006): 213-17.

> This begs the question, how might utopian space be configured? What examples do we have to refer to? We can look to utopian fiction. Over the next forty-five minutes we will be enacting three different ways of being in this room, inspired by extracts from three works of utopian fiction. You don't need to know these writers or these texts; the only thing I will say about them is that they are considered to be critical utopias. That is, they do not propose an ideal society, instead they offer something which is an alternative to what we have. The societies they depict are critical of our contemporary life, they have reflected on it and evolved it, but they are not finished. In that these novels offer us a possible point of perspective, they consider utopia not as a destination but as a movement towards an ever-receding horizon.[7]

In selecting the texts for this workshop, I turned to utopian feminist works which both envisage alternative models of society and, to a lesser extent, provide descriptions of the architecture through which this society is enacted; the anarcho-communist moon of Annares, in *The Dispossessed: An Ambiguous Utopia*, the communities of *The Wanderground: Stories of the Hill Women* which are founded on a mystical connection to their environment, and the agrarian, decentralised communities of Mattapoisett in *Woman on the Edge of Time*. All of these texts include descriptions of space constructed on the basis of radically different social and economic systems. They are not propositions of ideal societies or imaginary enactments of a utopian end time, rather they present persistently flawed and shifting societies which acknowledge and attempt to redress their own perceived shortcomings. In this, they can be considered as critical utopias,[8] offering explicit critique on contemporary social structures through the depiction of alternatives.[9]

This workshop aimed to extend the critical potential of these texts by constructing a site to contemplate spatial alternatives. It extracted a short piece of spatial description from these novels and asked the participants to relate to the utopian possibility as expressed in the architectural space of the text, rather than its expression in the narrative. Through their architectural descriptions, these novels offer an opportunity for critical reflection on our contemporary spatial practices. By examining how alternative social structures are made manifest we are better able to question how our own social systems and power structures are made tangible through the built environment.[10]

In order to broaden participation and establish relative parity between participants, familiarity with these texts was not a pre-requisite of this workshop. This was particularly critical as this workshop was offered as part of a free day of events at Birkbeck College, University of London, with participants of diverse ages and backgrounds, including undergraduate and postgraduate students, professionals, activists and artists as well as senior academics. So, rather than addressing the novel as a whole, it relied on extracts to reduce the world of the text down to an individual encounter with an architectural space which could then act as a common ground between the eighteen participants. While this flattened the spatial and social complexity of these novels where radical collectivism is reflected in architectures that delight in multiplicity, it made their subsequent transformation possible through collective process of making.

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[7] Butt, 'Building Utopia'.

[8] For definitions and discussion of critical utopias, see: Tom Moylan, *Demand the Impossible: Science Fiction and the Utopian Imagination*, (Milton Park: Taylor & Francis, 1986).

[9] Fredric Jameson, *Archaeologies of the Future: The Desire Called Utopia and Other Science Fictions* (New York: Verso, 2005).

[10] Amy Butt, '"Endless Forms, Vistas and Hues": Why Architects Should Read Science Fiction', *Arq: Architectural Research Quarterly* 22, no. 2 (June 2018): 151-60.

> These books provide a critical point of reflection on the whole of society, but I would like to focus on one small aspect: spatial organization. How does spatial arrangement make some actions, conversations or interactions possible and close off others? This is a question which has broad reaching repercussions across the scale of a city, but also affects how we might arrange ourselves within the confines of a single room. I would like to ask if we can establish a fragment of utopian space in this room, or simply explore how different this room could be? Something fleeting, which needs to be reset for the next session, but something which however briefly tests out an alternative.[11]

Rather than looking at the scale of the city, or the novel, this workshop looked to operate on the smaller scale of the group, or the room. This required acts of destructive distillation and created opportunities for oversimplification, but it also established a scale and scope to the workshops which could be readily understood and responded to.

Through group discussion these fictional spaces were moved from the immaterial space of the text to physical re-enactment, from individual interpretation to collective realisation. The participants were asked to read and re-stage the spaces described in the text as a group. This process, of negotiated and situated translation, also allowed individual participants to project and thus encounter their own spatial interpretation and imagination of utopia. In turn it offered a reflection on the act of construction, asking whether any fragments of the utopian intent of these novels were able to withstand this spatial taxidermy. While the restaging of a single space as a reflection of a whole society risked the reduction of complex socio-spatial relations into a diagrammatic form, this act of construction allowed for situated and subjective reflections on the emotional and social impact of spatial organisation in a manner which corresponded to many of the community practices these novels depict. It provided a spatial lens through which notions of control, subjectivity and awareness were made manifest in tangible forms which could then be collectively addressed.

I would argue that by confronting the impossibility of this act of translation and the limitations of any act of spatial closure, this workshop opened up space to discuss the value of contingent utopias and the productive value of failure. As debated by Levitas and Sargisson, the utopian potential of intentional communities whose built structures are drawn from and by their alternative social models, could be considered to be limited by their transitory nature, dwindling and dissipating rather than eliciting widespread change.[12] However, the conception of utopia as something which might be fleeting or flawed makes it no less valuable, rather it provides a model of utopia as method enriched with the recognition of necessary failure, resolutely provisional.[13] The temporary nature of these spaces and the acknowledged limitations of scale in terms of the size of the room, the duration of the workshop, and the scope of the text, removed the potential burden that the constructions should stand as propositions, and allows them to be understood as acts of possibility.

> I will ask you to split into three groups, each with one quote from a novel. You will have five minutes to read this quote aloud to one another and plan out how you will abstract, enact, stage, perform, create or reflect on the space or structure it describes using the materials in this room; so rearranging or stacking the chairs, hanging or draping fabric, running masking tape on the floor. Then, going around each group in turn, you will have five minutes to direct the rest of us to help you rearrange the room.[14]

[11] Butt, 'Building Utopia'.
[12] Ruth Levitas and Lucy Sargisson, 'Utopia in Dark Times', in *Dark Horizons: Science Fiction and the Dystopian Imagination*, ed. Raffaella Baccolini and Tom Moylan (New York: Routledge, 2003), 13-28.
[13] Ruth Levitas, 'Looking for the Blue: The Necessity of Utopia', *Journal of Political Ideologies* 12, no. 3 (1 October 2007): 289-306.
[14] Butt, 'Building Utopia'.

The materials for construction within this workshop were also deliberately limited. They comprised; some lengths of cloth, rope, tape and the tables and chairs which were already in the room. It was intended that the familiar mundanity of these objects would remove any barriers to participation which might have been associated with more specialist construction materials. Rather than relying on a common knowledge of the text, the participants were able to communicate through a common language of materials, objects and spatial form.

As a result, the installations were evidently the result of a haphazard throwing together of people and the redeployment of materials meant for another purpose, and as such they projected a sense of impermanence and fragility in each configuration. This quality of 'throwntogetherness' is described by Massey in relation to urban environment where it can be found in the unlikely juxtapositions of buildings or the uncoordinated being together of neighbours.[15] As Massey describes, it is a vital part of the 'productiveness of spatiality' which opens up spaces of possibility through encounters with diversity and difference.

The use of predominantly found and repurposed materials also served to maintain an ambiguity of spatial interpretation. It was not possible to literally reconstruct the spaces of the text, so instead we had to construct something which would mirror its affective or symbolic impact. While this heightened the risk of essentialising or instrumentalising the spaces of the text, it demanded a level of critical engagement in the act of re-making. As well as reading the text and undertaking the imaginary reconstitution of society within these pages, the participants needed to externalise their subjective reading of this space and to construct it so that it could be understood and inhabited by others. In doing so, we were involved in a continual process of spatial self-critique, questioning how to interpret and express our individual conceptions of a described place.

> So, when you read your extract consider what qualities you will abstract from it and how you would enact them within this room, how you would use these materials to shape us: would we be divided, huddled, in a line, dispersed, holding something up, sat around something, under, above or between, supported, gathered or isolated, sitting, crouching, or lying down. We will then all gather in the reconfigured space for a five-minute discussion, which the group who led the construction will lead, each person asking one of the questions on the cards I have given out. [16]

My desire to hold this workshop was driven in no small part by my desire to explore how these texts might be interpreted by others, to experience an unexpected encounter with multiple subjective expressions and interpretations of described space. As such, it was necessary that I absent myself as far as possible from the design process. To do so, the participants were split into three groups, each of which was given one of the three quotes. These smaller groups were then responsible for directing all of us in the construction of an installation in response to their collective interpretation of the text.

I am very aware that this attempt at a non-hierarchical, collaborative process had several significant limitations, not least the predetermined selection of quotes, questions and materials. In response I attempted to undertake a performative division of self; to step out of my role as session organiser and take on the role of a participant during the construction process. However, my framing of the session as an architectural exploration and my delivery of an introductory explanation placed me in a position of implicit authority, and I did not establish any mechanisms for this to be redressed during the session. Despite these significant limitations, control over the design and construction of the installations was directed by the participant groups and the interventions they devised were the result of collective

[15] Doreen B. Massey, *For Space* (London: SAGE, 2005).
[16] Butt, 'Building Utopia'.

interpretation rather than the didactic reproduction of a singular opinion. This has been reflected in the writing of this paper, which gratefully incorporates responses from Alexandra Lea, Sheryl Medlicott, Sasha Myerson, Amber Plumbly, Amy Stebbings, Dan Stebbings and Tim Welch.

It was also my hope that, regardless of the source texts or the experience of the spaces created, this act of collective construction and inhabitation might be considered a utopian act in and of itself centred around a shared endeavour which prompts a sense of communal belonging. In this desire—that a non-hierarchical process might provide space for collective performance—this act of construction holds some commonality to the act of devising within theatre.[17] As understood by Dolan, theatre provides a space in which an image of a better future can be articulated and even embodied, however briefly.[18] This happens both in the co-production of a work, but also in the profound nature of shared experience which encompasses the audience. In this workshop, the co-production of the installations and the shared experience of inhabitation provided some echoes of the profound experiences of theatre which Dolan believes can shake our consciousness of ourselves in the world.[19]

The architectural space and material conditions of the theatre are an integral part of this sense of utopian possibility for collective performance.[20] But, rather than choosing to hold this workshop in a space designed for such transformative moments it was held in a seminar room, to enact this utopian possibility within a mundane space.[21] It was hoped that this might provide an unsettling moment of heightened spatial awareness,[22] where the familiar established behaviours within a seminar room were challenged. In creating and enacting this small disturbance to the predetermined of patterns of everyday life, we undertook an act of imagination which engages with the institutional and social structures of the present, to open up a site for spatial and social alternatives.[23]

> Then we will disassemble it all and construct the next fragmentary utopia.[24]

[17] Virginie Magnat, 'Devising Utopia, or Asking for the Moon', *Theatre Topics* 15, no. 1 (2005): 73-86.
[18] Jill Dolan, 'Performance, Utopia, and the "Utopian Performative"', *Theatre Journal* 53, no. 3 (2001): 457.
[19] Ibid., 456.
[20] David Savran, 'Choices Made and Unmade', *Theater* 31, no. 2 (2001): 89-95.
[21] Gambacorta, 'Experiences of Daily Life', 121.
[22] For discussions on the utopian potential of the unsettled architectural encounter, see, for example:
David Pinder, *Visions of the City: Utopianism, Power and Politics in Twentieth-Century Urbanism* (Edinburgh: Edinburgh University Press, 2005);
Peter Kraftl, 'Architectural Movements, Utopian Moments: (In)Coherent Renderings of the Hundertwasser-haus, Vienna', *Geografiska Annaler: Series B, Human Geography* 92, no. 4 (1 December 2010): 327-45.
[23] Ruth Levitas, *Utopia as Method: The Imaginary Reconstitution of Society* (New York: Palgrave Macmillan, 2013).
[24] Butt, 'Building Utopia'.

The Dispossessed: An Ambiguous Utopia

> There was a wall. It did not look important. It was built of uncut rocks roughly mortared; an adult could look right over it, and even a child could climb it. … it degenerated into mere geometry, a line, an idea of boundary. But the idea was real. It was important. Like all walls it was ambiguous, two-faced. What was inside it and what was outside it depended upon which side of it you were on.[25]

One person clutches this quote in their hand. They step forward, nervously catching the eyes of the those who had been discussing this text with them, silently asking permission to speak on their behalf. They turn to address the rest of us, those who were not part of that intimate group. They ask us to build a wall.

I notice heavy glances at the tables and chairs; it is not furniture designed to be moved. But, the sound of metal legs dragging across the carpet and softly spoken negotiations of space and strength soon breaks the silence which could have built between strangers. With the weight of a table balanced between several pairs of hands, I quietly exert myself, upturning and balancing in accordance to the lines being gestured towards by outstretched arms.

Our structure gains substance. It carves a gently diminishing arc from the center of one wall to the open window on the wall next to it. A cloth is flung across the whole to obscure the gaps and lend it an air of solidity. One corner of the room is now partitioned off, identified and made special.

At its highest point, where the makeshift barrier meets the wall of the room, chairs are delicately balanced on top of one another on the table top. When the door opens to admit late arrivals the timber panel forms another plane of the wall, drawing the visitor in along its gentle curve. When the door is closed, two people stand on either side of the barrier holding fingertips in an arch, marking the point of furthest reach. From here the wall decreases in height; tables are stood upright, chairs stacked, laid on their sides, and finally one person is lying on the floor, a rope coiled around their waist which follows the line of an outstretched arm to the window. Their legs are wrapped around the base of the chair, blurring the line between a barrier which is constructed and one which is performed. The line of the rope is trailed carefully out of the open window and out of sight, and the line of the wall divides London in our collective imagination.

Those inside the wall begin to sit down, shuffling away from the barrier to rest their backs against the wall of the room. Those outside remain standing, edging closer to the barrier and holding onto the tables or their own arms in gestures of reassurance or support. None of us move from one side of the barrier to the other throughout the discussion.

[25] Ursula Le Guin, *The Dispossessed: An Ambiguous Utopia* (New York: HarperCollins, 2009).

Image 1: The Dispossessed

The following responses were written by Amy Butt, Alexandra Lea, Sheryl Medlicott, Sasha Myerson, Amber Plumbly, Amy Stebbings, Dan Stebbings and Tim Welch.

What have we done?

Something regrettable.
We created a wall.
We created a wall using the furniture and it divided the group.
A wall that was not a wall.
A boundary that was primarily symbolic or 'immaterial' in nature.
Split the room in two with a permeable wall.
We are split into unequal parts, creating imbalance.
Divided the space but with continuously decreasing distinction.
It has the feeling of a ruin.
The wall was made out of random objects and people to create an ambiguous installation.
A tapering/sloping wall starting at chest height (so easily traversable by the able-bodied at least!) and then gradually descending/sloping downward until disappearing into the ground at which point it became a 'symbolic' line signified by only a line of ribbon (in our case) that extended (apparently) infinitely out of the window and off into London (who knows when it might stop, perhaps the line is infinite . . .)
We used the objects to recreate the wall. Our focus was the feeling of the wall on the people. That people still respected its presence even when it no longer really existed. The person laying down mimics the wall having control.
[a voice from the floor] I am the one thinking of the wall. The idea is real, and it is my idea.

How does it make you feel?

Divided, besieged.
Separate, divided.
Divided. Excluded. Outside.
I feel exposed. I am free to move but I feel left out.
It made me feel excluded, as I didn't have a role to play.
I feel enclosed. Safe. Observed and contained.
That we created a divide but somehow left it open for everyone, so it was a safe space.
It depends on where I am.
(holding arms over the wall) It is possible to connect across the wall, but it is tiring.

Who has control?

I thought those on the outside would have control, but they look lost.
I thought those inside would, but they look cornered.
Ambiguous, neither the inside or outside positions are stable.
The wall? Or the person who can change the wall.
The wall had control as it determined which side you were on.
The wall. It segregated the room—who is inside, who is not.
The wall.
Not me.
No one.

What can we do in this space?

We can construct groups. On one side of the wall we are forced together.
We can communicate, we can look at one another and we can share our ideas.
You can see and talk across it.
Bridge the divide, rebel by crossing it.
We can discuss spatial exclusion.
We can talk about power. Who feels included and who feels outside.
We can talk about the process of making.
. . . the poetic potentiality of the architectural form we generated collectively—and seemingly instinctually.

Woman on the Edge of Time

> Wandering through the rooms, she found some low-ceilinged, some opening into fisheye windows, into green houses and porches. Some rooms crept into nooks and crannies, small staircases. Others led them to courts full of plants . . . carp lazed in a small stream that flowed through a room whirring with machines. Room where the walls were mosaics of old bottles. Room of stark white blocks with rude mats on the floor. Room where a thin film of gauze was all that separated inside and outside.[26]

We grasp the legs of tables and chairs and reluctantly return them to the centre of the room. As the wall is dismantled the furniture seems to swell to fill the space and we are pushed back to the edges.

The next group reassembles itself, and those who had discussed this quote begin to speak in turn. They describe a warren of connected spaces, squatting low to contemplate the forest of table legs and the path which could be carved through them. There is no clear pattern drawn out, but by unspoken agreement the tables are shifted into a single curving line which winds around us all in a loose loop. There is a tunnel under the table tops, but it is cracked and broken along its length where we have forced the stubbornly rectangular forms of the tables into a sweeping curve. A cloth is draped over the voids between edges and corners to soften and complete the line of enclosure.

Our collective act completed, we each turn to contemplate the area in which we find ourselves. Sitting cross legged on the floor, one person uses masking tape to draw a line equal to the reach of their arms swung around them. Another straight line forced to curve; the tape is folded, torn and rucked up against the surface of the carpet, easily coming unstuck. Observing them I draw a line around myself, and the branching loop of the tables blossoms with haphazard protrusions. In some, clips are cast onto the floor to echo the silver quick flash of fish, while others sit flexing fingertips or arms in the sway of leaves. Beneath the tables, those who have not marked out their own pockets of space crawl between them, demonstrating their continued connection through movement. A complex and unplanned series of individual moments.

[26] Marge Piercy, *Woman on the Edge of Time* (New York, Fawcett Crest, 1983).

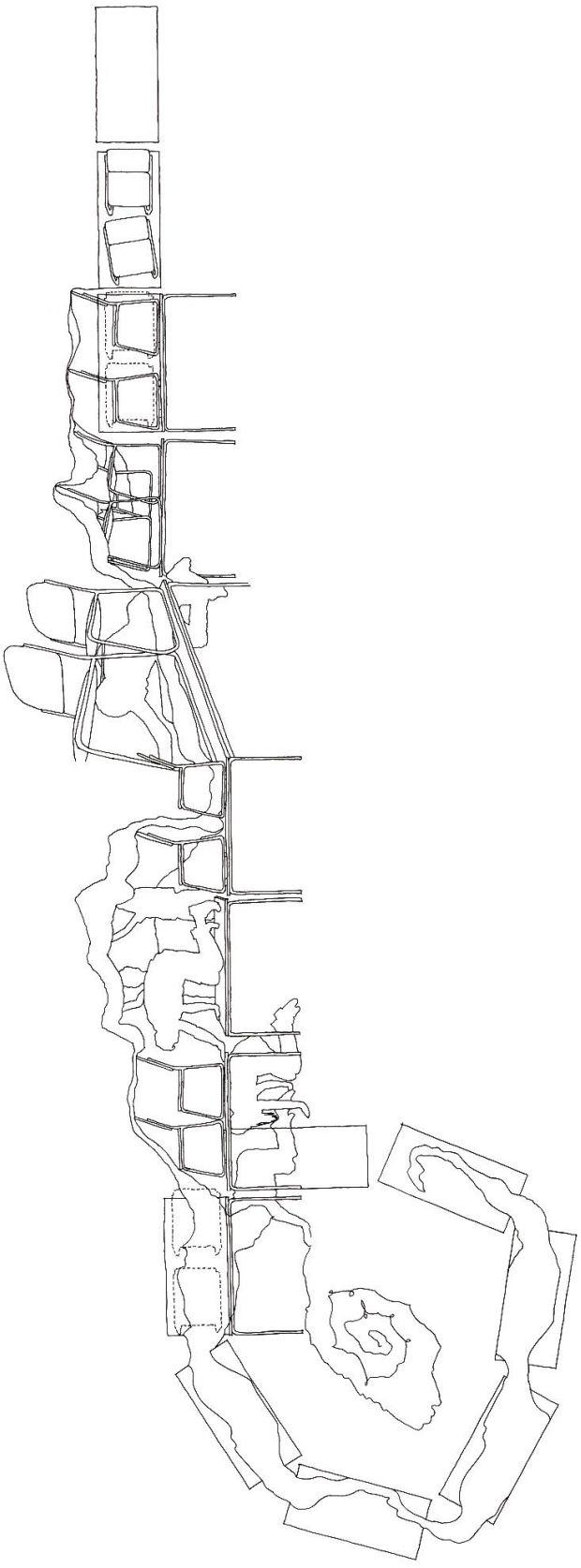

Image 2: Woman on the Edge of Time

The following responses were written by Amy Butt, Alexandra Lea, Sheryl Medlicott, Sasha Myerson, Amber Plumbly, Amy Stebbings, Dan Stebbings and Tim Welch.

What have we done?

The literal description reminds me of an endless pleasure palace full of delights and an infinite possibility of atmospheres and encounters.
We created a maze.
I only understand the bits I have made.
Created a warren like series of tunnels and rooms, separated by cloth.
. . . a more chaotic and labyrinthine form.
Created a more eclectic and varied space.
Lots of niches to fit/hide in.
I have created my own space. It is connected but contained.
Created a room with various objects.

How does it make you feel?

Breezy, private yet transparent, homely.
Fun, open, creative.
More willing to explore.
Confused.
. . . melancholy, mysterious and unknowable . . .

Who has control?

Those inside, those who have knowledge of the space.
[a comparison to the London of *Gloriana: Or, The Unfullfill'd Queen* by Michael Moorcock]
. . . London is speculated to have become an endless extension of the Queens [sic] palace with public spaces consumed into vast interiors and parts of the city lost and forgotten and sealed off behind secret doors. The palace is impossibly vast and any semblance of the original plan or layout is lost to time.
Control was much more absent.
I have control of this pocket of space. But it is open on one side to others.
As a group we weren't all creating one shape, everyone had a different task, so it was unclear what each other was trying to represent.
The people in the connecting space. They are links between our individual moments.
No one, but people can seem like outsiders looking in.

What can we do in this space?

You could explore the space, as there were lots of different areas which were intriguing.
Peacefully watch the fish.
It feels like it might have a variety of purposes, a place to hide or disappear.
We can change, adapt, move around.
We can talk about diversity, disparate people with individual desires.
The installation allowed us to be whatever we wanted to be.

The Wanderground: Stories of the Hill Women

> Below her she could see the wide path again as it wound around the circle and down, growing narrower, around and down again and again, each time in successively smaller orbits . . .
> Only one way from this point on. Only one way in and one way out . . .
> She could not be sure that the blackness of those upper regions was a ceiling of any sort; rather the funnel seemed to move up and outward in a spread of forever shadow. She looked again at the spiraling path below her; it wound methodically into a circular area, to an ending, at last, of the downward part.[27]

The final group gathers, and after quick whispered words they offer us the clear description of a spiral, a tightening of the loose loop of tables into a single circle. With only momentary hesitation we clear space in the very centre of the room. Our movements together have gained some semblance of coordinated grace, as we heft the now familiar weights and call out for assistance with casual ease.

A single row of tables curves back on itself in a clumsy hexagon, all other furniture pushed back against the walls. Chairs are placed on top of the tables, arranged so that each faces the back of the chair in front. They suggest movement, the direction implied by the gaze of one person who climbs onto the tables to take a seat in one of the chairs. A cloth is threaded through the legs of the chairs and a rope tied between them, connecting and softening the singular objects into a cohesive whole. In the centre, the trailing end of the rope is carefully laid out into a spiral.

But it requires movement. The arrangement of tables and chairs alone cannot convey the looping repetition of the text. Two people hold up the edges of the cloth, create an opening through which others can duck and crouch. The rustle of fabric is soon joined by the rasp of knees catching on the carpet tile as people crawl slowly under the tables, marking out the edges of this circle. Above this, others slide themselves into the gap between table top and chair legs, poised to crawl in a mirror of the movement below. One person slides into this gap on their belly, but their legs and arms become entangled in the furniture. They laughingly admit to their predicament and now familiar hands grasp their ankles to drag them out. I sit in the centre while around me others shuffle around the spiral, knocking into metal legs and into one another, the clumsy occupation of a space which is just too small. They settle wherever the movement has led them, smiling at this shared performance while still hunched in these confining spaces.

[27] Sally Miller Gearhart, *The Wanderground: Stories of the Hill Women* (London: The Women's Press Ltd, 1985)

Image 3: The Wanderground

The following responses were written by Amy Butt, Alexandra Lea, Sheryl Medlicott, Sasha Myerson, Amber Plumbly, Amy Stebbings, Dan Stebbings and Tim Welch.

What have we done?

We made a spiral.
Created a spiral. It draws you in. It draws you down.
. . . the spiralling form . . . the vortex or the 'whirlwind'. . .
Made a downward spiral of bodies and rope.
Created circle pathways, lower and higher.
Created a spiral labyrinth.
We thought about the spiraling of the wall, but that it didn't really ever get anywhere. It was important to have movement in the installation.

How does it make you feel?

There was no obvious way to move through it 'successfully', and instead people felt lost, but continued onwards despite not knowing how to move through or why they were doing so.
I expected to feel safe, surrounded and protected. Womb-like. I expected it to be peaceful.
It made me feel trapped as crawling through the tables felt very tight.
Claustrophobic.
Confused and potentially surrounded.
Feeling a shape rather than conceiving it.
Creates a strange sense of motion.
Part of a chain of awkward passings.
. . . there was also something 'doomed' about it . . .

Who has control?

The spiral itself.
The spiral.
It feels inevitable.
Those who made the circles as you had to follow their path.
I have to keep pace with those in front and behind me.
It felt like we were losing control as we moved through.
We all had control and were reliant on each other, although I wanted to stop crawling, I couldn't as the person behind me needed me to keep moving.
We wanted people to feel the sensation of being enclosed and being trapped, but that they had to continue.
You could choose where you wanted to go in this installation but it felt that once you were a part of it you followed the set path.
I cannot control my own movements. I can only move in one direction.

What can we do in this space?

[discussing gendered spaces] It was almost like a reverse version of the often depicted Tower of Babel and appropriately opposite to the 'erect' form that is often depicted in representation of this 'mythical' building . . . often the projecting skyward forms of skyscrapers have masculine connotations, whilst the 'basin' forms of caves, caverns, lakes and ponds (the Lady of the Lake) have a much more 'feminine' quality—whether or not these forms have been co-opted by religions and layered with connotative values connecting one with positivity (god) and the other with negativity (the devil) is interesting to consider.
Become lost, a space of worship, a space of trial, loose sense of self and orientation.
We can discuss feelings of inevitability, powerlessness.
We could break out of it but most of us followed the route that was created. It engaged people to move around.
Some members of the group made the shape with the furniture while others moved in the shape with their bodies.
Try to continue, to get past one another.
Keep going.

On Reflection

> The aim of this was to regain our spatial autonomy. By learning through practices of play, we were encouraged to be like children again who do not assume rules about what space can be.[28]

We had only a few moments to reflect at the end of the workshop before the last installation needed to be deconstructed and the room reinstated to its original form. Our final conversation gradually broadened in scope: from what these particular installations had made us feel, to what the construction of these spaces together had meant, or could mean, for us. A critical shift from the consideration of a single utopian proposition, to the notion of utopia as process.[29]

For some, the movement between one installation and the next had been all too swift, cutting short some of our earlier discussions. But this had also established a momentum which permeated the construction process and meant there was little time for reticence. As such, the installations drew heavily on instinctual reactions exposing some of our own spatial assumptions and associations. This interweaving of lived experience and imagined space meant that our discussions were able to value personal memory and emotional responses, and both installations and texts were implicitly understood as being contingent and socially constructed.

Throughout the session, we were continually aware of the limitations on what we could construct, struggling against the reductive nature of spatial translation and the palpable absence of the world of the novel. We were actively engaged in testing what could be enacted within this constrained and controlled environment of the seminar room. While limited, the approachable scale of the room and text offered us a collective opportunity to remake some small fragment of the world in a way other to that which had been intended. Not as a proposition but as a movement towards a utopian horizon, insofar as we opened up the space of possibility.

> . . . they open up the discussion and allow anybody to respond without fear of judgment or fear of being wrong …it allows you to have an emotional response and leaves room for people to interpret the installations however they wish…. gave us all room to interpret and create in a safe space, and then reflect on that as a group and find meaning.[30]

This is the utopian act which I will endeavour to sustain in my architectural practice and teaching. For a brief moment, in this room, we were able to test out possible worlds by constructing and inhabiting them. As tangible objects, they were able to be shared and discussed. Their material presence granted them some semblance of affective or emotional impact, and subsequently opened up space for discussion which valued these notions as a critical part of design. They were collectively constructed and given meaning through subjective interpretations, in a way which reflects the conception of space as a social practice.

This workshop seemed to offer a moment of slippage—between the fictional space of utopian science-fiction and the banal spaces of the everyday, and between the act of imagination and the act of inhabitation. For those of us seeking to enact utopian possibilities

[28] Sasha Myerson, 'Conference Report: Utopian Acts 2018', *Vector*, 11 October 2018, https://vector-bsfa.com/2018/10/11/conference-report-utopian-acts-2018/.

[29] As described by Bammer, it responded to a shared desire 'to replace the idea of "a utopia" as something fixed, a form to be fleshed out, with the idea of 'the utopian' as an approach toward'. Angelika Bammer, *Partial Visions: Feminism and Utopianism in the 1970s* (New York: Routledge, 1991), 7.

[30] Amber Plumbly, interview.

within the constraints of our contemporary existence, these fleeting moments of collective action open up the small possibility of hope.

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Open Library of Humanities

The Present as Past: Science Fiction and the Museum

MUSEUM ENGAGEMENT AS SPECULATIVE DESIGN

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Part of the Ubiquity Partner Network

ABSTRACT

This article explores the role that science fiction (sf) texts might play in the museum, offering a perspective on acts of collection, curation, exhibition, and museum architecture, to ask what the museums of science fiction futures can offer those of us concerned with the role and responsibility of the museum in the present.

It draws together methods, content and reflections from a workshop held at the Horniman Museum with art and curation students from University of the Arts London in 2019, which explored the spaces and imaginaries of the museum. Over the course of this workshop, participants were asked to restage the museums described in three science fiction novels: H.G. Wells' *The Time Machine* (1895), Yevgeny Zamyatin's *We* (1924), and Sally Miller Gearhart's *The Wanderground: Stories of the Hill Women* (1979). By bringing the spaces of science fiction into the museum, these interventions reframed the terms of our engagement with museum objects and provided a site for broader reflection on the nature of museum design and practice.

This process of imaginative construction is extended into this paper, which crosses the fields of architectural design and theory, science fiction and utopian studies, and museum studies. It draws directly upon the interventions generated in the workshop, including photographs and descriptions which reflect on the critical potential present in multiple forms of knowing and the radical possibility inherent in collective acts of remaking. These fragments are used to direct research into museum practices, to situate these actions within wider theoretical contexts, and to explore the science-fictional as a mode of thinking and making as well as a source text.

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We follow the curator into the Horniman Museum object handing collection. Glass fronted cabinets line the walls, with curved tables and hanging displays that cry out to small hands and sticky fingers. Unlike the sedate spacing of the carefully labelled specimens in the Natural History collection, here the objects occupy the full depth of shelving. Stuffed birds peer over the top of seashells and the plastic pragmatism of an old mobile phone is lit by the reflected light of geode crystals.

*We move through the room slowly, fighting the gleeful desire to squash our noses up against the glass, settling for whispering out marvels to anyone who happens to be standing near us (**Figure 1**). We are a small group of visitors: art and curation students from University of the Arts London (UAL), Dr Dan Byrne-Smith (Senior Lecturer in Fine Art Theory at Chelsea College of Arts and Art, Design and Natural History Fellow at the Horniman Museum), myself, and the curator who holds the keys to the worlds around us.*

I shuffle my notes and step forward:

> "Hi, my name is Amy (pronouns she/her). I wanted to start by thanking Dan for inviting me here, the Horniman staff for making this space available to us, and thank you all for coming along. Just to introduce myself, I am an architect and lecturer in architecture as well as being a passionate reader and advocate for the worlds of science fiction. So, over the course of this workshop we will be looking closely at the worlds contained in three science fiction novels: H.G. Wells' *The Time Machine* (1895), Yevgeny Zamyatin's *We* (1924), and Sally Miller Gearhart's *The Wanderground* (1979). These novels are all set in an imagined future and all contain descriptions of museums – spaces where our present is reframed as the historical past. In this workshop we will be restaging these described museums, to explore how bringing the spaces of science fiction into the museum might shift the terms of our engagement with the objects we encounter. In three groups we will select an object and then stage a re-enactment of the fictional museum as described in these short extracts using the materials in this room. What form this takes (an installation, a performance, a journey) and what aspects of the description it reflects is entirely up to you. Dan and I are both fascinated by the role that sf texts might play in the museums of our present, how they might provide us with the critical distance to consider how we think about museum spaces and the objects they contain, and what they might mean to us. We hope that today we can explore these questions together, through these acts of imaginative re-staging."

Figure 1 The object handling collection. Two people stand in front of a wall of glass cases containing a variety of museum objects. In the foreground, there is a glass case containing two ornately patterned eggs. The way the eggs are arranged in the case is similar to the way the two people are standing together. One of the people is smiling while pointing towards a musical instrument within a case along the wall.

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Science fiction (sf) allows us to inhabit imagined worlds, providing us with memories of lives as-yet unlived which we carry with us alongside the memories of our own lived past. In *Archaeologies of The Future,* Frederic Jameson discusses the science fictional in utopian texts

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in terms of its ability to function as a memory trace, an ability to communicate "messages of otherness but transmitted in the past" (Jameson, 2005: 99). In these fictions the materials and moments of the present are reframed as memories, a small part of the improbable history of imagined futures. To move through the museums described in sf novels is a temporally estranging experience.

In their work on speculative design, Dunne and Raby (2013) talk about the speculative in terms of a set of events which might lead us from here to there. But, perhaps more importantly, they call for the speculative to perform a critical function, and it is on those terms that this workshop and article considers sf: as a critical design tool which allows us to reflect on the world we inhabit. It draws on Darko Suvin's description of sf as a genre of cognitive estrangement to examine fictions that provide "not factual imitations of a better world, but illuminations of the way we imagine this one" (Williams, 2014: 627; discussing Suvin, 1979).

Just as this workshop uses the worlds of sf to create a critical distance from lived reality, so this article has drawn upon the experiences and interventions generated in the workshop to direct research and prompt reflection into museum practices. Between the descriptions of the workshop (printed in this essay in italics, accompanied by hasty photographs taken on phone cameras), it draws on architectural theory, science fiction and utopian studies as well as museum studies to understand and situate these actions within wider theoretical and practice contexts. In both the workshops and this article, the science-fictional is a mode of thinking as well as a source text.

We divide ourselves into three groups. Each group picks up a note card onto which is printed a small extract from a novel. Our eyes continually dart up to the eclectic exuberance which surrounds us, a weight of stories which presses in on us. The descriptions of fictional museums are echoed in the display cases, these preserved fragments of our material present. Several people from each group read the extract aloud so no one voice holds ownership over its contents. As the curator opens the cases each group steps forward to select an object, holding it between them to consider how it might be understood within the strange new world they will be making.

THE TIME MACHINE

> I found the Palace of Green Porcelain, when we approached it about noon, deserted and falling into ruin. Only ragged vestiges of glass remained in its windows, and great sheets of the green facing had fallen away from the corroded metallic framework... Going towards the side I found what appeared to be sloping shelves, and clearing away the thick dust, I found the old familiar glass cases of our own time. (Wells, 2016: 61)

For the time traveller in H.G. Wells' *The Time Machine*, written in 1895, the Palace of Green Porcelain is an image of a future which resonates with the values of progress he carries with him. It is a direct descendant of the museums of South Kensington which Wells was intimately familiar with as a student at the Normal School of Science, and a reference to the Crystal Palace which opened in 1851: Victorian industrialization and imperialism inscribed in the architectural languages of iron and glass and delicate porcelain. As described by Katie Stone, the traveller aligns himself with the "imperialist strand of evolutionary thought" (Stone, 2020: 50), made manifest in the linear temporality of the museum exhibitions where the atrocities of imperial colonisation are overwritten by the narrative of progress which situates the heart of the Empire as the pinnacle of civilization.[1] This seizure of the bodies and works of colonised peoples is accompanied by their positioning within imperialist narratives of development as the spectacle of a still-present past. In the Palace of Green Porcelain, as in the museums it echoes, colonialism has made space into time (Rieder, 2012; cited in Stone, 2020).

We gradually become unaware of one another within the object-handling collection, each group focused on the extract and object they have chosen. Small circles of close observation are created, closed off from one another by the intensity of our gaze inwards. Reluctantly we are pulled together as the first group reads their short extract from 'The Time Machine' aloud. As quiet

1 While the complex relationship between the nineteenth century museum and imperial colonialism is beyond the scope of this article, this reading was based upon the work of Barringer and Flynn (2012), and Bennett (2013).

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falls again, we stand awkwardly in the centre of the room, waiting for them to share an object, to open a discussion, to take some action to spin us into purpose. But the group responding to this extract stalls our pre-emptory movement as they quietly explain that both object and response are already in place. The process of selection and curation has taken place without us.

In *The Time Machine* the Palace of Green Porcelain stands in ruins. Inside, the ranked cases which speak to the time traveller with such reassuring certainty have been remarkably preserved, but they are no longer of interest to the peaceful Eloi people who have seemingly evolved beyond the need to strive or want. Instead, its sloping floors spatialize another form of progress as they lead down to the darkened subterranean city of the Morlocks, their existence below the world of the Eloi a manifestation of the exploitation and violence which both underpins and undermines the veneer of civilization.[2] The linear narrative of scientific advancement contained within the cases is disconnected from the present of the ruin, that measure of progress having peaked and plateaued and been rendered no longer relevant.

We try to refocus our attention, to identify what has changed, seeking out some trace of the change which has been made while our focus was directed elsewhere. But in this room lined with a wild exuberance of museum objects it is hard to discern something out of place. Whatever act of relocation the group has performed in selecting an object and constructing a response, it is camouflaged by the chaotic decontextualization of the other museum objects which surrounds it, objects which are already out of time and out of place.

In this state of partial ruin, the Palace of Green Porcelain confronts us with impermanence and temporal distance on two scales; while the presence of the museum and its exhibits suggests that the dust has only just settled on a future that is not too distant from our present, the loss of recognisable humanity to new evolutionary development sets it at a distance measured in epochs (Parrinder, 1995). It is a monument to the inevitability of change and decay, which acts on both the human body and cultural constructs of knowledge. While the Eloi may be able to run their hands along the smooth surfaces of the glass cases and observe the objects which have been perfectly preserved, they have no desire to traverse the conceptual distance which separates them from the objects within.

*The group who have staged this response share glances with one another. Eventually someone nods towards to a cloth in one corner of the room. One person steps forward to grasp its edges and, aware of our focused attention, they remove it with a flourish (**Figure 2**). The role of the cloth is revealed at the same moment as being swept away, an echo of dust sheets placed over soft furnishings as shroud and shelter. The dramatic nature of the gesture grants this overlooked corner narrative presence in the same way that a theatre curtain drawn back and the anticipation of staging speaks of a story to be told.*

Figure 2 The moment of revelation. A person is in the process of lifting up a black piece of fabric to reveal the corner of the room which was hidden behind it. Another person stands at a distance and looks on, and their gaze is echoed in a glass case filled with masks which line the wall and look out at the camera.

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2 The symbolic significance of the spatial relations between the Eloi and Morlocks is further explored by Beaumont (2012) and Ketterer (1998).

Within the narratives of sf, Susan Sontag (1964) delineates the recurrent appeal of an aesthetic of destruction, the allure of imagined futures which decimate the built present, leaving only a ruin, the catastrophic failure to maintain our contemporary moment. But for Vivian Sobchack (1988) the wonder within these ruined futures comes not from the act of destruction but from the subversion of the familiar. For Sobchack, part of the appeal lies in the estranging presence of the familiar within the landscape of a far future, or in the object whose narrative connection to our present is maintained despite the destruction which surrounds it.

We talk about what it means to reveal something, to be provoked into the shocked recognition of the familiar, to sweep away the layers of dust, time or unseeing which have hidden some part of the world from us. Someone draws a distinction between that which is overlooked and that which is concealed, and the blurred edges where the insidious subtleties of privilege and power constrain access to knowledge. We talk about the nature of agency, and the difference between not knowing and being invited to discover.

In the ruins of these imagined futures the objects which are imagined to survive us are chosen, in part, for the role they take on within the narrative. But while the cases of the Palace of Green Porcelain contain a pack of sulphur matches which go on to serve as a utilitarian narrative device, the matches also retain their symbolic weight as testament to scientific knowledge systems which are deemed to have been lost. As described by Robert Crossley in relation to the museum in sf, "the spectacle of an observer examining an artefact and using it as a window onto nature, culture and history permits the convergence of anthropological, prophetic and elegiac tonalities" (Crossley, 1991: 206). The impossibility of fully describing the entirety of an imagined world within any single sf text means that the objects, artefacts and spaces they contain cannot afford to be inconsequential (Jones, 1999), and as such they invite close and critical examination as windows into a world.[3]

*Beneath the cloth sits a stuffed bird. The vitality in the lustrous texture of its wings is belied by its flat black eyes, fixed in this singular moment. It is balanced on a projecting skirting board, propped between the door frame and a radiator (**Figure 3**). Both radiator and bird were concealed by the cloth and both are rendered remarkable when revealed, the visibility withheld by the cloth snapping back into place to create a heightened attentiveness. The performance of concealment and the forced focus it creates grants significance to these objects, it implies that they will withstand and warrant the pressure of our scrutiny. We are impelled to create the reasons for their preservation.*

Figure 3 The concealed object. An industrial radiator is enclosed in a protective wire cage, with a small gap between the radiator and a door frame. A small stuffed bird has been placed in this gap, balanced on the top of a projecting skirting board. A small amount of black fabric is visible draped over the top of the radiator. Reproduced by permission of Dan Byrne-Smith.

3 This follows Barthes' observation that objects are never without meaning in a narrative sequence, as "everything, in one way or another, is significant" (Barthes and Duisit, 1975: 245). The object within sf is an intensified instance of this, carrying the weight of communicating a story-world which cannot be presumed into existence.

These objects out of time, imaginatively displaced into the future, act as a material record of our present. They stand as a proxy for our contemporary selves or a conductor of personal or cultural memory within the imagined future. But they are also wrapped in the interpretive understandings of their estranged temporal context, as in novels like Ray Bradbury's *Fahrenheit 451* (1953) or Walter M. Miller Jr.'s *A Canticle for Leibowitz* (1959) where the books which survive the flames are imbued with new meaning as a source of revolutionary hope or a record of apocalyptic hubris. This constantly shifting meaning is explored by Susan Crane (2006) in relation to museum objects, who posits that the purpose of the ruin or relic is not fixed but is multiply constrained and reformed by historical context.

Someone asks whether the same act would affect other objects, so we rummage in pockets and bags for the detritus of the everyday. Hidden within our palms so as not to spoil the surprise, we place these objects beneath the same cloth and step forward to perform the same flourish of revelation. The objects we put forward are violently stripped of context before being placed under collective consideration. They are bestowed with value and heavy with meaning.

As the relics and ruins within the imagined futures of sf compel close examination, they provide vital ground to confront the material conditions of the present. The temporal distance of imagined futures bestows these objects with new significance through which their social, cultural and ecological implications can be revealed. As noted by Richard Crownshaw (2017), this makes sf a genre uniquely situated to grapple with the Anthropocene. It is able to engage with scales of space and time not available to other forms of fiction while still establishing empathetic connection to individuals as they confront vast systemic issues, such as climate crisis.[4] In these fictions the repercussions of our actions in the present can be explored, and the tangible presence of objects provides the evidence against which we are held accountable. For the reader, the experience of speculation provoked by these objects is deliberately multiple in order to elicit such critical reflection, and as Lizzie Muller suggests, "in the interplay of their impossibility, obsolescence and liminality with their tangible existence, these objects act not only as mirrors of our own reality, but also as portals that allow us, if only fleetingly, to move beyond it" (Muller, 2013: 5).

We question a camera lens cover for the longest time. Its use is not immediately apparent until it is picked up and held. Someone talks about its specificity: the reliance on its partner object to grant utility, devoid of function in and of itself. Someone else refers to its manufacture, the knowledge of petrochemistry present in plastic, and the machine and human labour implied by its fine precision. We are confronted with the contradictions of centuries of scientific progress manifest through technical complexity and its planned obsolescence. It contains and expresses multiple scales and notions of time; the constructed human histories of industrialisation set against the geological time held within the oil of its plastic and the future ages of its gradual decay.

Through this re-enactment of the science fictional museum space, the materials of the collection and the mundane contents of our bags and pockets are recontextualised as relics in an imagined future. As such, they invite the complex processes of interpretation which such fictions would inspire, where dialectical objects out of time provide a complex commentary on the value systems which governed their production. This process offers a radical disruption to the temporal context of a museum object from the curated past into an imagined future. It is a reframing which allows collection objects to be situated within the broader context of urgent global challenges, and as such, it is a process which might support wider efforts to engage museum visitors in critical reflections on climate catastrophe, and the vital work being done to instigate cultural and legislative change through public pressure.

WE

> Then a slight, involuntary sinking of the heart – down, down, down, like descending a steep hill – and we were at the Ancient House. The whole, strange, fragile, blind structure is wrapped in a glass shell: otherwise, of course, it would have collapsed

4 The critical work into petrofiction and the cultural position of oil within literature and film includes a growing body of work which considers the specific potential of sf as a genre of estrangement. See, among others: Canavan, 2014; Edwards, 2015; and Macdonald, 2014.

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> long ago. I opened the heavy, creaky, opaque door and we were in a dark disorderly space. All the lines created by the furniture all mangled by that epilepsy, not adhering to any sort of equation. I bore this chaos with great strain. (Zamyatin, 2007: 24)

Yevgeny Zamyatin's novel *We,* written in 1920 and first published in English in 1924, presents a dystopian future of totalitarian control, where the cold logic of mathematics permeates a society operating in calculated accordance with strictly delineated systems of time and collective purpose (Parrinder, 1973), suppressing or forcibly excising the individual swell of emotional or fantastical longings. Each citizen lives and works within glass structures, a crystalline city as unyielding and unforgiving as the One State which it materialises, which imposes a panopticon of ubiquitous visibility.[5] In the architecture of *We* there are no window cleaners and no rain-stained patches which would impede the ability to observe and be observed. The flawless perfection of the glass refutes failure or frailty, and implicitly dismisses any need for care.

The extract from 'We' is read aloud and the group step forward holding a bird's nest. It sits on a bed of tissue paper, loosely held within a white cardboard box. The lid which covers the box is clear plastic, with ripples of opalescent white at the corners where the stress of the bend has pushed past the limits of transparency. We gather around to peer in through the lid.

Within this strictly bounded, systematic and homogenous world, the Ancient House stands as an aberration of dark corners and twisted stairwells. It has been selected to be preserved by the One State as monument to its own empirical superiority, a physical fragment of an obliterated past maintained in order to further sustain the systems of power and control that claim to have superseded it. This is reflected in the architecture of the glass dome which surrounds it, acting as a museum display case scaled up to contain a singular exhibit and sealed against the ravages of heat, moisture, or dust: a perfected enclosure which denies the possibility of time and change.

As we peer into the box, someone speaks about the complexity of the nest within, the apparently chaotic gathering of twigs which resist precise and repetitive patterns but still manage to cohere into a composite whole. Someone refers to the nest sitting within its box as barely contained complexity. At a careless glance it is easily dismissed, so familiar it can be mistaken as simple, but by following the careful bend and weave your eye falls into the small dark spaces caught tight between the twigs. It is a vertiginous composition.

In this short extract the protagonist D-503 visits the Ancient House for the first time, a journey which James McClintock (1977) likens to a descent into a netherworld, traversing the boundaries of life and death, rationality and irrationality. Once inside, D-503 is overwhelmed to the point of emotional crisis and physical collapse by the dark disorder of the Ancient House; its very existence is a refutation of the logic which has governed his life thus far. In this museum there is no attempt to assist the visitor with the softening comfort of the explanatory notice; on the contrary, it is a deliberately jarring experience designed to present the past as incomprehensible and inspire feelings of revulsion and dismay. But this existential disorientation also forces a process of critical interpretation, and in doing so, provides a point of connection to the past through the ideas of individual choice and subjective understanding which are denied by the One State (Gheran, 2014). The very absence of applied layers of meaning forces the visitor to confront the stark alterity of the Ancient House, and demands a reciprocal reassessment of the present.

The person carrying the box holds it with both hands and carefully keeps it level. As they move with caution, we become aware of the disjunction between our responses to this object and the desires that drove its creation. To the bird it was a protective enclosure, constructed with great care to shelter and hold fragile eggs whose shells, in turn, enfold a future. It is now encased in layers of protection in an attempt to create stasis: the tissue paper; the box; our careful hands.

Hannah Arendt argues that one of the ways in which totalitarian regimes ensure the continued domination of their subjects is by the manipulation of their relation to time itself, through the denial and destruction of the materials and moments which served as evidence of a time

5 The symbolic, social and cultural implications of the architecture of *We* has been subject to critical attention. In particular, its relation to contemporaneous Soviet architecture has been examined by Hutchings (1981), while Gomel and Weninger (2004) consider it in terms of the wider symbolism of crystal and glass in utopian literature. It is an architecture which speaks of dualistic oppositions, but also serves to critique such modes of thinking. As Luke Jones (2018: 7) notes, the Green Wall that surrounds the One State is a structure which "simultaneously encloses and absolutises the Utopian order, but at the same time dramatises, and undermines, this very act of boundary-setting."

outside of that system (Arendt, 1973). The Ancient House is intended to form part of a denial of time outside of the One State through the controlled containment of the past. It establishes a strict delineation of insurmountable difference between the fixed points of then and now, as a demonstration of the ideological superiority of the unchanging present.

But, while it is hermetically sealed and controlled by the One State, the Ancient House persists as a fragment of history which maintains the possibility of difference. Here the physical and temporal edges of the One State are made visible, both in the boundary which spatially encloses the house and implies that this condition is not present everywhere, and in its temporal enclosure of the remnants of a past which suggests a beginning and creates the hope for an end. As Phillip Wegner (1993) notes, the Ancient House becomes a site of radical potential within the novel, a site for illicit and unexpected acts of humanity. It is a passage into other worlds and a utopian enclave.[6]

*As we discuss the nest and examine its fragility, we describe our growing need to see it protected, coupled with a more poetic desire to express and experience the intricacy within the nest that the box has muted and held distant. We stand up and begin to reposition our folding chairs: objects which were designed to support human bodies now repurposed in defence of the nest. Both chair and nest as sites of rest have become unsettled. Turned on their sides, the seats cradle the nest in the crook of the bend, while the legs project outwards. As more chairs are stacked in a circle it becomes more precarious, a mutually constructed act of balance (**Figure 4**).*

Figure 4 The protected object. A bird's nest encased in a plastic box sits on top of a small white plinth at the centre of the image. Folding chairs surround the plinth, balanced on top of one another in a way which makes it difficult to discern any individual chair. The interlocking grey metal legs of the folding chairs echo the woven twigs of the bird's nest. Reproduced by permission of Dan Byrne-Smith.

As opposed to the fictional futures of the ruin where the focus is on objects that are imagined to have survived despite their circumstances, in *We* the historical object has been selected and subject to sustained acts of conservation. The selection of the Ancient House is an act of collection, described by Rebecca Leach as a process by which "ordinary things are made extraordinary" (Leach, 2002: 153; cited in Fyfe, 2006). While collections range from the personal to the institutional, they share the intention to protect that which has been selected.

Our nest of chairs is a violent structure. Its form implies a threat and conjures an imagined world of hazards which lurk beyond the circle, validating a fear of the unknown by existing as a defence against it. But while the projecting legs spike outwards with an unforeseen ferocity the precarity of the structure undermines its security; it is as likely to cause harm as to prevent it.

A collection is not only a material archive of preserved pasts but, as noted by Patricia Davison (2005), it is also a record of the concerns which governed its own creation, as is present in the One State's desire to contain alterity. In the act of selecting objects for conservation they are

6 Several texts address the role of the Ancient House as a site of connection between life-worlds. While the work of Alexandra Aldridge (1977) and Gorman Beauchamp (1983) considers the house as a threshold into the radical individualism of life beyond the boundary wall, Csicsery-Ronay (1986) and Phillip Wegner (1993) expound upon Zamyatin's use of these liminal spaces to dismantle ontological constants and undermine socio-political dichotomies.

identified as being both at risk and worth the work of preserving. They are decontextualized and imbued with new meaning and value. For the objects housed within a museum or archive, the institutional weight applied to this act establishes the collection as an anchor of authorised memory, a discursive site for the production of reality (Crane, 2000). Through the accumulation of material culture and the control of historical narratives, power is legitimised and entrenched (Macdonald, 2006). A such, it is here that knowledge and experience are designated as marginal, subject to appropriation and patterns of unseeing which passively dismiss or actively censor, and are intentionally suppressed or violently overwritten.[7]

The growing stack of chairs becomes an argument for itself. Each seat that we move into place becomes an act of protection that makes the object contained seem more vulnerable and more precious. As we build, we reflect on the nature of fragility, how our actions re-inscribe this object's importance and reiterate its value. Like the plinth beneath the nest, our performance of concern elevates this object, encircling it with our time and labour, while making it all the more difficult to reach.

This act of care resonates with the desire identified by Susan Crane to "preserve, protect, and defend the objects we choose to represent our pasts and our cultures because that choice, that representation, is itself valuable to us" (Crane, 2006: 108). As such the work of maintaining existing collections is a fundamentally conservative act, allowing both the object and conceptual frameworks which are manifest in the privilege of making such a choice to perpetuate, by sustaining them against decay and preserving them from failure. However, this maintenance work also serves to resist narratives of linear progress, existing in what Lisa Baraitser (2017) calls stuck or enduring time which creates moments of impasse. These are places where the labour of care which underpins maintenance work can be witnessed and valued. While individual objects appear to be frozen in stuck time as active selection intervenes in passive eternity (Crane, 2006), it is an illusion of continuity made possible because of the unremitting labour of curatorial and custodial staff.

*The stack shifts suddenly and one person steps forward to hold their arms over the nest within (**Figure 5**). It is an instinctive action, limbs continuing a movement which starts with an abrupt twitch of concern. They form a shelter with their body against the risk we have created, creating a barrier with their skin and bone. It is an act borne of a rapid valuation which places this object, experienced and known only for an hour, and the collective guilt of its loss, over personal physical pain.*

They remain there until we have cleared the chairs away.

Figure 5 The protective structure. A bird's nest encased in a plastic box sits on top of a small white plinth. Folding chairs have been haphazardly stacked around the plinth, including a chair which partially obscures the image. Several figures look on while two people gesture towards the stack of chairs, one of whom is in the process of reaching out to hold a chair steady. Reproduced by permission of Dan Byrne-Smith.

7 The complexity of reconstituting histories which have been suppressed, dismissed, trivialised, appropriated or overwritten, while also resisting their being subsumed within the ideological dominance of prevalent or powerful narratives, has particular resonances with the work of Afrofuturism (Bould, 2019; Yaszek, 2006). As detailed by Kodwo Eshun (2003) Afrofuturist fictions utilise intentional and necessary dislocations of time to create and reinstate both counter-memories and counter-futures.

The objects contained within the museum have been carefully selected, continuously maintained, and conscientiously conserved. While our re-enactment of The Palace of Green Porcelain allowed us to consider the temporal estrangement of the object and prompted reflection on the value systems which underpinned its manufacture, our re-enactment of the Ancient House provided a critical distance to consider how acts of collection and protection imbue their chosen objects with value and act as a record of the concerns which governed their preservation, which are enmeshed in considerations of power and cultural dominance.

Through our performance of preservation inspired by the Ancient House, we enacted an understanding of the collection as a social product, reliant on continual acts of maintenance to sustain each individual object. This reframing provides a space to consider how decisions about collection and curation are remade in each moment, and by extension, how the systems of knowledge that these collections validate are being continually reproduced. By situating these objects within museums of an imagined future, the responsibility for their presence is understood as something which must be addressed in the present, rather than being an inherited product of a distant past. It is a perspective which might support the vital work being done to critically re-examine collection practices. If we can understand museum collections as being continually sustained and remade, our present moment is complicit where these curatorial systems reinforce or perpetuate practices of oppression.

THE WANDERGROUND

> She scrunched into the niche she had built for herself: a large heap of small pebbles which made a backrest and a mound of pebbles and coarse sand that curved around to rest each of her arms... Around her in the windowless chamber were nearly a dozen other girl-children who were digging out and settling into their places amid giggles and chattering.... "Once upon a time..." It was Alaka's rememberings today which drew Clana and her sisters into the past... "Once upon a time..." Clana whispered with all the others. (Gearhart, 1979: 138)

This scene, of girl children huddled to hear stories of the past, is one of several distinct glimpses into the world of the Hill Women which are collected in *The Wanderground*. The novel portrays a gender essentialist and separatist feminist future where groups of women have fled the cities of men to establish communities in the hills.[8] While the technology in the cities is comparable to that of the time of writing, the communities of women have developed new abilities and ways of living (Khanna, 1984). As such, it presents a coexistence of future and present, as a society which, according to its own telling, has moved beyond the violence of the cities alongside those still mired within contemporary patterns of exploitation.

An object is wrapped in tinfoil. The scrunched texture disguises its appearance and shape, creating a new form which wraps around the object within. It is held by a group who sit in a circle on the floor. After reading the short extract from 'The Wanderground' they ask us to surround them with chairs and to drape a rug over the top, to hide and enfold them as tightly as the object.

Within the communities of the hill women, the 'remember rooms' serve as a site for collective memory. There are racks of objects, both found and sought out, which serve as prompts to educate the community's children about life in the cities. In contrast to the world they occupy, the cities are presented as grotesque spaces where commodity or fetish value supersedes human rights and agency. In the remember rooms the objects speak directly to the visitor, with labels that audibly narrate the individual experiences of the many members of the community who have interacted with them. They establish an interrelationship between personal experience and object, making manifest the complexity of interpretation and exposing memories of oppression and exploitation. For Angelika Bammer, "Gearheart collapses the distinction between history and story by suggesting that they are made of the same material" (Bammer, 2004: 81).

8 This binary division of male and female ways of being and the similar divisions of technology and nature was not widely seen as problematic at the time of publication; see, for example, Zimmerman (1983). However, this gender essentialism leads to language within the novel and actions by the female characters which disregard, dismiss or degrade other groups, particularly gay men. For further reflection on the value of this text and other separatist sf while recognising Gearhart's exclusive focus on cisgender people, refer to Shaw (2000).

*From under the rug we can hear muffled conversation. Some of us kneel and lift the edges to peer in. The group pass the object between them, and as they hold it they peel back the foil and glance at the object inside. Each person describes what they gathered from this glimpse, then re-wraps the object and passes it on to waiting hands (**Figure 6**). No one who speaks can state its function with certainty, but they discuss its careful and complex workings, and argue about its possible use and manufacture. As the object moves around the circle it weaves its own story, moving backwards from a known present into the speculations of an uncertain past.*

Figure 6 The act of storytelling. Four people sit together on the floor in dim light. Above them is canopy of fabric which is held up by chairs in the background and their own hands, partially obscuring some of their faces. One person is holding an object wrapped in silver foil. The person next to them is leaning over to gesture towards the object while they speak. Photograph taken by the author.

As well as an exhibition space, the remember rooms provide space to gather and share oral histories. Each new member of the community contributes her personal recollections to the communal memory to become part of a shared history retold in these gatherings. In this extract, the perspective and presence of children establishes the pedagogical intent of remembering, borne from the social necessity to recall what has been left behind. Amid this communality there is also spatial agency, with each child able to literally carve a comforting womb-like space for themselves where they feel adequately supported to focus on recollections of oppression and violence. These acts of remembering are viscerally painful and must be approached

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carefully and slowly with the protective presence of a trained guide. But they are also a vitally important part of the collective writing of history which acknowledges and holds the memory of trauma. In all their complexity and conflict, these acts of remembering are "a communal voice of women telling their stories from their own perspective and for themselves" (Bammer, 2004: 79).

Once the story has run its spiral path back, we remove the rug and join the group on the floor as they unpeel the foil and outline the decision to select and wrap up a small plastic calculator. They describe choosing it for its presumed ubiquity as a cheap, mass produced tool of mathematical knowledge. The process of storytelling is described as an attempt to discard that existing knowledge and relay only what they could gather directly from the object itself. It was an attempt to set aside an intimate familiarity and encounter something as if for the first time. One member of the group voices their dismay at the meagre understandings gleaned from the object itself. We talk about how meaning is painstakingly drawn out from an object, and the myths that we construct in the absence of certainty.

Within the museum, the act of sharing an object through an exhibition produces meaning in a process which is neither neutral nor objective (Mason, 2005). Rather, the museum exhibition is part of what Emma Barker terms a culture of display which is both a form of "representation as well as a mode of presentation" (Barker, 1999: 13; cited in McCarthy, 2006). While objects are placed within the context of the exhibition in order to make specific meanings visible, in doing so they are reconstituted through those framing discourses. It is a transformation that Donald Preziosi (2006) associates with the act of passing an object across an exhibitionary threshold, which shifts and redefines significance and meaning.

This assignment of meaning, of interpretation and understanding, is a critical part of exhibition construction. Where such exhibitions are didactic, they silently assert the superiority of their underlying value systems, reinforcing the singular authoritarian voice of the institution. As Richard Sandell argues, museums "are undeniably implicated in the dynamics of (in) equality and the power relations between different groups through their role in constructing and disseminating dominant social narratives" (Sandell, 2007: 100). In response, engaged exhibition practices aim to establish museums as communicative and collaborative spaces, allowing essentialising practices to be unpicked and contested.[9] In this expanded space of interpretation, multiple readings and memories might be given value, to make visible what Anthony Shelton refers to as "the fugitive nature of meaning" (Shelton, 2006: 79).

As we talk the calculator becomes incomprehensible in our hands. We are disquieted to confront the fact that the frameworks of our knowing are so lightly based on the innate qualities of the object we hold, and so deeply rooted in our life-worlds. We step back from this singular object to reflect on the acts of story-telling we carry with us into museums; the ways of knowing, experiences and memories which shape our understandings and frame each object we encounter. The horizon of expectation we establish for each object tempers and constrains possibilities of interaction.

At the level of the object, the movement towards multiplicity can be realised in the labelling of individual items, in forms which express polyvocality or invite interpretation.[10] In her study of the National Museum of the American Indian in Washington, Claire Smith (2005) outlines how the discourses of colonialism inform museum exhibition design through the label, the boundary, and the metanarrative. For Smith, the presence of a label, however multiple its voice, provides easy resolution. It implies that the world can be understood through these fragments and that it can be ordered and known. To remove a label then, might grant objects what Stephen Bann calls "typological exuberance" (Bann, 2003: 125), where rationales of chronology or taxonomy can no longer be assumed. As observed by Sharon Macdonald (2006), this opens up greater space for meaning beyond that assigned or designated, where personal associations and memories are held and validated as ways of knowing.

Someone shares how difficult it is to disregard what has been known and to quiet the voice of experience even fleetingly. We speculate on the events which would be necessary to make this

9 For further consideration of the constructivist approach to exhibition practices which build on the concerns about democratizing and demystifying the museum and improving accessibility see, among others, Hooper-Greenhill (2000) and Phillips (2005).

10 The ethical importance of labelling, whether this takes on an academic voice which quashes the opportunity for dissent and suppresses its subjectivity or invites polyvocality, is further discussed in Moser (2010), Ravelli (2007), Leahy (2008), and McClusky (2012); cited in Gazi (2014).

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familiar object strange. The temporal distance of the deep past or distant future which would obscure technological understanding, or the rupture of loss brought about by devastation or disaster.

Smith's notion of 'boundary' examines how frameworks of knowledge, such as the technoscientific ideals of progress which were present in our sharing of the calculator and in the city-objects of the remember rooms, have informed the processes of collection and curation as well as the presentation of objects in an exhibition. Through the application of classification systems, judgements are made about what can be considered familiar, and in so doing they define that which is strange or other. As well as being informed by specific paradigms of knowing, any exhibition is "filtered through the tastes, interests, politics and states of knowledge of particular presenters at a particular moment in time" (Vogel, 1991: 201). Smith argues that there is an ethical imperative to make such subjectivity visible, as well as developing exhibitions which are founded on multiple knowledge construction and memory sharing practices.

As we try to imagine the experience of those without knowledge of this object, we attempt to inhabit a society outside of the time or space of this ubiquity. We find it easier to call upon the imaginaries of the apocalypse than to conceive of a present outside of these paradigms of knowing. We struggle with the challenge of seeing the edges of our life-worlds as anything but universal.

Museums and their collections embody and exhibit social values, and their authority extends far beyond the institutional boundary (Hooper-Greenhill, 2000). As detailed by Susan Crane (2000) the exhibition is incorporated into the extra-institutional memory of its visitors, informing wider social practices by legitimising the values it demonstrates. Through her notion of the 'metanarrative' Smith examines the authority of the institution which is established through control over the exhibition, and the authority this confers onto the corporations and individuals, economic and political systems that such institutions are associated or inculcated with. This poses the critical question of how the museum as an institution might leverage its position of cultural privilege, and whether the act of bringing practices or groups within the museum divests or confers control, or whether it simply legitimises the position of the institution as an arbiter of knowledge.

*As we attempt to reflect on the installation together, we stumble over the disjunction between those constructing the narrative and those outside the story being told. Someone talks about storytelling as a communal act, a passing along of a way to read the world. The group inside the space of storytelling speaks about how it was a mutual construction, a building up and reinforcement of both object and self. But those who stand outside, holding up the fabric of the rug and maintaining the act of shelter, can talk only about the fragmented moments they overheard (**Figure 7**).*

Figure 7 The constructed shelter. Some rugs and pieces of black fabric are draped over folding chairs, held in place by three people who surround the circle of chairs. The fabric creates a canopy which hides what is happening beneath it. In the background, several people sit on chairs or crouch down in order to look under the fabric. One person lifts up a corner of the fabric in order to peer underneath. Reproduced by permission of Dan Byrne-Smith.

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The potential of sf to make evident the subjectivity of meaning is celebrated by Raffaella Baccolini, who finds utopian promise in sf's depiction of history and memory, providing alternatives to the hegemony of social order and narratives of colonialism which fix and essentialise, "to dismantle the singleness of its discourse, while remaining attuned to the plurality of visions and limits of the past" (Baccolini, 2003: 127). In this re-enactment of the science fictional museum, the act of exhibiting an object is performed as an act of storytelling. In doing so, the concept of intrinsic frameworks of knowledge or empirical understandings are unpicked, and all interpretations of the object under discussion are understood to be subjective. Most critically, this performance of storytelling identifies the construction of meaning as an act which generates a shared narrative, whist also acknowledging that this story and the meaning it assigns are not universal.

This act of performing a museum of sf created a space to develop meaning through narrative estrangement, and reflect on these same processes present within museum exhibitions. As a prompt for critical reflection on meaning making, it is an act which might support wider efforts to question the power inherent in exhibitions which construct and validate ways of understanding the world, as well as resonating with works which challenge or dismantle the presumed ubiquity of knowledge systems within and beyond museum institutions. While they are critical and valuable, such efforts to construct alternate forms of museum engagement and reconstitute the ideological inherence of museums must also critically question whether the communication of life-worlds other than our own is possible, or even desirable, within such institutional and exhibitionary frameworks.

THE WORKSHOP

The rug is dragged back down onto the floor. The chairs are folded and stacked in a corner. The bird, nest and calculator are handed back to the museum curator, and returned to their glass fronted cabinets. As we shrug on coats and bags, the room resettles into our absence.

In our restaging of these science fictional museums, we fleetingly established a new spatial context within which the acts of collection, curation and exhibition could be considered. Albeit brief, each of these interventions was an act of architectural design drawn from an imagined future and recast in the ad-hoc materials of the present. As we constructed, dismantled, and remade this space of the museum, we shifted the terms of encounter with the objects that it contains.

Christine Boyer defines the museum as a memory device, which utilises architectural design to construct meaning through spatial associations or sequential arrangements, in order to establish a narrative of history (Boyer, 1996: 133). It is an act of temporal location accompanied by spatial qualities of scale, light, material, and acoustics to create a context within which the exhibited objects are understood (Swain, 2018: 217). In this way, space supports the construction of meaning, and as Beverly Serrell claims, "design plays a crucial role – not just in presenting content, but in actually creating it" (Serrell, 2017: 33). But the museum is also a social and cultural product which is continually reproduced through use. As discussed by Jones and MacLeod (2016) the architectural design of a museum is a product of the social, cultural, economic and political systems within which it was developed. As a consequence it reflects and materialises attitudes towards objects and knowledges, which impacts on the way that the cultures represented through those objects are perceived (Gazi, 2014). So, the museum is a doubled act of preservation: it preserves the curated object, and, through its architectural framing, it re-performs the social system within which it was constructed.

Within the imagined futures of sf, the symbolic role of museum architecture and the socio-political systems it embodies are expressed with startling clarity. The associations prompted by architectural design are palpably present: in the churches converted into museums of propaganda and industry in George Orwell's *1984* (1949) and Olaf Stapledon's *Last and First Men* (1930), or the lens-shaped architectural absurdity which was once humanity's largest building in Samuel Delany's *Nova* (1968). In these fictions the design of the museum is a spatial shorthand, an evocative expression of a cultural attitude towards these material signifiers of our present or the fictional past. But while these structures are didactic expressions of ideological certainty, the museum in sf is not always located in such a grandiose form. The gathered remnants of pre-disaster life in Emily St. John Mandel's *Station Eleven* (2014) displayed in the corner of

the airport concourse which serves as refuge, or the writings hidden under the floorboards of the Barren House in Suzette Haden Elgin's *Native Tongue* (1984), are collections held close in spaces of community gathering, founded not on appropriated objects and bodies but on collective acts of critical self-narration. Robert Crossley notes in his examination of museums in sf, "in the showcases of science fiction's museums we are chiefly on display" (Crossley, 1991: 99), and while he refers primarily to the remnants of the reader's present encased in the glass cabinets of imagined futures, these museums in sf serve also to hint at the possibility of a space to critically curate our own histories; the museum institution dissolved and reconstituted as a science-fictional space of situated self-awareness.

Throughout this workshop the act of revealing, the sense of discovery, and the reframing of objects, all worked as a tangible acting out of some of the processes of cognitive estrangement present in sf texts. As we negotiated the complexity of our own readings of familiar objects in an unfamiliar setting it created an opportunity to reflect on our own pre-existing knowledge and experience of that specific object and material culture. It provided a vital space to discuss our own cultural assumptions, biases and methods of interpretation while also acknowledging the processes of selection, preservation, and display which had brought that object and this group together.

The resultant installations were the result of a haphazard throwing together of people and materials, and as such they project a sense of impermanence and fragility in each configuration. This quality of 'throwntogetherness' is defined by Doreen Massey in relation to urban environments where it can be found in the unlikely juxtapositions of buildings or the uncoordinated being together of neighbours. For Massey (2005) this is a vital part of the productiveness of spatiality, which opens up spaces of possibility through encounters with diversity and difference.

This act of collective construction created an opportunity to encounter meaning in ways which were not framed by the assumed hierarchies of knowledge held within the museum space. Rather, we were able to reflect on the subjectivity of meaning in a forum which valued personal association and memory. As an inadvertent exercise in polyvocality it responded to some of the challenges identified by Kevin Coffee to recognise multiple voices within institutional forms which "arose to enable the hegemony of a narrow cultural narrative" (Coffee, 2006: 446), and the wider need to find new ways to evoke individual memories to dismantle dominant mythologies (Davison, 2005). In this way, this act of critical speculative thinking and design temporarily responded to Lola Young's call to shift the terms of museum engagement and empowerment. Rather than extending an invitation into the pre-existing space of the museum, laden with histories of bias and oppression, Young calls for "self-determined critical interventions that enrich our understanding of the ways in which history is made and represented" (Young, 2003: 211).

This article and the workshop it is based upon set out to consider whether the science-fictional can provide a critical perspective on acts of collection, curation and exhibition, and to ask what the museums of science fiction futures can offer those of us concerned with the role and responsibility of the museum in the present. I leave with a startling sense of joy brought into being by unanticipated depths and unforeseen directions. In the interventions we constructed it is possible to glimpse how engagement with the imagined museums of science fiction might allow us to restage the role and form of the museum as sites for the memory of the present, to value individual forms of storytelling. Here I find hope that the tangible staging of these spaces, however fleeting, demonstrates the critical potential present in multiple forms of knowing and the radical possibility inherent in collective acts of remaking.

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The author has no competing interests to declare.

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