# Expanding Fields of Architectural Discourse and Practice: Curated Works from the P.E.A.R. Journal

Edited by Matthew Butcher
and Megan O'Shea

UCLPRESS

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and Megan O'Shea

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# Notes on Contributors

## Editors

**Matthew Butcher** is an academic and designer. His work has been exhibited at the V&A Museum, London; Storefront for Art and Architecture, New York; The Architecture Foundation, London; and the Prague Quadrennial, Prague. Recent projects and exhibitions include 'Flood House', a floating architecture developed in collaboration with Jes Fernie and Focal Point Gallery in Southend, and 'The Mansio', a retreat for writers and poets that travelled sites across Hadrian's Wall in the summer of 2016 which was nominated for the 2017 Architects Journal Small Projects Prize. Matthew is also the editor and founder of the architectural newspaper *P.E.A.R.: Paper for Emerging Architectural Research* and Associate Professor in Architecture at The Bartlett School of Architecture, UCL, where he is also director of the undergraduate architecture programme. He has contributed articles and papers for journals including *Conditions*, *Architecture Research Quarterly* (ARQ), the *RIBA Journal* and *Architecture Today*.

**Megan O'Shea** is an art producer and consultant for Contemporary Art Society Consultancy where she is involved in the research, analysis and writing of cultural and public art strategies, as well as managing curatorial projects for both private and public clients, commissioning artists and overseeing the installation of major public art commissions. She started her career in the art world working for *Frieze* magazine and the inaugural Frieze Art Fair. Then, she spent six years as Assistant Director at greengrassi and a further two years as Artist Liaison at Timothy Taylor Gallery. More recently, she has worked freelance for artists including Aleksandra Mir and Susan Hiller, as well as galleries and organisations including Matt's Gallery and Christie's Education.

## Contributors

**Melissa Appleton** is an artist and producer. With a background in architecture, Melissa's work combines environments, live events, sound and other elements into an expanded form of sculpture. Recent projects include 'Tonight the World' (2019), a collaboration with Daria Martin

for Barbican Curve, London, and Contemporary Jewish Museum, San Francisco, and 'Quite Suddenly Your Smile is an Architecture' (2016/17), an itinerant exhibition of the poetry and publishing projects of poet and artist Jeff Nuttall, developed as part of a Henry Moore Institute Visiting Fellowship. Melissa is currently Creative Producer for *Hinterlands*, an arts programme on the UK canal system, and lead artist on 'Skyline', a project exploring the possibility of community land transfer in the South Wales valleys. Melissa was a visiting lecturer at the Ruskin School of Art, Oxford University, between 2011 and 2019, and has taught widely on art and architecture courses. Melissa co-founded Post Works with Matthew Butcher (2008–12) and previously worked for Rem Koolhaas, New York.

**Edwin Burdis's** multifaceted practice traverses drawing, painting, sculpture, film, sound installation and performance, all part of an ongoing compulsion to produce. In his current practice, he is focused on the production of online assets such as music videos and artwork for bands and musicians. Burdis is currently working on a feature-length film set in South Wales and is the creative director at Domino Records.

**Mollie Claypool** is an architecture theorist focusing on the potential of automation and digital technologies to transform the way that the built environment is designed, fabricated and assembled. She is interested in developing architectural frameworks for more inclusive, feminist, accessible and equitable design and production practices. Her work proposes that the discrete – an architectural approach that at its core is interested in rethinking the basic building blocks of architecture – is central to these frameworks. Mollie is the co-director of Design Computation Lab at The Bartlett School of Architecture, UCL, where she is lecturer in architecture, as well as director of Automated Architecture (AUAR), a consultancy interested in, as the name suggests, automating architecture.

**Tom Coward** is an architect and founding director of AOC Architecture (Agents of Change). He studied architecture at the University of Nottingham and architecture and interiors at the Royal College of Art. Tom is a lecturer at the Kingston School of Art, where he is currently undertaking a PhD by practice.

**Marjolijn Dijkman** is an artist and co-founder of Enough Room for Space, based in Brussels, Belgium. Solo shows include: HIAP, FI (2019); OSL Contemporary, NO (2019); NOME, DE (2018); Munch Museum, NO (2018); Fig. 2 at ICA, UK (2015); West Space, AU (2015); IKON Gallery &



Spike Island, UK (2011); and Berkeley Art Museum, US (2008). Group shows include: 4th Screen City Biennale, NO (2019); 9th Contour Biennale, BE (2019); 1st Fiskars Biennale, FI (2019); Tendencies '19, BE (2019); ARTEFACT 2019, BE (2019); 21st Biennale of Sydney, AU (2018); Performatik Biennale 2017, BE (2017); 11th Shanghai Biennale, CN (2016); 7th Mercosul Biennale, BR (2009); and 8th Sharjah Biennale, UAE (2007).

**Jes Fernie** is an independent curator and writer based in Essex, UK. She is interested in art, architecture, feminism, literature and destruction. She works with artists, architects, curators, developers, taxi drivers, bishops, engineers, choirs, fabricators, writers, academics, publishers and farmers to make art, architecture, conversations and books. She writes and lectures widely and has worked with a broad range of organisations, including Tate, Peer, Serpentine Gallery, Flat Time House, Matt's Gallery, Skissernas Museum, RIBA, Arts Council England, Central St Martins, Lund Cathedral, St Paul's Cathedral and the RCA.

Established in 2012 by **Pascal Bronner and Thomas Hillier, FleaFollyArchitects** are spatial storytellers who use narrative to explore, discover and invent unique propositions, translating them into fantastical spaces that surround us. They operate across the fields of architecture, design, contemporary art and installation to enhance and blur the thresholds of spatial design. Craft, making and an ingrained sense of materiality are at the forefront of everything they do, working in a territory where architecture meets sculpture. Drawing upon their multidisciplinary experience in both architectural practice and through architectural teaching, their objective – no matter what the subject – remains the same: to surprise and delight.

**Adrian Forty** is Professor Emeritus of Architectural History at The Bartlett School of Architecture, UCL, where he co-founded the master's programme in architectural history. He is the author of *Objects of Desire* (1986), *Words and Buildings, A Vocabulary of Modern Architecture* (2000) and, most recently, *Concrete and Culture, A Material History* (2012). He was the president of the European Architectural History Network 2010–4.

**Adam Nathaniel Furman** is a London-based designer and artist of Argentine, Japanese and Israeli heritage whose practice ranges from architecture and interiors to sculpture, installation, writing and product design. He pursues research through his studio 'Productive Exuberance' at Central St Martins, and the Research Group 'Saturated Space' which

he runs at the Architectural Association, exploring colour in architecture and urbanism through events, lectures and publications. He was Designer in Residence at the Design Museum in London for 2013–4; received the Blueprint Award for Design Innovation in 2014; was awarded the UK Rome Prize for Architecture 2014–5; was one of the Architecture Foundation's 'New Architects' in 2016; a L'Uomo Vogue Design Star 2016; was described by Rowan Moore, architecture critic for the *Observer*, as one of the four 'rising stars' of 2017; is a 'Rising Talent of 2018' for Elle Decor Italia; one of the *Evening Standard*'s '1000 Most Influential Londoners of 2018'; and was awarded the Blueprint Award for best small project 2018.

**Kate Goodwin** is Head of Architecture and Heinz Curator at the Royal Academy of Arts, London, and Professor of Practice (Architecture) at Sydney University. She has curated numerous exhibitions, including 'Renzo Piano: The Art of Making Buildings' (2018), 'Sensing Spaces: Architecture Reimagined' (2014) at the Royal Academy and 'New British Inventors: Inside Heatherwick Studio', which toured East Asia (2015–6) for the British Council. She was on the Golden Lion Jury for the 2018 Venice Architecture Biennale and was awarded a RIBA Honorary Fellowship in 2016 in recognition of her contribution to the profession.

**Jonathan Griffin** is a British critic and art writer living in Los Angeles. He is a contributing editor for *Frieze* magazine, and he also writes for *Art Review*, the *Financial Times*, the *New York Times*, the *Art Newspaper* and *Apollo*. His book *On Fire* is published by Paper Monument.

**Jonathan Hill** is Professor of Architecture and Visual Theory at The Bartlett School of Architecture, UCL, where he directs the MPhil/PhD architectural design programme and tutors MArch Unit 12. Jonathan is the author of *The Illegal Architect* (1998), *Actions of Architecture* (2003), *Immaterial Architecture* (2006), *Weather Architecture* (2012), *A Landscape of Architecture, History and Fiction* (2016) and *The Architecture of Ruins: Designs on the Past, Present and Future* (2019); editor of *Occupying Architecture* (1998), *Architecture – the Subject is Matter* (2001) and a special issue of *The Journal of Architecture* (2003); and co-editor of *Critical Architecture* (2007).

**Torange Khonsari** is co-founder and director of the art and architecture practice at public works since 2004, an interdisciplinary practice working on the threshold of participatory and performative art, architecture, anthropology and politics. Her projects directly impact public space, working with local organisations, communities, government bodies and stakeholders. Torange is course leader of Design for Cultural Commons Masters at The Cass (London Metropolitan University). She has taught at universities including UMA School of Architecture in Sweden and Royal College of Art, London, and is a visiting professor at Barbican and Guildhall School of Music and Drama.

**Tomas Klassnik** is a chartered architect and founder of The Klassnik Corporation, a London architecture and design practice celebrated by the Architecture Foundation as one of the best British practices established between 2005 and 2015. Producing work across a broad spectrum of disciplines and scales alongside conventional built works, projects have included public art for the London 2012 Olympics, a cycle cafe, gallery spaces, exhibition designs and even a domestic interior/film-set for a captive tiger. Klassnik also uses architectural method and representation to investigate societal issues critically. Scenarios explored to date include accelerated climate change, educational reform and the recent transformation of London's skyline by tall buildings. Klassnik has taught at the Architectural Association, Chelsea College of Art (UAL), Royal College of Art and most recently at The London School of Architecture.

**Perry Kulper** is an architect and associate professor at the University of Michigan. He taught at SCI-Arc for 17 years. After graduate studies at Columbia University, he worked with Eisenman/Robertson, Robert A. M. Stern and Venturi, Rauch and Scott Brown. His interests include the generative potential of drawing, the affordances of design methods and broadening the conceptual range of architecture. He published Pamphlet Architecture 34, 'Fathoming the Unfathomable', with Nat Chard in 2013. They are working on a new book to be published by UCL Press. Recently, he ventured into the digital world, looking into Photoshop operations. Fantastic beasts have been on his mind.

**Guan Lee** is lecturer of architecture at The Bartlett, UCL, where he is director of the Material Architecture Lab and runs studio RC5/6 in the B-pro post professional programme in architectural design. He is also tutor in architecture at the Royal College of Art, where he teaches a postgraduate studio, ADS6. His practice, Grymsdyke Farm, is set in the Chilterns in Buckinghamshire, about 35 miles north-west of London. The farm is composed of a house, a series of outbuildings, a walled vegetable garden and a small orchard. The farmhouse remains residential, but the other buildings are converted into workshops and studios. Grymsdyke

Farm's motivating concept is to establish and explore the value of living/working arrangements that involve intimate engagement with materials and processes of making. Lee's practice engages in a wide range of design fabrication, digital and analogue. Its aim is to expose, articulate and demonstrate the essential connections between processes of design, making and place. Guan Lee has a BSc in Architecture from McGill University, Montreal, Canada (1997), an Architectural Association (AA) Diploma (1999) and an MSc in Landscape Urbanism (2003), also from the AA, and completed his PhD by design (2013) at The Bartlett, UCL.

**Yeoryia Manolopoulou** is an architect and design researcher working from two parallel positions: as professor of architecture and experimental practice at The Bartlett, UCL, and as a practicing architect and founding partner of AY Architects. Her projects include award-winning buildings, installations, urban proposals, artefacts, drawings and writings. Manolopoulou is the author of *Architectures of Chance* (2013), founder of the *Bartlett Design Research Folios* series (2013) and co-author and curator of the Irish Pavilion for the 2016 Venice Biennale. In 2014, she was nominated Emerging Woman Architect.

**Thomas Pearce** holds a BA and MA (KU Leuven, Belgium) in Cultural History and a BSc (TU Berlin) and MArch (Bartlett) in Architecture. He is currently working on a PhD thesis in architectural design at The Bartlett, UCL, with the working title 'On the edge of precision's own shadow. Parallax as a method between re-construction and re-invention'. He has run an undergraduate design unit at The Bartlett since 2014 and previously tutored at the Architectural Association (2013–7). Having worked extensively in practice as a specialist for digital capture, design and fabrication, he now works as an independent architectural designer within a changing network of collaborations (www.thomaspearce.xyz).

**Jane Rendell** (BSc, DipArch, MSc, PhD) is Professor of Critical Spatial Practice at The Bartlett School of Architecture, UCL, where she co-initiated the MA in Situated Practice and supervises MA and PhD projects. Jane has introduced concepts of 'critical spatial practice' and 'site-writing' through her authored books: *The Architecture of Psychoanalysis* (2017), *Silver* (2016), *Site-Writing* (2010), *Art and Architecture* (2006) and *The Pursuit of Pleasure* (2002). With Dr David Roberts, she leads The Bartlett's Ethics Commission; and with Dr Yael Padan, 'The Ethics of Research Practice', for KNOW (Knowledge in Action for Urban Equality).

**Karin Ruggaber** makes sculpture as well as producing artist's books. Coming out of a studio-based practice, her work uses aspects of figuration and ornamentation. She is interested in the translation of pictorial principles into sculpture, and how imaginary space materialises within sculptural language and public space. She is represented by greengrassi, London, and is Senior Lecturer and Head of Graduate Sculpture at the Slade School of Fine Art, UCL. She has been the recipient of an Abbey Fellowship at the British School at Rome, Italy, in 2019. Selected solo exhibitions include: 'Bottom of the lake', greengrassi, London, 2018; 'undone beings very', Walter Knoll, London, 2015; and 'An outside of a house', PEER, London, 2013. Selected group exhibitions include: 'The Weather Garden', Anne Hardy Curates the Arts Council Exhibition, Towner Gallery, Eastbourne, 2019; 'CONDO: Proyecotos Ultravioleta', Guatemala City and greengrassi, London, 2017; and 'El Curso Natural de Las Cosas', La Casa Encendida, Madrid, Spain, 2016.

**Bob Sheil** is an architect, director of The Bartlett School of Architecture, UCL, and professor in architecture and design through production. He is a founding partner of sixteen*(makers), whose work in collaboration with Stahlbogen GmbH '55/02' won a RIBA award for design in 2010, and also includes a 10-year catalogue of experimental projects both internationally published and exhibited. He is an educator, critic, researcher, collaborator and practitioner, as well as an experimental designer who is fascinated by transgression between making, craft and technology in architectural design practice. He is the author of multiple book chapters, refereed papers and articles on design, making and technology. He has edited five books, including three issues of *Architectural Design*; *Design through Making* (2005), *Protoarchitecture* (2008) and *High Definition: Negotiating Zero Tolerance* (2014), an AD Reader 'Manufacturing the Bespoke' published in 2012 and '55/02: A sixteen*(makers) Monograph' (also 2012).

**Neil Spiller** is editor of *Architectural Design*. He was previously Hawksmoor Chair of Architecture and Landscape and Deputy Pro Vice Chancellor at the University of Greenwich, London. Prior to this, he was Vice Dean at The Bartlett School of Architecture, UCL. He has an international reputation as an architect, designer, artist, teacher, writer and polemicist. He is the founding director of the Advanced Virtual and Technological Architecture Research Group (AVATAR), which continues to push the boundaries of architectural design and discourse in the face of the impact of twenty-first-century technologies. Its current preoccupations include augmented and mixed realities and other metamorphic technologies.

**Stasus** is an architectural platform exploring practices and processes of architectural representation. It was formed by **James Craig and Matthew Ozga-Lawn** in 2007. James and Matthew are lecturers in architecture at Newcastle University, and have published their work in the *Pamphlet Architecture* series ('Pamphlet Architecture 32: Resilience') as well as architectural journals and in multiple conference proceedings. Stasus has had work exhibited in London, Edinburgh, Warsaw, Dundee and Newcastle. As Stasus, James and Matthew run architectural studios at Newcastle University, engaging students with their own relationships and understandings to their drawings, and the psycho-spatial manifestations of these relationships. Matthew has recently completed a PhD by creative practice entitled 'The Duke in His Domain: on the apparatus of architectural drawing', and James is undertaking his own PhD studies entitled 'The Autobiographical Hinge: revealing the intermediate area of experience in architectural representation'.

**Ben Sweeting** studied architecture at the University of Cambridge and The Bartlett, UCL, completing his PhD at the latter under the supervision of Neil Spiller and Ranulph Glanville. Ben's work is focused on epistemological and ethical questions at the intersection of design and cybernetics. He is a member of the American Society for Cybernetics and a recipient of the society's Heinz von Foerster Award.

**Mateo Tannatt** works in sculpture, film and installation. His works are set in the territory of myth and belief, mining the relationship between reality and fiction, especially as they relate to cinema and storytelling. Tannatt's work consists of physical objects and installation. His past exhibitions include: 'Dirty Protest', Hammer Museum (Los Angeles); 'All of This and Nothing', Hammer Museum (Los Angeles); 'When Attitude Becomes Form Becomes Attitude', Wattis Institute (San Francisco); and 'First Among Equals', ICA (Philadelphia). Most recently, he presented the solo exhibition 'The Thatch of the Roof' at Salon Kennedy in Frankfurt, Germany, and 'Cave Rewards' at the University of Houston, Texas. Tannatt recently received the Cynthia Woods Mitchell Fellowship at the University of Houston. He also directs and curates the artist-run gallery Rainbow In Spanish in Los Angeles, California.

**Robin Wilson** is a critic and lecturer of architectural history and theory at The Bartlett, UCL. He is author of *Image, Text, Architecture: The Utopics of the Architectural Media* (Routledge, 2015). His work has also appeared in *The Political Unconscious of Architecture* (2011), *Camera Constructs* (2012) and the peer-reviewed journals *The Journal of Architecture* and *Architectural Theory Review*. He has published widely as a critic on art, architecture and landscape within the architectural press. His work explores issues of criticality and representation in the architectural media, and the role of the utopian impulse across an interdisciplinary range of architecture, art, literature and landscape.

**Liam Young** is an Australian-born architect who operates in the spaces between design, fiction and futures. He is founder of the think tank Tomorrows Thoughts Today, a group whose work explores the possibilities of fantastic, speculative and imaginary urbanisms. Building his design fictions from the realities of the present, Young also co-runs the Unknown Fields Division, a nomadic research studio that travels on location shoots and expeditions to the ends of the earth to document emerging trends and uncover the weak signals of possible futures. He has been acclaimed in both mainstream and architectural media, including the *BBC*, *NBC*, *Wired*, *The Guardian*, *Time* and *Dazed and Confused*, and his work has been collected by institutions such as the Metropolitan Museum of Art and the Victoria and Albert Museum. He has taught internationally, including at the Architectural Association and Princeton University, and now runs an MA in fiction and entertainment at SCI-Arc. Young manages his time between exploring distant landscapes and visualising the fictional worlds he extrapolates from them.

**Jan Zalasiewicz** is Professor of Paleobiology at the University of Leicester. A field geologist, palaeontologist and stratigrapher, he teaches geology and Earth history to undergraduate and postgraduate students, researches into fossil ecosystems and environments across half a billion years of geological time and has written popular science books such as *The Earth After Us*, *The Planet in a Pebble* and *Geology: A Very Short Introduction*. He currently chairs the Anthropocene Working Group of the International Commission on Stratigraphy.

# Introduction

## Matthew Butcher

> There are key architectural statements that, though not necessarily built, nevertheless inform us about the state of architecture – its concerns and its polemics – more precisely than the actual buildings of their time.
> —Bernard Tschumi, 'Architecture and Limits', 1980[1]

The architectural magazine *P.E.A.R.: Paper for Emerging Architectural Research* was founded in 2009 by architects Rashid Ali, Matthew Butcher and Julian Kruger, curator Megan O'Shea and graphic designer Avni Patel. The provocation to generate such an endeavour was activated in part when, as we embarked on our careers in architecture, we became rapidly disenfranchised by a basic lack of critical and reflective dialogue in the daily operations of professional architectural practice outside an academic context. We felt the majority of design and discourse was not seeking to understand its purpose or to ask why it manifests in the way that it does. Instead, what we observed from our position in London – one of the world's centres of commerce – was a profession focused almost exclusively on the production of buildings: design intent seemed to be entirely dictated by the market and the speed at which it could be produced. The majority of work did not seek a new way of practicing or question the role of architecture, even though the world around was changing rapidly with key events such as the financial crash of 2008, the housing crisis and the need for architecture, as a key player in the design and construction of the environments in which we live and dwell, to respond to the increasingly prominent effects of climate change.

Against this backdrop, we established *P.E.A.R.* with the ambition to challenge how architecture was held in thrall to market forces. Its intent was to provide a space to reflect critically on the nature of architectural discourse and practice, as well as on the future form of the discipline in the early part of the twenty-first century. Central to this endeavour was the publication of texts and designs that scrutinised assumed and fundamental

publication of texts and designs that scrutinised assumed and fundamental professional norms and promoted the idea that despite architecture's professional status, it should fundamentally be considered a discipline. It presented architecture with no clear hierarchy between the different forms in which it manifested and sought to present the discipline as a flat field of interrelated actions that could work both in parallel and in synergy. By questioning architecture in this way, it ceases to hide behind the professional codes set by government bodies or quangos. Instead, it reveals the possibilities of a field that exists with shared history, ideals, aesthetic sensibilities and principles. We rejected the overarching belief that architecture should function in the service of the market. Rather, we sought to publish works by architects, artists, designers, historians and theoreticians alongside each other. We endeavoured to promote works that would not usually find a platform and to publish the experiments, musings and outtakes that are fundamental for self and disciplinary reflection.

To encapsulate the nature of the content we wanted for the journal, we pursued two specific agendas. First, we wanted representation from architectural practitioners, both those working in a professional capacity and those who were primarily linked to the world of academia through the development of research or teaching. Second, we were conscious of the need to assert that architecture was not only embodied in buildings but also existed in text, drawings, photographs and even performances. To this end, we wanted to capitalise on art practices' increasing interest in architected and architectural modes of production and representation. These were appearing in artworks such as those by Turner Prize–nominated Mike Nelson and Paul Noble who explored both architectural references and forms of communication in their work. The exhibition 'Psycho Buildings', staged at the Hayward Gallery in London in 2008, also profiled artists and works that were using architecture as a subject matter. By enlivening and capitalising on this debate, we sought to emphasise architecture's place primarily as a cultural practice and to acknowledge that we could learn from what these artists were saying about what architecture is and means within a wider cultural discourse. Our attention was the plethora of positions and actions from the world of architecture and art that we were witnessing in and around London. This was important to us, as we felt there was not at that time a focus on this very particular environment, especially on younger and emerging practices and researchers in international consciousness. We also felt that concentrating on London was important within the wider aims of the journal, allowing it to function as a fertile and vital battle ground while the city was cementing itself as a global centre of capital.



Our endeavour was also in part responding to other architectural discourses and practices that were, like us, seeking a greater level of critical reflection on and through the discipline. Emerging at this time were a number of design firms that, alongside operating like traditional architectural practices, were also trying to develop the scope of what architects could do beyond building. One of those at the head of this development was AMO,[2] the research think-tank wing of the global practice Office of Metropolitan Architecture (OMA), headed by Rem Koolhaas, which had emerged at the end of the 1990s. We sought solace in the actions of a large practice such as OMA diverting resources into the promotion and development of architecture in as many divergent forms as possible, including exhibitions, publications and writing, as well as researched strategic thinking involving many disciplines around the future of architecture in relation to emerging global trends and forces. Although inspired by many of the actions of AMO, we were not looking for means in which to turn the endeavours of *P.E.A.R.* into a new economic model for architects – a process that AMO was and is cultivating with the development of brand identities for both companies and nations.

Within this context, we were also cautiously sidestepping the evolving trends around post-critical theory championed by individuals such as Robert Somol and Sarah Whiting in their text 'Notes Around the Doppler Effect and Other Moods of Modernism'.[3] These post-critical theories, to which AMO could be said to share certain affiliations,[4] are understood by historian and critic Mark Jarzombek as a 'need to solve pressing and large scale communal, ethical, corporate, computational, and global problems'.[5] They exist against the more insular actions of architectural designers and thinkers that seek criticality in response to philosophical or theoretical contexts, or distinct disciplinary concerns, primarily in academic settings. In this sense, the post critical called for the freeing up of architectural practices to respond to immediate problems in a more pragmatic and direct way, engaging directly with the pressures that affect architectural practice such as the role of advanced computational design, environmental concerns and unpredictable global markets that affect the construction industry. Our desire to deviate from these theories was in no small part driven by the concern that the underlying project of the post critical, reflected in practices such as AMO, was to elucidate practice in line with the forces that govern the market[6] – a condition that would potentially take us back to where we began.

As an alternative, we sought influence from the research being done within the 'Critical Architecture'[7] project that manifested as a conference in 2004 and as a book that emerged from the conference in 2007 under

the same title. The book and conference were set up by Jane Rendell and Jonathan Hill from The Bartlett School of Architecture, who are both contributing to this volume, in collaboration with Murray Fraser and Mark Dorian. In the introduction to the book, Jane Rendell states that the endeavour was to seek to define 'Critical Architecture' as a 'way of making a place between criticism and design in architecture'.[8] In part, the drive for this investigation was encapsulated by a desire to critique emerging ongoing trends that, as Rendell sets out, felt: 'the terms "design" and "criticism" should be divided' where 'design should take place through the production of buildings, while criticism should be performed by critics who "judge" buildings by writing essays'.[9] As a response to these conditions, the ambition of the 'Critical Architecture' set out in the book was to explore how architecture might manifest its criticality through mechanisms of interdisciplinarity, both from the different modes of architectural production such as theory, design and criticism which exert pressure on each other to generate new ideas and forms, and from the interdisciplinary cross-referencing between them and other disciplines, exploring the potential of cross-contamination between design and critical and theoretical texts.

Like this project, we were fundamentally also interested in the possibilities for criticality and reflection that could occur when correlating the many forms of architectural production, and particularly the possibilities for architecture when engaging with developments in art practice. We followed the precept of theorist Homi Bhabha that this process 'is not an attempt to strengthen one foundation by drawing from another; it is a reaction to the fact that we are living at the real border of our own disciplines, where some of the fundamental ideas of our discipline are being profoundly shaken'.[10]

In turning to art practice in particular, on one hand, we sought to provide architecture with a way to understand itself by looking out at different practices; on the other, it holds a mirror to the discipline, reflecting back the face of architecture as seen from outside, rather than the one the profession wishes and believes they project. By providing a critical means to utilise art practice and the ideas around it to test specific qualities and facets of any architecture in a wider cultural context, it challenges architecture to be aware of and embrace what is external to it. For cultural theorist David Cunningham, this mediation of art practice with architecture is critical if it is to avoid stagnation and become a means purely to pander to commercial drives. As he states, without this engagement, architecture becomes:

> aestheticism, in a form that is itself, ironically, open to 'functionalism' in the service of capitalist development. If this is to be avoided, then it depends upon architecture's capacity to critically articulate the internal and external historically – variable relations that it has to other cultural forms to whose productive logics it is subjected – to 'art' certainly.[11]

Within these contexts, the exchange between art practices and architecture creates a critical space to test, question and explore the limits of architecture – one unbounded by criteria enforced from within the discipline.

What separated our endeavour from that partly expressed by 'Critical Architecture' and other interdisciplinary explorations was not the merging of theory and design, or art and architecture, but instead a criticality offered through the comparison between practices, not devolution of one into the other. Although there were authors and contributors that explored this type of interdisciplinarity within the work that we published, our desire was to curate a condition where relationships between forms of architecture and art practice were implicit; they could be acquired by the reader or potentially missed.

Our endeavour was not to dictate meaning from individual works or contributions but across and between them as if horizontally perceived – an ambition that sought to create a kind of cacophony of thought and voices where ideas and relationships between the contributions might be felt, intuitively, as well as reasoned. This means of curating relates in part to Howard Caygill's rereading of Walter Benjamin's methodologies and philosophy of critique, explored through Benjamin's later works and principally the 'Arcades Project'. In the book *Walter Benjamin: The Colour of Experience*,[12] Caygill states that the evolution of Benjamin's critical practice can be understood as a desire to emphasise and rethink the nature of experience, where this 'concept of experience emphasises the complexities of intuition – "axioms" or "things seen" – over those of the understanding – the "acroams" or things spoken'.[13]

To help to create this experience of cacophony, each of the seven issues of *P.E.A.R.* had an overarching theme. These themes were drawn from a particular context that we felt architecture must engage with, and related to issues that also emerged from outside the discipline or from its disciplinary parameters. Our themes included 'Sample and Synthesis', which framed Issue III[14] and looked at the role and importance of historical precedents in developing any new design, theoretical text or artwork,

and 'Meaning and Material' in Issue VII,[15] which sought investigations on the need for architects and artists to continue or not to consider the nature of the material presence in any spatial or aesthetic experience in relationship to current economic conditions or in the light of climate change.

In addition, our curatorial voice also, as has been suggested above, sought to give prescience to experiment and to works and thoughts that had not fully formed. This emphasis enabled us to consider *P.E.A.R.*'s criticality that was emergent – that is, a critique that is emerging and intuitive rather than something that arrives fully formed or fully reasoned.[16] This way of curating the journal also sought to acknowledge several issues that were and still are being raised against the endeavour of critical discourse. These include the post critical, and in part the acknowledgement that as John Macarthur and Naomi Stead write in their essay 'The Judge Is not an Operator: Historiography, Criticality and Architectural Criticism'[17] that critique is a 'judgment' held by an individual or group of individuals 'which locates and holds a still point within the swirling mists of generalised cultural critique'[18] and that this position of judge can create a cult of personality and position of unsalable authority. There is also often a temporal lag between the critique and what is being critiqued, as Macarthur and Stead state: 'Like history, criticism is retrospective, and acts to conceptualise and make transmissible that which has been lived, acted, built'.[19]

## Form of publication

During the formation of our first issues, we indulged ourselves in the history of architectural publishing and its positioning to create as well as record and disseminate discourse. We looked to the historic avant-garde, the Dadaists, surrealists and futurists, and their publications such as *DADA* (1917–1921), *Mécano* (1922–1923) and *Blast* (1914–1915), and admired how their concepts reverberate across the decades. We also turned our attention to the little magazine publishing boom of the 1960s and 1970s.[20] We felt the greatest affiliation to this second wave of self-publishing and architectural discourse and believed that their presence in our thought processes allowed the discovery of disciplinary renewal in past practices. Specifically, we felt an urgent affinity with the idea that these little magazines were, as Beatriz Colomina and Craig Buckley put it in their seminal document of this movement *Clip, Stamp, Fold: The Radical Architecture of Little Magazines, 196x to 197x*, 'not simply representing architecture but were sites of architectural production in their own right, challenging building as the primary locus of experimentation and debate'.[21]



We launched our endeavour in the mould of self-published fanzines from this period such as *Architecture Principe* (1966), *Oppositions* (1973–1984), *October* (1976–present) and *Bau Magazine* (1965–1970). These magazines were steered by architects, theorists, artists and historians who wanted to provide a space to publish experimental work outside the existing hegemonies of cultural dissemination. They also sought to, as Colomina and Buckley state, provide 'different visions of architecture's role within the cultural and political contradictions of capitalism',[22] a position that sought to critique the professions on supporting the influence of market economics that existed at that time and are conditions that are reflective of our experience in London in the early part of the twenty-first century. Many of the protagonists who contributed to these magazines were also those who the post-critical movement were seeking to form positions against. They provided a framework for us to assert our need to publish and support works which did not fit the mould of what was being published in the mainstream architectural press. Or, where we were publishing works that had had coverage in the more traditional outlets, then we would seek to frame it differently and more in a more

**I.1** *P.E.A.R.: Paper for Emerging Architectural Research*. Photographs of selected issues from 2009 to 2014. Issues photographed clockwise from top left: Issue II: Istanbul Inside and Out, 2010; Issue VII: Meaning in Material, a collaboration with the Royal Academy of Arts, 2014; Issue VI: Landscape/Ecology, 2014; Issue V: Medellin through a Kaleidoscope, 2012; and Issue IV: Dwelling, 2011. Photos highlight the graphic style used on the journal's covers developed by Avni Patel. Source: Photograph of journal pages by Ed Park. © P.E.A.R. Magazine.

reflective capacity. In this way, we were specifically seeking to host what architect and theorist Bernard Tschumi, who was heavily involved in the little-magazine movement, described as work 'of the limit'[23] – that is, works that 'often provide isolated episodes amidst the mainstream of commercial production . . . Like the hidden clue in a detective story, these works are essential'.[24] For us, like Tschumi, these other forms of practice, considered in many ways auxiliary, were – and are – critical to the way the architectural discipline questions itself and evolves.

Speaking to the heritage of these historic publications, *P.E.A.R.* was printed cheaply on newsprint, a medium whose size and texture highlighted its own materiality. It yellowed, creased and blurred as it aged – a quality that we deliberately propagated as manifesting our difference from the glossy architectural magazines of the time. In contradiction to the trend within these publications to use expansive panoramic architectural photography, the journal used Patel's black-and-white block graphic style on its cover, directly referencing the look of many of the magazines from the 1960s which were produced on cheap and readily available printers and copiers.

The content also stood in opposition to architectural journalism at that time, as the mainstream press moved steadily into the realm of the Internet. This was becoming standard practice in the early part of the twenty-first century, arising against a backdrop of falling sales – a circumstance that reduced content to the form of the blog or news post – further removing it from in-depth editorial critique.

To bolster our remit as publishers of a critical and reflective architecture, as well as in support of a form of interdisciplinary agenda, we set out not only to produce the journal but also to hold performances, events and discussions. Our endeavours were serious, absurd, whimsical and nostalgic. The venues and forms for such events were varied. For instance, in the Architecture Foundation Space on Tooley Street in 2011, Tomas Klassnik from Klassnik Corporation slowly removed all of his clothes in order to iron them carefully and methodically in front of a packed crowd. Further, in an event that we were asked to organise at the Royal Academy in 2014 to discuss the importance of materiality to discourse on architecture, artist and material expert Zoe Laughlin cracked the floor tiles of the Burlington House entrance to the museum while demonstrating the strength of different rare metals. We also sought to expand the notion of what could be considered content for a published journal – an ambition that was central to the publication of Edwin Burdis's work 'The Grand Pear (Home): Mass Housing for a Mass of People', featured in Issue IV of *P.E.A.R.* from 2011 and reprinted in this book. For the work, Burdis created a set of drawings for a new fantastical proposal for a giant housing

**I.2** *P.E.A.R.: Paper for Emerging Architectural Research*, Issue II: Istanbul Inside and Out, 2010. Photograph shows page spread by artist Karin Ruggaber from her piece *Yeşilyurt*. Ruggaber had requested that we publish her photos turned on their side, the reason being that in order to view them, the journal would have to be physically rotated, putting more emphasis on the physicality of the journal as an artefact. Photos and text from this article are republished here on pages (63–70). Source: Photograph of journal pages by Ed Park. © Karin Ruggaber.

**I.3** *P.E.A.R.: Paper for Emerging Architectural Research*, Issue IV: Dwelling, 2011. Spread from Neil Spiller's contribution to the issue titled 'Dwelling in the 21st Century – The Professor's Study'. The contribution is republished here on pages (117–21). Source: Photograph of journal pages by Ed Park. © Neil Spiller.

**I.4** *P.E.A.R.: Paper for Emerging Architectural Research*, Issue VII: Meaning in Material, a collaboration with the Royal Academy of Arts, 2014. Drawings taken from the contribution 'Working the Material' by Matthew Butcher. Drawings shown are from the 'Silt House Chapel' and 'Superstudio Monument' projects. Source: Photograph of journal pages by Ed Park. © Matthew Butcher.

scheme. To augment the publication of these drawings and expand the scope of this work, Burdis also created a sound work that described the lives and thoughts of the inhabitants of these dwellings. The sound work could be heard on the journal's website and was performed at the launch of the issue that took place at the Gopher Hole architecture gallery, run by practice Aberrant Architecture and curator Beatrice Galilee in London.

*P.E.A.R.* was also one of the key publications included in the 'Archizines' project set up by Elias Redstone with the support of the Architectural Association in 2011. This project saw the collection and the exhibition of many other new and self-published architectural zines. Exhibitions were staged in more than 30 venues worldwide, including the Architectural Association, London (2011); Storefront for Art and Architecture, New York (2012); Centro GAM, Santiago de Chile (2012); and Perloff Gallery, UCLA Architecture and Urban Design, Los Angeles (2013).

## From journal to book

This book marks a new phase in the development of *P.E.A.R.* and systematically builds on the core ambitions of the journal which are to develop, publish and promote a reflective and critical discourse for architecture. Also central to the book's remit, published 10 years after the first issue of *P.E.A.R.* and six since the last issue, is to ask how these conditions manifest and to examine how currently architecture mediates between the different forms of itself and that which is external to it. That is to say, if we consider there to be multiple means through which architecture can manifest, then how do they critically reflect on each other? How do other cultural productions such as art practice change the way we consider the nature of what architecture is?

The book has been instigated as a response to specific developments within architectural discourse and practices that were present but have now altered or become exaggerated since the launch of the initial publications in 2009. These are, first, a dramatically increased emphasis on the commercialisation of architectural practice, driven by unchecked forces of neoliberalist economic models in the West. This condition is surprising, since the crash of 2008 affected many architectural practices irreparably, but it seems, like in many industries, to have had no effect on the ongoing instigation of market-driven economics and may in fact have exaggerated them. In his book *The Architecture of Neoliberalism*,[25] theorist and historian Douglas Spencer describes how recent developments in architecture are being formed by, and in turn are also informing, the key political philosophies that govern our Western economies, principally those associated with neoliberalism.

It is a condition that Spencer posits increasingly encourages the abandonment of individual critique and reflection within the discipline, deeming that these facets offer a means to slow progress and profit. Instead, architecture and the skills of architects are consumed into the complex system of economic governance to embody a status as just 'things among things',[26] ensuring 'the optimization of the subject's performance'.[27] Within this context, architecture is increasingly controlled by forces and beliefs that are preaching more than ever the need for more efficient and cost-effective design processes and building techniques and digital technologies. This includes the increased reliance on computational and digital design tools such as Revit that ask many disciplines and individuals to work on a single model, further removing space for individual reflection above the collective endeavour that prioritises speed. Large practices, including those that traditionally might have belonged to, or emerged from, associations with more reflexive and experimental practices, seen in the little magazines of the 1960s and 1970s, continue to promote themselves within narratives that call for professional efficiency garnered by ideas and methods of financial and technocratic progress.

This drive is further enhanced by the need of these practices to sustain large-scale global operations, while small, and arguably more reflective, practices are left competing for the same work with fewer resources. The time needed to create a space for contemplation – that is, to create a space to reflect and consider the nature of what architecture is and can be – is increasingly reduced. More than ever, and even perhaps more than a decade ago when *P.E.A.R.* was launched, it feels like we need to explore the importance and resonance of the discipline of architecture at its limits and how these limits can challenge the operations and norms dominating the current conversation.[28]

Second, the book highlights specific developments of symbiotic relationships between the practices of art and architecture – specifically, the recognition and significant appreciation of a more expansive and reflexive architectural practice that is now present in the art world. Few things demonstrate this more than the nomination of architecture, art and design collective Assemble for the Turner Prize in 2015 – a prize they went on to win. This gave public recognition to a form of architectural practice that challenges traditional ways of working, as Assemble strive to operate as a collective, manufacturing many elements of the buildings they design themselves. It is also a practice that removes the traditional hierarchies associated with the discipline between those that commission, use, fund and build any architecture – forces that can traditionally limit criticality in the building and design process. It was a feat that was nearly repeated when Forensic Architecture, a practice seeking to highlight abuses of human rights and acts of state-funded terror using architectural methodologies of exploration and representation, were nominated for the prize in 2018. In both cases, the move away from traditional ideas of what architecture is and can be reinforces the relationship between architecture and art practice and provides a platform to build on the wider recognition that these practices have received, seeking to emphasise the cultural capital of architecture's more critical ambitions.

This shift in the relationship offers the chance within this book to investigate further the need for this relationship between art and architecture and to explore ways that it currently manifests. Specific to this is the way that forms of art practice influence how designers are choosing to manifest their work, such as in performance art or photography, and how theorists, curators and historians are choosing to think about architecture.

Finally, the book also emerges at a time when, like *P.E.A.R.*'s original ambitions, there is an increased desire to promote, focus on, analyse, map and record practices that diverge from traditional modes which seem to be re-emphasised in a disciplinary consciousness. This includes an increased emphasis on practices and publications which frame their investigations as a response to political developments, for example against hegemonies of the market and the financial instability that it brings, and the fact that it limits space for reflection.[29] Within this context, we also see an increased interest through emerging designers, architects and historians in many of the practices who were involved in constructing, and who featured in, the little magazines of the 1960s and 1970s. This desire to seek resonance with the protagonists of this period, often referred to as those constituting the late or neo-avant-garde,[30] could have several reasons. In part, it could be driven by the desire to seek affinity, like we did when we set up *P.E.A.R.*, with these practitioners from the 1960s and 1970s who sought to undermine through their architectural experiments and visions the hegemonies that dominated architecture production at that time. This attack can be understood as a desire to engage architecture against modernism's increasing focus on market-driven ideals of efficiency and technology and a shift in society to a condition of hyper-consumerism.[31] They were also working within the context of the looming ecological crisis and political unease – conditions that resonate today.

It is important to note that although it is perhaps the intention of the editors to appraise this book within the contexts of the practices described previously, it is not necessarily something that is apparent or recognised by the contributors featured in this book. That said, there is something of the spirit of the work of the 1960s and 1970s in all the projects included – works which show affinity with a broad set of reflective positions formed through mediums that include text, drawing, film, performance, comic strip, online databases and even building that this book seeks affiliation with.

In relationship to these contexts, and to ensure we are fulfilling the aims of the book and the central remit of the *P.E.A.R.* project, we have selected the contributors to manifest their architectural interests in a divergent set of ways. We have offered those contributing a space to experiment with ideas and forms of their work that would not necessarily be accepted in other publications or within the traditional outputs that practitioners are expected to deliver. Included are architectural practitioners, design researchers, artists, architectural theorists, historians, journalists, curators and a palaeobiologist. Although many of the contributors are heavily associated with academia, whether through the development of significant research or through teaching, many also are intrinsically linked to roles in the profession of architecture or develop their work in the context of a more traditional practice. In this way, we

have sought to avoid the reinforcement of silos that exist within the discipline, most notably separating the worlds of practice and academia.

Across the book, there are 26 different contributions, including 10 completely original and new works alongside five extensively reworked and expanded texts, developed from original contributions to the journal. These five pieces have been reworked to ensure their arguments and ideas are applicable to current research and practice contexts. In addition to these 15 chapters, the book is republishing 10 works that were originally shown in, and were exclusive to, the journal. The inclusion of these original texts serves several functions, but foremost we feel that they and the ideas they discuss still have significant relevance within the aims of this book, and it is important to give them a new and wider audience as a significant contribution to architectural practice and discourse. Second, the inclusion of these chapters gives a consistency to the investigation originally set up by the journal and continued by this book, highlighting the former's legacy and the ongoing significance of this book's enquiry.

Within the endeavour the book has set up, as specifically outlined in this introduction, there could easily be levelled several criticisms. The first of these is that the book is not facilitating a deep enough exploration of architecture's responsibility to engage with that which is external to it – that in its reasoning for the ongoing presence of *P.E.A.R.*, it is too focused on the exploration of disciplinary-specific agendas and discourse, and that architecture has a responsibility to the realms of the social and political through its sheer scale and presence in the world. In this sense, the book could in part be proclaimed as seeking a position for architecture's autonomy, where theorist and designer Diana Agrest suggested a position that architecture 'possesses specific characteristics that distinguish it from all other cultural practices and that establish a boundary between what is design and what is not'.[32] K. Michael Hays describes this autonomy as 'a reduction in and specialisation of form, which becomes cut off from other social concerns'.[33] It is this condition of isolation that, for Hays, allows architecture to develop its criticality. This sentiment is true, and certainly there are clear resonances between the endeavours of this book and those wishing to establish disciplinary autonomy such as Hays. But the introduction should only be seen as a way into the project and as an introduction to the reasoning for how and why we have compiled the book in the way we have. The discourse around architecture's place within the social and political is in part played out in the book through the content. Many authors and contributors seek to explore themes such as the role of activism in architectural practice and explorations of how architecture might develop new forms in response to the threat from climate change.

Second, criticism could also be levelled at the book for having a limited scope of contributors, many of whom are based in London, with some in Western Europe and North America. In turn, it could also be said that the book does not explore models of practice from a wider field beyond these strictly Western conditions. Again, this is true, but as was stated earlier, one of the key tenets of the journal was to try to encapsulate the particular discourse in and around London. Wider modes of practice were in part explored in two issues of the journal that both sought to survey reflective and critical practices in two cities that had seen dramatic social and urban changes. Issue II, from 2010, titled 'Istanbul Inside and Out',[34] focused on emerging discourse and practice present in the city of Istanbul in Turkey; Issue V from 2012, titled 'Medellin through a Kaleidoscope',[35] sought to survey the multitude of different ways architects, theorists and historians were seeking to change the city as it emerged from the ravages of the drug cartels that had held sway over it since the 1970s. Content from these issues, specifically Karin Ruggaber's interview with Megan O'Shea from Issue II, is included here, but the book's focus is refined to ensure a clarity of purpose and intent. To address the issue of internationality more directly, a new issue of the journal is currently being worked on as a collaboration between *P.E.A.R.*, Ana Betancour and Carl Johan Vesterlund, currently based at Umea University in Sweden. Titled 'Global/Local', this issue is specifically set out to explore the nature of critical and reflective practices that emerge from very distinct social and political conditions, and how architecture is reflective and responsive to these conditions. Contributors to this new issue similarly reflect the international nature of the title, with authors hailing from areas of South America and India as well as Western Europe.

Reflecting the journal, the unique form of the book juxtaposes different forms of architecture discourse and practice against art practice. Through the sheer number of contributions and the expansive scope of individual investigations, the book presents an original and unparalleled contemporary investigation into multiple and divergent ways in which the discipline of architecture can be practiced and become manifest. Seen individually and collectively, the contributors offer the reader new ideas and ways to understand what constitutes the divergent means with which to produce architecture. Within this framework, it seeks to present the discipline, with art, as a series of interconnected but separate entities working together as a shared field of practice and discourse. This approach asks us to consider the critical and reflective nature through which architecture can manifest. Overall, the book illustrates how the experimental and expansive is embodied in a contemporary context. It

offers an alternative to and critique of those practices seeking to frame architecture as a mechanism to service commerce in the name of economic progress, negating spaces for experimentation and reflection – a space from which criticality emerges. Through this examination, the book provides a unique presentation of the diversity and scope of contemporary architectural practice, both seeking to test new ground while forming distinct relationships to historical legacies.

## Four themes

The chapters are grouped into four distinct sections, each focused on the exploration of a particular theme: Dwelling; Study, Sample and Synthesis; Landscape and Ecology; and Meaning in Material. Each of these themes is drawn from a particular context that architecture has traditionally engaged, and now must engage, with. These categories also mirror the themes that framed five of the seven issues of the magazine. Again, this repetition creates a consistency in the nature of investigation that the journal started and that the book is continuing. Each of the contributors was in part chosen for the way that their work or research relates to each of these themes and was asked specifically to respond to them. The purpose here, as set out in the first section of this text, is to mirror the original format of the magazine and to allow the criticality of each work to be present both in individual contributions and also as pieces of work seen together as a whole.

### *Dwelling*

In our first section, we asked contributors to consider the essay 'Building, Dwelling, Thinking',[36] in which the philosopher Martin Heidegger posits that dwelling is about not only the nature of inhabiting buildings but also a psychological state of being which a building can either facilitate or negate. Although Heidegger's text is not always referenced directly, there exist in all of these contributions significant explorations into the ways we choose to live and what we consider notions of home. The chapters within this section consider this issue with poetic, practical and fantastical emphasis. In addition to this core philosophical and disciplinary investigation, there are significant political and social conditions that are both latent and explicit in the investigations of many of the contributors. These include: the consideration of how architecture might engage with the UK's current housing crisis – a crisis that is affecting many Western economies, where a lack of governmental action or investment has led to large areas of the population being unable to find adequate housing for themselves or their family; second, the ways our lives are controlled by the threats to the environment where parameters of what were once considered permanent or stable no longer apply to the way people currently choose to live; and third, examination of the increasingly strict delineation of what is considered private and public space and how this affects ideas of how cities are planned and managed.

We start this section with a text from Ben Sweeting titled 'Place as a Reflexive Conversation with the Situation'. In the chapter, Sweeting presents an alternative approach to understanding dwelling and place, utilising ideas from cybernetics with which these notions are not normally associated. As a point of departure, he employs the writings of Norberg-Schulz who, while primarily known for introducing Heidegger's thought into architecture, also makes extensive use of ideas drawn from Jean Piaget, who is a significant point of reference for cybernetics. Sweeting argues that the need for this shift to look at cybernetics is based on the idea that the sheer complexity and interlinked nature of global problems, such as increased political instability, increasing cases of displaced populations and climate change, needs new forms of categorisation and investigation. For the discipline to engage and help design within these conditions, it needs to reconsider traditional notions of place and home. Next in this section, the book presents a series of drawings by artist Edwin Burdis that illustrate fantastical designs for a mass housing project that resembles giant pears. The drawings, which playfully reference the history of speculative architecture, seek to open up ideas of what housing is and means. Provocatively anthropomorphised, requesting our empathy as elements that may be alive, the design challenges the cold and blank modernist archetype for housing that permeates urban and suburban environments.

In 'Undead and/or Dead Living: The New Social Category', art critic Jonathan Griffin and artist Mateo Tannatt are concerned with how we interact and inhabit the world, spatially and as a society, rather than as individuals or just family units. To explore this idea, they discuss the ways we inhabit cities and how we meet and interact as communities in public space. The chapter explores how our actions in these contexts are enacted consciously and unconsciously as active members of society or as increasingly zombified members of the dead living. In chapter 4, artist Karin Ruggaber revisits the residential suburb of Yeşilyurt in Istanbul by the Marmara Sea which she has been photographing for a number of years. In conversation with Megan O'Shea, Ruggaber discusses her interest in the use of materials and ornamentation on buildings in this neighbourhood. Ruggaber's photographs explore the presence of plants and their spatial relationship to the architecture, and present us with a particular urban

condition that challenges what can be considered private and public, questioning the traditional distinction between what forms the building's façade and what is in the realm of the street. In chapter 5 architectural theorist and historian Jane Rendell explores how the actions of writing and research can be considered a form of activism in her chapter 'A Life of Its Own'. To investigate this idea, she draws from her involvement in a public inquiry which aimed to stop the displacement of residents from the Aylesbury housing estate in London – a process that was enacted during the area's redevelopment and regeneration. In the chapter, Rendell also reflects on the role academic writing and criticism have in affecting the world, the way she as an author is perceived and the relationship she has – and has had – to the places in which she lives and works. The text builds on and recontextualises an earlier piece of writing titled 'Doing It, (Un)Doing It, (Over)Doing It Yourself: Rhetorics of Architectural Abuse'. It was first published in the book *Occupying Architecture*[37] edited by Jonathan Hill and later in 2011 as a revised version in Issue IV of *P.E.A.R.*[38] which also focused on the theme of dwelling.

Taking the form of an interview, 'The Whitechapel Gift Shop' asks Torange Khonsari of design and art practice public works to examine how their project 'The Whitechapel Gift Shop' questions conventional notions of the home and the traditional role of the architect. In this project, where a home is combined with a public arts programme, public and private merge through a process of cultural exchange, theatrical performance and further through the performative nature of dwelling itself. In the last chapter in this section, architect and theorist Neil Spiller presents a fragment from his ongoing theoretical architectural project, 'Communicating Vessels' – a project that insists that we build our world while acting within it. Here, Spiller introduces us to 'The Professor's Study', a room for work that should be considered the centre of dwelling, and, in the accompanying text, suggests that creative people dwell in their work.

***Study, sample and synthesis***

The second section is primarily concerned with the exploration of certain methodologies that help the development of design. This investigation is principally driven by an examination of the role of drawing – as a tool for developing, processing and synthesising ideas, not just as a means to picture, illustrate or realise a design. This is particularly important within the context of architectural drawing being traditionally considered a final artefact with a legal status that communicates instructions to a builder, engineer or client. In this section, contributors examine how the drawing has its own creative capacities and operates as a means to progress the way architecture might facilitate mechanisms that question disciplinary norms.

This investigation is focused on two distinct areas. The first of these is how ideas of social and collective organisation and experience can be mediated through particular processes of design and drawing, and how this process can then be embodied in a design outcome. This highlights the notion that architecture is a collective and collaborative enterprise formed from the input of multiple individuals and organisations, not just by the actions of those given status by professional and legal bodies. The second emphasis is on how certain methodologies and processes of drawing can mediate and present design proposals with historical references and historical architectures. Against this backdrop, contributions in this section explore how this mediation from one time into another should not just be seen as historicism or nostalgia but rather offer a fruitful method to develop new architectures – ones that can utilise the ambitions and intent from previous actions, forms and ideas. We start with Robin Wilson's 'Horizon Remix: A "Crisis" in the Architectural Image – Representations of Lacaton & Vassal's "Double Space"'. In his chapter, Wilson presents us with an exploration of how the process and methodologies of digital montage can create a critical and contested space in which to explore the politics and meaning latent in architecture and architectural representation. It is an investigation in which Wilson undertakes to explore the ongoing problematic in the depiction of architecture which traditionally has focused on the object and not on more intangible precepts such as the nature of how space is occupied or lived in. Manifesting, literally, the mediation of a historical architecture and a new design proposal, the second chapter of this section presents a series of drawings that act as a record of a performance work by architectural practice The Klassnik Corporation. In 2011, the director of the practice, Tomas Klassnik, orchestrated a séance at the Architectural Association, London, with the deceased architect Le Corbusier. Shown here are the drawings that document Corbusier's answers as they emerged from the netherworld to various questions about his life and work – artefacts that record the mediation between the world of the living and the dead.

In Matthew Butcher's contribution, 'Architectures of Slowness: Actioning Historical Loops and Repetitions', the exploration of certain methodologies of design seeks to link directly with particular historical architectures, specifically the avant-garde of the 1960s and 1970s. The chapter sets out how this particular methodology can be seen as an architecture of slowness that acts against the ongoing proliferations of modernity currently prevalent in the discipline – a condition

that prioritises narratives of commercial progress and efficiency over ones that create a space for more reflective and poetic considerations on the nature of time and its passing. Architect Perry Kulper's chapter, 'A (Drawn) Practice(d) Construction: Relational Structuring, Chased', which is accompanied by a range of his drawings, presents us with a clear insight into the methodology and conceptual parameters that determine his specific mode of practice, and is instructive on the nature of how he believes contemporary architects need to operate. Foremost to his ideas is the notion that architects need to adapt and mediate their work in relation to multiple contexts and changes that occur outside the discipline. Within this capacity, he posits that contemporary architecture must be 'versatile and skilled, a kind of metaphorical fast-change artist, demonstrating expertise at occupying contested edges and dusty perimeters'. In 'Open Score Architecture', architect Yeoryia Manolopoulou offers a new design strategy that employs a methodology that makes use of specific architectural scores. These scores operate using various forms of notation and allow for a more collective and open means in which to design, as well as one that encompasses and embodies the realm of the social. To demonstrate this particular methodology in practice, in the text and accompanying images, Manolopoulou presents her experience of running a design workshop titled 'Lattice' that took place at the Université du Québec, Montreal, in 2017. In the last chapter in this section, 'Saved from the Wrecking Ball on a Daily Basis', architect Tom Coward, from London-based architectural design practice AOC, suggests that architecture must be formed from social relationships and collective memories as much as by physical matter. As a means to define how this idea can be embodied within daily architectural practice, Coward sets out to explore how the work of AOC is developed and mediated, very much like Manolopoulou's, through workshops and participatory engagement. The resulting process of interactions is social and performative, creating a means by which to design and one that directly involves those who would occupy the spaces of the proposal on a daily and hourly basis.

***Landscape and ecology***

The third section of the book groups contributors who explore the distinct and complex relationships that exist between architecture, space, nature and the environment – relationships that allow us to expand the way we consider architecture in relation to, and mediation of, the physical sites in which any architecture or art is sited, as well as the way we choose to design for and inhabit rural and urban locations. The threat posed to the environment by the ongoing effects of climate change forms a backdrop to these chapters – a situation that the discipline must engage with if it is to help reduce the effects of global warming. This ambition is ever more pressing when considering the energy used by buildings on an hourly basis, as well as the cost of resources in the extraction of materials and the process of building.

We start this section with a text from Melissa Appleton titled 'Writtle Calling/2EmmaToc: A Radio Station for Essex'. In it, Appleton revisits her memories of a temporary radio station that she designed, built and ran with Matthew Butcher in the summer of 2012. The text recounts the development and operation of the project which was sited in the grounds of Writtle College in Essex where the first weekly radio broadcast began in 1922. Choosing to focus on her specific recollections of one night of broadcasts that took place from the station, Appleton explores the meanings that can be drawn from the work, such as the way it responded and related to the history of broadcasting and the specific and distinct landscape of rural Essex. In 'The Fossilisation of Architecture in the Anthropocene', palaeobiologist Jan Zalasiewicz looks at how buildings and cities are fashioned and how their specific material and formal qualities will be fossilised and recorded across geological time frames. His analysis is foregrounded with a consideration of the effects that global warming, including rapidly rising sea levels, will have on this process and how our civilisation might be recorded in geological strata. Jonathan Hill's chapter titled 'Architecture in the Dark' asks that we be more conscious of how light directly influences the way we perceive architecture and design for it. He speculates that by embracing the changeable nature of light, and particularly the nature of darkness, we can develop a more acute and creative relationship to, and understanding of, time, architecture and the environment.

The next chapter shows a series of stills alongside the script from the film *Seoul City Machine* directed by architect and film maker Liam Young, with co-direction by Alexey Marfin. '*Seoul City Machine*' presents a near-future city of Seoul where the urban landscape is inhabited and mediated by various forms of artificial intelligence, machines and robots. The narrative of the film focuses on the voice of the operating system that controls these robots as she lovingly addresses the city's inhabitants whose lives she manages. 'On the Enclosures of Time' presents text and photos by Jes Fernie and Marjolijn Dijkman. In this chapter, the life and legacy of nineteenth-century poet John Clare is used as a starting point to address how issues of heritage and landscape influence our global as well as local identities. It emphasises how these identities have manifested, manipulated by political rhetoric, for the last 30 years as very particular

and esoteric obsessions with heritage. Next, FleaFollyArchitects, an architecture practice run by Pascal Bronner and Tom Hillier, offers a speculative garden design that seeks to explore the potential of repetitive patterns, anthropomorphic shapes, bushes and classical motifs in order to explore the uncanny potential of topiary and highly manipulated garden landscapes. Existing as a single drawing, the work presents the potential of drawing as a medium to project imaginary and fantastical spatial conditions. In 'Mallory's Ascent: Engaging the Space of Death through Architectural Drawing', architecture practice Stasus, led by James Craig and Matthew Ozga-Lawn, examines the very particular physical, yet unseen and imagined, spaces of Mount Everest. Like The Klassnik Corporation's contribution, this piece focuses on the mediated space that exists between life and death. To do this, Stasus's project focuses on an area of the mountain that has caused the largest number of fatalities to climbers making individual ascents – the 'death zone'. Through their analysis, death itself is identified and understood as a landscape that exists in a parallel yet present realm on the mountain. Accompanying the text are a series of drawings as well as photographs of an installation held in the north tower of Newcastle-upon-Tyne's iconic Tyne Bridge developed during 2016 and 2017. Through these images and their text, Stasus presents us with a way to record, articulate and illustrate the very specific atmosphere and spatial qualities of this 'death zone'.

*Meaning in material*

The final section of the book addresses three main issues that face the use of materials in the construction of and thought about the spatial, formal and material conditions of architecture, both historically and within a twenty-first-century context. First is the exploration of how new technology is driving the extraction, formation, understanding and aesthetic of materials through processes of digital production and manufacturing. Second, the section seeks to interrogate how our experience of the material world is being augmented and disrupted by our increasing relationship with virtual realms which alter the way we engage with and see the physical world. Lastly, and perhaps as a prerequisite that runs through the whole book, is the contraction in the creative use of materials in architectural production, driven by an industry reliant on prefabricated components made from a limited material palette that is tightly cost controlled – a condition that is creating a distinct homogeny throughout our built environment.

We start section 4 with Adrian Forty's text 'Forget Material'. In his chapter, Forty proposes that architects have always had to consider the nature of materials, and the issue facing architects today is not whether materials have ceased to matter but rather the fact that 'the way in which they matter has changed'. The short essay sets out the idea that the discipline's attitude and relationship to material and material qualities has altered through the introduction of defining factors such as digital production, but as yet it is not clear whether this shift promotes a new emphasis to be placed on the raw material and matter of architecture. Next is a photo essay that explores the distinct making process used in the work 'MeMeMeMe Totem' by architect Adam Nathaniel Furman which was created during his 2013 Design Museum residency. The predominantly visual chapter, consisting of drawings, photographs and text, creates a poetic narrative that explains and contextualises the specific fabrication processes used to create the distinctive formal and material qualities of this work. In their chapter, 'Digital Doubles, Colliding in Mid-air: Prototyping a Postdramatic Scenography', Bob Sheil and Thomas Pearce explore the way three-dimensional scanning technology is changing the manner in which we think about and experience space. These ideas are presented to us and tested against the multimedia performance work 'Scan' from 2013 – a collaboration between the Royal Central School of Speech and Drama (RCSSD), ScanLAB Projects and The Protoarchitecture Lab at The Bartlett School of Architecture, UCL. The artist collective Shunt created an original score for the performance at the RCSSD. In the chapter, accompanied by a series of scans of the performance and drawings of the work, Sheil and Pearce explore the way this work expands traditional understanding of scenography and architectural relationships, in particular the relationships between site and stage, subjectivity and authorship. The chapter is a powerful example of a practice that provides us with transdisciplinary knowledge as it seeks to use the disciplines of performance and scenography to challenge the way we think about architectural space through the digital realm.

Resonating with Adrian Forty's chapter, in 'The Discrete Turn: A Reconsideration of Architecture's Ontology', Mollie Claypool sets out to present a series of recent design works that challenge certain precepts that dictate how computational methodologies are utilised in design and its fabrication. In the chapter, Claypool illustrates how the emerging architecture of the 'discrete', a recent term given to certain types of computationally focused design practices, allows for a more fluid design process. For Claypool, these processes challenge the traditional relationships between the process of drawing and manufacture that have dogged computational architecture since the mid-1990s. Through the development of this new 'discrete' architecture, a more creative relationship can

be formed with material, away from restraining factors such as cost. In curator Kate Goodwin's contribution, we are presented with an exploration of the influence choreographic and performance practices have had on the way she thinks about the curation of architecture in the gallery environment. As part of this discussion, she draws on the innate physicality embodied in the performative act to consider how physical structures, distinct spatial conditions and materials inform specific architectural experiences. In the last chapter of the book, 'Shelf Life', architect Guan Lee contemplates the meaning and use of a collection, and in particular the collection of his numerous study models, material tests and failed prototypes, all executed in his studio at Grymsdyke Farm by himself and his students. Lee suggests that this collection acts as a reminder of 'accidental discoveries of numerous material characteristics' – and manifests as a living notebook. Here, the limit of architecture exists in the elevation of the material test to poetic and intellectual significance, highlighting the importance of experiment and investigation to continue to redefine and push the limits of what architecture is.

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The following articles have been reprinted in this book in their original form from previous issues of *P.E.A.R.: Paper for Emerging Architectural Research*.

Burdis, Edwin. 'The Grand Pear (Home): Mass Housing for a Mass of People', *P.E.A.R.: Paper for Emerging Architectural Research* IV (2011): 6–9.

Fernie, Jes, and Marjolijn Dijkman. 'On the Enclosures of Time', *P.E.A.R.: Paper for Emerging Architectural Research* VI (2014): 32–9.

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Griffin, Jonathan, and Mateo Tannatt. 'Undead and/or Dead Living: The New Social Category', *P.E.A.R.: Paper for Emerging Architectural Research* IV (2011): 40–3.

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All others have been updated by their authors or are completely new texts.

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## Notes

1. Bernard Tschumi, *Architecture and Disjunction* (Cambridge, MA: MIT Press, 1994), 102.
2. For a full definition of the remit and philosophy of AMO, see Spatial Agency, an online database cataloguing radical and alternative forms of architectural practice, https://www.spatialagency.net/ (accessed 30 March 2020). For other architectural practices operating as think tanks, see also the architectural practice Architecture 00, which is based in the UK and was founded in 2005.
3. Robert Somol and Sarah Whiting, 'Notes Around the Doppler Effect and Other Moods of Modernism', in *Mining Autonomy*, ed. Michael Osman, Adam Ruedig, Matthew Seidel and Lisa Tilney, a special issue of *Perspecta* 33 (2003): 72–7.
4. Mark Jarzombek, 'Critical or Post-critical?', *Architectural Theory Review* 7 (2002): 149.
5. This suggestion is also articulated by Jarzombek, 'Critical or Post-critical?', 150.
6. See Skidmore, Owings & Merrill (SOM), one of the world's largest architectural firms, funding of 'Things in the Making', a conference that took place at the Museum of Modern Art, New York, in 2000. The conference was seen to support in part the post-critical position. Issue highlighted by Jarzombek, 'Critical or Post-critical?', 149.
7. Jane Rendell, Jonathan Hill, Murray Fraser and Mark Dorian, eds., *Critical Architecture* (London: Routledge, 2007).
8. Jane Rendell, 'Introduction', in *Critical Architecture*, 28.
9. Rendell, 'Introduction', 34.
10. W. J. T. Mitchell, 'Translator Translated: W. J. T. Mitchell Talks with Homi Bhabha', *Artforum* 33 (1995): 118. Quote taken from Mark Linder, *Nothing Less than Literal: Architecture after Minimalism* (Cambridge, MA: MIT Press, 2005), 231.
11. David Cunningham, 'Architecture as Critical Knowledge', in *Critical Architecture*, 40.
12. Howard Caygill, *Walter Benjamin: The Colour of Experience* (London: Routledge, 1998).
13. Caygill, *Walter Benjamin*. Here, Caygill frames this definition of Benjamin's thought in Kantian terms.
14. *P.E.A.R.: Paper for Emerging Architectural Research* III (2011).
15. *P.E.A.R.: Paper for Emerging Architectural Research* IV (2014).
16. This idea of the emergence of criticality that is gained through experience can be related to ideas set out by Jane Rendell in: Jane Rendell, *Site-Writing: The Architecture of Art Criticism* (London: IB Taurus, 2010). Particularly, the ideas she sets out for 'site-writing', a means to see architectural and art criticism as spatial, exist 'where the boundary between subjects and objects is more porous and arguments are not made directly, but indirectly, through association and implication' (Rendell, *Site-Writing*, 2).
17. John Macarthur and Naomi Stead, 'The Judge Is not an Operator: Historiography, Criticality and Architectural Criticism', *OASE, Positions. Shared Territories in Historiography & Practice* 69 (2006): 116–27.
18. Macarthur and Stead, 'The Judge Is not an Operator', 126.
19. Macarthur and Stead, 'The Judge Is not an Operator', 134.
20. Beatriz Colomina and Craig Buckley, eds., *Clip, Stamp, Fold: The Radical Architecture of Little Magazines, 196x to 197x* (Barcelona: Actar, 2010), 6. 'Little magazine' is the term used by Colomina and Buckley for these particular publications.
21. Colomina and Buckley, eds., *Clip, Stamp, Fold*, 6.
22. Colomina and Buckley, eds., *Clip, Stamp, Fold*, 13.
23. Tschumi, *Architecture and Disjunction,* 102.
24. Tschumi, *Architecture and Disjunction,* 102–3.
25. Douglas Spencer, *The Architecture of Neoliberalism* (New York: Bloomsbury, 2016).
26. Spencer, *Architecture of Neoliberalism*, 163.
27. Spencer, *Architecture of Neoliberalism*, 162.
28. Spencer, *Architecture of Neoliberalism*, 161–3.
29. See Rory Hyde, *Future Practice: Conversations from the Edge of Architecture* (London: Routledge, 2012); and Melanie Dodd, ed., *Spatial Practices: Modes of Action and Engagement with the City* (London: Routledge, 2019).
30. The term 'neo-avant-garde' is associated with Peter Bürger and his book *Theory of the Avant-Garde.* The term refers to cultural production that utilised forms from the historic avant-garde. The term 'late avant-garde' comes directly from K. Michael Hays. It is a terminology developed in order to separate his understanding of this period of architectural production from others. See Peter Bürger, *Theory of the*

*Avant-Garde*, trans. Michael Shaw (Minneapolis: University of Minnesota Press, 1984), 148; and K. Michael Hays, *Architecture's Desire, Reading the Late Avant-Garde* (Cambridge, MA: MIT Press, 2010), 4–12.

31 Hilde Heynen, *Architecture and Modernity* (Cambridge, MA: MIT Press, 1999), 4–5 and 149–53.

32 Diana Agrest, 'Design versus Non-design', in *Architecture Theory Since 1968*, ed. K. Michael Hays (Cambridge, MA: MIT Press, 1998), 201. Originally published in *Oppositions* 6 (1976).

33 Hays, *Architecture's Desire*, 10. Used by Hays when discussing the idea of autonomy in the work of Peter Eisenman.

34 *P.E.A.R.: Paper for Emerging Architectural Research* II (2010).

35 *P.E.A.R.: Paper for Emerging Architectural Research* V (2012).

36 Martin Heidegger, 'Building, Dwelling, Thinking', in *Poetry, Language and Thought*, ed. Albert Hofsdater (New York: Harper & Row, 1971), 143–62.

37 Jane Rendell, 'Doing it, (Un)Doing it, (Over)Doing it Yourself: Rhetorics of Architectural Abuse', in *Occupying Architecture*, ed. Jonathan Hill (London: Routledge, 1998), 229–46.

38 *P.E.A.R.: Paper for Emerging Architectural Research* VI (2014).

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# Dwelling

# 1. Place as a reflexive conversation with the situation

Ben Sweeting

## Introduction: Place and the systems crisis

The present moment is characterised by a number of pressing crises. These include the increasing unaffordability of housing, the forced displacement of people, the disintegration of our political discourse and economic order and the all-encompassing issues of climate change and ecosystem collapse. Each of these crises is systemic in that they cannot be broken down into independent parts to be treated separately. Nor can they be addressed independently of each other – they are intertwined in complex ways, making it difficult to know where to start. Horst Rittel and Melvin Webber characterised such situations as wicked problems, arguing that they cannot be addressed through conventional forms of problem solving because of their complex interdependencies.[1]

An approach to interconnected situations such as these is to identify common threads running through them that might offer moments of traction for systemic change. One such issue, on which I focus here, is that of the architectural theme of 'place' – what it is to be somewhere in particular, and how we construct this as an idea and in built form. The gathering pace of processes such as globalisation, gentrification, migrancy and the development of networked technologies is making our built environment ever more generic and placeless. Many specific places are also very literally at risk from human conflict and climate change. Yet, while place making is undoubtedly a crucial aspect of how designers can respond to these challenges, to invoke place as an explicit priority has a double-edged quality. As well as being a value under threat, place is, at the same time, a contributing factor to political and social tensions that are bound up with the same issues. That is, place is visible not just in the coherence of the built environment, but also in the reinforcement of

borders, the global resurgence of nativist politics and tendencies towards ever more specific units of political identity and nationhood.

In order to begin unpicking this, there is a need to understand place from a systemic perspective. To do so is far from straightforward, however. Those approaches to architecture that have emphasised place and those that have emphasised the systemic are not usually thought of as having much in common. The examples of placelessness identified by architectural theorist Christian Norberg-Schulz, whose work I take as a point of departure in this chapter, include two of the most prominent designers from spatial disciplines to have engaged with systemic approaches[2]: Webber, an urban designer whose co-authored paper on wicked problems mentioned above remains a seminal reference in both systems thinking and design research[3]; and architect Cedric Price, whose radical projects are a key intersection between architecture and cybernetics.[4] Meanwhile, Price's copy of Norberg-Schulz's *Intentions in Architecture*[5] is annotated with the comment 'you should not read this – advice from a biased mind!'[6]

Tensions such as these are reflected at a theoretical and conceptual level. Fields such as systems, cybernetics and complexity have tended to involve abstraction from the specifics of material situations and so from considerations such as place. British cybernetician Ross Ashby notes that 'systems theory must become based on methods of simplification' and 'the systems theorist of the future . . . must be an expert in how to simplify'.[7] Similarly, Ashby's influential introduction to cybernetics characterised it as the study of 'all possible machines', focusing on general principles and downplaying material embodiment.[8]

Within architectural theory, the theme of place is strongly associated with phenomenology, and especially the later philosophy of Martin Heidegger (1889–1976). Several researchers have suggested the possibility of a complementary relationship between phenomenological and systemic approaches, based in their mutual concerns for the priority of experience and our participation in and with the world.[9] However, while phenomenology can be an important point of reference in situating and spatialising systemic thinking, it also brings with it a host of issues that must be carefully navigated. While it still has its advocates, phenomenology has been in retreat as a position within architectural discourse in recent decades. This has followed significant criticisms that seem especially pertinent in the present context. First, architectural phenomenology is entangled with the nativist politics that Neil Leach has characterised as the 'dark side' of Heidegger's thinking.[10] This is manifest in the idea that some forms of dwelling are less authentic than others, leading to sharp contrasts that, given the context of Heidegger's politics, risk dehumanising those who are, for whatever reason, less rooted in place.[11] Second, architectural phenomenology has tended to downplay the architectural importance of the social, political and economic.[12] Such a view is not tenable today, given not just the spatial consequences of these factors but also the role of place as a political and economic driver. Indeed, the regionalist approach that phenomenology helped to motivate[13] has itself been recognised as a product of the homogenising global capitalism it sought to counter.[14] Thus, while architectural phenomenology may have much to contribute, it is bound up with some of the very questions that a systemic treatment of place must address and blind to others.

These issues are evident in the work of Norberg-Schulz, an influential protagonist of phenomenology in architectural theory from the 1970s onwards, whose work I focus on here. For Norberg-Schulz, place is a quality inherent in the world, rooted in landscape and persistent through social and economic change. Nevertheless, the way Norberg-Schulz develops his argument is a useful point of reference for understanding place in systemic terms. While primarily known for introducing Heidegger's ideas into architectural discourse through books such as *Existence, Space and Architecture* and *Genius Loci*,[15] Norberg-Schulz makes use of a diverse range of other references. Amongst these is Swiss psychologist and epistemologist Jean Piaget (1896–1980), whose ideas are foundational for Norberg-Schulz's conception of architectural space. Piaget's work has a number of sympathies and connections with cybernetics, and Norberg-Schulz's use of Piaget therefore offers a potential starting point from which to construct a systemic approach to place.

Drawing on how Piaget is understood within cybernetics, I develop an alternative reading of place in tension with that of Norberg-Schulz. From a cybernetic perspective, place is a quality we attribute to the world rather than, as for Norberg-Schulz, something to be discovered in it. Juxtaposing these two views in the context of Norberg-Schulz's architectural observations serves to both connect and differentiate systemic and phenomenological approaches to place, helping spatialise the former (countering its tendency towards abstraction) while still distinguishing it from the latter.

## Reframing Norberg-Schulz's project

In the introduction to *Genius Loci*, Norberg-Schulz notes the importance of Heidegger's thinking as a 'catalyst' in the development of his work.[16] He

credits Heidegger's influence in helping complete his (Norberg-Schulz's) transition from the abstraction of the 'scientifically'[17] oriented approach that he followed in *Intentions in Architecture* towards the more situated and material focus evident in *Genius Loci*. The role that Heidegger's ideas play in this development is, however, somewhat ambiguous. Despite his association with Heidegger, Norberg-Schulz's work is not philosophically based. Instead, he progresses his arguments primarily through discussions of architectural case studies and his use of photography.[18] While his observations are supported by quotations from Heidegger, these are primarily illustrative, and his conclusions are not dependent on them.

Consider, for instance, the quotation from Heidegger in the following discussion from Norberg-Schulz's *Existence, Space and Architecture*:

> The 'bridge' is a particularly expressive path. Joining two domains and containing two directions, it is usually in a strongly felt state of dynamic equilibrium. Heidegger says: 'Bridges assemble the earth as landscape'. The system of paths, therefore, expresses man's possibilities of movement, the range of his world.[19]

Although Heidegger discusses various architectural examples such as the bridge in this passage, he is not writing about architecture per se but using these references to support his philosophical discourse. When Norberg-Schulz refers to Heidegger here and elsewhere, he is effectively reflecting architectural examples back onto their original architectural context.

The discussion of the bridge to which Norberg-Schulz refers is part of Heidegger's 'Building, Dwelling, Thinking', originally given as a lecture in 1951.[20] It serves as an example for his reflections on the 'fourfold' – the gathering of divinities, mortals, earth and sky. The fourfold is one of Heidegger's most mysterious and difficult to interpret concepts, and it has tended to be either ignored completely by Heideggerian scholars or dismissed as nostalgic poetry or myth.[21] Despite this, the fourfold has a direct resonance with architecture. The term 'fourfold' is a spatial notion, derived from an obscure word for courtyard,[22] something like the English 'quadrangle'. The horizontal and vertical spatial orders implicit in courtyard forms have traditionally been associated with the cosmological terms of the fourfold. When Norberg-Schulz refers to the fourfold's pairing of earth and sky in his discussion of Rome, he applies this architectural aspect back onto architecture:

> Both buildings [the Colosseum and the Pantheon] make us remember Heidegger's words that 'to be on earth means to be under the sky'. The Colosseum is open in the vertical direction and is covered by the sky itself. When you are inside, the irregular 'profane' horizon of the city is left behind; a perfect, undisturbed contour forms the basis for the natural dome above. Never has man made the sky present in a more convincing way. In the Pantheon the world is gathered under a built, symbolic dome. It is important to note that the coffers of the dome are not related to the centre of the sphere which could be inscribed within the space. The dome is related to the centre of the floor, that is, to the centre of the earth . . . [23]

In reflecting Heidegger's architectural examples back onto architecture in this way, Norberg-Schulz presents an integration that, while close, is largely empty. Indeed, the content of Norberg-Schulz's arguments would not be substantially changed if he did not refer to Heidegger at all and instead relied solely on architectural case studies. Norberg-Schulz's references to Heidegger are more about the inspiration and legitimisation of his approach than the content of his arguments. As Jorge Otero-Pailos has put it, 'Norberg-Schulz used Heidegger as a theoretical mask to add philosophical credibility' to his project within the intellectual context in which he was writing.[24]

Decoupling Norberg-Schulz's architectural observations from his interpretation of Heidegger opens up a number of possibilities. Norberg-Schulz draws on a diverse range of other references. While these become less central to Norberg-Schulz's work after his turn to phenomenology, they remain present even after this, albeit with reduced prominence. This eclecticism is usually presented as a weakness of Norberg-Schulz's work, in that the ad hoc character of his theoretical sources provides an unstable basis for his position. Yet, this instability also presents opportunities to connect his architectural observations to other discourses and, in so doing, to develop ways in which to rethink place in terms other than those of phenomenology. Norberg-Schulz's reliance on ideas drawn from Piaget is of particular interest for my present purpose regarding the relation of place with systemic crises. Piaget has a close affinity with cybernetics through his central notion of 'equilibration', a concept that plays an important role in Norberg-Schulz's argument,[25] and Piaget's work thus offers a potential bridge to and from systemic concerns.

Equilibration has two components. First, we 'assimilate' experiences into the mental structures we have already built. Second, we develop new structures to 'accommodate' experiences where these do not fit our existing structures. Together, these twin processes form a cybernetic

feedback loop through which we develop our understanding and respond to changes in our environment. Piaget explores this in various contexts, including that of spatial experience.[26]

Much as with his interpretation of Heidegger, there is plenty to take issue with in Norberg-Schulz's interpretation of Piaget (some of which I explore in the following section). Norberg-Schulz's syncretic approach throws ideas developed from Piaget together with Heidegger's concept of dwelling with little regard for their very different standpoints.[27] However, it is primarily Piaget rather than Heidegger who Norberg-Schulz draws on in developing his central notion of 'existential space'. Indeed, Norberg-Schulz's early presentation of existential space in 'Concept of Place', originally published in Italian in 1969, doesn't reference Heidegger at all.[28] Norberg-Schulz draws from Piaget to set out an understanding of space in terms of meaningful relationships between people and their surroundings – an approach that he contrasts with tendencies to see space in terms of either abstract geometry or subjective sensations and impressions.[29] Given that this existential conception of space underpins Norberg-Schulz's concern for place, Piaget's work offers an alternative theoretical perspective from which to understand and critique Norberg-Schulz's architectural arguments. This reframing is perhaps an odd thing to suggest, given that much of the interest in Norberg-Schulz's work is related to his interpretation of Heidegger. Yet, in the particular case of Norberg-Schulz, it is in keeping with how he himself developed his work, re-theorising his ideas in combination with new sources as he developed his position.

## A cybernetic understanding of place

The relation between Piaget's work and cybernetics has been developed most fully in the work of Ernst von Glasersfeld from the mid-1970s onwards,[30] by which time Norberg-Schulz's focus had shifted to phenomenology. Although Glasersfeld's work is not concerned with spatial experience, the emphasis he gives to the epistemological implications of Piaget's studies is helpful for unpicking some of the assumptions underlying Norberg-Schulz's approach to place. Understanding place in cybernetic terms also enables connections with broader aspects of design discourse, including seemingly distant areas such as systemic design or interactive technology with which place is increasingly bound up.[31]

Glasersfeld critiques the way conventional approaches to epistemology focus on the possibility of a correspondence between one's experience and the world beyond it. As Glasersfeld points out, the question of such a correspondence is unresolvable in principle. One cannot experience the world beyond one's experience, and so cannot evaluate such a claim. Glasersfeld draws on Piaget's studies of how knowledge is actively built up in order to reformulate the domain of epistemology to be concerned with how we make sense of the world of our experience rather than questions of what lies beyond it.

Glasersfeld's approach is primarily a critique of epistemological realism, but he also contrasts it with what he refers to as 'trivial' forms of constructivism, differentiating his own position as radical constructivism to emphasise this point. Trivial constructivism is where, while the knower's role is acknowledged, knowledge is still understood in terms of correspondence with the external world:

> From my perspective, those who merely speak of the construction of knowledge, but do not explicitly give up the notion that our conceptual constructions can or should in some way represent an independent, 'objective' reality, are still caught up in the traditional theory of knowledge that is defenseless against the sceptics' arguments. From an epistemological point of view, therefore, their constructivism is trivial. Trivial constructivism manifests itself in professionals who treat the knowledge of others as subjective construction and never doubt the 'objectivity' of their own.[32]

Norberg-Schulz is concerned with architectural rather than epistemological issues. He interprets Piaget's work according to conventional (realist) epistemological assumptions and aligns it directly with phenomenology because of the shared concern for experience. Norberg-Schulz sees equilibration as a process of attuning to the external environment. This is precisely what Glasersfeld means by a trivial form of constructivism, in that it is essentially still a correspondence form of epistemology where our understanding is thought to move continually closer towards the real. As Glasersfeld argues, the implication of Piaget's studies is that the process of equilibration leads not to a correspondence with the external world but to viable explanations of our changing experience – that is, the balance formed in equilibration is not between our cognitive structures and the demands of the external world, but rather in diminishing the differences between our present experience and previous constructions.[33] We do not, and cannot, know how our experience relates to the world beyond it, other than that the latter (presumably) acts as a constraint on our experience and

hence on what concepts are viable.[34] It follows not just that there is more than one way to reach equilibrium but, most crucially, that the ways to do so are not established in advance but created in response to experience.

Glasersfeld's reading of Piaget is in sharp tension with Norberg-Schulz's conception of 'genius loci' as an enduring quality rooted in landscape. While Norberg-Schulz does recognise the active role of experience, he sees meaning as selected from possibilities already 'inherent in the world'.[35] From the radically constructivist perspective of cybernetics, place is not a quality that we find in the world, but rather something we ascribe to it. On this view, phenomenology's critique of objectivity is insufficiently radical because meaning is still understood as something to be disclosed or revealed rather than created.[36] Seeing place as ascribed to rather than given in the world has significant consequences for the status of claims about the character of a place, such as the tendency of a phenomenological approach to see some places as being more or less authentic than others. From a cybernetic standpoint, place is as much a matter of our participation as anything else: just because someone experiences somewhere as placeless, it may still be a coherent place for someone else or at another time. In this light, when architectural theorists criticise somewhere as lacking in place, this tells us at least as much about the authors as about the places they are trying to describe. (I have in mind Norberg-Schulz's description of a suburban neighbourhood in terms of 'visual chaos' and Karsten Harries's characterisation of the rootlessness of mobile homes.)[37] Consider somewhere like an airport – often invoked as an example of non-place. How I understand it in terms of place depends on my own engagement with it. If I work there every day, I will have a very different experience of it compared to someone passing through to catch a flight.

To adopt a radically constructivist position is not, however, to say that place is arbitrary or to deny that the character of particular places can persist over time or between people. Factors such as history, landscape and the built environment can be understood to act as constraints on what conceptions of place can be viably maintained rather than sources of meaning. Because these constraints are themselves formed within experience, they are sensitive to individual and social difference and could change through new experiences. Consider, for instance, how one's conception of a place develops as one engages with it over time. When we make accommodations to account for experiences that do not fit with our previous conceptions, we are not coming closer to an underlying reality, but rather we are creating a different way of understanding that reflects our expanded experience.



Places that we experience as having particularly strongly defined and consistent characters, such as many of the examples that Norberg-Schulz focuses on, can be understood in terms of cybernetic processes of reflexivity or recursion.[38] Even if the interpretation of place is an individual construction, shared and stable conceptions of place may be understood to arise through reflexive interaction, where individuals inform their own reading of a place through how they understand it to be seen by others. The built environment can reinforce this process, where buildings are designed to echo or reinterpret their context. In so doing, designers' interpretations of a place are applied recursively back onto it, with the consequence that these readings are accentuated. Norberg-Schulz advocates this process (although in different terms) as a way of making our environments intelligible, contrasting this stability with more fluid conceptions of urbanity, such as that advocated by Webber.[39] To take a cybernetic approach is not to dismiss the potential importance of Norberg-Schulz's argument on this point, but rather to raise further questions about it. Who do particular attempts at establishing the character of a place serve? Where architecture contributes to a sense of place, whose interpretation is it that is being reinforced? By strengthening one reading of place, which alternatives are excluded because they become harder to construct?

As cybernetician and design theorist Ranulph Glanville has argued, the mental processes that Piaget describes as equilibration are in effect a kind of design activity.[40] Designers assimilate ideas into their work, enriching projects with new content and iterating them to refine the identity of what they are designing. Sometimes, designers reframe their projects more dramatically, accommodating their understanding in response to seeing what they have done in a new way, such as where new criteria become apparent that could not have been foreseen at the start of the process. Design can therefore be understood as an 'essential part of thinking', leading to the conclusion that 'to be human is to be a designer, and there is no more important human act than to design'.[41]

Glanville frames this argument as a generalisation of his influential position on the relation of design and research – that rather than design being one particular form of research, it makes more sense to understand research as a specific form of design activity.[42] Glanville's motivation in putting forward these arguments is to articulate what is special about design – to help consolidate design as a discipline and to understand it as able to inform other fields. In the present context, it is possible to do more with his insights. Putting the idea that equilibration is a form of design activity together with the spatial reading of it discussed above via Norberg-Schulz, spatial experience can be understood as a design activity on the

part of the experiencer, as well as something with which professional designers are concerned. It follows that when architects design spaces, they can be understood as designing frameworks for others to design with.

The nesting of design processes is a feature of some of the radical approaches to architecture with which cybernetics is associated, notably in the work of Price. Projects such as the unbuilt 'Fun Palace', on which Price collaborated with theatre director Joan Littlewood and cybernetician Gordon Pask during the 1960s, can be understood as an attempt to extend the design process into the life of the building by enabling its spatial arrangement to be continually reconfigured.[43] As Price would later put it:

> Architecture is too slow in its realisation to be a 'problem solver'. Thus C.P. Office sees its particular product (buildings) as the readily recognisable parts of its continuous design process.[44]

Nesting design processes within each other does not necessarily entail the adaptation of physical structures, however. Indeed, while Pask's main architectural contributions are closely associated with innovative uses of interactive technology, it is the example of Antoni Gaudi's 'Parc Güell' (Barcelona, Spain; constructed 1900–14) that he picks out as 'one of the most cybernetic structures in existence'.[45] Here, the cybernetic quality is within the dynamism of spatial experience, while the architecture itself remains passive. Pask stresses the role variety plays as 'surprise value',[46] which, in the context of Piaget's work, can be understood as the prompting of accommodations as we continue to explore.

Thinking of spatial experience as a design activity in this way supports the idea that place is something that we create rather than find. It also provides a way of thinking about the role of constraints within this. Consider, for instance, how place might be understood in terms of design theorist Donald Schön's well-known characterisation of design as a 'reflective conversation with the situation'[47] or, better, as a reflexive conversation, following Glanville's use of this alternative spelling to distinguish between reflexion as an intersubjective process and reflection as a personal one.[48] Just as some design questions are tightly constrained while others can be interpreted in multiple ways, so too our experience may permit the construction of multiple interpretations in one case, while in another we may find that one interpretation dominates, such as in many of Norberg-Schulz's case studies.

On this view, the complaint that the modern world is increasingly placeless can be understood as being like a challenging design task. Consider again the example of an airport. It is difficult to understand this as a place when we pass through it as a traveller. Our interpretation of our experience is constrained by the way the architectural environment structures our experience and also by the transient character of our own engagement. We move through quickly in a series of steps that are more or less the same whichever airport we are in. If our expectation is for somewhere to be a non-place, this may even be self-fulfilling. In assimilating our experience to our existing conceptual structures, we perceive what fits with our present understanding and may miss other aspects.[49] But on this radically constructivist view, there is no one right way to experience somewhere. We could experience any particular airport as being somewhere with its own specific character. Like a design challenge that seems impossible at first, to do so, we may need to find different ways of engaging with the situation that lead to new ways of seeing. The way the architectural environment is designed to structure our experience is one of several factors that can constrain or afford this possibility.

## Conclusion

My aim in this chapter has been to develop a way in which to understand place in systemic terms. I have gone about this in a somewhat unusual fashion. Rather than a direct argument, I have looked to bring systemic and phenomenological approaches into relation with each other by re-evaluating the role played by Piaget's concept of equilibration in Norberg-Schulz's understanding of place. I have argued that Norberg-Schulz interprets Piaget in trivially constructivist terms, and I have contrasted this with the radically constructivist reading of Piaget's work that is associated with cybernetics. Drawing on this, I have outlined a cybernetic understanding of place and explored its differences in comparison to a phenomenological approach.

Understanding place in cybernetic terms allows for it to be integrated into wider systemic discourses. This is an important albeit preliminary step in addressing the double-edged role of place within the various systemic crises that we presently face. The way I have situated my account in relation to Norberg-Schulz's architectural observations has attempted to counter the tendency towards abstraction that limits systemic approaches, while still maintaining the distinction between systemic and phenomenological standpoints. In contrast to conventional ways of understanding place as an inherent quality of the world, I have put forward a conception of place as being constructed within experience, constrained by the

environment rather than discovered in it. To think of place in this way is to undermine exclusivity in claims to a place's identity, while also putting any distinction between place and placelessness in question. In so doing, it is possible to differentiate the importance of place from the nativism with which it has become entangled.

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## Notes

1 Horst Rittel and Melvin Webber, 'Dilemmas in a General Theory of Planning', *Policy Sciences* 4 (1973).
2 Christian Norberg-Schulz, 'Concept of Place', in *Architecture: Meaning and Place: Selected Essays* (New York: Rizzoli, 1986), 27, including footnote 7.
3 Rittel and Webber, 'Dilemmas in a General Theory of Planning'.
4 Samantha Hardingham, *Cedric Price Works 1952–2003: A Forward-Minded Retrospective* (London: Architectural Association, 2016); Molly Wright Steenson, *Architectural Intelligence: How Designers and Architects Created the Digital Landscape* (Cambridge, MA: MIT Press, 2017), 127–63.
5 Christian Norberg-Schulz, *Intentions in Architecture* (Cambridge, MA: MIT Press, 1965).
6 Price's library is held as part of his archive at the Canadian Centre for Architecture in Montreal. I am grateful to Natasha Leeman for confirming this quotation.
7 W. Ross Ashby, 'Introductory Remarks at a Panel Discussion', in *Facets of Systems Science*, ed. G. J. Klir (New York: Kluwer Academic/Plenum Publishers, 2001), 594. Italics original.
8 W. Ross Ashby, *An Introduction to Cybernetics* (London: Chapman & Hall, 1956), 1–2.
9 Andrea Jelić, '(Architectural) Design Research in the Age of Neuroscience: The Value of the Second-Order Cybernetic Practice Perspective [Open Peer Commentary on the Article "Design Research as a Variety of Second-Order Cybernetic Practice" by Ben Sweeting]', *Constructivist Foundations* 11 (2016); Sana Murrani, 'Third Way Architecture: Between Cybernetics and Phenomenology', *Technoetic Arts* 8 (2011); Andrew Pickering, *The Cybernetic Brain: Sketches of Another Future* (Chicago: University of Chicago Press, 2010); Perin Ruttonsha, 'Towards a (Socio-Ecological) Science of Settlement: Relational Dynamics as a Basis for Place', in *Systemic Design: Theory, Methods, and Practice*, ed. Peter Jones and Kyoichi Kijima (Tokyo: Springer, 2018); Claudia Westermann, 'A Poetics of Designing', in *Design Cybernetics: Navigating the New*, ed. Thomas Fischer and Christiane M. Herr (Cham: Springer, 2019); 'The Art of Conversation: Design Cybernetics and Its Ethics', *Kybernetes*, Published ahead of print, 9 March 2020, https://doi.org/10.1108/K-03-2019-0186.
10 Neil Leach, 'The Dark Side of the Domus', *Journal of Architecture* 3 (1998).
11 Neil Leach, 'Less Aesthetics, More Ethics', in *Architecture and Its Ethical Dilemmas*, ed. Nicholas Ray (London: Taylor and Francis, 2005). See also Adam Sharr, *Heidegger for Architects* (London: Routledge, 2007).
12 Leach focuses this criticism on Karsten Harries's *Ethical Function of Architecture* (Cambridge, MA: MIT Press, 1997); Leach, 'Less Aesthetics, More Ethics', 136–8. It is also a feature of the approach of Norberg-Schulz, which I focus on later in this chapter. See Christian Norberg-Schulz, *Genius Loci: Towards a Phenomenology of Architecture* (London: Academy Editions, 1980), 109, 170.
13 Kenneth Frampton, 'Towards a Critical Regionalism: Six Points for an Architecture of Resistance', in *The Anti-aesthetic: Essays on Postmodern Culture*, ed. Hal Foster (Port Townsend, WA: Bay Press, 1983).
14 Fredric Jameson, 'The Constraints of Postmodernism', in *Rethinking Architecture: A Reader in Cultural Theory*, ed. Neil Leach (London: Routledge, 1997).
15 Christian Norberg-Schulz, *Existence, Space and Architecture* (London: Studio Vista, 1971); Norberg-Schulz, *Genius Loci*.
16 Norberg-Schulz, *Genius Loci*, 5.
17 Norberg-Schulz, *Genius Loci*, 5.
18 On the importance of photography in Norberg-Schulz's argumentation, see Jorge Otero-Pailos, *Architecture's Historical Turn: Phenomenology and the Rise of the Postmodern* (Minneapolis: University of Minnesota Press, 2010), 146–82.
19 Norberg-Schulz, *Existence, Space and Architecture*, 26.
20 Martin Heidegger, 'Building, Dwelling, Thinking', in *Martin Heidegger: Basic Writings from Being and Time (1927) to the Task of Thinking (1964)*, ed. David Farrell Krell (New York: Harper and Row, 1977), 330ff.
21 Graham Harman, *Tool-Being: Heidegger and the Metaphysics of Objects* (Chicago: Open Court, 2002), 190; Julian Young, 'The Fourfold', in *The Cambridge Companion to Heidegger*, ed. C. B. Guignon (Cambridge: Cambridge University Press, 2006), 373.
22 Young, 'The Fourfold', 373.

23 Norberg-Schulz, *Genius Loci*, 165.
24 Otero-Pailos, *Architecture's Historical Turn*, 176.
25 Equilibration is not the only aspect of Piaget's work on which Norberg-Schulz draws. I have focused on equilibration here because it is central to all of Piaget's work.
26 Jean Piaget and Barbel Inhelder, *The Child's Conception of Space*, trans. F. J. Langdon and J. L. Lunzer (New York: Norton, 1956).
27 See, e.g., Norberg-Schulz, *Existence, Space and Architecture*, 27.
28 Norberg-Schulz, 'Concept of Place'.
29 Norberg-Schulz, *Existence, Space and Architecture*, 12–36; 'Concept of Place', 29–31.
30 Ernst von Glasersfeld, 'Piaget and the Radical Constructivist Epistemology', in *Epistemology and Education*, ed. Charles D. Smock and Ernst von Glasersfeld (Athens, GA: Follow Through Publications, 1974); 'An Interpretation of Piaget's Constructivism', *Revue Internationale de Philosophie* 36 (1982); 'An Introduction to Radical Constructivism', in *The Invented Reality*, ed. P. Watzlawick (New York: Norton, 1984); 'An Exposition of Constructivism: Why Some Like It Radical', *Journal for Research in Mathematics Education Monograph* 4 (1990); 'Knowing without Metaphysics: Aspects of the Radical Constructivist Position', in *Research and Reflexivity*, ed. Frederick Steier (London: Sage, 1991); 'The Cybernetic Insights of Jean Piaget', *Cybernetics and Systems* 30 (1999); 'Aspects of Constructivism. Vico, Berkeley, Piaget', in *Key Works in Radical Constructivism* (Rotterdam: Sense, 2007). See also Margaret A. Boden, *Piaget* (London: Fontana, 1979); Heinz von Foerster, 'Objects: Tokens for (Eigen-)Behaviors', in *Understanding Understanding: Essays on Cybernetics and Cognition* (New York: Springer-Verlag, 2003); Ranulph Glanville, 'Design and Mentation: Piaget's Constant Objects', in *The Black Boox: Living in Cybernetic Circles* (Vienna: Edition Echoraum, 2014).
31 This is an example of cybernetics working as a meta-discipline within design, bridging between different subfields. See Ben Sweeting, 'Why Design Cybernetics?', in *Design Cybernetics: Navigating the New*, ed. Thomas Fischer and Christiane M. Herr (Cham: Springer, 2019).
32 Glasersfeld, 'Knowing without Metaphysics', 17.
33 Glasersfeld, 'Piaget and the Radical Constructivist Epistemology'.
34 Ernst von Glasersfeld, Dinner speech at Cybernetics: Art, Design, Mathematics – A Meta-disiplinary Conversation, 2010 conference of the American Society for Cybernetics, Rensselaer Polytechnic Institute, Troy, NY, http://www.asc-cybernetics.org/2010/?p=2700 (accessed 2 August 2019).
35 Norberg-Schulz, *Genius Loci*, 170.
36 Ernst von Glasersfeld, 'Problems of Constructivism', in *Radical Constructivism in Action – Building on the Pioneering Work of Ernst Von Glasersfeld*, ed. L. P. Steffe and P. W. Thompson (London: Routledge Falmer, 2000).
37 Harries, *Ethical Function of Architecture*, 44ff; Norberg-Schulz, *Genius Loci*, 188–9.
38 On recursive and reflexive processes, see, e.g., Foerster, 'Objects: Tokens for (Eigen-)Behaviors'; Ranulph Glanville, 'Cybernetics: Thinking through the Technology', in *Traditions of Systems Theory: Major Figures and Contemporary Developments*, ed. Darrell Arnold (New York: Routledge, 2013).
39 Melvin M. Webber, 'The Urban Place and the Nonplace Urban Realm', in *Explorations into Urban Structure*, ed. Melvin M. Webber et al. (Philadelphia: University of Pennsylvania Press, 1964); Norberg-Schulz, *Existence, Space and Architecture*, 35; *Genius Loci*, 180.
40 Glanville, 'Design and Mentation'.
41 Glanville, 'Design and Mentation', 231, 237.
42 Ranulph Glanville, 'Researching Design and Designing Research', *Design Issues* 15 (1999).
43 Hardingham, *Cedric Price Works 1952–2003*, 46–85; Neil Spiller, *Visionary Architecture: Blueprints of the Modern Imagination* (London: Thames and Hudson, 2006), 48–50; Ben Sweeting, 'The Role of Gordon Pask in the Fun Palace Project'. Paper presentation at An Afternoon with Cedric Price #1: A CCA c/o Lisboa event, Lisbon, Portugal. Organised by the Canadian Centre for Architecture, https://www.cca.qc.ca/en/events/40500/an-afternoon-with-cedric-price-no-1 (accessed 2 August 2019).
44 Cedric Price, *Re: CP*, ed. Hans Ulrich Obrist (Basel: Birkhäuser, 2003), 136.
45 Gordon Pask, 'The Architectural Relevance of Cybernetics', *Architectural Design* 39 (1969): 495.
46 Pask, 'Architectural Relevance of Cybernetics', 495.
47 Donald A. Schön, *The Reflective Practitioner: How Professionals Think in Action* (Farnham, UK: Arena, 1991), 76–104.
48 Glanville, 'Cybernetics: Thinking through the Technology'.
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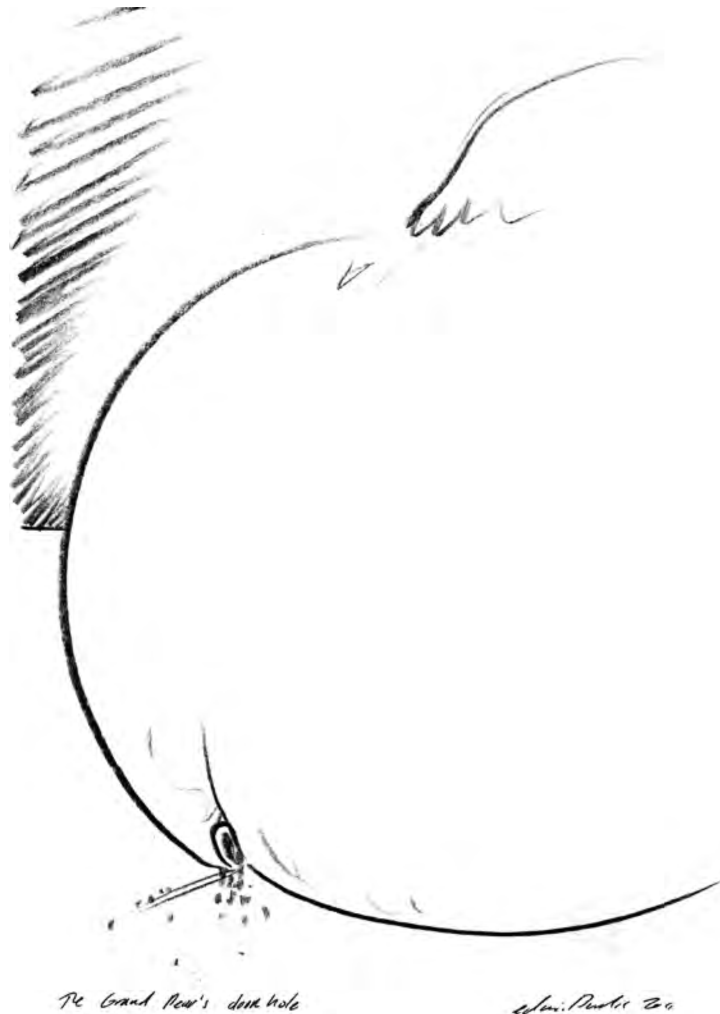
# 2. 'The Grand Pear' (Home): Mass housing for a mass of people

Edwin Burdis

**2.1** Edwin Burdis, 'The Grand Pear', 2011. Pencil on paper, 210 mm × 297 mm.
© Edwin Burdis.

**2.2** Edwin Burdis, 'The Grand Pear's Sister', 2011. Pencil on paper, 210 mm × 297 mm. © Edwin Burdis.

**2.3** Edwin Burdis, 'The Grand Pear's Door Hole', 2011. Pencil on paper, 210 mm × 297 mm. © Edwin Burdis.



**2.4** Edwin Burdis, 'The Grand Pear's Door Hole', 2011. Pencil on paper, 210 mm × 297 mm. © Edwin Burdis.



# 3. Undead and/or dead living: The new social category

Jonathan Griffin and Mateo Tannatt

Mateo Tannatt's diverse artworks are hard to summarise in general terms. However, one frequent point of departure for the artist is the idea that public urban space – particularly corporate space – is a stage for involuntary performance by all those who use it. Tannatt has made installations, photographs, paintings and films; for the Performa 11 biennial in New York, 2011, he devised Pity City Ballet, a performance resembling a television talk show which took place in the lobby of the Saatchi & Saatchi headquarters in Manhattan. The following exchange between the artist and art critic Jonathan Griffin was developed over the weeks leading up to that performance. Griffin and Tannatt are both based in Los Angeles.

### dear mateo

When we met the other day, you talked about your idea of 'zombies as a social category', invented by the film maker George Romero. I didn't understand what you meant at first. I was still thinking of your body of work 'Rendezvous Vous' and your 2010 exhibition at Marc Foxx Gallery which was inspired by two homeless men who were inhabiting a nearby abandoned building. But then I realised that the zombies you were referring to are not so much the homeless as the people who voluntarily inhabit public space, whose lack of public inhibition gives them a certain assumed ownership that is intimidating, or disturbing, to the rest of us. (Isn't it funny that the words 'inhabit' and 'inhibit' are so etymologically similar?)

Days later at my computer, I was watching, enthralled, as the London riots unfolded. One of my friends commented on Facebook that it was 'like *Shaun of the Dead* out there'. (I guess Romero parodies are now more widely known than the originals.) And watching shaky footage of these

**3.1** A ‘Zombie Walk’ in Toronto, Ontario, Canada, October 2012. Source: Photograph: Andrevruas, Wikipedia commons.

scenes of people behaving absolutely without inhibition – smashing up buildings, hurling stuff at police who tried to stop them, taking what they wanted from shops, assaulting passers-by and so on – these really did look like hordes of possessed undead.

Soon after that, I was looking on YouTube for footage of the LA Riots in the 1990s, much of it filmed from news helicopters. In one famous shot, rioters dragged a driver from the cab of his truck and attacked him. The first comment I read underneath was ‘ZOMBIES!’ I realised that clearly we’ve internalised Romero’s social critique, if that’s what it is.

It made me think about what it is to ‘live’ in a city, to be alive and active and conscious, versus what it means to inhabit it as an unconscious member of the undead. Many people might argue that the rioters were alive and thinking for the first time – that those of us who docilely move through the city streets like sheep are the real brain-dead ones. But I’m not sure. Despite all the valid reasons for protest and dissent (in both London

**3.2** Aerial news footage of the Los Angeles riots, 1992. Source: https://www.youtube.com/watch?v=YqA1Qj2MAu0 (accessed 30 September 2019).

and LA), I can’t help thinking that there is something so unthinking about that kind of behaviour – oblivious to the future, contemptuous of the past and only concerned with atavistic desires in the present moment.

Can zombies be social in a new way? Or are they by definition anti-social? I can feel myself drifting into choppy waters. Romero is like the boat that is allowing me to go there – and I guess these emails might become the oars for me to paddle back! I look forward to hearing your thoughts.

### *hi jonathan*

*I think of the modern zombie genre as a form of social critique – a level zero of human consciousness that allows for a kind of theatre of cruelty to ensue. Class and social ranking are all undone in these films, creating obvious but disturbing scenes of anarchy and chaos.*

*It was Romero’s film* Dawn of the Dead *(1978) as opposed to his first zombie movie,* Night of the Living Dead *(1968), that made, I think, the most critical impact on the genre. This was mainly because it was set in a shopping mall. When one character asks why ‘the dead’ would all choose to return to the mall, another answers, ‘Some kind of instinct. Memory? Of what they used to do. This was an important place in their lives’.*

So, zombies are unconscious participants in society; they may not know why they are doing things, but they still have a shared memory of cultural behaviours. If we were to think about the way zombies ‘dwell’ in society, in a Heideggerian sense, then maybe this is a good place to start.

**3.3** A destroyed section of wall in the Los Angeles studio of Mateo Tannatt, 2011.
© Mateo Tannatt.



Obviously, they're not interested in building according to the sense of *Bauern* – 'to cherish and protect, to preserve and care for, specifically to till the soil, to cultivate the vine'. Far from it. But as far as the idea of being (or dwelling) as a positive, active process goes, maybe the consuming zombie (or looting rioter) fits the bill. Being, for them, equals consuming – whether brains or Nike trainers. Romero's joke is that this is what constitutes a good citizen in the late-capitalist West.

*In many ways, I get this feeling that 'the dead' (or zombies) in fact represent the problematics of history, or at least a history ignored, or perhaps a history just past and therefore not yet known. 'The dead' are reacting to a social change or a traumatic event that has rendered them undead, and has made them come back to life to correct the situation – to conform to past traditions and social mores. They are the dead of the just past.*

*I think it was Lacan who said that a civilisation could be understood by the way it deals with its dead, which leads me to think that we have stopped dealing with our dead in a very meaningful way. They haunt us, not as ghosts or souls without a home, but simply as corporeal vessels which need to eat the living in order to survive (though I am not sure if the undead can die again).*

This leads me to think about our conflicted attitude to postmodernity, specifically the way that people don't like to be described as postmodernist. When the Victoria and Albert Museum invited Frank Gehry to participate in their 'Postmodernism' exhibition, apparently he initially refused. The exhibition ends in 1990, despite the fact that the movement still flourishes, in certain respects. (In an undead form maybe?) But at the same time High 1980s PoMo aesthetics are so outdated now that they have become hip again, in an ironic way. Which is *doubly* ironic because postmodernism *invented* the idea of ironic retro. How can we be expected to look back at a movement whose products refuse to die, and which keep coming back to life, bigger and stronger than before?

*Perhaps this is why a zombie-like dimension pervades in our current moment.*

*We are empowered by communication and ease of technology, but for most of us, this very dependency is responsible for our neurotic sensation of being dead to the great sense of purpose and urgency that contributes to instances of social breakdown, such as the riots of London or Los Angeles.*

Well, the process of communication – rather than its content – becomes the urgent job, the purposeful activity. We might dwell online, but most of us do not build anything there.

**3.4** Mateo Tannatt, Untitled, 2011, steel. © Mateo Tannatt.

*I have always been curious to know what activities would survive or would be invented in the absence of authority.*

Isn't the Internet a good case study for this? Perhaps we riot, fight, fuck and steal whatever we can in the virtual dimension already.

*And what artworks would survive social unrest? I'd suggest that those monolithic public sculptures that exist in urban public space might stand for a kind of zombified notion of dead or undead art – art that exists in the social sphere of public space but participates at a scale that is unsympathetic to the living.*

Not just unsympathetic but oblivious – we are expected to accommodate this zombie art, yet it doesn't even notice us. But it's not as aggressive as the classic Romero zombie – it doesn't try to eat your brains. In fact, most of it is not interested in your brain at all.

Could we not say that human zombies are actually antagonistic to these artwork zombies and everything they represent?

*The rioting in Los Angeles erupted from a terrible state of latent frustration and class division, basically awaking the 'dead' living sections of society. I think there may also be an interesting question about who gets to call whom a zombie, who considers themselves to be the most 'alive' social contributor.*



That's interesting. When Hollywood creates these social codes and interpretations, it's actually people who live in gated homes secluded in leafy hillside canyons (to generalise about Hollywood's topography) whose fear of 'the rest' of America expresses itself in forms such as horror films. The zombie derives from an essentially anti-societal perspective. I'm imagining the terror with which people in the hills must have watched the smoke rising from South Central in 1992.

*The zombies in these films are rarely ever alone, and there is a relentless brutishness to the behaviour that is part of group dynamics. Their strength is in numbers and their ability to spread their disease. I think ever since the riots, I have had an anxiety of large groups. There is an unharnessed power to group psychology. Perhaps related to this, one could think of the dwellings of fraternities and terrorist cells, for example, and how they operate.*

There's definitely something unnerving about being part of a large group of people in a public space. Mutual permissions are released for people to behave in ways that they never normally would. Maybe the hill dwellers have it right after all: that real civilisation comes from detachment, removal, self-containment.

Or returning to an earlier thought: perhaps zombies really do propose a new way of being truly social.

**3.5** Mateo Tannatt, 'Chain Fountain', 2011. © Mateo Tannatt.

*In film, they exist as parodic reminders of what passes as civilised society, pointing out the great gaps and absurdities we have created for ourselves to exist in. In the comedy* Shaun of the Dead *(2004), Shaun is very slow to realise that he has woken to a new state of epidemic zombiism – at first his town seems perfectly normal. Although Romero's genre is based on horror, there is room for dark comedy, as it points to the disconnect between individuals' needs and society's desires.*

*There are people who gather to walk through the streets in zombie make-up. Sometimes, they do it as a protest, sometimes as a flash mob or performance art. Other times, people dress as zombies from Michael Jackson's 1983 video Thriller. These events only really became possible through the Internet, through online announcements and YouTube videos teaching participants the dance. Perhaps it is a fan phenomenon, but I suspect it has more to do with the thrill of coming together for a singular shared purpose. The zombie experience is not that of the autonomous individual; the zombie itself only survives if it is able to consume its living other, desiring nothing less than the organ of reason and beauty – the brain.*

*Our bodies are the homes we dwell in, and unfortunately we cannot free ourselves from them. They grow, shrink, age and wrinkle. Perhaps this is at the root of the desire people have to become 'the dead'. Zombie walks are a profound demonstration of the inescapable everyday experience of life.*

*Michael Jackson played with his own image with a grand sense of humour, but he was also driven by a need to reveal his existential loneliness and isolation. In many ways, the Thriller zombie Michael became a reality, as he himself became more and more of an abstraction. The contemporary zombie genre has similarly become an abstraction of the human comedy of errors. Zombies are not people; they are the inverse universes of life. We who are the walking living will never be able to attain freedom as a society until we can come to terms with our true reality of being the living dead.*



# 4. Yeşilyurt

## Karin Ruggaber in conversation with Megan O'Shea

*The photographs published on the following pages are all taken in the residential suburb of Yeşilyurt in Istanbul. Can you talk a little bit about the area and why it interests you?*

It's a suburb by the Marmara Sea on the European side. It used to be a summer residence area, but now it's a normal residential suburb. I know it quite well, as my father lives there. I started taking photographs there in about 2004. I made a book about the buildings in 2007.

The book came about when I was looking at the particular use of materials and ornamentation of the buildings and especially the façades. But my interest has also shifted and keeps changing through repeated visits and looking and walking this area over and over.

The last time I went, in September last year, I found myself mainly looking at the plants. I became interested in the composition of space through plants and the relationship they have to the buildings and to the architecture. Seeing the real thing again after I had done the book was a strange doubling, and it opened up my way of looking at these buildings again. The area has almost become a thinking model for me. It seems to hold many things I'm interested in, such as the layout decisions and the organisation of space – something that is organised, as well as something raw and unmediated, or the competition between these two states.

*On a surface level, the photographs are of buildings and particularly within the context of the magazine they might be seen as such. Is it the architecture that interests you?*

I'm not focused on the architecture. It is more the idea of this place and its location, which for me has biographical elements because of the connection that I have there, but also in a geographical way, it's sort of on the border or just outside of something I am familiar with, which is being

in Europe. There's a slight exoticism about it; it is familiar in one way, but also not familiar. I like that blurriness of it. It allows me to look in a particular way, without set ideas about something.

What interests me is the way that this building, for example, looks a bit like it could be in the Black Forest, but the materials are different, and then it's got a palm tree in front of it. There are very curious choices and decisions that are hard to pinpoint. Marble is used widely, for instance, even on pavements, in entrance areas. The latest series of apartment blocks is very ornate; they look like ships. They have bull's-eye windows, green-tinted glass balconies and red powder-coated façades.

*Is the historical context important to you in your engagement with the area? I'm wondering how much research you have done on Yeşilyurt.*

I'm not researching or documenting in the sense of aiming to communicate something about this area. I have resisted researching deliberately. Of course, I can sense the social and historical layers, the idea of the buildings characterising different intentions and attitudes, different ideas of occupying space. But to some extent, it's also about the fantasies I have about the area.

*So, the activity is a more momentary engagement, and there has to be a certain detachment both from the given context of the area and from what the end result of your engagement with it might be?*

Yes. It's to do with walking and having that space for myself. One of the things about these photographs is that they're very quick; they are the product of an activity. They're taken whilst walking and looking. I would say that somehow they're not photographic. They're not as considered as I think photographs are, where you have a subject or an intent in looking.

*Do you think that publishing them in an architectural magazine also affects the images and their perceived intention?*

Absolutely. I like the idea that it's an exploratory space for me because I sit on the outside of this discourse. There is a certain risk or lack of control in exposing them to this context. In some ways, it provides an indirect way for me to look at them – an opportunity for me to think them through.

If I think about architecture, it seems to me that its default position is a sense of overview. Architecture as the organisation and designing of space requires this, I think, at least on some level. In one way, I'm approaching this activity from the other end – from within, from its formal and surface connotations, its sense of touch. It's a very three-dimensional experience somehow. That's obvious, but I mean it in that I approach the area on the level of an object, and I'm moving on the object plane, I'm part of it. I'm not trying to look at it from an external point of view. Rather than taking a stance towards the subject, I'm more interested in just staying with it, not trying to define it.

*I'm interested that you relate to the area on this object plane, which seems particularly pertinent to your sculptural practice. Can you talk a little bit about how these images of Yeşilyurt relate to your made work?*

The books I've been making are a parallel activity to my work – an outlet for those activities, for this kind of looking – but they are also their own thing. They are all image based with no text, except a title and basic information. I don't consider them as work; they sit beside the work. I'm not quite sure what they are actually. They are not meant as a key to the sculptural work.

I also sometimes show the images and the made work together. The display is another layer in the work in that the pieces get activated within the context of a show. On a basic level, an object occupies the same space as you – an image you look through to something somewhere else. But it also has a material reality. It's an overall attitude that interests me in the sense of showing work – how images interrupt the made work and vice versa, how a contrast is created, the competition between them.

*It seems to me that both with the previous book on Yeşilyurt and with the publication of these images in this magazine, you are interested in making the photographs more material.*

Yes. I like to treat them like material and textures almost. It's something to do with getting rid of subject, and it's maybe a difficult thing to do because in a photograph, you expect the subject. I want them to go beyond image as illustration in a publication. They become pages. I think that's a good way to look at them as well. What I enjoy is when the images are published sideways so that you actually have to turn the publication to see them. It makes the book a physical thing. In terms of layout, I'm almost going against design, and I'm using the full page to the maximum to the point that the image is the page, and the images are just slotted into the publication. It's sort of undoing all the layout or design decisions in it.

# 5. A life of its own

Jane Rendell

### Undoing Architecture

i
between doing it and *any theory of the 'speaking' subject*[1]
**undoing it**

ii
between use and *écriture feminine*[2]
**misuse**

iii
between home and *'where and how to dwell?'*[3]
**nomadism**

iv
between profitability and *the gift*[4]
**generosity**

v
between property and *porosity*[5]
**reciprocity**

vi
between divisibility and *two lips*[6]
**multiplicity**

vii
between the 'self-same' and *mimicry*[7]
**the 'other'**

viii
between scarcity and *jouissance*[8]
**abundance**

ix
between calculation and *the female imaginary*[9]
**approximation**

x
between efficiency and *fluid mechanics*[10]
**excess**

xi
**the angel goes between and bridges**[11]

The first piece of writing where I drew on my own life experience was for an essay called 'Doing it, (Un)Doing it, (Over)Doing it Yourself: Rhetorics of Architectural Abuse'.[12] It was initially published in a book *Occupying Architecture* edited by Jonathan Hill who had asked me to contribute a chapter about do-it-yourself (DIY). At first I declined, as I have never been one for DIY, but then, at the suggestion of a friend, Iain Borden, I decided to write about a place in which I had previously lived. My cohabitant of that house had made our living space through an unusual mode of DIY, much of which involved the removal, rather than the addition, of building elements, as well as the use of objects for non-designed purposes.

In this essay I juxtaposed my own voice with those of various critical theorists, and I referred to my life as the subject matter for theoretical reflection. This incorporation of the personal into the critical had different kinds of effect, depending on the reader. Other academics and artist friends said that they 'loved' the piece because I was so 'present' in the work. But my retelling of events disturbed two important people in my private life. My mother was upset by my description of this house as 'more like home to me than any other', and for my cohabitant, my text rendered his own home unrecognisable.

The responses I received made me aware that words do not mean the same thing for writer and reader, and this raised many questions about uses of the self and real-life others in storytelling. While the subject matter and subjective stance of a personal story may upset the objective tone of academic writing, writing for a theoretical context repositions events in ways that may be uncomfortable for those involved in the story. Drawing on the DIY practices in a house I once lived in in order to question the authorial position of the architect and the permanence of architecture from a feminist perspective has involved recounting a story. Like the fiction writer who uses friends and family as the basis for characters, I use others in my writing, but unlike the fiction writer, who provides a disguise through character, my writing offers nowhere to hide. Adopting a narrative form in which they feature as subjects in order to make a critical point reveals there is more involved than simply telling a good story. So, what do these others make of the subjects they become in my writing? And as a writer, what ethical responsibility do I have to them?

The question of how it is possible to recognise another is a problem at the heart of much feminist writing. My own essay aimed to renegotiate the relation that the 'feminine' might have to 'architecture' in terms of what it means to build, to dwell, to write and to speak of home. Following Caribbean American writer, poet and activist Audre Lorde's famous dictum that 'the master's tools will never dismantle the master's house', I took my tools from the work of French feminist philosophers Luce Irigaray and Hélène Cixous, who suggested both modes of writing and relations of economy which differed from the masculine, from an economy of appropriation, of the self-same, where more is better and the other is only regarded in relation to the self. This essay had, as I called it, 'a way with words', a particular patterning of speech, a feminine rhetoric, an undoing of architecture: 'This speaking subject speaks in threes. Her speech is tripled. 1 and 1 is three. 11 threes'.

The trialogue is constructed out of 11 scenes, which tell the story of acts of DIY in a home. The normative procedures for 'doing' architecture are described in, in plain font, terms of the modernist design principles of patriarchal capitalism, while the words of the French feminist theorists, in italic font, suggest acts of 'undoing'. My own practice of living, in bold font, following the trajectory of an alternative mode of DIY, is set as a third position of fluctuating allegiance between the 'father' of modernist architecture who comes first and the 'mother', the feminist theorist, who puts forward a set of alternative values connected with housing, while my own third position takes up this feminist theoretical critique to offer a corresponding possible practice of architecture. In 1998, I wrote:

> Mine is not to use examples of practice to illustrate theoretical positions, nor to apply theoretical insights to modes of practice, but through writing to imagine and reflect upon a different relation between the two. This 'speaking' subject, speaks in between, from a place on the threshold between the two.

But today, over 20 years later, I want to point to the as-yet-unacknowledged presence of the poetic in my text (a third term in Aristotle's triad of

theoria – as a thinking that leads to truth; poiesis – as a making that leads to production; and praxis – as a doing that leads to action); and to consider how the poietical involves here at least three making processes: the making of architecture and the making of writing as two forms of material spatial production, and the self-making – or autopoiesis – involved through both.

### ''Arry's Bar'

i
Choosing to demolish rather than refurbish

ii
Reducing the number of affordable units

iii
Displacing mixed communities

iv
Organising the new housing according to economic status

v
Ignoring the democratic decision-making processes

vi
Prioritising private profit over leaseholder well-being

vii
Redaction of key information concerning 'viability'

After writing 'Doing it, (Un)Doing it, (Over)Doing it Yourself: Rhetorics of Architectural Abuse', I found myself exploring other ways of rethinking the values of home and housing. Starting again from my own lived experience, this time I focused on how the conceptual and material forms of transitional spaces created a point where an architectural perspective met a psychoanalytic one. My concern was in how external, spatial environments and the inner worlds of emotion, imagination and memory influence each other, and my research aimed to show how an understanding of psychic processes can inform an approach to the design and use of buildings.[13]



Addressing the architectural concept of transitional space in the 'social condenser of a transitional type', I traced this typology's progress from the Narkomfin Communal House in Moscow (1928–9) to Le Corbusier's *Unité d'Habitation* in Marseilles (1947–52) to the Alton West Estate in London (1954–8), looking at the importance of transitional spaces – those that are not simply public or private, that is, the shared lifts, staircases, hallways, corridors and lobbies contained in social housing's infrastructure.

At the same time, with reference to the work of Sigmund Freud, D. W. Winnicott, André Green and Jean Laplanche, I investigated the inherently spatial vocabulary of psychoanalysis, in particular notions of the transitional space of the 'setting' and the way in which the physical and psychic scene of the psychoanalytic encounter offers overlaps of intra- and intersubjective space within and between subjects, suggesting new approaches for understanding experiences of home and living through the relationships constructed between subjects, objects and spaces in housing designs.

At the heart of this work were two homes: one a decaying Arts and Crafts house called 'May Morn' in London's green belt and the photographs of modern architecture I found within it, and the other my own apartment on the 18th floor of a modernist point block from which I wrote the book. The view from the window of this flat looked across to the modernist slab blocks of the Aylesbury Estate, some of which had already been demolished, at the time of writing, while others lay under threat.

The Aylesbury Estate is located in the London Borough of Southwark's 'estate renewal zone',[14] and even though research showed that refurbishment had less social and environmental cost than demolition,[15] the advantage of demolishing the old estate was that existing residents could be moved out, and in return, following viability studies, the developers were able to make their non-negotiable profit margin while providing a small percentage of 'affordable housing' in the new build. As maps based on research by Loretta Lees, Just Space and Southwark Notes show, through this process of so-called 'state-led regeneration',[16] tenants have been displaced from central London into other boroughs, leaseholders ejected from the city entirely, due to the low rates of compensation paid when land owners – London boroughs for one example – issue compulsory purchase orders or CPOs. The process involves demolishing existing housing stock and transferring the public assets to private housing associations.[17] In this process, social housing is lost and replaced by a mixture of housing for rent and sale on the private market, and a massively reduced quantity of social housing 'units' alongside the new forms of so-called

affordable housing. Tenants and leaseholders are displaced, forced to leave the centre of London and move to areas where the land is cheaper.[18]

I became so angered by the actions of the London Borough of Southwark that I decided to use my academic and professional working skills to try to work with other academics, housing activists and resident groups to prevent the demolition of the Aylesbury Estate. The first phase of this work required writing an expert witness statement. This was submitted to government inspector Leslie Coffey on 23 April 2015 as part of the public inquiry into the Aylesbury CPO.[19] It was delivered orally at 'Arry's Bar at The Den, home of Millwall Football Club, in South East London – the venue for the public inquiry, held from 28 April to 1 May 2015, adjourned until 12 May and then adjourned again until 13–4 October 2015 for the leaseholders' group to gain legal representation.

The government circular 06/2004, *Compulsory Purchase and the Crichel Down Rules*, notes that CPOs can only be taken when 'there is clear evidence that the public benefit will outweigh the private loss'.[20] A local authority can only exercise its compulsory purchase power if the development, redevelopment or improvement is likely to contribute to the achievement of any one or more of three objects: the promotion or improvement of the economic, the social or the environmental well-being of their area. In 2015, my argument pointed out seven ways in which the London Borough of Southwark's regeneration scheme did not promote or improve the well-being of the area, was not 'in the public interest' and thus did not justify the CPO of leaseholder properties on the 'Order Land'. In 2018, when we had to return to a second public inquiry, I focused on a comparison of refurbishment and demolition costs, and provided evidence to show that the information given to the executive committee of the London Borough of Southwark for the meeting in which they decided to demolish the Aylesbury was both inadequate and inaccurate, and that in fact evidence existed – held by the London Borough of Southwark – in the documentation of costed design work carried out by architects employed by the council that showed refurbishment could be one third of the cost of demolition.[21]

From my involvement in the two public inquiries, over a period of four years, I came to four conclusions. The first three are apparently quite straightforward and consist of observations and recommendations. First, that social media, Twitter in particular, can be used in a divisive way to emphasise differences rather than commonalities between groups seeking to resist the demolition of social housing, for example academics' self-interest over activists' community interest, and that academics and activists need to, as in the case of Just Space, find ways of co-working and areas of convergence. Second, since councils, not only the London Borough of Southwark, continuously position economic value as the dominant force influencing regeneration schemes over social and environmental values, there is a need for specialist knowledge in financial modelling, property and planning law to challenge developers' narratives and provide counter-evidence. Third, the way that architects avoid appearing in public inquiries concerning CPOs due to 'conflicts of interest' – since the London councils are often their clients – is a recurring problem. Since architectural expertise and professional data are required in public inquiries concerning estate demolition to make evidence-based cases comprising alternative design costings in favour of refurbishment, it makes sense for the RIBA ethics code to be rewritten to prioritise public good over client interest.

And the fourth? Well, I'm not ready to talk about that now. Can I come back to it later?

## Refusing to choose and/or being multiple

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I presented these two projects – 'Undoing Architecture' and ''Arry's Bar' – together for the first time as a short talk, 'Contesting Housing's Value: Feminist, Psychoanalytic and Activist Perspectives' at a conference on value convened by Peg Rawes in November 2018 at the Bartlett School of Architecture, with Rosi Braidotti as respondent. I framed the paper by explaining that I wanted to talk about contested and convergent values in housing from three perspectives: feminist, psychoanalytic and

activist. Braidotti was drawn to the first part of my paper but seemed less interested in the second, connecting it to other work that had also been presented in the room, which she understood as operating in an oppositional rather than an affirmative mode of critique. I explained that given the housing policy current in London, many critical urbanists and architectural theorists had no choice but to take an oppositional stance. There was nothing, as far as I had experienced, to affirm in the actions of the London Borough of Southwark.

I was surprised by Braidotti's point of view at the time, but also my own unwillingness to accept her position, especially given my respect for her deeply committed feminist work. This got me wondering afterwards about how to distinguish between opposition and affirmation as critical positions, and what kinds of negation were involved in critique. Braidotti seemed to have understood 'Undoing Architecture' as affirmative, and ''Arry's Bar' as oppositional. Yet, for me, the 'un' of undoing signifies a kind of negation, if not an opposition then certainly a refusal, whereas the alliance of resistance – social housing residents both renters and leaseholders, conservative councillors and committed left-wing housing activists – created to defend the Aylesbury Estate struck me as an affirmative gesture.

The US version of post-criticality dominant in the architectural discourse of the early 2000s, exemplified by Robert Somol and Sarah Whiting's paper, 'Notes around the Doppler Effect and other Moods of Modernism', is something I had previously taken issue with in the introduction to a book I co-edited called *Critical Architecture*.[22] While in the introduction to that book I agreed with Somol and Whiting's rejection of an autonomous form of disciplinarity, one previously advocated by critical architects such as Peter Eisenman, I disagreed with their rejection of an oppositional dialectic, believing that there were certain things – ideas, positions, practices – that needed to be opposed. My stance then was to hold onto the basic tenets of the critical theory of the Frankfurt School – namely forms of knowledge production that are self-reflective and emancipatory – and to argue for their transposition into practice. I still advocate for self-reflection and emancipation, as key aspects of critique, but here I want to focus on the question of why opposing something and choosing to reject it might be considered a problem in and of itself.

Could it be that in an age of relentless positivity, where the demand to see even problematic situations in terms of their potential 'going forward', one of the reasons to reject a critique which takes the form of opposition may well be to do with the perceived negativity of such a position? For this reason alone, it is interesting to consider what we mean by negating and whether the negative has any potential at all, anything worth arguing for, anything to affirm.

In the *Work of the Negative*, the late French psychoanalyst André Green puts forward four specific thematics for considering how the negative operates in psychoanalysis: through absence, refusal, reversal or inversion, and nothing.[23] He writes that the practice of psychoanalysis is a particular kind of work – one which makes the negative visible – and that this is because it concerns intersubjective confrontation, not just the address of another subject, but an experience in which the other subject must be included but not controlled. There is the confrontation of another without, he says, which corresponds to the self-confrontation of another within. This is a doubled confrontation with the other – without *and* within. Green called this method – where 'the positive' equates to 'the negative of the negative' – 'dialogical' (rather than dialectical) 'thinking'.[24] Green's ability to complexify negativity, and to understand that it contains – as well as refusal – reversal, absence or even nothing at all, might offer a way of considering how the negative of the critical function contains a relational and perhaps then even an ethical aspect within it.

Yet, Braidotti starts from a different philosophical vantage point, not from Hegel or from dialectics but from Spinoza, and so she throws another kind of trajectory, along the lines of an 'ethics of joy', suggesting 'that political agency need not be critical in the negative sense of the oppositional and thus may not be aimed solely or primarily at the production of counter-subjectivities'. She argues that 'contemporary nomadic practices of subjectivity – both in pedagogy and other areas of thought – work towards a more affirmative approach to critical theory'.[25] And in *Manifesto for a Post-Critical Pedagogy*, Naomi Hodgson et al. argue that this affirmation does not need to accept, but can take the form of caring and protecting what we love and, in so doing, turn towards hope.[26]

The post-critical is used in *Manifesto for a Post-Critical Pedagogy* not to reject criticality as a negating practice but rather to consider how work that occurs after criticality has been asserted can operate in dialogue with it in order to develop more possibilities. We could think of the post-critical here as a way not of saying that because we come after the critical that everything critical is over, but instead as an indicator announcing that the critical has arrived, and so everything which occurs after this is in its midst, marked by it, and so a form of continuation with, or relation to, rather than breakage from, the critical.

So, it is never as simple as a yes or a no, even when it comes to saying yes or no to criticality itself, as Emma Cocker's clever artists' book *The Yes of the No* shows, when she places 'the affirmative potential of no alongside

the dissident capacity of yes-saying as a species of refusal'.[27] Any attempt to position criticality as negative or positive, as oppositional – the rejection of practices and ideologies that are unacceptable and unjust, or affirmative – as propositions that offer an alternative set of aspirational values and enact a path towards the futures to which they point, can easily slip into a simplified version of a binary: a choice for or against the internal operations of criticality, as well as for or against critique itself.

In contemporary critical theory, there have been at least two ways of dealing with twos: dialectics, the language of 'on the one hand . . . yet on the other', the art of clarifying ideas through the exchange of questions and answers, and deconstruction, the language of 'both/and'. There has been a great deal of debate as to whether deconstruction expresses any kind of political possibility, especially for feminism, given the place of the 'feminine' in Jacques Derrida's writings, but Diane Elam posits that deconstruction provides a place of radical undecidability, and that this position is a politicised one.[28] Lucy Sargisson argues for a similarity between deconstruction and utopianism in that they both go further than reversing binary oppositions, but rather 'subvert[s] and undermine[s] the system which constructs those hierarchical relations'.[29] The work of feminist philosophers Luce Irigaray and Hélène Cixous can be understood within this context. In their writing, one witnesses a glimpse of something new, a position that is not simply a refusal but also an affirmation that takes up traits of a feminine economy – a willingness to take risks, to let go, to allow transformation – and I think it was this possibility in my 'Undoing Architecture' essay that Braidotti warmed to.

The negative marks its most simple presence in language with the word 'no', but it can also act through prefixes that can be added to a word to negate its meaning, such as a-, an-, anti- de-, dis-, il-, im-, in-, ir-, non-, un-, and so on. The 'un' differs from 'non' in meaning lack and absence as well as not. So, the 'un' could be close to those variations of the negative that Green refers to in psychoanalysis: absence and nothing rather than refusal and reversal. Another version of the 'un' might be the neutral. In *The Neutral*, Roland Barthes suggests how in structural semiotics, A/B tends to 'A+B (complex) and neither A nor B: amorphous, neutral term (phonological neutralization) or zero degree'.

> Transposed to the 'ethical' level: injunctions addressed by the world to 'choose', to produce meaning, to enter conflicts, to 'take responsibility', etc. → temptation to suspend, to thwart, to elude the paradigm, its menacing pressure, its arrogance → to exempt meaning → this polymorphous field of paradigm, of conflict avoidance = the Neutral. We are going to grant ourselves the right to treat all conditions, conducts, affects, discourses (with no intention or even possibility of exhaustiveness) as far as they deal with conflict or its release, its parrying, its suspension.[30]

Perhaps actively choosing to be neutral was what the art critic Jan Verwoert was getting at when he suggested that we need to enact refusal, not as a negation but in order to open up the space for other options. He writes: 'Maybe the secret of autonomous agency and the good life lies precisely in opening up the space of those other options through a categorical refusal to accept the forceful imposition of any terms, leaving us no choice but to choose between *either* yes or no?'[31]

Another critic grappling with a set of similar problematics is Gerald Raunig, whose writing on 'instituent critique' I found when thinking through my emerging sense of estrangement from my own university institution as it struggles to convert itself from a site of public education into a business. Having read Barthes, I can see that Raunig, rather than the neutral, is situated in the terrain of the complex, the place of double strategies, social *and* institutional criticism on the one hand, political *and* personal *parrhesia* on the other.

> What is needed here and now, is *parrhesia* as a double strategy: as an attempt of involvement and engagement in a process of hazardous refutation, and as self-questioning.[32]
>
> Recomposing social criticism and institutional criticism means merging political and personal *parrhesia*. It is only by linking the two *parrhesia* techniques that a one-sided instrumentalization can be avoided, that the institutional machine is saved from closing itself off, that the flow between movement and institution can be maintained.[33]

In his work, Raunig refers to the six lectures Michel Foucault gave at the University of California in the autumn of 1983, in which he explored the practice of *parrhesia* in the Greek culture of the fourth and fifth centuries BCE. Here, Foucault examined the evolution of the term with respect to rhetoric, politics and philosophy, and investigated the link between *parrhesia* and concepts of frankness, truth, danger, criticism and duty. Foucault summarises his thinking from the first few lectures as follows:

> *parrhesia* is a kind of verbal activity where the speaker has a specific relation to truth through frankness, a certain relationship to

his own life through danger, a certain type of relation to himself or other people through criticism (self-criticism or criticism of other people), and a specific relation to moral law through freedom and duty. More precisely, *parrhesia* is a verbal activity in which a speaker expresses his personal relationship to truth, and risks his life because he recognizes truth-telling as a duty to improve or help other people (as well as himself).[34]

Towards the later lectures, Foucault turns to examine the function of *parrhesia* in terms of the crisis of democratic institutions, and discusses how *parrhesia* occurs as an activity in human relations, with respect to oneself and care of the self, and in relation to others, and care for others, specifically through three kinds of relation: individual personal, community and public life. Here, Foucault talks of how, in the shift from a political to a Socratic or ethical form of *parrhesia*, the relation between logos, truth and courage alters to include bios, and to focus on the balance between bios and logos with respect to truth:

> Here, giving an account of your life, your bios, is also not to give a narrative of the historical events that have taken place in your life, but rather to demonstrate whether you are able to show that there is a relation between the rational discourse, the logos, you are able to use, and the way that you live. Socrates is inquiring into the way that logos gives form to a person's style of life; for he is interested in discovering whether there is a harmonic relation between the two.[35]

If the speech of a *parrhesiac* is a revealing of the truth against a set of norms, or a refuting of an untruth offered by those norms, it might then offer a practice for distinguishing how to say no rather than yes, with a focus on a correspondence between what is said and what is done. This need to find a 'harmonic' form of relation between rational thought and lifestyle made me imagine how two notes might be played together, at once, or one after the other. This in turn reminded me that in the original title of 'Undoing Architecture', the 'un' was followed by a 're', and then by an 'over'. So rather than combine two actions at once, a series of moves composing a complex rhythm was offered as a possibility – an 'un', a 're' and an 'over' – proposing a way of negotiating the space of opposition and affirmation, negation and alternative as they unfold over time.

Louise Bourgeois's 'I Do, I Undo and I Redo', exhibited for the opening of the Turbine Hall in London's Tate Modern (2000), was a sculpture consisting of three towers. Its companion piece 'Maman', an enormous bronze spider, picked up on themes from her earlier works around mother–child relations,[36] and acknowledged movements towards and away from subjects in the *Fort/Da* game (of cotton reel and baby, or mother and child), reminiscent too of the back and forth shuttling action of weaving. For the psychoanalyst Jean Laplanche, Penelope, whose work of weaving and unweaving is 'an emblem of the gradual yet inexhaustible unpicking of the ties binding her to a husband who may never return, and the partial orientation of that work towards the possibility of a new composition', is the exemplary figure of mourning. And for Nicholas Ray, in his obituary to Laplanche, mourning 'emerges as the very prototype of analytical endeavour'.[37] Rosine Perelberg has engaged with how the psychoanalytic setting operates as a focus for different spatialities and temporalities to develop in psychoanalytic practice, noting: 'Experiences registered in the psychic apparatus [. . .] a system that exists in both space and time [. . .] are re-experienced and externalized through the analytic process'.[38] And returning to Green, in his work the transitional qualities of the setting make evident the gap at play between perception and representation – he calls this 'the double *signifiance*' of words and things:

> In Freud's work, it can be found in the wooden reel game: the *Fort! Da!* What must be emphasized here are the alternatives between what is far away and what is near, the actions of throwing away and retrieving, the absent and the present, etc. The reference is unquestionably on the side of *movement* [. . .] And this movement is that of a game. The subject can only be defined as a *sujet jouer* (a subject who enjoys playing) – Winnicott comes to mind here – which refers to all the aspects of the notion of the double that I have identified. The duplicity presupposes a gap between the terms. From the point of view of language, the double *signifiance* of words (exclusively linguistic) and things (extralinguistic) must be taken into account. The third is an emerging quality of the relations between the two polarities. The relations between word and thing suppose their intersection. A third order can emerge from this, such as Winnicott's category of transitional objects. So, the problem cannot be resolved by perception and representation alone. It is not difficult to understand the role that Winnicott attributes to playing. This leads us to contrast the homogeneity of the linguistic system with the heterogeneity of the system of representations (extralinguistic).[39]

### Displacing myself?

i
Tucked into the cliff,
Overlooking the sea.
It was the sweetest of villages,
But early in the morning I would have to leave this charmed world,
And cycle up a long, steep hill to the station.
At Ashford I would have to change trains for Stratford International.

ii
Rose Cottage, Summer Hill,
A fitting follow up to May Mourn perhaps?
Only a poetic turn of this type could sustain me,
But this dream home demanded too much.

iii
Four bedrooms,
Four times larger than anything I could afford in London.
Four floors,
Each one the size of my flat.
But what of this promise of size?
Size compared to site?
Is this how I make my choice?

iv
Another north-facing garden,
That will never escape the shadow of the house.
A place to put the bikes,
That will not be against the bookcase in the living room.
But will this be a sort of Hoxton-on-Sea?

v
A house,
In a row,
With a garden,
And a path,
A fence that separates the garden from the town outside,
And the St George's flags and Brexit posters.

vi
The air is bright white,
Exquisite Georgian houses,
The beach minutes away.
The kitchen in the attic appeals,
I can see the horizon.
The winter dusk is turning fast now,
Burnt orange catches the edge of the frame.
My dream flickers,
Poorly detailed even in this light.
He says the area might flood.

vii
A terraced house,
Two rooms per floor,
With a staircase in the middle,
And a sea view,
Can I even imagine living in such a place?[40]

The time has now come to tell you about that fourth and final conclusion I drew from my work on the Aylesbury Estate. This one is less of a command that others behave more ethically and more of a talking to myself, a self-examination, threaded with anxiety and not a little dread about what I will find, as it relates to acts of homemaking and my own changed need for a stable rather than a transitory situatedness as I described in 'Undoing Architecture'.

In the inspector's report following the April 2015 public inquiry, she questioned the displacement maps Loretta Lees had referred to in her witness statement.[41] These maps provided evidence of how the residents of the Aylesbury Estate had been ejected from central London: tenants to the outer boroughs of the capital, and leaseholders out of the city entirely, into Kent and its coastal towns. The inspector noted that the maps only showed the people who had left the area, not those who had stayed, and she questioned 'whether those who moved out of the area did so due to preference rather than necessity'.[42]

In January 2018, at the time of writing my expert witness statement for the second iteration of the public inquiry, I was still living in Southwark but a day away from moving to Kent, after having lived in London for 25 years, four of them just north and another four to the west of the Aylesbury. I was someone who preferred to stay, but found myself unable

to because the fear that I would be pushed out later (who could say when) was a possibility that I (then just entering my 50th year) could not live with. So rather than live with uncertainty, I chose to go. Paradoxically, I was only able to sell my flat, ethically and practically, because the building I lived in was not under any immediate threat of demolition or CPO. But it was a balancing act, and I realised that by writing about my home, my own life had become not only the subject *of* my writing but also subject *to* my writing. My life choices had become subject to my written words. I found that I needed to act according to what I had already written, to try to find a harmonic balance between, as Foucault would have it, the logos of my texts and the bios of my life. In this process the vital role that self-writing played in self-making became clear,[43] and the distinction set up by the inspector between necessity and preference, which I had originally rejected as false, struck me as having a certain resonance. It was true that the difference between necessity (being moved/displaced) or preference (choosing to move) could not be determined from the flung-out dots marking ex-Aylesbury residents on the maps, but *only* if these traces were read alone, without consulting any of the other evidence also submitted, such as the interviews Lees had undertaken with some of the residents.[44] And focusing on the distinction between moving as a necessity or a preference took the attention away from the wish not to move and from the residents' clearly stated preferences – given as spoken and written evidence in the public inquiry – that they wished to stay.

But there was also another subtler distinction to be drawn out, more relevant to my own situation. This was where the threat of an explicit force to come produced a fear that was internalised yet powerful enough to exert a movement nonetheless, but one that was self-generated. Here, the distinction shifted from necessity (being moved/displaced) or preference (choosing to move) or, more accurately according to the evidence of residents, necessity (being moved/displaced) or preference (choosing to stay) to, in my case, necessity (fear of being moved/displaced) or preference (choosing to move oneself/displacing oneself).

In his highly influential text, *The Practice of Everyday Life*, anthropologist Michel de Certeau, while arguing for space as dynamic and constituted through practice, understands place as fixed and passive: 'an indication of stability'[45] and 'an order' that 'excludes the possibility of two things being in the same location (*place*)'.[46] Numerous Marxist geographers have offered a critique of philosophical approaches that emphasise the special qualities of particular places, as if they are somehow pre-given and not open to change or connected to wider historical and material conditions. Interrogating the reciprocity of the relation between the politics of place and the place of politics in their co-edited collection *Place and the Politics of Identity*, Michael Keith and Steve Pile argued in favour of understanding place as 'unfixed, contested and multiple'. They wrote in the editorial:

> A different sense of place is being theorized, no longer passive, no longer fixed, no longer undialectical – because disruptive features interrupt any tendency to see once more open space as the passive receptacle for any social process that cares to fill it – but, still, in a very real sense about location and locatedness.[47]

Here, unfixing place is valorised as a form of cultural critique that seeks to overturn and expose a set of presumptions, givens, traditions, terms and practices associated with the fixity of place. This is work that critiques the role that has been played, unwittingly or not, by those whose acts of placement fix and embed power structures in particular locations. If a problem with placing might be the prioritisation of one set of claims over another, disallowing the co-existence of locatedness as de Certeau suggests, what exactly is the opposite of placing – its negation, or an alternative? Could 'un' do the work of proposing a negative as an alternative, as I have discussed earlier, not only in its neutral sense (in terms of absence and nothing), nor in the sense of a refusal (as a not rather than an un), but rather as another possible option.

Akin to 'un', but perhaps operating more directly, the prefixes 'de' and 'dis', when positioned adjacent to a spatial term, can also turn a negative into a positive by offering an alternative. As noted above, Derrida's practice of deconstruction in offering a critique of phallogocentrism has been an ally for many feminists, providing a way of overturning assumed meanings, demonstrating the presence of supressed terms in texts and more proactively deferring meaning and keeping undecidability in play.[48] The political project of decolonisation also seeks to undo structures, specifically of colonisation as a process of physical and mental invasion and subjugation, which operating in combination with resource extraction, enslaves and dispossesses existing inhabitants. As Achilles Mbembe writes, decolonial practices might, on the one hand, aim to 're-centre Africa' following Ngũgĩ wa Thiong'o, and on the other, seek 'self-ownership', following Franz Fanon.[49]

A project I curated with art critic Penny Florence, showing PhD students' work at the Slade and Bartlett UCL in 2005, we called '(Dis) locating Specificities'. We used 'dis', rather than 'un' or 'de', to indicate a kind of slippage that would question the terms of site specificity in a more lateral manner. We were connecting here to critiques of the problems of

attachment to singular locations, and a preference for being out of place or, as Claire Doherty and Nathan Coley have described it, drawing on the work of Miwon Kwon, the productive possibilities of being in the wrong place.[50]

And yet, my recent involvements in two projects concerned with displacement have pointed me instead to the problems associated with valorising 'un', 'de' and 'dis' as part of a critical discourse, when processes of enforced displacements exist as a result of political process combined now with massive migrations caused by temperature increases and extreme weather events triggered by human-made climate change. In one case, as I have described above, during my involvement with the Aylesbury public inquiry, I witnessed the disturbing effects of displacements when residents were ejected from their homes, without their consent, by the more powerful entity of the state in collaboration with private developers. Such displacement is an unwelcome and traumatic process, described by some academics researching 'supergentrification'[51] – processes associated with the current housing crisis[52] – as a form of 'domicide'.[53] In London, it has been 'the right to remain' that those being displaced and their supporters have been fighting for.[54]

In another case, the London Mining Network, my colleague Diana Salazar and I invited people who had been displaced by coal mines, owned by corporations such as BHP Billiton, which were also funding university research at UCL, to an event we called 'Speech ExtrActions'. We intended to point to the importance of speech as a form of political action and resistance, following Hannah Arendt, but to also show our awareness that words, as well as land and homes, can be extracted without consent.[55] A dignified young mother, in indigenous dress, spoke of the serious deterioration in her child's health as a result of pollutants associated with mining dust. An activist group told us of how they had been displaced by toxic flood waters from a dam burst. Others showed us images of the places they had been moved to, away from their homes where they had direct access to water and land, to new houses with built-in plumbing that had still not been activated, so no running water. Our guests were shocked to learn from the translator that the academics in the room with them were part of a university that had accepted money from that very corporation, whose mines had displaced them and at whose AGM they had spoken that very morning, where their evidence, delivered in person, of the traumatic effects of that displacement had been dismissed.

Those who valorise the unfixing of place are right to critique the essentialising tendencies of some place-making discourses, as well as the colonial mind-sets that often drive and govern such activities, but unfixing, as well as deconstructing or displacing, are not necessarily the best alternatives, especially if they overlook the impacts – economic, cultural, political and psychological – of enforced versions of those movements. Rather than prioritise displacement over placement, for example, we need to focus on the tensions between critical discourses, and practices of un-, de- and dis-housing on the ground, focusing those enacted legally or illegally by the state or private entities, relating to climate change, political regimes, resource extraction or war. As ever, the ethical deliberation turns on the precise historical and spatial conditions at stake – the displacing of who exactly, when, where, how and by whom – and whether such displacements result from actions that have been chosen or inflicted.

I had been planning to bring together my work on the two examples of displacement I described above as part of a larger project called 'Home-Work Displacements'.[56] 'Taking Work Home' would tell of how I had refuted my university's acceptance of corporate funding from a fossil-fuel company to fund research on sustainability – funds that have been derived, at least in part, from the displacement of communities.[57] 'Making Home Work' would discuss my role in opposing The London Borough of Southwark's, the leaseholder of my home, demolition of social housing and related displacements.[58] Over the past six years, I had considered these two processes of enforced displacement as parallel and intersecting situations, and come to understand the actions of speech that I had taken in response to them – at work and at home – as interventions into existing institutional structures, performed to activate them, and so potentially as forms of 'critical spatial practice'.[59] I had also tried to use my practice of 'site-writing'[60] to bear textual witness to these transitory actions (or 'speech acts' which, as J. L. Austin argues, occur when 'saying something will produce certain consequences'),[61] but also serve as prompts for other actions yet to come.

I had in mind Peter Stalleybrass and Allon White's *The Politics and Poetics of Transgression*[62] as an influence and impetus to think through not just the politics of displacement in both cases – in one, social housing residents pushed out of their central London homes, and in the other, indigenous people removed from their homes as their land is taken for coal extraction – but also the poetic dimension. I was wondering about the artist Robert Smithson's dialectic of site and non-site – the work of art as intervention into a landscape, on the one hand, and its documentation, on the other,[63] and how his idea of a journey between the two providing a constant flux, might offer some kind of out and return in the form of the *Fort/Da.*

But then, I decided against it. Before I could find a publisher, I discovered that the poet Kenneth Goldsmith had published an essay titled 'Displacement Is the New Translation' in 2014.[64] I was disappointed, as you

always are, when, before you have had time to grow your own version, you find that a nascent seed of an idea you were cherishing has already reached fruition in the writing of another. Yet, even before I had found the essay itself, my online search for his essay revealed a review. It started out well, though opening generosity can often be a bad sign in a review, but ultimately dealt the work a tough blow:[65]

> In celebrating the workings of displacement along these lines, he's [Goldsmith's] also celebrating them inasmuch as they follow the script of the market. This essay is not about 'capitalism' per se, but rather about how Goldsmith appears to be unwittingly endorsing the dominant political order (free market capitalism) in the sublimated form of art, while the absent figure of the displaced person looms unaddressed.[66]

This quote pinpointed my concerns. These were not just my fears of the typical trolling, the tweet attack of 'virtue-signalling', which has become an almost-expected response when an author admits being worried about the ways in which they are implicated in the systems they are questioning, but rather the ethical chasm that can open up between a poetic displacement, which operates at the level of language and is often the result of an aesthetic choice (a self-imposed self-styling) and a displacement which works materially through a body. And this chasm is widened when that act of displacement is not on yourself, chosen by yourself, but has been enforced without choice on someone, by another, physically and/or through aggressive legislation. I have witnessed others being displaced that way, but I don't count myself among them. My decision and ability to assert my own agency, means that I was not displaced, but that I displaced myself.[67]

## Undoing Architectural Theory (11 times)

i
**autotheory**
between doing it and *any theory of the 'speaking' subject*

> 'Autotheory' has emerged as a term to describe the practices of engaging with theory, life, and art from the perspective of one's lived experiences; an emergent term, it is very much in the zeitgeist of contemporary feminist and queer feminist cultural production today.[68]



ii
**site-writing**
between use and *écriture feminine*

When I began a book about my site-writing practice, I was encouraged by the publisher to frame it as a form of art criticism, and so I thought of the site as a cultural artefact or object located outside me – an artwork or an architectural project.[69] But my recent work focuses on the sites of my own life, taking me back through my 'Home-Work Displacements' project to the home-work essay that was 'Undoing Architecture'. This was an undoing of the architectural profession, but also an undoing of institutionalisation of the family and home as commodity and, it comes to mind, as I undo the essay itself now and reformulate its 11 parts for today, and for this essay, that I was also undoing architectural theory. Maybe 'Undoing Architecture' is where my practice of site-writing started.

iii
**life-writing**
between home and *'where and how to dwell?*

What I didn't know back then was that there was a body of work called life-writing, that included life-thinking, autobiography, biography, memoir, letter-writing, confessionals, fiction, non-fiction, creative non-fiction, fiction theory, critical fiction, critical poetics, feminist figurations, and so the list goes on . . .

iv
**a sweaty concept**
between profitability and *the gift*

> By using the idea of sweaty concepts, I am also trying to show how description work is conceptual work. A concept is worldly, but it is also a reorientation to a world, a way of turning things around, a different slant on the same thing. [. . .] Sweat is bodily; we might sweat more during strenuous and muscular activity. A sweaty concept might come out of a bodily experience that is trying. The task is to stay with the difficulty, to keep exploring and exposing this difficulty.[70]

v
**the personal is political**
between property and *porosity*

I have argued that site-writing is a form of situated criticism, which aims to relate one's critical attitude spatially to one's lived experience. It draws on the history of feminism and in particular on the ethos of second-wave feminism: 'the personal is political'. This phrase has been attributed to a paper by Carol Hanisch, originally titled 'Some Thoughts in Response to Dottie's Thoughts on a Women's Liberation Movement' (February 1969) which deals with 'therapy versus politics' and discusses the role of personal experiences in 'therapy' or consciousness-raising groups as part of the Women's Liberation Movement.[71] Much feminist discourse today returns to that period of feminist politics and to the practices which emerged from that moment.

When Sara Ahmed resigned from Goldsmith's College London in 2016 due to alleged issues of sexual harassment at the university she had not had the support to tackle adequately, it drew the attention of feminists around the world. Her book *Living a Feminist Life*, a development of her influential blog, feminist killjoy, has been a rigorous reminder that the work of feminists in opposing sexual, racial and class discrimination is far from over. Through the figure of the feminist killjoy, her book makes theory out of her own life story, those sweaty concepts that have emerged from it, and offers tools and a manifesto for other feminists seeking to challenge forms of oppression. I sought solace and inspiration in her book and in Rebecca Solnit's *Men Explain Things to Me*[72] recently when I needed help in working out how to respond – what to oppose, and what to affirm – to the emotional impact of patriarchal university culture on my life. Twenty years ago, when I was writing 'Undoing Architecture', I had reached to the work of French feminists and the writing of women of colour – Audre Lourde, bell hooks and Gloria Anzaldúa – to understand how my own life as an architect was implicated in patriarchal culture. The words of these women showed me then the role that writing one's life can play – in self-making – in renegotiating the relation one has, as Judith Butler would have it, to social norms.[73]

vi
**the master's tools**
between divisibility and *two lips*

> *For the master's tools will never dismantle the master's house.* They may allow us to temporarily beat him at his own game, but they will never enable us to bring about genuine change.[74]

Audre Lorde wrote these words in 1984 as a response to a humanities conference at New York University Institute, where she and one other black woman had been asked to participate at the 'last hour'.

> Racism and homophobia are real conditions of all our lives in this place and time. *I urge each one of us here to reach down into that deep place of knowledge inside herself and touch that terror and loathing of any difference that lives here. See whose face it wears.* Then the personal as the political can begin to illuminate all our choices.[75]

Two years earlier, in the preface to *Zami: a New Spelling of My Name: A Biomythography*, she had written this:

> To whom do I owe the woman I have become?[76]

The debts we owe to those who enable us to write are a key part of feminist political struggle and intellectual work. How can we make citing, quoting and referencing those who have shown us how to be ourselves – a writing *with* other feminists – an ethical practice and a way of paying those debts?[77]

vii
***Giving an Account of Oneself***
between the 'self-same' and *mimicry*

In *Giving an Account of Oneself*, Judith Butler argues that 'the "I" has no story of its own that is not also the story of a relation – or set of relations – to a set of norms'. She goes on to note that: 'If the "I" is not at one with moral norms', this means that 'the subject must deliberate upon these norms', and that part of such a deliberation will 'entail a critical understanding' of the social genesis and meaning of those norms. Butler writes:

> In this sense, ethical deliberation is bound up with the operation of critique. And critique finds that it cannot go forward without a consideration of how the deliberating subject comes into being and how a deliberating subject might actually live or appropriate

a set of norms. Not only does ethics find itself embroiled in the task of social theory, but social theory, if it is to yield nonviolent results, must find a place for this 'I'.[78]

viii
**autopoiesis**
between scarcity and *jouissance*

> Subjectivity is rather a process ontology of auto-poiesis or self-styling, which involves complex and continuous negotiations with dominant norms and values and hence also multiple forms of accountability.[79]

ix
**sympoiesis**
between calculation and *the female imaginary*

Donna Haraway's influential essay from the 1980s, 'Situated Knowledge', has really come into its own in recent years. Her argument – that objectivity is partial and constructed – has helped feminism avoid simply rejecting objectivity in favour of subjectivity, and instead facilitated powerful critiques of status quo positions and viewpoints.[80] Her most recent book, *Staying with the Trouble*, reconceptualises the Anthropocene as the Chthulucene, as an epoch in which the human and non-human are inextricably linked in what she calls 'tentacular practices'. For Haraway, the Chthulucene requires what she terms, drawing from the work of M. Beth Dempster, sympoiesis, or geostories of making-with,[81] processes which she writes are 'always partnered all the way down' rather than the self-producing generative system associated with auto-poiesis. (Though in an intriguing footnote, Haraway notes 'Thinking-with in the sf compost pile of this essay is not an enemy to the profound secular self-examination of Arendt's historically situated human figure, but that is an argument for another day').[82]

x
***The Poethical Wager***
between efficiency and *fluid mechanics*

> What prevents the logic of the essay from being arbitrary is the degree of its engagement as wager. The essay is a commitment to a thought experiment that is itself an ethical form of life. As such, for better and/or worse, it yields consequences like any troth. Troth is as close to truth as I can hope to get, and perhaps that's for the best because it discloses the rise in danger and responsibility as poetics of desire threaten to become socially enacted wagers. The nature of the wager is nothing other than complex realist conversation. But conversation – in too many of the greatest hits of Western thought – mutates into polemics. Conversation demands holding an image of the other in one's mind long enough to notice the difference between one's own point of view and possible alternatives. What was the Epicurean alternative to either/or?[83]
>
> It comes less from Johan Huizinga's famous analysis in *Homo Ludens* than from D. W. Winnicott's theories of play *as* the imaginative activity that constructs a meaningful reality in conversation with the world as one finds it. There, I think, is the location of the essay as wager – in the intermediate zone between self and world, in the distancing act of play. The distance engendered by a poethical recognition of reciprocal alterity stimulates curiosity and exploration.[84]

xi
**selvedges**
the angel goes between and bridges

> So as far as I can tell, most worthwhile pleasures on this earth slip between gratifying another and gratifying oneself. Some would call that an ethics.[85]

Recently I've become fascinated by the word 'selvedges' – by the way it combines textile and text – how it refers to a fabric with a 'self-finished' edge and the excess area of a printed sheet. And if that isn't enough to get one thinking about the spaces of intersubjectivities, it has a geological meaning as well – a strata that has been under pressure, a zone of altered rock.

> . . . intersubjectivity in the text occurs through intertextuality, when distinctions between the original and citation become blurred.[86]

## Notes

1. Luce Irigaray, 'Any Theory of the "Subject" Has Always Been Appropriated by the "Masculine"' [1974], in *Speculum of the Other Woman*, trans. Gillian C. Gill (Ithaca, NY: Cornell University Press, 1985), 133.
2. Hélène Cixous, 'Sorties' [1975], trans. Betsy Wing, in *The Newly Born Woman*, ed. Susan Sellers, *The Hélène Cixous Reader* (London: Routledge, 1994), 43.
3. Luce Irigaray, *Elemental Passions* [1982], trans. Joanne Collie and Judith Still (London: Athlone Press, 1992), 47.
4. Irigaray, *Elemental Passions*, 43.
5. Irigaray, *Elemental Passions*, 65 and 66.
6. Luce Irigaray, 'Volume-Fluidity' [1974], *Speculum of the Other Woman*, 229.
7. Luce Irigaray, 'Sexual Difference' [1984], *An Ethics of Sexual Difference* [1984], trans. Carolyn Burke and Gillian C. Gill (Ithaca, NY: Cornell University Press and Continuum, 1993), 11.
8. Irigaray, *Elemental Passions*, 61; Cixous, 'Sorties', 95.
9. Irigaray, *Elemental Passions*, 47; Cixous, 'Sorties', 44.
10. Hélène Cixous, *Three Steps on the Ladder to Writing* [1990], trans. Sarah Conell and Sarah Sellers (New York: Columbia University Press, 1993), 5. See also Irigaray, 'Volume-Fluidity'.
11. Irigaray, 'Sexual Difference', 15.
12. This essay seems to have a life of its own. It was originally published in a longer version as Jane Rendell, 'Doing It, (Un)Doing It, (Over)Doing It Yourself: Rhetorics of Architectural Abuse', in *Occupying Architecture*, ed. Jonathan Hill (London: Routledge, 1998), 229–46. It was radically shortened and reworked as Jane Rendell, '(Un)doing It Yourself: Rhetorics of Architectural Abuse', *The Journal of Architecture* 4 (1999): 101–10. Around 10 years later, two revised versions were published as 'Doing It, (Un)Doing It, (Over)Doing It Yourself', in *P.E.A.R. (Paper for Emerging Architectural Research)*, ed. Matthew Butcher and Megan O'Shea (London, 2012) and 'Undoing Architecture', in *Site-Writing: The Architecture of Art Criticism* (London: IB Tauris, 2010), 27–34. And 20 years on, 'Undoing Architecture' was republished in the catalogue designed by OOMK, for the brilliant feminist show, *Still I Rise: Feminisms, Gender, Resistance*, curated by Irene Aristizábal (Nottingham Contemporary), Rosie Cooper (De La Warr Pavilion) and Cédric Fauq (Nottingham Contemporary), at Nottingham Contemporary and the De La Warr Pavilion, Bexhill (2018–9).
13. Jane Rendell, *The Architecture of Psychoanalysis: Spaces of Transition* (London: IB Tauris, 2017).
14. See 35% Campaign, Southwark's Mysterious Estate Renewal Zone, 23 July 2014, http://35percent.org/2014-07-23-mystery-objector-1301/ (accessed 13 June 2019).
15. See https://www.ucl.ac.uk/engineering-exchange/sites/engineering-exchange/files/report-refurbishment-demolition-social-housing_1.pdf (accessed 13 June 2019). Based on evidence held by the London Borough of Southwark, my own research for the public inquiry showed that the refurbishment option was also cheaper. See Jane Rendell, 'Extracts from Response to Southwark Council's Rebuttal Statement (9 October 2015)', 11 October 2015, referred to in Jane Rendell, 'Figures of Speech: Before and After Writing', in *Writing and Architecture*, ed. Jonathan Charley (London: Routledge, 2018), 397–9. This evidence was drawn upon for the following news article, Keith Cooper, 'Assessing Aylesbury: What's the True Cost of Demolishing Council Estates?' *Architects Journal,* 19 November 2015, http://www.architectsjournal.co.uk/news/assessing-aylesbury-whats-the-true-cost-of-demolishing-council-estates/8692267.fullarticle (accessed 14 April 2017). See also my own commentary: Jane Rendell, 'Reflections on the Outcome of the Public Inquiry into the Aylesbury Estate Compulsory Purchase Order, https://architectsforsocialhousing.wordpress.com/2016/09/27/reflections-on-the-outcome-of-the-public-inquiry-into-the-aylesbury-estate-compulsory-purchase-order/ (accessed 19 December 2017).
16. For research that connects gentrification, displacement and state-led regeneration, see, e.g., Paul Watt, 'It's Not for Us', *City* 17 (2013): 99–118; and Loretta Lees, 'The Urban Injustices of New Labour's "New Urban Renewal": The Case of the Aylesbury Estate', https://southwarknotes.files.wordpress.com/2009/12/the-urban-injustices-of-new-labour_s-e28098new-urban-renewal_-the-case-of-the-aylesbury-estate-in-london.pdf (accessed 13 June 2019). See also the work of ASH, https://architectsforsocialhousing.co.uk (accessed 9 July 2020); Anna Minton, *Big Capital: Who Is London for?* (London: Penguin, 2017); and Ben Campkin, *Remaking London: Decline and Regeneration in Urban Culture* (London: IB Tauris, 2013), esp. 77–107.
17. See, e.g., my discussion in Jane Rendell, ''Arry's Bar', in *Reactivating the Social Condenser*, ed. Michal Murawski and Jane Rendell, special issue of *Journal of Architecture* 22 (2017): 532–54.
18. See, e.g., Loretta Lees, Just Space and SNAG (Southwark Notes Archives Group), 'The Social Cleansing of Council Estates in London', *Regeneration Realities: Urban Pamphleteer* 2 (2014): 6–11.
19. See http://crappistmartin.github.io/images/SummaryProfRendell.pdf (accessed 13 June 2019).
20. The Office of the Deputy Prime Minister, *Compulsory Purchase and the Crichel Down Rules* (2004), 7, para. 17, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/472726/151027_Updated_guidance_for_publication_FINAL2.pdf (accessed 13 June 2019).
21. For a detailed account of this process, see Rendell, 'Figures of Speech'. See also Jane Rendell, 'Home-Work Displacements', in *Rethinking Architectural Production:*

*Between Experience, Action and Critique*, ed. Sandra Loschke (London: Routledge, 2019), 117–41.

22 Jane Rendell, ‘Critical Architecture: Between Criticism and Design’, in *Critical Architecture*, ed. Jane Rendell, Jonathan Hill, Murray Fraser and Mark Dorrian (London: Routledge, 2007), 1–8.

23 André Green, *The Work of the Negative* (London: Free Association Books, 1999).

24 Fernando Urribarri, ‘The Negative and its Vicissitudes: A New Contemporary Paradigm for Psychoanalysis’, in *André Green Revisited: Representation and the Work of the Negative*, ed. Gail S. Reed and Howard B. Levin (London: Routledge, 2018), 66.

25 ‘Interview with Rosi Braidotti’, in *New Materialism: Interviews and Cartographies*, ed. Rick Dolphijn and Iris van der Tuin (Ann Arbor, MI: Open Humanities Press, 2012), 37.

26 Naomi Hodgson, Joris Vlieghe and Piotr Zamojski, eds., *Manifesto for a Post-Critical Pedagogy* (New York: Punctum Books, 2017).

27 Emma Cocker, *The Yes of the No* (Sheffield: Site Gallery, 2016).

28 Diane Elam, *Feminism and Deconstruction* (London: Routledge, 1999).

29 Lucy Sargisson, *Contemporary Feminist Utopianism* (London: Routledge, 1996), 104.

30 Roland Barthes, *The Neutral: Lecture Course at the College de France (1977–1978)*, trans. Rosalind Krauss and Denis Hollier (New York: Columbia University Press, 2005), 7.

31 Jan Verwoert, ‘Exhaustion and Exuberance: Ways to Defy the Pressure to Perform’, in *What’s Love (or Care, Intimacy, Warmth, Affection) Got to Do with It?* (Berlin: Sternberg Press, 2017), 208.

32 Gerald Raunig, ‘Instituent Practices: Fleeing, Instituting, Transforming’, trans. Aileen Derieg, January 2006, http://eipcp.net/transversal/0106/raunig/en (accessed 17 June 2019).

33 Gerald Raunig, ‘The Double Criticism of Parrhesia: Answering the Question “What Is a Progressive (Art) Institution?”’, trans. Aileen Derieg, April 2004, http://eipcp.net/transversal/0504/raunig/en (accessed 17 June 2019).

34 Michel Foucault, *Discourse and Truth: The Problematization of Parrhesia*, n.p. Six Lectures given by Michel Foucault at the University of California at Berkeley, October–November 1983, ed. J. Pearson, 1999, http://foucault.info/system/files/pdf/DiscourseAndTruth_MichelFoucault_1983_0.pdf (accessed 14 April 2017).

35 Foucault, *Discourse and Truth.*

36 See, e.g., Hilary Robinson, ‘Louise Bourgeois’s “Cells”: Gesturing Towards the Mother’, in *Museum of Modern Art Papers.* Vol. 1: *Louise Bourgeois*, ed. Ian Cole (Oxford: Museum of Modern Art, 1996), 21–9.

37 Jean Laplanche, ‘Time and the Other’ [1992], trans. Luke Thurston and Jean Laplanche, in *Essays on Otherness*, ed. John Fletcher (London: Routledge, 1999), 254, referred to in Nicholas Ray, ‘Jean Laplanche, 1924–2012: Forming New Knots’, *Radical Philosophy* 174 (2012): 56.

38 Rosine Jozef Perelberg, *Time, Space and Phantasy* (London: Routledge, 2008), 25.

39 André Green, *Illusions and Disillusions of Psychoanalytic Work*, trans. Andrew Weller (London: Karnac, 2011), 18.

40 Jane Rendell, ‘Condensing and Displacing: A Stratford Dream-Work’, in *Regeneration Songs*, ed. Alberto Dumas and Anna Minton (London: Revolver Press, 2018), 129–59.

41 See Loretta Lees, ‘Public Inquiry Aylesbury Estate, London, Witness Statement’, 29 April 2015, http://bailey.persona-pi.com/Public-Inquiries/aylesbury-estate/ID%20docs/id21.pdf (accessed 14 February 2017).

42 Lesley Coffey, CPO Report to the Secretary of State for Communities and Local Government (29 January 2016), para. 348, http://bailey.persona-pi.com/Public-Inquiries/aylesbury-estate/core%20docs/cd50.pdf (accessed 14 February 2018).

43 See Foucault’s essay on the subject. Michel Foucault, ‘Self Writing’, translated from *Corps Écrit* 5 (1983): 3–23. Foucault writes: ‘No technique, no professional skill can be acquired without exercise; nor can the art of living, the *technê tou biou*, be learned without *askesis* that should be understood as a training of the self by oneself. This was one of the traditional principles to which the Pythagoreans, the Socratics, the Cynics had long attached a great importance. It seems that, among all the forms taken by this training (which included abstinences, memorizations, self-examinations, meditations, silence, and listening to others), writing – the act of writing for oneself and for others – came, rather late, to play a considerable role. [. . .] As an element of self-training, writing has, to use an expression that one finds in Plutarch, an *ethopoietic* function: it is an agent of the transformation of truth into *ethos*’.

44 Loretta Lees, ‘Proof of Evidence of Professor Loretta Lees (FAcSS, FRSA) BA (Hons), PhD For the Aylesbury Leaseholders Group’, 12 December 2017, Appendix LL2: ‘Sample of ESRC project interviews with displaced leaseholders and leaseholders in the process of being displaced from the Aylesbury Estate (not involved in the public inquiry), Interview (October 2017) with leaseholder decanted to Camberwell Fields’. Interviewee L1, self-employed, had lived on the Aylesbury for over 20 years, 10 years as a council tenant and 10 years as a leaseholder. Took council buy out of her property. Did not want to leave the Aylesbury but was not coping with the stress of the CPO, http://bailey.persona-pi.com/Public-Inquiries/aylesbury-estate/Proofs%20of%20Evidence/Objectors/ALAG/Loretta%20Lees/LL2.pdf (accessed 14 February 2018).

45 Michel de Certeau, *The Practice of Everyday Life* (Berkeley: University of California Press, 1988), 117.

46 de Certeau, *Practice of Everyday Life*, 118.

47 Michael Keith and Steve Pile, eds., *Place and the Politics of Identity* (London: Routledge, 1993), 5.

48 Feminist theorist Diane Elam has observed that Derrida’s understanding of ‘undecidability’ is not indeterminate but rather a ‘determinate oscillation between

possibilities' and argues that by refusing to choose between one and another, such a position offers a political potential. See Elam, *Feminism and Deconstruction*, 83.

49 See Achilles Mbembe, 'Decolonizing Knowledge and the Archive', https://wiser.wits.ac.za/system/files/Achille%20Mbembe%20-%20Decolonizing%20Knowledge%20and%20the%20Question%20of%20the%20Archive.pdf (accessed 28 July 2019). See also Angela Last, 'Internationalisation and Interdisciplinarity: Sharing across Boundaries?', in *Decolonising the University: Context and Practice*, ed. G. K. Bhambra, K. Nisancioglu and D. Gebrial (London: Pluto, 2018), 201–23. Thank you to Thandi Loewenson for bringing the work of these authors to my attention.

50 See Miwon Kwon, 'The Wrong Place', in *One Place After another: Site Specific Art and Locational Identity* (Cambridge, MA: MIT Press, 2002), 32–43; Claire Doherty, 'Introduction', in *Situations*, ed. Claire Doherty (Cambridge, MA: MIT Press and the Whitechapel Gallery, 2009), 13; and Nathan Coley, 'In Conversation with Claire Doherty', in *Thinking of the Outside: New Art and the City of Bristol*, ed. Claire Doherty (Bristol: University of the West of England, and Bristol Legible City in Association with Arnolfini, 2005), 73–9.

51 See Loretta Lees, 'Super-gentrification: The Case of Brooklyn Heights, New York City', *Urban Studies* 40 (2003): 2487–509; and Tim Butler and Loretta Lees, 'Super-gentrification in Barnsbury, London: Globalization and Gentrifying Global Elites at the Neighbourhood Level', *Transactions* 31 (2006): 467–87.

52 See Anna Minton, *Big Capital: Who Is London For?* (London: Penguin, 2017).

53 See, e.g., J. Douglas Porteous and Sandra E. Smith, 'Domicide: The Global Destruction of Home', *Housing Studies* 18 (2010): 269–72.

54 See Phil Hubbard and Loretta Lees, 'The Right to Community? Legal Geographies of Resistance on London's Frontiers of Gentrification', *City* 22 (2018): 8–25.

55 https://www.ucl.ac.uk/bartlett/development/events/2016/oct/speech-extractions-witness-testimony-evidence-response-mining-industry (accessed 5 July 2019).

56 See Jane Rendell, 'Critical Spatial Practice as *Parrhesia*', special issue of *MaHKUscript*, *Journal of Fine Art Research* (2016); and 'Home-Work Displacements'.

57 See Jane Rendell, 'Giving An Account Of Oneself, Architecturally', in *Architecture!*, ed. Jae Emerling and Ronna Gardner, special issue of *Journal of Visual Culture* 15 (2016); and 'Configuring Critique', in *The Routledge Companion to Criticality in Art, Architecture, and Design*, ed. Chris Brisbin and Myra Thiessen (London: Routledge, 2018), 128–46.

58 See Rendell, ''Arry's Bar' and 'Figures of Speech'.

59 See Jane Rendell, *Art and Architecture: A Place Between* (London: IB Tauris, 2006).

60 Jane Rendell, *Site-Writing: The Architecture of Art Criticism* (London: IB Tauris, 2010).

61 Judith Butler, *Excitable Speech: A Politics of the Performative* (New York: Routledge, 1997), 21–2.

62 Peter Stalleybrass and Allon White, *The Politics and Poetics of Transgression* (London: Routledge, 1986).

63 Robert Smithson, 'Towards the Development of an Air Terminal Site' [1967], in *Robert Smithson: The Collected Writings*, ed. Jack Flam (Berkeley: University of California Press, 1996), 52–60.

64 Kenny Goldsmith, Displacement Is the New Translation, 9 June 2014, http://rhizome.org/editorial/2014/jun/9/displacement-new-translation/ (accessed 4 July 2019).

65 Michael Hessel-Mial, 'Conceptual Writing in the Time of Non-Indictment: Notes on Goldsmith's "Displacement is the New Translation"', 18 February 2015, https://entropymag.org/conceptual-writing-in-the-time-of-non-indictment-notes-on-goldsmiths-displacement-is-the-new-translation/ (accessed 4 July 2019).

66 Hessel-Mial, 'Conceptual Writing in the Time of Non-Indictment'.

67 See Jane Rendell, 'To Unsettle: Art as a Reflexive Verb?', in *Unsettlement*, ed. Charlotte Day, Shelley McSpedden and Elise Routledge (Melbourne, Australia: Monash Art Gallery, 2018). Here, I discuss how the verb 'to unsettle', whose action produces an unsettlement, is both transitive and intransitive. A transitive verb is one which *transfers* its action to an object: transitive verbs require objects – a subject unsettles an object. An intransitive verb does not require a direct object – she is unsettled. However, I also note that through reflexive verbs subjects perform actions on themselves – she unsettles herself. The ethical dilemma posed by an unsettling turns on how and on whom the action is made. In art, an unsettling can work as a reflexive verb as a practice of critical self-awareness.

68 Lauren Fournier, 'Sick Women, Sad Girls, and Selfie Theory: Autotheory as Contemporary Feminist Practice', *a/b: Auto/Biography Studies* 33 (2018): 643.

69 See Rendell, *Site-Writing* and *Architecture of Psychoanalysis*.

70 Sara Ahmed, *Living a Feminist Life* (Durham, NC: Duke University Press, 2017), 12–3.

71 This paper was published in *Notes from the Second Year: Women's Liberation* (1970), ed. Shulamuth Firestone and Anne Koedt, and Hanisch states that the title 'The Personal is Political' was given to the paper by the editors, http://www.carolhanisch.org/CHwritings/PIP.html (accessed 27 July 2019).

72 See, e.g., Ahmed, *Living a Feminist Life* and Rebecca Solnit, *Men Explain Things to Me: And Other Essays* (Chicago: Haymarket Books, 2014). See also Rebecca Solnit, *The Mother of all Questions* (Chicago: Haymarket Books, 2017); and Les Back, *Academic Diary: Or Why Higher Education Still Matters* (London: Goldsmiths Press, 2016) for critical dissection of the academy through a diary of one calendar year, and his excellent bibliography of novels, plays and films on academic life.

73 Judith Butler, *Giving an Account of Oneself* (New York: Fordham University Press, 2005), 8.

74 Audre Lorde, 'The Master's Tools Will Never Dismantle the Master's House' [1984], in *Sister Outsider: Essays and Speeches* (Berkeley, CA: Crossing Press, 2007), 112.

75 Lorde, 'The Master's Tools', 114.

76 Audre Lourde, *Zami: A New Spelling of My Name: A Biomythography* [1982] (London: Penguin, 2018).

77 See Jane Rendell, '*From, In and With* Anne Tallentire', *Becoming A Feminist Architect*, special issue of *Field* 7 (2017).
78 Butler, *Giving An Account of Oneself*, 14.
79 'Interview with Rosi Braidotti', 31.
80 Donna Haraway, 'Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective', *Feminist Studies* 14 (1988): 575–99.
81 Donna Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham, NC: Duke University Press, 2016), 33–4.
82 Haraway, *Staying with the Trouble*, 177, note 18.
83 Joan Retallack, *The Poethical Wager* (Berkeley: University of California Press, 2003), 6.
84 Retallack, *The Poethical Wager*, 7.
85 Maggie Nelson, *The Argonauts* (Minneapolis, MN: Graywolf Press, 2015), 120.
86 Joan Hawkins, 'Afterword', in Chris Kraus, *I Love Dick* [1997] (London: Serpent's Tail, 2016), 256.

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# 6. The Whitechapel Gift Shop

## Torange Khonsari (public works) with Megan O'Shea

Here, Torange Khonsari (public works) is in conversation with Megan O'Shea about the public works project 'The Whitechapel Gift Shop', a mixed-use development that took the redevelopment of a private residential home and combined it with a public cultural programme.

**MEGAN O'SHEA (MOS):** Tell me how the project was initiated.

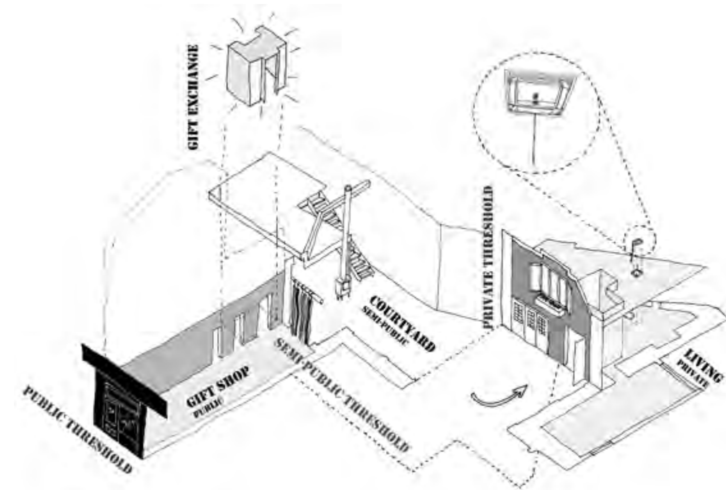
**TORANGE KHONSARI (TK):** 'The Whitechapel Gift Shop' was a private commission. We proposed having artist residencies in the shop in the front of the house when we pitched for the job, and they loved it. As this phase developed, with great involvement from the clients Pilar and Pele Cortizo Burgeses, it developed into 'the gift shop'. At the time, Pilar was reading a book called *The Gift* which was very much about gift economy, gift exchange, which resonated with her and formulated the programming of the gift shop.

Architecturally, we became very interested in exploring the threshold between the street, the public shop and the private home. We wanted to explore whether through the cultural programme of art residencies, we could cross thresholds and question the conventions of a home.

Pilar and Pele painted the shop white. We interviewed and selected a series of artists for short artist residencies in the shop. The shop became their space of production and gallery. A large selection of artists took to the streets of Whitechapel and worked with 'super local' issues and brought that back into the shop – bringing fragments of the city and its social context into the gift shop.

This was all happening simultaneously to us designing their home behind the shop where this art production was taking place.





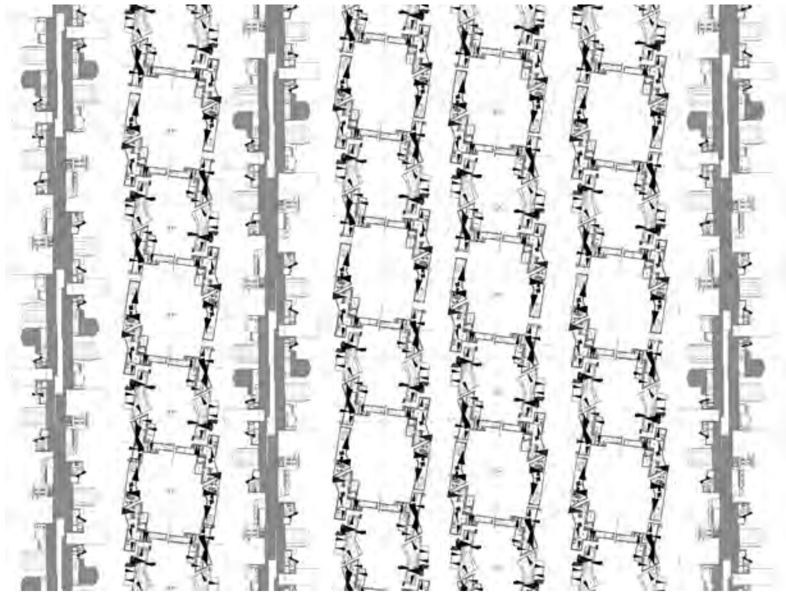

**6.1** public works. Exploded axonometric of 'The Whitechapel Gift Shop', 2012. Digital drawing. The illustration shows 'The Whitechapel Gift Shop' project as a home, illustrating the three zones: (1) the semi-public shop (the gift shop); (2) the semi-private space of the most public areas of the home – kitchen, dining and living room; and (3) the most private areas, being the bedroom and the bathroom. Source: Illustration by Sam Levine, Architectural Assistant at public works in 2012. © public works.

**MOS:** Did you see your contribution as the design of the house, or did you also contribute another 'gift'?

**TK:** We had a very unprecedented double role here. We always practiced as art and architecture, but this was the first time we had both hats on simultaneously.

At the same time as the artists were producing their work in the shop, we were designing Pilar and Pele's home on paper and producing architectural drawings of plans, sections and elevations. Andreas from public works created wallpaper designs using all the architectural drawings we had done to date. The design at different scales revealed different details of our design at that time. He compiled the wallpaper designs in a fanzine, which he gifted to the shop.

Also, literally seeing the threshold between the public shop and the private home and how it shifted through some events gave us the idea to push those boundaries further. Formally, we discussed doing this through curtains in the main living space, but it was going to compromise their living space too much. So, when the opportunity arose for 30 Bird productions and their creative director Mehrdad Seyf to perform their piece *Plastic* after the completion of the refurbishment, this all slotted into place.



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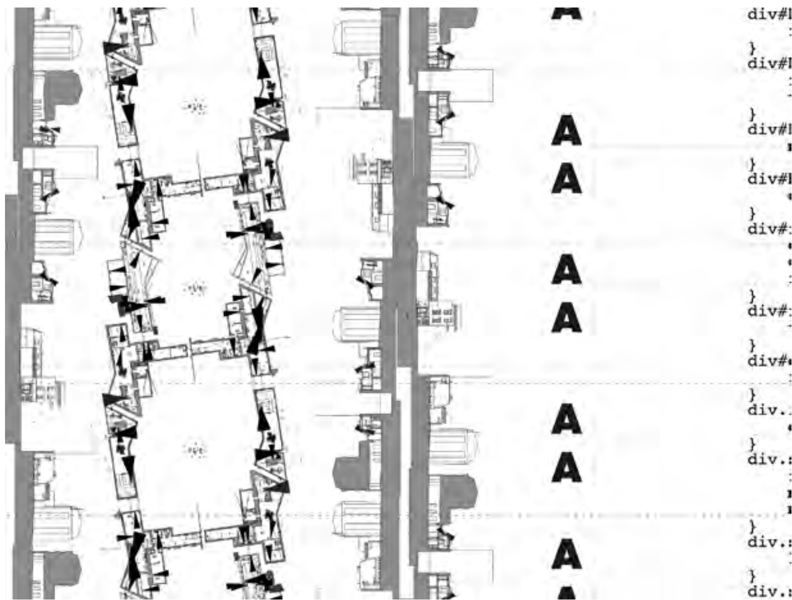

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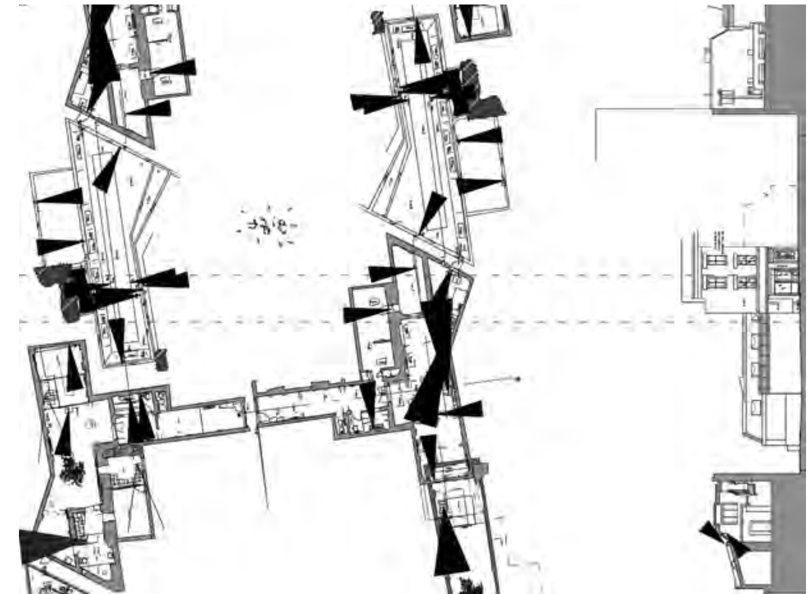

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**6.2–6.5** public works. Wallpaper designs for 'The Whitechapel Gift Shop', 2012. Digital drawing. Designs by Andreas Lang, from public works, were presented as a gift to be used for exchange at the gift shop. The pattern is a combination of planning application drawings for the alterations to the building proposed by public works for the project. The planning drawings were used as a form of ornamentation at different scales creating different patterns within the wallpaper of the building. © public works.

**MOS**: So, the performance would form the bridge between the gift shop and the house?

**TK**: It was the performance at the end that turned the entire house into a public space because members of the public came through the house for a period of two to three weeks.

**MOS**: So, at the end of the project, the home became a public space and also a space for performance?

**TK**: I think the design of the home lent itself to a theatrical set. It was very eclectic, which suited the clients' taste and also mine. The idea was to create very plain backdrops and include objects which feel as if they have just been found and brought in.

I think the eclectic style allowed the experimental cultural projects to happen because if it was a super pristine, totally over designed house, it might not have been as easy to have adopted it as part of a set. With Mehrdad's piece, the narratives are not the priority, which makes some people annoyed because they can't follow a story. But for him, the interest lies in the site, highlighting certain spaces and moments – highlighting the spaces through performance and allowing the spaces to unravel throughout the piece as a journey of discovery.

**MOS**: How did that work? Because the piece was not made for the house . . .

**TK**: No, it wasn't made for it, but he works with sequences. So, he has all the sequences of a piece, and he might shift and change them in relation to a space that he is given.

The storyline almost becomes a secondary element that gives the piece an informal framework. You are constantly thinking in his performances, 'What is going on?', and here it was all about the juxtaposition of the home and the performance – it was quite interesting in terms of how it transformed that space.

**MOS**: Tell me a bit more about how the eclectic style of the house contributed to this narrative.

**TK**: We bought a lot of items from eBay. eBay became our architect's 'product selector'. The products came from people's homes or the yards of small businesses, and so there was always a history and a story behind them. Items had a different value because they had a hidden history and a particular story. We had a sink from an Arts and Crafts house that belonged to a distant cousin of William Morris, chapel doors from a small church near Milton Keynes and many more.

This process also revealed the limitations of conventional architectural practice, contracts, guarantees and liabilities. The contractor was very hesitant about using recycled materials, as he could not guarantee them; the engineer was very cautious and did not want to take responsibility. So, we mainly had to use eBay items which were not structural. It was very interesting to negotiate guarantees and risk reduction in order to recycle in the building industry in this country.

Faced with these contractual problems for implementing reuse in buildings, my teaching partner Sandra Denicke-Polcher sought out Jonathan Essex who is basically part of an organisation starting up Re-IY centres, as alternatives to DIY centres. It is all about using recycled materials, which has apparently taken off now in the USA. In my mind, this method of designing also changes the way architects design. You will need to choose the materials before you design, rather than design then select materials.

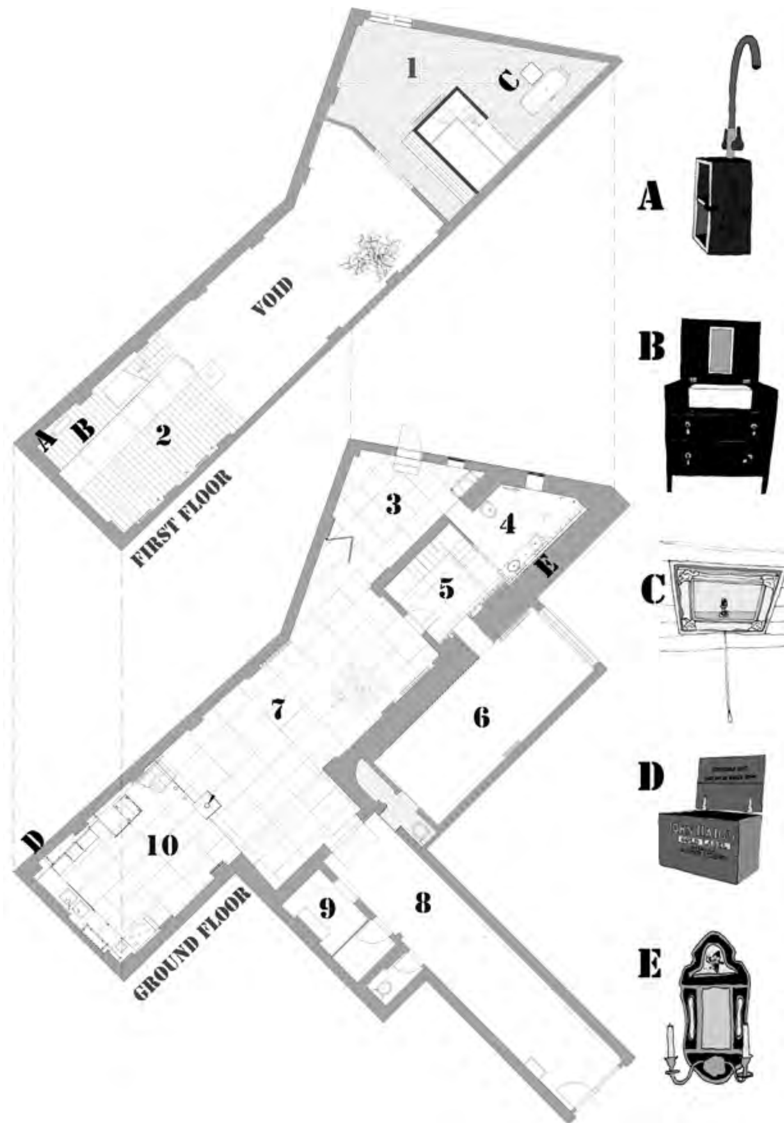
**MOS**: I think that it's really interesting that there are all these different relationships that you built up through the house because there is obviously the very particular relationship, which is very standard in a way, between the architect and client, but then there is also the relationship with all the artists, and through them with the community and the local area, and then also, through eBay, you set up these virtual relationships as well.

**TK**: Yes. That was quite special. I'm going to attempt to map all the social relationships that the project created. It would be great to do this with Pilar, as she blogged about a lot of it on their Whitechapel Gift Shop website.

**MOS**: And what about the details of the building and the spatial relationships within the architecture?

**TK**: We created very strange interventions within the building such as the glass in the floor that looks down onto the bathroom, and a quirky, framed lamp on the ceiling of the bedroom when you look up from the bathroom. These all set up opportunities for unexpected moments.

Through the performance, all these spatial relationships – these surprising and sometimes awkward moments – come to life. A glimpse of a dancer wearing white in the bathroom is caught whilst standing in the bedroom, or a glimpse of dancers performing in the shop is caught whilst




**6.6** public works. Ground-floor and first-floor plans for 'The Whitechapel Gift Shop', 2012. Digital drawing. The objects illustrated were bought from eBay to occupy the space of the gift shop. © public works.

standing in the main living room, and this is all part of a revelation of these spatial moments.

**MOS:** It's not just that private space was becoming more public, it's that even private moments were becoming public somehow.

**TK:** Yes, there is a false sense of privacy when the building is open to the public which I really enjoyed.

**MOS:** It seems to me also that the house clearly became at one point the space for a very particular theatrical performance that was 'staged' within the house, but also that somehow the people who are inhabiting the house have to be performative as well. It's not just that the house became a space for theatre, it's that actually living in the house becomes performative, the whole space is encouraging that.

**TK:** Yes. Pilar always called it a house within a house because we had a façade to the private area imitating a house frontage. A single door, a three-concertina door resembling a garage at ground level and a second-storey window warned you about entering this very private space in the house. This space had the bedrooms and the main bathroom. Outside the private space is what we called the courtyard in which all the hosting took place. Through the red velvet curtains off the courtyard was the shop.

**MOS:** When you talk about it like that, it seems a very ancient idea that you would have shop areas and semi-public reception rooms and actually the very private spaces would be very small and very hidden away.

**TK:** Yes, it's funny because that's how the Iranians' houses were configured in the eighteenth century. You had the public entrance area where you waited to be received, then the courtyard, which was the reception area, and then you had the main house – not a very British typology.

**MOS:** No, we have a very particular feeling of 'your home is your castle' and you really want to shut the door, and that is closing the world outside, and the house is then a very private place.

**TK:** Well, I suppose the Iranian typologies were shut off from the street, and they prolonged the threshold between public and private more than the British model of living. In the more working-class areas in Britain, the threshold between the house and the street was very blurred. People would sit on their doorstep and talk to their neighbours, and being present on your step was a very important part of belonging to a neighbourhood. And I suppose in the gift shop project, the shop, during the cultural programmes, became this threshold between the street and the house.

MOS: What happened when they moved into the house? Am I right that the gift shop was happening when you were working on the house?

TK: No, when we were working on the house, they were living there. So, they were living in the shop when the private area became public and was under construction. Then, of course, quite soon after they moved in, they decided to sell it.

MOS: It seems to me that one of the sad things about them selling it is that it puts an end to the process, and I know that before you said to me that you don't see the house as being an end product.

TK: For us, we've always been trying to redefine architecture as process. For us, architecture is the relationship between different spaces that you create through a project, both formal and social. So, in a way, for me, all of it felt part of a process and part of an extended research into the redefinition of a home and the role of cultural practices in this redefinition. The home's design and its construction were part of the process of testing the notions of a home, a gallery and a theatre.

The performance really revealed the design as a series of habitable spaces rather than a home. Once the performance was over and the clients were alone, the building returned to being their home.

What we wanted to do for the next stage was to create a storybook where the collected narratives from objects, people, visitors and artists create a novel that finally concludes this architectural project. The book will bring together all the social and spatial networks that the project created through its two-year life.

MOS: When you think about a home, and what a home is, it is always going to be much more than a house. It is not about just having the structure. A home, to a certain extent, is always psychologically and emotionally about relationships and exchange. So, it seems in some ways that the home that was built through the Whitechapel gift shop is much closer to our emotional definition of what a home is, especially with the past and the histories that are conjured through all those objects and friendships.

TK: Yes, and honestly, I think that Pilar was a very special client. She dug out all these histories. She was really interested in the process, and I would like it to be said that without her, this project would not have happened.



# 7. Dwelling in the twenty-first century: 'The Professor's Study'

Neil Spiller

It is perhaps obvious to many that to dwell is much more than to live – to survive. To dwell is to populate the world – to build our world by operating within it, and those constructions, whether actions, events, situations, poems, pictures or buildings leave mnemonic traces within minds and spaces. Rooms and brains are witnesses to individual pasts. The room is a memory theatre that the agile and synchronised mind can read. The room's objects provoke memories, aspirations, failures, loves, loves lost and so much more. A lifetime of existence can be recorded in a single room or house, for example John Soane's House in London. So, rooms are mnemonic. This of course is not a new idea. Frances Yates in her seminal book *The Art of Memory* traces such ideas back to Roman times via Cicero, Ramon Lull, Giordano Bruno and many others. Indeed, *The Art of Memory* brilliantly describes the enigmatic *Hypnerotomachia Poliphili* 1499[1] which portrays a surreal landscape, traversed by a just-awoken lovelorn Poliphilo that is laden with pageants, architectural edifices, strange sculptures and pert nymphs as:

> Perhaps an artificial memory gone out of control into wild imaginative indulgence . . . [it] makes one wonder whether the mysterious inscriptions so characteristic of this work may owe something to the influence of visual alphabets and memory images, whether, that is to say, the dream archaeology of the human mingles with the dream memory systems to form a strange fantasia.[2]

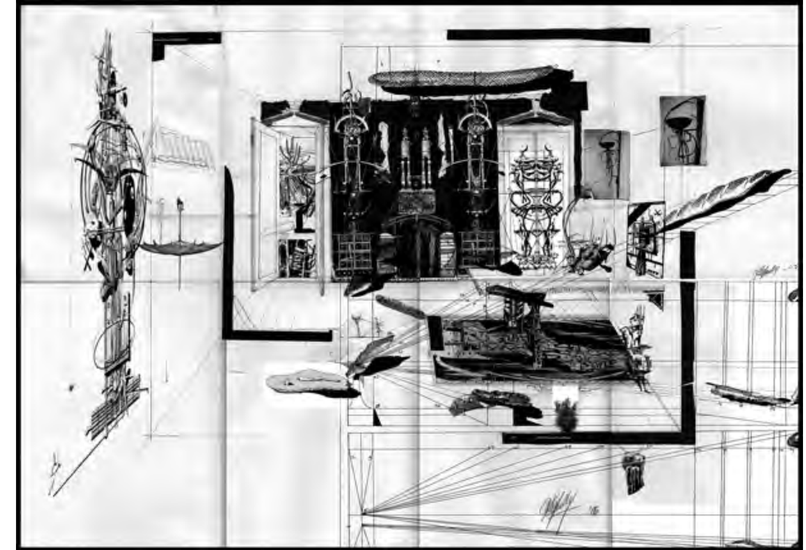
Whilst Yates's book failed to make a full connection to the present day, it did reference the, at the time, primeval development of the computer. The *Hypnerotomachia Poliphili* is a great work of surrealism. The

surrealists had studied the arcane, hermetic arts and were familiar with the memory theatres and their advanced use of syntax, semiotics and symbolism – primary among those surrealists who used mnemonic devices to animate their work were Max Ernst, Salvador Dali and Leonora Carrington. The memory theatres are also implicitly tied up with the alchemic arts and the secret languages (both graphic and spatial) of the alchemic adepts. Mnemonic forms are symbiotic with their context and the viewer simultaneously. Marcel Duchamp understood the mnemonic imperative and the act of viewing, the desiring gaze and the knots of association of objects and forms implicitly. Duchamp's work resonates with associative geometries, reflexive conditions, shape-shifting and semiotic extravagances.

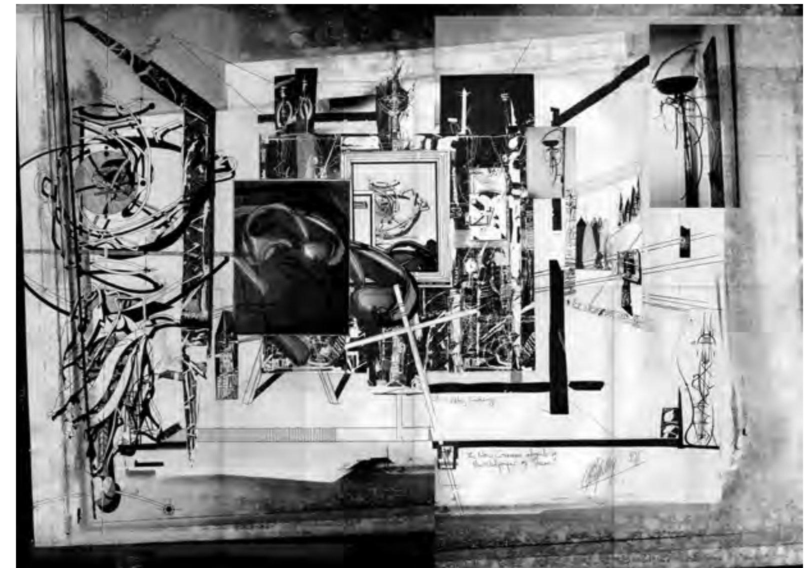
But let's go back to another beginning. During 1998, I started to create an architectural theoretical project that set itself the following brief: with a combination of virtual, cyberspace and real-world architectural notions, is it possible to embroider space so that activities elsewhere, at whatever scale, can condition the formation and growth of an architecture? Such an idea is capable of producing a sublime space that grows and decays, changes and rearranges, that speaks of human beings as actors in a series of linear, non-linear and quantum events. Small expansions, minute stresses and strains, both virtual and actual, can all be utilised. This project I have called 'Communicating Vessels', and after essentially 12 years, it is ongoing, currently consisting of approximately 250 drawings and thousands of words of text, poetry and prose. It has many interlinked parts, all somehow related reflexively, all flirting with the choreography of chance and all rejoicing in surrealist protocols of space making and symbolism. Like the *Hypnerotomachia Poliphili*, this is an unfamiliar terrain, and like Duchamp's large glass, it is activated by desire. This creates the illusive 'holy gasoline' that is the 'fuel' of the ever-shifting system – a cybernetic system.

Many Dadaist and surrealist personalities appear fleetingly in the 'vessels', and these include Dali, Duchamp, Hugo Ball and the Baroness Elsa von Freytag-Loringhoven. But the project is most in debt to Alfred Jarry and his poetic conceit of 'Pataphysics with its three declensions of anomaly, hybridity and clinamen – the swerve. The project is often autobiographical, and the otherworldly island that most of 'Communicating Vessels' is situated on is run by a strange professor. One of the set pieces in the project is 'The Professor's Study', and it pursues notions of dwelling, mnemonics, virtual/actual parallax and memory theatres. Like all the pieces of the 'Communicating Vessels', the study is inspired by, and





**7.1** Neil Spiller, 'Professor's Study', 2006. Digital collage. Drawing shows front end of the study with augmented reality projections from Neil Spiller's ongoing 'Communicating Vessels Project', 1998–present. © Neil Spiller.



**7.2** Neil Spiller, 'Professor's Study', 2006. Digital collage. Drawing shows back end of the study with wallpaper that depicts Shem from Neil Spiller's ongoing 'Communicating Vessels Project', 1998–present. © Neil Spiller.

rubs up against, ideas of art history and architectural space and myth making. There are five key references to 'The Professor's Study', and these are detailed below.

The first reference is Carpaccio's (c.1455–1525) early sixteenth-century painting 'Saint Augustine in his Study'. The saint is surrounded by a series of mnemonic forms. 'The Professor's Study' is a jumble of prototypes, ideas and iconic forms from his own history; he designed it all.

The second reference is Dali's painting, inspired by Velazquez's 'Las Meninas', 'Dali from the Back Painting Gala from the Back Externalised by Six Virtual Corneas Provisionally Reflected in Six Real Mirrors' (1972–3).

However, initially, the idea of 'The Professor's Study' was provoked by Cornelius Meyer's 'Dwelling for a Gentleman' of 1689. The etchings show four elevations that are richly different and contain all that a gentleman could possibly need in the seventeenth century. Such fixtures and fittings include a barber's tray, a kennel for a dog, cupboards for curios and a long winding clock (a year) with a lantern for night viewing, sun clock, wine cellar and press.

Another influence on the project is an edition of the art magazine *View*: 'The Marcel Duchamp Special Issue' from 1945 and particularly Frederick Kiesler's 'Les Larves d'Imagie d'Henri Robert Marcel Duchamp' triptych. Whilst much can be and has been said of Kiesler's and Duchamp's intellectual relationship, their friendship and their paths both within and outside surrealism, this triptych resonates with many of the ideas discussed in this article – those of mnemonics, reflexivity and schizoid semiotic objects and the second-order cybernetic notion of one building one's world whilst acting within it. So, Duchamp's environment in these photographs is indicative of his art, his cognitive map and his rarefied epistemologies of space, of gender, or multidimensions, desire and the view.

'The Professor's Study' is another interpretation of these notions and asserts a belief in the following: (1) creative people represent their life-learned epistemologies time and time again in their work; and (2) they dwell in these epistemologies, they are them, and them are they. Objects can transmute, creating families of semiotic association. For example, the anemone-headed clinamen in my work stands in for the painting machine in Jarry's *Dr Faustroll*, Duchamp's vibrating masculine malic moulds in the large glass and Tingely's metamatic drawing machines.

James Joyce also understands the room as a witness, chunking engine of memory and the centre of dwelling. He is the final reference in the study. Here, he describes the House of O'Shea in *Finnegans Wake*:

> The warped flooring of the lair and soundconducting walls thereof, to say nothing of the uprights and imposts, were persianly literatured with burst love letters, telltale stories, stickyback snaps, doubtful eggshells [. . .] upset latten tintacks, unused mill and stumbling stones, twisted quills, painful digests, magnifying wineglasses, solid objects cast as goblins, once current puns, quashed quotatoes, messes of motage, unquestionable issue papers, seedy ejaculations, limerick damns, crocodile tears, spilt ink, blasphematory spits, young ladies' milkmaids . . . [3]

Indeed, at the Dali-inspired end of the study is the professor's wallpaper of Shem, consisting of some of the professor's homely essences of fountainly battles, sceptic plans, scarlet crosses, balls of intellectual fluff, mental chewing gum, bridesmaids trains, drill alters, plump black lines, light in the black, Nelson watchers, Pinter Splinters, optimistic commissions, disappointment, drop cutting acridity and phlegm.

William Anastasi's reading on *Finnegans Wake* sees Alfred Jarry as an important character in Joyce's masterpiece. Joyce refers to Jarry as 'me altar's ego in miniature'[4] and retells or recalls many scenes from Jarry's life, as well as every novel and major character of Jarry's. In addition, one of the main characters is Shem, aka Jerry (Jarry), 'Me innerman monophone'.[5]

Indeed, the study is intended to describe the Professor's 'Innerman monophone' – for that is all we have.

## Notes

1. Francesco Colonna, *Hypnerotomachia Poliphili* [1499], trans. Joseph Goodwin (London: Thames and Hudson, 1999).
2. Frances Yates, *The Art of Memory* (Chicago: Chicago University Press, 1966), 123.
3. James Joyce, *Finnegans Wake* (Los Angeles: Greenlight Books, 2012), 132.
4. Joyce, *Finnegans Wake*, 314.
5. Joyce, *Finnegans Wake*, 313.

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# Study, Sample and Synthesis

# 8. Horizon remix: A 'crisis' in the architectural image – representations of Lacaton & Vassal's 'double space'

Robin Wilson

In this chapter, I will reflect on and between different modes of architectural imaging. I will explore both digital montage imagery and photographs of housing conceived by the French architects Lacaton & Vassal. The image will form the context and method for architecture writing here: a close observation of how the practice of Lacaton & Vassal constructs a propositional discourse through montage imagery, and how a specific photographic practitioner has subsequently recorded the realised works. I will observe imagery in order to think through some of the effects of Lacaton & Vassal's architectural production as it has moved from concept and dwelling fantasy to realisation and inhabitation. However, my core aim within this chapter will be to address the architectural image at the *intersection* of architectural authorship and photographic authorship as the formation of a potentially critical and contested space of utopian production (of desire, transformation and a thesis of social progress), the forms and effects of which are not determinate but ambiguous, latent and demanding further interpretative engagement to draw forth their meaning.

## The critical image and a critical architecture

To prioritise the role of the image – or rather to draw attention explicitly to the form and effects of the image's mediation in relation to architecture's

interpretation – also implies a critique of the dominant methods and comportment of much architectural criticism. Whilst architectural photography accompanies and facilitates much of the writing of architectural criticism and of architectural history, photography's own role as interpretative medium or as a form of interpretative practice in its own right is rarely acknowledged. As I have reflected on at length elsewhere, this lack of reflexive attention to the role of the photographic image serves the complicit structures of architectural criticism within its media context.[1] A familiar and generic form of architectural photography – that is, an imagery constructed according to a systemically perpetuated set of dominant compositional formulae, through which the architectural artefact is made visible and legible – provides the largely unquestioned form of architecture's representation. One might suggest that architectural photography's primary function is not to provide specific aesthetic or technical information about buildings, but rather to construct over and again an 'ideal' representation of architectural accomplishment – symbolic production, 'spectacle' – around which architects and media professionals (editors, staff writers, advertising sales staff and critics) coordinate the building's happy and harmonious transition from 'design' to 'completion': the mastery of techniques, the fulfilment of desire and, ultimately, of the wider industry's serene and uncontested progression towards expanding futures.

This critique of the architectural image restated, the challenge then opens as to the definition of an alternative disposition for architectural image production and reception. There is, of course, no singular set of tactics that can be offered as antithesis to the norms of architectural photography and which could be expected to sustain a mode of alternative that would itself be free from formulaic repetition and its own reduction and abstraction of the object (or architectural 'referent'). Rather, a 'reform' of architectural imaging would require the activation of a relational field of representational techniques towards a plurality within the building's portrait, a thorough diversification of the architectural image. However, of equal significance, the field requires an active awareness of the role of the image within the formulation of textual production, an inherent reflexivity in the relationship of image to text and an attention to the document and to the platform of dissemination as a site of the generation of architectural production in its own right. This requires an awareness that when we generate the media portrait of architecture, we refer to an external referent (supported by the denotative plenitude of high resolution photography), but we also generate new architectures of the page/screen in the here and now of discourse.



If, as I have suggested, a critical practice of writing about architecture requires a self-reflexive awareness of the function of the image, then it might also be suggested that a properly critical architecture might include within it a capacity to critique the culture of media reproduction that it is destined to enter – or, put another way, that a critical architecture might in some sense resist its mediatisation within the image, or otherwise draw attention to the process of its mediatisation. If so, what hermeneutic approach might be employed to explain a situation in which the effects of a critical architecture register within the formation of a photograph of it? That is, how would critique carry from the spatial production of one author to manifest within the image production of another through the surfacing of unintentional or unconscious effects or 'symptoms' within the image?

There is the suggestion of such a relationship between space and image in the architectural criticism and theory of Fredric Jameson. Writing in relation to the work of Frank Gehry, for Gehry's own house in Santa Monica, Jameson claims that the complexities of Gehry's spatial production resist the building being 'mastered' by the photographic image, and that no photograph of it will ever be 'quite right'.[2] Jameson is quite brief in his comments on architectural photography, but I understand Jameson to mean that the complexities of the house – its layered and fragmented relationship between old and new parts (the house extends an existing 1920s suburban house) and in the ambiguous geometries of its apertures – resists not photography per se (of course, photography happened and was disseminated widely), but that the house tangibly disrupts the generic form of the architectural photograph and its norms of technical and compositional accomplishment.[3]

In Jameson's wider scheme of interpretation of the house, this critical capacity of Gehry's work in relation to its image (its 'resistance' to its own ideal commodification or 'spectacle') could be understood to form a kind of secondary critical effect that issues from the essential complexity of the programmatic and spatial propositions of the house, for complexity and indeterminacy also register at the level of inhabitation. Jameson notes that not only is the photography of the house not quite right, but that nor in fact were the house's inhabitants (at least in certain phases of the house's occupation), dwelling within it in a condition of 'malaise', of not knowing if things were quite finished and somehow experiencing its spatial and material novelties with a certain dis-ease.[4] This is a significant point for Jameson in relation to the possibility of the occurrence of a genuinely radical, postmodern space. This mode of mild discomfort in the house corresponds, ultimately, to what he claims to be the house's

utopian credentials as a significant event of spatial mutation – a revolt against the received norms of the American household, and one which modifies the syntax of spatial relations and sequence, its 'performance' as the support for family life.

In Jameson's reading, the house's capacity to critique the role of the image in the life of the building is thus also associated with Gehry's utopianism, or the house as utopian production. This requires an understanding of utopianism that is productive of unintentional critical effects rather than conceptually determinate programmatic proposition; a conception of utopianism that understands it to generate valuable unconscious effects and indeterminacy within its intimation of that which is yet to come. Jameson invokes the utopian through a theoretical understanding of it that intersects with the work of Ernst Bloch on the 'utopian impulse' and the work of Louis Marin on 'utopics' which is also underpinned by Jameson's own investigation into utopian production within the literary text under the name of the 'political unconscious'.[5]

## 'Double space' and 'retro-active' utopias of the image

Putting aside this complex hermeneutic apparatus for the time being, I aim to keep in view within my analysis of the imagery associated with the work of Lacaton & Vassal a plurality of concerns between the production of image and space as I explore the relationship of the work to its mediatised reproduction, and to search for the expressions – explicit or unintentional – of Lacaton & Vassal's own utopianism as it enters into the imaging cultures of the architectural industry. Key to my analysis across image, space and utopics will be the observation of a certain programmatic value in Lacaton & Vassal's work, a consistent ambition and core propositional spatial tactic: the 'double space'.[6]

Lacaton & Vassal have won broad admiration and generous critical reception for their clear philosophy of spatial production, and the effectiveness of its translation across propositional project work and built projects alike. The essential objectives and strategies of their work are well rehearsed, and I will only briefly attempt to summarise them here: operating on the basis of a lucid, critical analysis of the range of possibilities and constraints offered by the specifics of the given situation in order to facilitate a spatially generous and pragmatic architecture that provides the support for a freedom of action and appropriation. A recurrent spatial theme, and evident in a variety of different typologies – from private detached houses to social housing blocks to the cultural centre – has been the production of a 'double space', a volumetric extension that in some cases literally doubles, or otherwise significantly extends, the spatial and experiential dimensions of an existing architecture or the architecture otherwise expected when subjected to the norms of spatial and material economics and societal expectation. The 'double space' facilitates two further core programmatic and utopian principles: 'spatial luxury' and the possibility for 'nomadism' within a space.[7]

In my earlier essay for *P.E.A.R.*, I discussed Lacaton & Vassal's economy of spatial luxury (the production of 'double' or extended space) through examples of its representation in digital montage imagery as propositional project work.[8] In a reading of images of proposed social housing in Mulhouse and the extension of an existing housing block, the *Tour Bois-le-Prêtre* in Paris, I discussed Lacaton & Vassal's appropriation of earlier photographic imagery and the use of the figure, the specific choices the practice make in selecting what Robin Evans once referred to as 'emblems' of life for their project imagery.[9] The inhabitants of the imagined 'double space' consist of a combination of both contemporary figures and figures 'borrowed' from Julius Shulman's photography of the Californian Case Study houses in the 1950s and 1960s, in an immediate action of 'cut and paste' from the imagery of modernist architectural history. Whilst Lacaton & Vassal are explicit about the importance of the Case Study programme for their own architectural propositions within the book's accompanying text, I suggest that the imagery presents its own discourse on Lacaton & Vassal's relationship with modernity across its play of figures, spaces and contexts. It constructs through the composition of montage, at the intersection of different historical times and geographic places, a utopic space – a visually coherent yet impossible no-place of architectural proposition.

In a recent text on the work of Lacaton & Vassal, architect Juan Herreros wrote not only of the clarity and friendliness of the discourse of Lacaton & Vassal, but also of the presence within it of an 'eloquent ambiguity that generates a critical space'.[10] I wish to revisit some of my thoughts about the montage imagery here with a more acute attention to how it might be understood to be an example of such critical ambiguity, and to account for how this quality corresponds to the surfacing of a utopian discourse in their work.

In a discussion with architect Frédéric Druot published in the book *Plus*, Lacaton & Vassal explicitly link their work to a notion of 'modern utopia'.[11] The book gives an account of the trio's research project investigating the rehabilitation and extension of mid-twentieth-century

high-rise and high-density housing blocks in various locations across France. The study has subsequently resulted in actualised rehabilitation and extension projects in Paris, Bordeaux and Saint Nazaire.[12] The book puts forward a critique and response to the strategies of the French government for tackling the perceived failings of the so-called *Grands Ensembles*. Having seen the refit and re-cladding exercises of the 1980s fail to raise quality of life significantly in the high-rise blocks of the urban peripheries, the government's strategy subsequently turned towards erasure and replacement with lower-rise or single dwellings. *Plus* puts forward the counter policy of zero demolition, maintaining or increasing density on available land and initiating a programme of high-rise extension.

Within the high-rise project proposals, money saved by avoiding demolition is reinvested in a radical overhaul of the buildings' services, communal and private living spaces, in particular the addition of extra structurally independent outer layers to the tower blocks. These extra layers introduce a shift in the typological disposition of the apartments, affecting both visual and spatial dilation – the aforementioned 'double space' – introducing the more indeterminate spatial categories of the winter garden and generous balconies connected by full-height and full-width glazed and polycarbonate sliding doors. The adjustments produce individual apartment dimensions that match the spatial generosity of the inner-city luxury end of the private market. Ambitions for a form of social utopianism are thus inscribed here: an egalitarian architectural and urban politics – that is to say, a programme for the redistribution of spatial 'wealth' or 'luxury' to lower-income housing zones alongside a re-stimulating of the principle of communal space through the direct reprogramming of the ground and first floors.

The presentation of the housing-block extensions in *Plus* included propositional project imagery in the form of simple digital montage simulations of the sequence of change and imaginings of the future spaces and their inhabitation. At first sight, it might be judged an unremarkable example of digital montage – a rudimentary illustrative rendering of proposed spaces. However, I wish to scrutinise in detail the particular moves Lacaton & Vassal make in constructing their montage imagery and to reveal how the wider discourse of Lacaton & Vassal's critical project emerges in pictorial form.

In constructing the illustrations for *Plus*, Lacaton & Vassal produced montage images through the direct sampling and adaptation of mid-century modernist imagery, such as a famous construction site photograph of Mies van der Rohe in front of his Farnsworth House, and interiors from Julius Shulman's photography of the Case Study houses in California. Scenes from Shulman's photography are directly sampled; models are plucked from their original Californian climate and social context. Figures representing the postwar American dream of consumer prosperity and abundant living space in the 'new lands' of California are re-situated within Lacaton & Vassal's imagery, with the aim of rejuvenating the ailing social and urban policies of Europe in the twenty-first century. I suggest that these fragments of model Californian domesticity enter into the project imagery of Lacaton & Vassal as a kind of reactivated symbol of a dream or, to use a phrase William Burroughs once coined in the foreword to his novel *Cities of the Red Night*, a 'retroactive utopia'.[13]

As literary theorist David Ayres states, Burroughs's 'retroactive utopia' consists of the imagining not of a *possible* future but of one that is *no longer* possible, for it has been 'extrapolated', as Ayers writes, 'from a history that was never to be'.[14] In Burroughs's case, the impossible utopian future was based on the legendary history of the articles of conduct exercised in the libertarian pirate communes, appearing in such accounts as Daniel Defoe's *A General History of the Pyrates* (1728), which Burroughs resurrects as the precondition for an alternative history of revolutionary America.

Burroughs unleashes the play of utopic fiction as the rewriting of the historical past, 'postulating', as Ayres writes, 'a more positive outcome' from a moment of possibility/'freedom' within the 'available technology and social philosophy' of the eighteenth century that was ultimately thwarted.[15] Lacaton & Vassal's retroactivities, with their focus on the recent past of modernist production, are in fact more ambiguous about their relationship to history within their montage imagery, taking its technologies and social philosophy as, it would seem, an immediate resource for appropriation in the present. They directly import the mid-twentieth century into the present and, in some cases, fashion the new architectural proposition almost entirely from the historical imagery.

Let us look in closer detail at specific examples. In a section of *Plus* called 'Luxury and Ease', Lacaton & Vassal reworked, for a sequence of three images, a famous Shulman photograph of Pierre Koenig's Case Study house number 22, the Stahl House, completed in 1960 in the Hollywood Hills area above Los Angeles. The original image shows a white-jacketed figure gazing out at the vast night-time view of Los Angeles from the building's southern cantilever. In an image captioned 'Before conversion', we glimpse an interior scene of the standing figure and details of furniture, tightly framed within the sheer cladding and restricted fenestration typical of the European tower block refits of the 1980s. Beyond the limits

8.1

8.2

of the block is what looks like a European cityscape, probably the outer fringes of Paris in the faint light of a dawn or a sunset.

The montage sequence continues to figure two transformations of the initial scene. Captioned 'Opening the façade window, adding a picture window, adding a balcony', the interior captured in Shulman's image of Case Study 22 has been fully revealed, and the 270° glazing is shown as a new outer skin to the tower block. The glazed box of the building's cantilever is imported directly; its outer steel frame now forms the frame of the proposed tower block. Note, however, that it is the non-structural elements

8.1–8.3 The before and after digital montage sequence of Lacaton & Vassal's proposed high-rise block extensions from the book *Plus*, with Julius Shulman's photography of the interior of Case Study House number 22, the Stahl House, Los Angeles (1960), juxtaposed against a view of Paris. © Druot, Lacaton and Vassal, 2007, and © J. Paul Getty Trust. Getty Research Institute, Los Angeles (2004.R.10).

that Lacaton & Vassal import. They have trimmed the image of the house's structural steel and concrete above and below, replacing it with the sheer concrete slab of the imagined high-rise. In effect, they import a volume not a structure. In other words, Lacaton & Vassal import the contents of this corner of Case Study 22: its air, its ornaments, furniture and figure. An image of ideal domesticity slides in from 1950s California to twenty-first-century Paris; a figure travels without moving. A temporal and spatial disjunction occurs through the work of montage to create utopic space, for an impossible no-place is formed in this image, as times and spaces are spliced and Californian eyes now gaze onto a Parisian horizon.

What then is at stake in the creation of this utopic image, and the overlaying of 1950s Californian space with that of our own present Europe? What social and historical forces and problematics are brought into play within the subtle fictions of this urban scene?

According to the Dutch critics Ilka Ruby and Andreas Ruby, central to the project of *Plus* is a critical appraisal of modernism itself. They write that Lacaton & Vassal combine 'a strategic departure from modernism with a formal affirmation of it, the authors of *Plus* place themselves in the ranks of those who, in the tradition of the philosopher Jürgen Habermas, regard modernism as an unfinished project'.[16] The question then arises as to what version of the future's past – modernity – are Lacaton & Vassal

seeking to revisit through this 'retro-active' sampling? How, in other words, do they interpret the core principles of modernism? What priorities do they set in trying to reapply them?

Key to these issues is Druot, Lacaton and Vassal's understanding of the aforementioned notion of 'luxury' as an ambition and as a form of operative design principle. For them, 'luxury' resides in the spatial qualities and generosity of a building, not in exotic materials or qualities of finish or an abundance of the latest technology. Within the high-rise project proposals, money saved by avoiding demolition is reinvested in a radical overhaul of the buildings' services and communal and private living spaces. The adjustments produce individual apartment dimensions that match the spatial exuberance of the inner-city luxury end of the private market. There is a strong egalitarian politics at work here, a politics of the left – that is to say, a programme for the redistribution of spatial 'wealth' or 'luxury' to working-class or lower-income housing zones. Druot comments, 'luxury is yet to arrive'. He says, 'it's the expression of a hitherto unattained spatial generosity, also of the light and comfort in building systems that would permit this'.[17]

Jean-Philippe Vassal further qualifies luxury specifically in relation to the Case Study projects, writing:

> The Case Study houses are a good example of the balance that can be had by aiming at something between generosity and simplicity. They emit an image of luxury that we perceive in their economy of means [. . .] There's more light, more fluidity in the interiors, more rapport between interior and exterior, more complexity in the boundaries between each of the functions of the flat.[18]

The sampled Shulman photographs of the Case Study 22 interior are employed by Lacaton & Vassal as a symbol of modernist spatial 'luxury', suggesting how a renewed and reformed experience of modern space is possible within the stripped-back, re-clad and extended carcasses of the tower blocks. According to the architects of *Plus*, it is just a question of changing priorities and mobilising available wealth differently. The Shulman image also portrays a specific structural economy of means in Koenig's architecture, which works towards the prioritising of space and view.

So, in the imagery of *Plus*, a utopian space is created in montage and a utopian longing willingly and quite explicitly engaged because of the availability of tower blocks as a present resource for conversion, for the establishing in the present of a retroactively realised modernity. The high-rise block has the potential to deliver the conditions of spatial generosity and the expansive view within the context of a *social* architecture – a luxury-grade modernism to provide the benchmark for the norm. As Vassal comments, the tower blocks are for him not symbols of failure, but rather figures of hope in the urban landscape. In his words, 'Big apartment blocks have a potential of their own, one characterised by big spaces, transparencies, great heights, unobstructed views, interstitial spaces, dilated spaces, economy.'[19] For the architects of *Plus*, the tower blocks are synonymous with modernism itself, or rather the challenge to re-engage an incomplete modernity and to fulfil its promise.

## Transposition and erasure: Horizon remix

The utopian impulse of the *Plus* project now established, let us now go a little deeper into the actions and effects of montage. Let us consider the 'negative' dimension to the hybrid image – the work of erasure as the correlate process to the action of cut and paste – and consider what has in fact been explicitly and so carefully *eradicated* from the original Shulman photograph: the famous night view of Los Angeles itself, spreading in confident, perspectival order to the horizon. Note how traces remain of this urban spectacle. The process of elimination has been diligent but not total. Tiny flashes of bright light inexplicably flare in a corner of the glazing, on the steel frame, in the upholstery of a stool, on the surface of a vase, on the pocket of the figure's white jacket: luminous fragments of an erased LA, reflections of an absent city, spores cast from another utopia.

I would like to offer a description of that original view of Los Angeles through the words of Louis Marin, writing not of Los Angeles but in response to the image of a similar view of the city of Chicago from Bruce Graham's 'Sears Tower' (1973). Marin writes of this view, 'space up to its ultimate background is criss-crossed by a linear network of light spots that imperatively, in the coming night invading the image, leads the gaze if not toward a vanishing point at least to a plane where sky and earth fade and vanish into each other'.[20] Marin continues:

> What is the function of the limit at the extremity of the gaze and space if not to signify that, as an 'estate' in an imaginary way, space, over there, can be possessed and appropriated through the gaze?' [. . .] 'How not to read in this [. . .] the deep-rooted American will, fantasy, dream, or utopian drive, of a completely

**8.4** Pierre Koenig's Case Study House number 22, The Stahl House, Los Angeles. Photograph by Julius Shulman (1960). © J. Paul Getty Trust. Getty Research Institute, Los Angeles (2004.R.10).

> homogenized world, a world without differences [. . .] as if [. . .] America were at home everywhere, finding or believing to find no bounds.[21]

The image of Chicago thus represents for Marin the ideological drive for the expansion of possession, the consumption and appropriation of space in the collective American psyche. We might confidently assume that Marin's description could equally be applied to an aerial view of most major US cities and the ideological occupation of land expressed through US urban planning.

Accounts of Shulman's photography often emphasise the degree of photographic artifice employed in the construction of the scene.[22] In both the photograph of Case Study 22 with the single figure and the perhaps yet better-known version with two female models, Shulman employed a complex phasing of the exposure times for objects in the foreground and background, with models walking into the frame to assume their positions during the long exposure necessary to capture the lights of the city. The objects of the interior scene were imported solely for the purposes of the shoot, and elements of the vegetal foreground were introduced as screening props and frames of the Case Study 22 garden itself. However, the issue of interest here is surely less the precise nature of the artifice involved and more its meaning. For what *purposes* does Shulman engage in this elaborate act of stage setting? Can we discern a hidden ideological and utopian project behind this theatrical rendering of building and city?

The rationale of Shulman's composition is of course towards the impression of a seamless relation between the building and its environment or city view. This is the image's symbolic raison d'être, and a core utopian drive behind the Case Study programme's project of mediatisation. Building and city travel together towards the horizon; the structural rhythms and plains of the building move in concert with the urban spectacle. Illuminated at night, it is as if the house stealthily stakes a claim to possess the city, to possess its horizon and thus its future. Night reduces Los Angeles to a geometry, which the building confidently reflects and internalises in a play of scale between the floor slab of the interior and the great city plain, as elements of furniture assume positions on a rectilinear grid like scaled-down city blocks. The ribbed underside of the building's roof dominates the upper portion of the image, as if to express a desire to replace the night sky and encompass the interior and city alike under a common prefabricated canopy. The outer edge of the overhang falls in perfect alignment with two beams of illuminated boulevard in the city beneath. The interior's ball light fittings multiply in the reflections of the glazing to create the city's own system of new world moons. And note how this marriage of the new building to its city is appropriately witnessed by figures dressed in white. The figure in architectural photography is never an inhabitant as such, but rather a symbolic figure – Evans's 'emblem' – that is present for one reason alone: to support the discourse of the representation. Here, we see the figure as a kind of ceremonial participant in a pristine union of architecture and urbanism.

Would it not therefore be fitting to discover that the white-jacketed figure, who unlike the seated female figures of the other photograph, takes in the city view from the open slider window, on the precipitous limit between interior and exterior, is no mere anonymous actor but is in fact Pierre Koenig himself? (Koenig frequently placed himself as model occupant of his architecture within its photography.) The transparent box of the Case Study 22's southern cantilever becomes, then, the iconic artefact of the Case Study project, the construction, portrayal and dissemination of a new Californian modernity that would take up the onward extension of the American lifestyle frontier in the postwar era. Koenig as architect/actor is the ceremonial technician of the fantasy of the city's modernist transformation, the modernist renewal of the great urban circuit board. His hand rests lightly on the mullion of the cantilevered façade, as if pushing architecture gently forward, towards the city view and its horizon, with the same ease of action as the glass plane on its slider. Shulman, we might suggest, has Koenig nonchalantly pushing forward this fantasy of Los Angeles towards its expanding frontier. In this sense, Koenig as 'emblem of life' and author/actor inhabits this image not as occupant of domestic space in any meaningful sense, but as symbolic representation and a reflexive manifestation of the utopian impulse that generates the image's artifice. Koenig functions as a form of 'delegate of enunciation', to cite Marin's writings on the meta-discursive devices of power and instruction within cartography and painting.[23] He functions as a figure of demonstration, straddling fictional and real plains, who stands in, as is it were, for the external viewer, to direct our reception of the scene, to refine and project our desirous gaze as the agent of design and symbolic figure of the threshold between interior and exterior, building and city – pilot of the house as utopic vessel in movement.

Let us now compare this Californian city view of 1960 – the lights of human habitation extending to the horizon in an ordered grid – with the view that the white-jacketed Koenig gazes upon in the pages of *Plus* in 2004, for in the city view of *Plus*, the lights are not yet awakened to define the footprint of urban plan. The city 'over there' emerges from dark gloom in the foreground and in a formation of layered recession. The city does not continue the perspective of the building to the horizon, but appears more like a series of physical barriers between the foreground and the limits of the gaze, a rhythm that begins with the new guard rail that defines the limits of the balcony extension. There are the faint forms of towers towards the horizon. They emerge just before that point 'where sky and earth fade and vanish into each other' that Marin describes. Those distant towers, in contrast to the views of Chicago and Los Angeles, suggest a centre-to-periphery hierarchy characteristic of the older European city, rather than of a homogenised new world spreading to the limits of vision. The centre of the city and the concentration of power and history is *over there*, in effect, a very different city from this point here, the position of the gaze out in the *banlieuex*, the more peripheral housing zones.

The different city view used in the *Plus* montages thus happens to reflect the older patterns of European urbanism, and the growth of the European city from centre to periphery. However, we might detect in this stark replacement of one type of city view for another in the montage process another critical dimension to the strategic position Lacaton & Vassal adopt in relation to modernism. We can return to Ilka and Andreas Ruby's writings for help here. They argue that Lacaton & Vassal reject one of the central ideological instincts behind the urbanism of older modernism of the mid-twentieth century – namely, as they put it, 'the *tabula rasa* [. . .] the elimination of the historic city and its replacement with a zero degree state of the ground to allow the construction of a new city'. The mantra of *Plus* is, by contrast, 'never demolish [. . .] always add, replace, transform'.[24] The Rubys also have something to say about the issue of homogenised space raised in the quote from Marin, for they place the architects of *Plus* between modernism and what they term as 'contextualism', a position which they define in the following way:

> Whereas the contextualist notion of the city is essentially restricted to the European city as it developed over the course of time, Druot, Lacaton & Vassal consciously apply the contextualist ethic of preservation to the *modern* city, which the contextualists branded as the incarnation of the anti-urban. In contrast to contextualism, which seeks to continue weaving the fabric of context in as homogenous a way as possible, the protagonists of *Plus* apply new pieces of different materials to it, producing a kind of patchwork quilt as a result. By preserving the old they avoid modern architecture's ignorance of history. By designing the expansion in a radically modern way they liberate themselves from the hegemony of the existing fabric . . . the role of the new intervention does not lie in simulating what already exists, but in reanimating it and exploiting its latent potential.[25]

According to the Rubys, the ambition within *Plus* is for urban transformation based on the patchwork, of hierarchies re-evaluated on the merits of specific situations and resistant to homogenisation. It is for

this reason, one might argue, that the change of city view in the montage sequence is not merely circumstantial but also programmatic, invested with an ideological and desirous project of the relationship of the building to its city. In this sense, the function of the figure of Koenig also retains something of the symbolic role invested in its original appearance. It involves the cut and paste not simply of a conveniently posed figure of domestic leisure, but one which also carries with it a reflexive indication of the utopian desire for transformation contained within this new image – that is, the LA to Paris displacement of Koenig carries with it the reflexive function of a figure who demonstrates the fictional nature of the scene we view, but one which contains very real desires for the imminent actualisation of its proposition.

The perspectival urban order in the original Shulman photograph is replaced in the digital montage with an image of a city of minimal formality, a Paris with voids and gaps in its fabric, indicating a latent potential in the existing post-industrial context, and of an emerging urban order yet to be achieved. The diffuse gloom of the European city in half-light replaces the illuminated modernist grid and its imperial occupation of the horizon. In the context of *Plus*, for Druot, Lacaton and Vassal, this half-light of the new montage image would seem to represent not the dying of the light for utopia, but an indeterminate space of new potentialities: of retro-active utopias of conversion and adaptation.

## Diffuse horizons in the photography of *Tour Bois-le-Prêtre*

In the final section of this chapter, I will address the imagery of the completed tower-block extensions in order to observe the manifestation of 'double space' as photographic 'referent', and the relationship established between the extended interiors and the city view/horizon within the photographic composition of space. The completed spaces of *Tour Bois-le-Prêtre* were photographed by the French photographer Philippe Ruault. Ruault is a photographer who has long been associated with many contemporary French architectural practices and is a prolific recorder of the work of Lacaton & Vassal, providing much of the commissioned photography for the website of the practice and their print media output. For the purposes of this account, I refer to photography published on the website[26] and in two journals dedicated to the work of Lacaton & Vassal: editions of the Spanish journals *2G* and *El Croquis*, respectively.

Ruault's photography pays particular attention to the material forms of inhabitation of the extended spaces of the tower block in a series of views that record the apartments from the living-room spaces of the older core of the building through to the winter garden, balcony and view. He also constructs views across the lateral length of the winter gardens and balconies. The view onto the city, so dominant in both Shulman's photography of Case Study 22 and in Lacaton & Vassal's digital montage, is not prioritised compositionally by Ruault. Ruault's range of photographic views distinctly demonstrates not the full exposure of the interior to the city view but rather the outer façade's function as an adaptable filter of curtains and polycarbonate screen, which allows for a varied modulation of the impact of the exterior, climactically and visually.

The filtration of light and city view within Ruault's imagery is no doubt in part determined by the limits of the photographic technology itself. In taking an image through the depth of the apartment from the rear of a living room towards the outside, fully squared with the outer window frames, one would surmise that in order to render the foreground details legible (i.e. not in silhouette), Ruault would have required filtration of the dominant light source through the partial drawing of curtains and corrugated plastic sliders. However, we might also suggest that the

**8.5** Interior of an extended apartment interior of *Tour Bois-le-Prêtre*, Paris, by Frédéric Druot and Lacaton & Vassal, 2011. Photograph by Philippe Ruault. The image is reproduced in both the *El Croquis* and *2G* monographs on Lacaton & Vassal. © Philippe Ruault, 2011.

**8.6** Interior of the same apartment interior of *Tour Bois-le-Prêtre*, showing the original core of the apartment interior with a reflected image of its winter garden extension by Frédéric Druot and Lacaton & Vassal. Source: Photograph by Philippe Ruault. The image appears on the website of Lacaton & Vassal. © Philippe Ruault, 2011.

specificity of the visual effects of these new and dilated apertures as the extended outer limits to the interior is distinctly and consistently represented by Ruault, and supports a pictorial discourse, or project, about spatial production in its own right. In the descriptions of the images to follow, I attempt to trace a discourse of the photographs, in this sense, as representations of the reordering of the visual field within these domestic realms, facilitated by the provision of 'double space'.

In many of Ruault's images of the apartments, we witness a diffuse horizon at the limits of an extended but enclosed space. I take as an example images from a double page in *El Croquis*, which features three large images of remodelled apartments, a diagram of the extension programme and a line of three smaller images showing the tower in its previous condition, from the inside of apartments to a view of the exterior of the tower.[27] The choice of images in *El Croquis* broadly echoes those used on a double page of four images in the earlier publication of the project in 2011 in an edition of the journal *2G*.[28] Across both publications, the photographs of the newly extended apartments consistently demonstrate how the outer polycarbonate skin to the winter garden creates a translucent surface which mediates or filters the impact of the view whilst maintaining a certain ambient blurred impression of horizon and distance.

As an initial interpretation of this presentation of view with Ruault's photographs, and as a comparative reading with Shulman's photograph of Case Study 22, one might suggest that the consistent presence of the diffuse screen/filter infers something of an existential shift from the presentation of the subject of modern domesticity of mid-century to that of our present times in relation to the exposures of the horizon and the opening out of the interior realm – that is, Ruault records how the explicit material choice of a cellular façade skin and the corrugated effect gives inhabitants a choice between the open view and the diffuse screen as if, in our contemporary era as opposed to that of the earlier modern period, 'protection' from the horizon and the wider urban continuum is deemed a necessary provision for high-rise living.

However, we can also extend a more nuanced understanding of the meaning of this diffuse surface in the work of Lacaton & Vassal with recourse to descriptions of examples of earlier projects, in which the modulation of the view through the composition of the polycarbonate façade has been an explicitly discussed and observed experiential and poetic dimension to the work of design. In relation to the corrugated polycarbonate of the winter garden of the Latapie House (1993), Ilka and Andreas Ruby identify a desire to create a sense of the 'faraway' within an enclosed suburban site. They write, 'The translucent facade of the winter garden blurs the presence of the immediate surroundings, in order to distance them from the house'[29] – that is, at villa Latapie, the polycarbonate layer creates the effect of 'virtual distance', allowing the winter garden in its closed disposition to feel connected to a yet greater sense of spatial extension through the creation of a more indeterminate 'perceptual periphery'.[30] Likewise, the winter gardens at the University of Arts and Sciences, Grenoble (1995–2001), supporting exotic bougainvillea plants and with its outer façade of corrugated plastic, contribute, according to the architects themselves, a 'poetic image' and invitation to 'look beyond the mountains' that encompass Grenoble.[31]

Thus, the modulation of view through the consistent material façade palette of Lacaton & Vassal mediates both the excesses of the tower block's vantage onto the cityscape and the claustrophobia of the restricted site. It acts similarly on the realities of the exterior, from the open skies above Paris to the mountains that define the limits of Grenoble to the garden plots of suburban Bordeaux. Within the practical and poetic economy of the practice of Lacaton & Vassal, polycarbonate corrugation could thus be said to replicate a condition of serene projection beyond the immediate realities of the exterior.

Within Ruault's photographic images, the polycarbonate slider appears distinctly as screen, an image or 'figure' of horizon and, like the horizon scene of Lacaton & Vassal's montage imagery in *Plus*, could be said to contain the ambiguous play of a utopic space. The montage imagery in *Plus* constructs, we recall, its 'retro-active' no-place through its giddy combination of Paris and Los Angeles (Koenig surveying Paris from his vantage point in the Hollywood Hills). Here, in the subtler registers of the photograph in relation to the 'real', the completed architecture, I would suggest that an equivalent utopic play is also manifest between, in this case, the near and the far, horizon and enclosure, distance and proximity, configured into a mediating image of horizon. The horizon, screen-figure, forming the outer limits to Ruault's images, renders specific distances into speculative ones, and 'real' exterior spaces into indeterminate space, resonant with latent possibilities. We can assert the utopic credentials of this horizon figure yet further in relation to Marin's understanding of utopian production. He writes:

> This no-place does not mean the unreal or the imaginary. Rather it signifies the indeterminability of place, the place of the neutral, of difference and of the force of differentiation. It is a place neither here nor there. It is the presence of a lack whose space is that by which and around which space is organised.[32]

## A photography of inhabitation and the 'spectacle' of the mediatised image

In his recent essay for *El Croquis*, Juan Herreros emphasises how Lacaton & Vassal prioritise, within the range of photographs that represent their completed projects, inhabited views. He writes of 'their insistence on including people in the photographs of their projects, without any prior order, all of which mysteriously become a distinctive feature of their work'. Herreros continues, 'It is curious to say the least that photographing interiors in use, with people in them, is still a distinctive feature'.[33] One might surmise that Herreros's 'curiosity' at the inclusion of people in the photography of Lacaton & Vassal's work registers the degree to which the generic image of architectural photography dominates expectations for the architectural image within the profession – that is, the inhabited image is understood by Herreros to be an exceptional image that runs contrary to the norms of architectural photography, what the Rubys have succinctly termed the 'object-centred view' of the architectural media.[34]



However, the curiosity and 'mystery' that Herreros expresses here is perhaps also more complex and worth exploring further.

For Herreros, the presence of the figure in the image can be understood to relate to the architect's withdrawal from the completed work; 'the architects disappear from these de-densified interiors', he observes.[35] In other words, photography that includes people reflects, for Herreros, the generosity of permission for the user to take possession of space in the work of Lacaton & Vassal. This is a valuable observation and, in part, approaches a critical awareness of the role of the image within his criticism. However, from that basis, I also believe we might usefully extend and refine this reading in relation to Ruault's photographic work specifically. Reproduced on the page of *El Croquis* on which Herreros's comments on photography appear is a photograph by Ruault which also appears on the top image of page 231. This is the editorial choice of image to illustrate Herreros's point about the inhabited image, and will be my principal example for this reading.

Before entering into the specifics of the image, however, it is worth noting that in raising the issue of photography explicitly, Herreros does not raise the issue of photographic authorship. He does not mention either Ruault or the well-known in-house photographer for *El Croquis*, Hisao Suzuki. The photograph, although discussed in Herreros's critical appraisal of Lacaton & Vassal, is still referred to as if generated by architectural actions and approaches, not photographic ones. What requires stating here is that it is Ruault who incorporates the figure/inhabitant in the collaborative arrangements he has established with Lacaton & Vassal for the documentation of their work, or that he has autonomously formulated as an approach to their work and the circumstances of *Tour Bois-le-Prêtre*. The role of the figure in Ruault's imagery of Lacaton & Vassal's work is activated in architectural space but manifest in the photographic, where it supports its own discourse and project in relation to the architectural referent.

I would like to reassert in relation to the observation that photographs of Lacaton & Vassal's work consistently show 'interiors in use with people in them' that those people, even if seemingly 'captured' in the process of authentic inhabitation, are also emblematic and function, as such, as part of a constructed architecture and discourse of the image. It follows therefore that the figure should not be isolated in our observations of an 'inhabited' architecture (as Herreros's words might suggest), but that the figure is perceived within the totality of the photographic frame and as part of the emplacement of bodies and possessions/objects that contribute to the representation as a (symbolic and denotative) whole.

I take Herreros's notion of the architect's withdrawal or disappearance from the interiors to echo similar claims made by the Rubys in their introduction to the work of Lacaton & Vassal in 2001, in which they express how the architect's work involves a 'refusal of form'. They write, 'For Lacaton & Vassal form is not an architectural problem that must be repeatedly reworked but merely the final aggregate condition of an architectural analysis of a particular situation'.[36] Jean-Philippe Vassal has also reaffirmed this 'opposition to the idea of form and image' in a recent lecture.[37] I would suggest, however, that the photographic image – and even of those taken by a photographer such as Ruault, who is clearly aware and responsive to the philosophies and methods of the practice – does not fully substantiate this withdrawal or refusal. Indeed, the Rubys note directly the problematics of the photographic image, in this sense, observing that the lack of ambition at the level of form is itself refused within the image, countered by the reassertion of architectural spectacle within the architectural photograph, the presentation of design as commodified object of desire. (The specific example given by the Rubys is the photography of the greenhouse villa at Coutras, 2000.) In my final description of the photograph that appears on both page 231 and page 391 of *El Croquis*, I will attempt to describe the particular dynamic or configuration of this play of presence and absence, form and non-form, as it manifests discursively in the 'space' of the photograph.

Whilst the material presence of the new winter garden and balcony in Ruault's photography could be said to express the modest qualities of efficiency, economy of means and pragmatic material performance associated with the design ethos of Lacaton & Vassal, this material presence is also a sign, in and of itself, to contemporary design or architecture in a more general sense, and cannot evade its role as 'spectacle', as signifier to the work of Lacaton & Vassal, to their mediatised 'fame'. We are caught in a double bind between 'spectacle' and its refusal, between the disavowal of form (the sheer 'ordinariness' of the material resolution of the building) and the reassertion of a recognisable architectural style (or, to put it more crudely, a brand), the 'uniqueness' of the architect-author circulating as 'currency' within the digital and glossy print platforms of the architectural media.

However, this 'duality' would seem to me to be precisely the thing of interest, for it presents to us a moment in architectural photography in which the power of commodity and spectacle over the image is not complete (despite its mediatisation). Rather, something more ambiguous and perhaps valuable occurs that might indeed be qualified as the surfacing of that 'eloquent ambiguity that generates a critical space' that Herreros writes of, but manifest here in image-space production at the juncture of architectural and photographic authorship, and in its transference to the space of the page within an architectural journal.[38] By way of conclusion, I wish to describe what I believe to be two parallel but related critical components within the image of the seated figure: one which derives intentionally from the alignment of Ruault's practice with that of Lacaton & Vassal through the deliberate structuring of views and the action of framing, and the other which occurs unintentionally as a critical ramification for the image as a media disseminated 'product' of the architectural industry.

## A critical 'separation' of photographic genres

Ruault's image of the seated female figure (see figure 8.5), working with fabric in the foreground of the image, succinctly captures the older interior – which happens to be assembled in the image of the nineteenth-century bourgeois model of dark furniture, candelabras, a chandelier, upholstered chairs and a covered central dining table – and what might qualify as a tentative migration of possessions into the new spaces beyond. There is something distinctly montage-like about this image – a curious and stark distinction between nineteenth-century and late twentieth/earlier twenty-first-century material cultures, as if offering a frame through the past into a propositional future, in which objects seem to float free from the geometries of the older acts of domestic emplacement and interior furnishing, as if in a kind virtual space, finding new and surprising configurations in 'double space', under the filtered light of the diffuse city view.

This image is one of a longer sequence of images of the same interior appearing on the website of the architect and which clearly demonstrates a fascination on the part of Ruault for the stark opposition encountered here between two distinct interior styles. In one image, Ruault has turned his camera to record a lateral view across the older living room and the threshold onto the kitchen (see figure 8.6). Here, the winter garden and balcony spaces of Lacaton & Vassal are visible only as a reflection in the mirror glass of a large and elaborately carved wooden armoire or wardrobe. One might be mistaken for thinking that Ruault exhibits a certain disavowal of the new design environment here, denigrating it to the minimal detail of reflected light. However, what I believe this image

to be doing, within a wider recording of the same apartment, is attempting to render tangible as photographic referent the more fugitive, poetic, existential and properly utopian qualities of 'double space'. As a definition of these, I turn to a description offered by Lacaton & Vassal themselves, writing broadly about their completed projects and under the distinctly utopian title, 'Structural Freedom, A Precondition for the Miracle':

> the superimposition of two structures – through their relationship, their difference and at the same time their proximity – favours the emergence of unexpected phenomena: new usages, behaviour patterns, new visions. This third situation, generated by the product of the two interventions, can only take place if there is confidence in the future and if there is an acceptance of a certain lack of definition of usages and place.[39]

This commentary then turns specifically towards the inhabitation of the remodelled apartments at *Tour Bois-le-Prêtre* to observe, 'The earlier furniture tells of the extant state; it now spreads into the winter garden, but differently so, with another intention, that of living something else, not only function'.[40]

In turning the lens towards the older parts of the interior of the flat, Ruault is not becoming preoccupied with the personal qualities of the interior realm as such (the idiosyncrasies of the furnishings of the old interior), but rather attempts to reflect an understanding of the new totality of the remodelled apartment as one in which the fundamental terms of inhabitation – the access to air, light, immediate and distant space within the same apartment – have profoundly shifted. Ruault could be said to be attempting to represent neither old nor new components of the apartment, but rather a 'third reality', as Lacaton & Vassal write, 'stemming from the superimposition of strata and of temporalities'.[41]

This recording of the interior in pursuit of a set of ambient and behavioural transformations, the 'delicate sensations' of inhabitation, as Vassal has recently put it,[42] which only have partial expression in the actual material presence of new architecture has, I would argue, a particular and critical effect on the mediatised image (i.e. Ruault's image as architectural photography within a journal of architecture). In returning to take a final look at the image with the seated female figure, I would like to propose that the 'montage' effect I have described occurs not just at the level of the 'referent' – the disposition of objects and figure within the interior – but also at the level of genre. For, it would seem that the image involves something like a juxtaposition of photographic genres between, on the one hand, a photography in the mode of photo-reportage which immerses itself in the material artefacts of a social history (we might recall the work of Walker Evans or William Eggleston as historical examples) and, on the other, the persistence of a design-focused architectural photography which fulfils the commission to witness the completed design project in its perfected material and aesthetic performance. It is as if the depiction of inhabitation and the object of architectural design somehow separate within the photograph and are strangely irreconcilable (like bodies of liquid of different density).

This we might identify as something of a crisis within the generic identity of the photograph. I introduce the term 'crisis' here with recourse to a recent reflection on the relationship of criticism to crisis in the work of architectural theorist Hélène Jannière. Jannière explains how the etymology of the word 'criticism' in the Greek words *krinein* and *krisis* associates criticism with acts of judgement within judicial procedure, the act of 'separating the true from the false'. 'The word *krisis*', Jannière continues, 'links criticism to the notion of crisis, a moment of disciplinary reform and a moment of reform of the discourse'.[43]

I propose we understand this 'crisis' in the architectural photography of Ruault to be Herreros's notion of Lacaton & Vassal's 'critical ambiguity' surfacing within image production as a medium-specific critique of the platforms through which the discourse of the practice is disseminated. Echoing the notion of a photography that is not 'quite right', which Jameson suggests to arise from the critical and utopian spatial innovations of the Gehry house, the photography of Ruault in the tower-block spaces transformed by Druot, Lacaton and Vassal could be understood to be a moment of reflexivity within the mediatised image of architecture – a moment in which the limits of representation are subtly exposed. Here, the effect is one in which two modes of photographic representation of the apartment interior are present as the composite components of the same image. Their integration as some more complete expression of the meaning and programmatic effects of the architectural proposition of 'double space' remains elusive, but importantly is also expressed here as a reflexive indication of the gap between mediatised design spectacle (the 'object-centred view' of architectural photography) and the personal act of dwelling and spatial inhabitation. The utopian proposition of 'double space' transfers, I would suggest, as a crisis in its representation as architectural photograph – a crisis that is also a form of critique through the image, what we might qualify as a purely pictorial and photographic expression of the 'political unconscious'.

## Notes

1 Robin Wilson, *Image, Text, Architecture: The Utopics of the Architectural Media* (Farnham, UK: Ashgate, 2015).
2 Fredric Jameson, 'Spatial Equivalents in the World System', in *Postmodernism, or, The Cultural Logic of Late Capitalism* (London: Verso, 1991), 125.
3 For a longer discussion of this, see Robin Wilson, 'A Photography Not Quite Right: Fredric Jameson's Discussion of Architectural Photography in "Spatial Equivalents in the World System"', in Nadir Lahiji, *The Political Unconscious of Architecture: Re-opening Jameson's Narrative* (Farnham, UK: Ashgate, 2011), 235–53.
4 Jameson, 'Spatial Equivalents', 115.
5 See Fredric Jameson, 'Of Islands and Trenches. Neutralization and the Production of Utopian Discourse', in *The Ideologies of Theory. Essays 1971–1986, Volume 2: Syntax of History* (Minneapolis: University of Minnesota Press, 1988), 75–101.
6 Efrén Garcia Grinda and Cristina Díaz Moreno, 'Everyday Delights: A Conversation with Lacaton & Vassal', *El Croquis* 177/178 (2017): 9.
7 See, e.g., Patrice Goulet, 'A Conversation with Patrice Goulet', *2G* 21 (2001): 126–30.
8 Robin Wilson, 'LA-Paris Remix: A Retroactive Gaze Through Case Study 22', *P.E.A.R.* 3 (2011): 39–41.
9 Robin Evans, 'Figures, Doors and Passageways', in *Translations from Drawing to Building and Other Essays* (London: AA Publications, 1997), 57.
10 Juan Herreros, 'Nothing Exceptional', *El Croquis* 177/178 (2017): 387.
11 Frédéric Druot, Anne Lacaton and Jean-Philippe Vassal, *Plus* (Barcelona: Gustavo Gili, 2007), 45 and 75.
12 The first realised rehabilitation project was completed by Druot, Lacaton and Vassal at the Bois-le-Prêtre tower block, Paris, 2011.
13 William Burroughs, *Cities of the Red Night* (London: John Calder, 1981), 11.
14 David Ayres, 'Politics Here Is Death: William Burroughs's *Cities of the Red Night*', in *Utopias and the Millennium*, ed. Krishan Kumar and Stephen Bann (London: Reaktion Books, 1993), 90.
15 Ayres, 'Politics Here', 92.
16 Ilka Ruby and Andreas Ruby, 'Reclaiming Modernism', in Frédéric Druot, Anne Lacaton and Jean-Philippe Vassal, *Plus* (Barcelona: Gustaveo Gili, SL, 2007), 23.
17 Druot, Lacaton and Vassal, *Plus*, 41.
18 Druot, Lacaton and Vassal, *Plus*, 43.
19 Druot, Lacaton and Vassal, *Plus*, 57.
20 Louis Marin, 'Frontiers of Utopia: Past and Present', *Critical Inquiry* 19 (1993): 403.
21 Marin, 'Frontiers of Utopia', 403.
22 See, e.g., Rachel Stevenson, 'At Home with the Eameses', in *Camera Constructs: Photography, Architecture and the Modern City*, ed. Andrew Higgott and Timothy Wray (Farnham, UK: Ashgate, 2012), 61–72.
23 Louis Marin, 'The City in Its Map and Portrait', in *On Representation: Louis Marin*, ed. Werner Hamacher and David E. Welbery, trans. Catherine Porter (Stanford, CA: Stanford University Press, 2011), 211.
24 Ruby and Ruby, 'Reclaiming Modernism', 23.
25 Ruby and Ruby, 'Reclaiming Modernism', 23.
26 Google Lacaton&Vassal.com, last modified 14 July 2019, https://www.lacatonvassal.com/index.php?idp=56.
27 *Lacaton & Vassal 1993–2017, El Croquis* 177/178 (2017): 222–35.
28 *Lacaton & Vassal: Recent Work*, *2G* 60 (2011): 58–67.
29 Ilka Ruby and Andreas Ruby, 'Naïve Architecture: Notes on the Work of Lacaton & Vassal', *2G* 21 (2001): 15.
30 Ruby and Ruby, 'Naïve Architecture', 15.
31 Lacaton & Vassal, 'University of Arts and Human Sciences, Grenoble', *2G* 21 (2001): 38.
32 Louis Marin, *Utopics: The Semiological Play of Textual Spaces*, trans. Robert A. Vollrath (New York: Humanity Books, 1990), 263.
33 Herreros, 'Nothing Exceptional', 391.
34 Ruby and Ruby, 'Naïve Architecture', 5.
35 Herreros, 'Nothing Exceptional', 391.
36 Ruby and Ruby, 'Naïve Architecture', 4.
37 Jean-Philippe Vassal, *Royal Academy of Arts, Annual Architecture Lecture*, Royal Academy of Arts, London, 15 July 2019.
38 Herreros, 'Nothing Exceptional', 387.
39 Anne Lacaton and Jean-Philippe Vassal, 'Structural Freedom, A Precondition for the Miracle', *2G* 60 (2011): 163.
40 Lacaton and Vassal, 'Structural Freedom', 163.
41 Lacaton and Vassal, 'Structural Freedom', 163.
42 Vassal, *Royal Academy of Arts, Annual Architecture Lecture.*
43 Hélène Jannière, 'Architecture Criticism: Identifying an Object of Study', *OASE* 81 (2010): 42.

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# 9. A conversation with Le Corbusier

## The Klassnik Corporation

At a séance held in the near-circular and candlelit interior of the Ground Floor Rear room at the Architectural Association, 33 Bedford Square, London, at 7:00 pm on 4 March 2011, an attempt was made to contact the spirit of the celebrated but unfortunately deceased architect Charles-Édouard Jeanneret (6 October 1887–27 August 1965), more commonly known as Le Corbusier, inviting him to answer questions and discuss a range of contemporary issues presented by a selection of architects, critics and designers.

Instigated and hosted by Tomas Klassnik of The Klassnik Corporation, a selection of artefacts relevant to the life of Le Corbusier were laid out on one table and discussed at the start of the evening to help strengthen the potential of the spiritual connection. These included a recreation of the configuration of objects found on the kitchen table of the Villa Savoye (1930) as illustrated in his Oeuvre Completé (a fish, fan, coffee pot and mug). A second table was laid out precisely with a circle of printed letters forming a 600 mm diameter circle, fixed using Scotch 'Magic' tape and printed in 120-point 'Captain Howdy' typeface which would act as a Ouija board for the evening and enable dictation of responses to the questions asked.

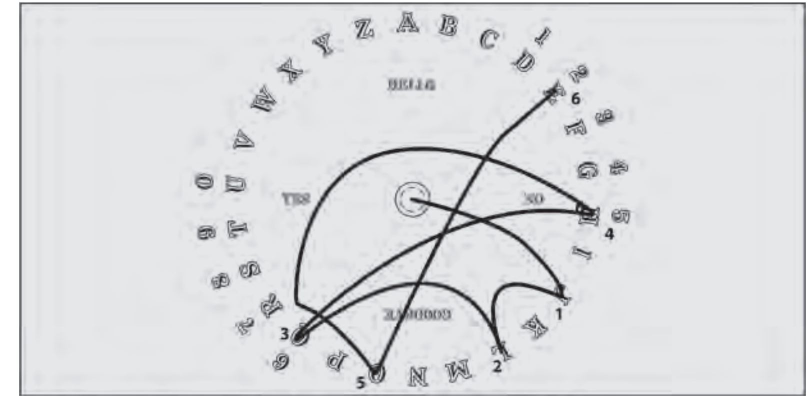
The seven invited attendees (Beatrice Galilee, Sam Jacob, Liam Young, Anab Jain, Megan O'Shea, Sarah Entwistle and Matthew Butcher) collectively read 'Le Poeme de L'Angle Droit' (The Poem of the Right Angle), written by Le Corbusier between 1947 and 1953, placing their connected hands joined in a circle on the table before simultaneously placing fingers on a glass in the centre of the Ouija table to begin the meeting. A specially curated playlist of music played in the background during the event.

The evening was filmed in low-light 'night vision', and questions and responses were minuted and later translated into drawings by Tomas Klassnik. Tracing the movement of the glass as it glided between

letters and numbers revealed dictated drawings and coded responses to the questions raised across a range of professional and personal topics including his life, death, dog and issues related to his architectural legacy. M . . . O . . . N . . . 5 was the response received to 'Do you have any advice in regard to your legacy?' An intriguing M . . . J . . . was the response to a question about professional adversaries. An equivocal YES . . . NO . . . was given to 'Were you bullying Eileen Gray by adding your drawings to her house?'

Alongside the importance of the responses received, the process of entering into a dialogue with such a significant historical figure and the conversations explored by the participants revealed as much about contemporary concerns and individual participants' relationships and reading of the work and legacy of Le Corbusier as the unique collectively instigated drawings and messages received back that night.

**9.1** The Klassnik Corporation, a conversation with Le Corbusier, 2011. Video still. Image shows still from night-vision mode video recording made during the séance with Le Corbusier. Pictured are invited architects and critics assembling around the Ouija board in a candlelit room at the Architectural Association, alongside objects arranged to improve the connection between Le Corbusier's spirit and the assembled group. Individuals visible, left to right, are: Liam Young, Megan O'Shea, Tomas Klassnik and Matthew Butcher. Source: Videographer: Lionel Eid. © Tomas Klassnik, The Klassnik Corporation.

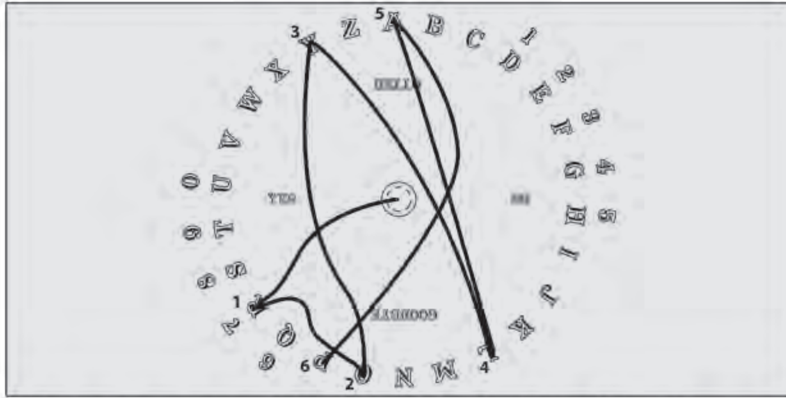


Corbusier, what is your favourite building of your own design?
**J...L...Q...5...O...E**

**9.2**

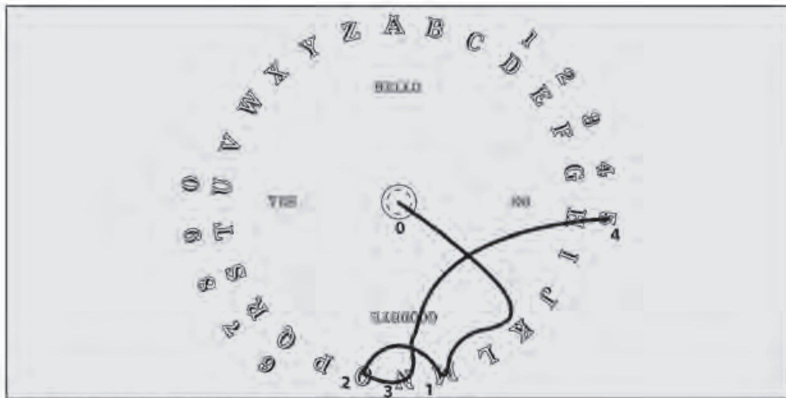
Have you any advice for us generally?
**M...O...N...Q...I...6**

**9.3**



Le Corbusier, were you satisfied at the end of your life with your life's work?
**R...O...Y...L...A..P**

**9.4**



Do you have any advice in regard to your legacy?
**M...O...N...5**

**9.2–9.5** The Klassnik Corporation, a conversation with Le Corbusier, four dictated drawings, from a set of six, 2011. Digital drawing. CAD plans mapping the movement of the glass across the Ouija board, as traced responses to a variety of questions put forward by the assembled group of architects and critics for deceased Le Corbusier, the letters and numbers touched upon revealing the coded response from the spirit world. © Tomas Klassnik, The Klassnik Corporation.



| AGENDA | MINUTES OF MEETING WITH LE CORBUSIER |
|---|---|
| Meeting Type | Seance with Ouija dictation |
| Time and Date | 7-9.30pm, 4th March 2011 |
| Venue | Architectural Association, 33 Bedford Square, London |

| ATTENDEES | COMPANY / DETAILS | INITIALS |
|---|---|---|
| Tomas Klassnik *(Medium)* | The Klassnik Corporation | TK |
| Beatrice Galilee | Curator | BG |
| Sam Jacob | F.A.T. | SJ |
| Liam Young | Tomorrows Thoughts Today | LY |
| Anab Jain | Superflux | AJ |
| Megan O'Shea | P.E.A.R. | MS |
| Sarah Entwistle | Architectural Association | SE |
| Matthew Butcher | Postworks | MB |
| Pierre Jeanneret | - | PJ |
| Le Corbusier | - | LC |

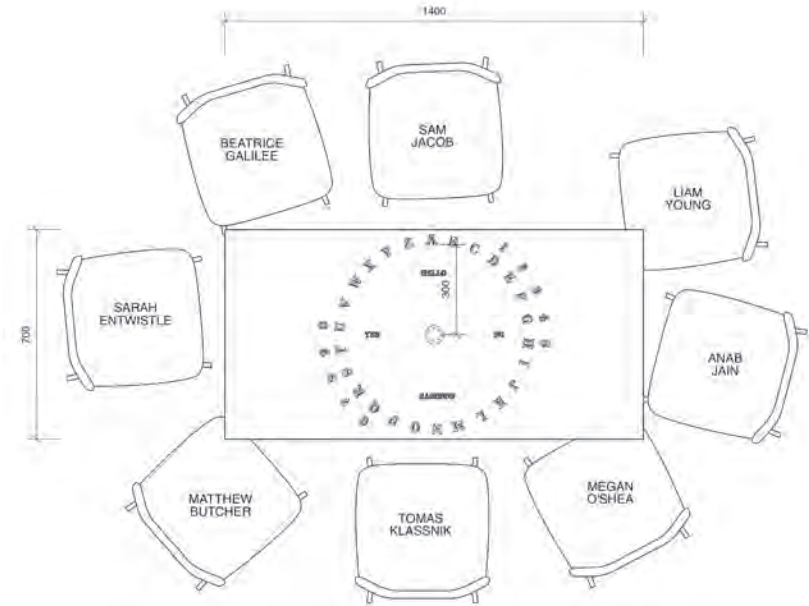
| APOLOGIES | | |
|---|---|---|
| Rowan Moore | Journalist & Critic | RM |
| Charles Holland | F.A.T. | CH |
| Bjarke Ingels | B.I.G. | BI |
| Sarah Ichioka | The Architecture Foundation | SI |
| Patrick Lacey | A.B.A.K.E. | PL |
| Merel van den Berg | Designer | MVB |
| Magnea Gudmundsdottir | Publica | MG |
| Indy Johar | Zero Zero | IJ |

| | QUESTION | LC RESPONSE |
|---|---|---|
| TK | Spirit world, Is there anyone there? | - |
| TK | Please answer us. Honour us by visiting our gathering | - |
| TK | Is there anyone there? | - |
| | *(All place fingers on glass in centre of Ouija circle. Following a brief discussion with Pierre Jeanneret a new spirit joins the table)* | |
| LC | - | **HELLO** |
| TK | Corb is that you? | **YES** |
| TK | We are honoured that you have joined us today. Welcome back to the AA. Have you missed the AA? | **YES** |
| TK | What do you think of the state of architecture and design today? Are you pleased with your legacy? | **NO** |
| TK | Is this the first time you have been contacted since your death? | **YES** |
| SJ | I have a question. Knowing what we know now. Architecture or revolution? | **A** |

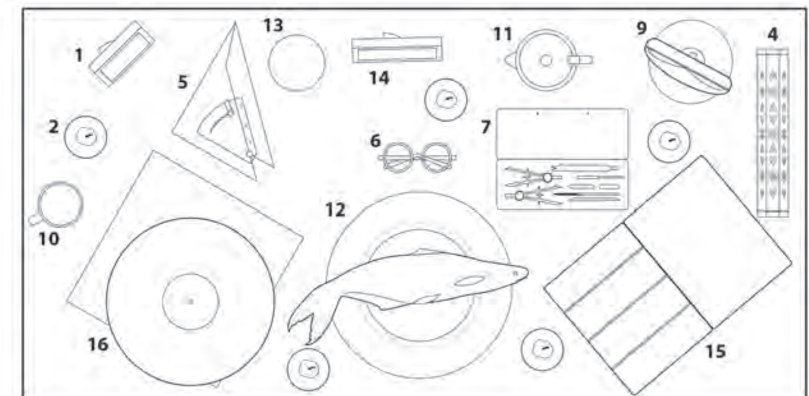
**9.6** The Klassnik Corporation, a conversation with Le Corbusier, minutes from the séance, 2011. Excel spreadsheet. Image shows the documentation of the contributors' questions from both those in attendance and those who submitted them in advance.

| PL | Have you found your dog? | YES |
|---|---|---|
| MB | What exactly was your relationship with Eileen? | G |
| SE | Is he confirming her name. Yes Eileen Gray. | O..S..S..I..S |
| MVB | Were you bullying Eileen Gray by adding your drawings to her house? | YES...NO... |
| MVB | Do you think they were a valuable addition to the house? | 0 |
| BI | Was your death an accident, a heroic suicide as prescribed by Zarathustra or even an assassination? | S...K... |
| RM | Which living architect would you most like to bury in Beton brut for their willful abuse of your ideas? | E...P...I |
| JG | Did you use the hide of your favourite dog as a rug? | NO |
| MG | What are the latest trends in heaven? | K |
| MS | How do you feel about the preconception that modernist architects had trouble meeting the physical and emotional needs for comfort of ordinary people? | F...O |
| IJ | In your vision of the future did you imagine everyone would be middle class? | NO |
| SE | Corbusier, What is your favourite building of your own design? | J..L..Q..5..0..E |
| SJ | Are there streets in the sky? | NO |
| SJ | Are you still working? | YES |
| LY | Le Corbusier, were you satisfied at the end of your life with your life's work? | R..O..Y..L..A..P |
| MB | Can you ask Mies if God is actually in the detail? | NO.....L |
| MS | Perhaps it's the right angle. God is in the angles. He's not disagreeing | - |
| SE | Do you remember my grandfather, Clive Entwistle? | YES..L..A..M..P |
| CH | Do you have any advice as to how I can alleviate the design problems of my current house? | NO |
| SI | Do you have any regrets? | NO |
| RM | Could you tell us about your relationship with Josephine Baker? | S...E...X |
| SE | Did you have any professional adversaries? | M...J... |
| TK | Have you any advice for us generally? | M..O..N..Q..I..6 |
| MS | Do you have any advice in regard to your legacy? | M...O...N......5 |
| MS | Do you mean your five points? He must still consider them to be critical | - |
| SE | Are you tired? | NO..W.L.I.Q.I.R |
| SE | Do you have any questions for us? | L |
| TK | What question do you have for Liam? | K...M...I..S...O |
| LC | - | GOODBYE |

**9.6 (cont.)** Table also shows Le Corbusier's responses ascertained from the letters alighted on by the glass on the Ouija board throughout the duration of the séance. © Tomas Klassnik, The Klassnik Corporation.




**9.7** The Klassnik Corporation, a conversation with Le Corbusier, the Ouija table attendees seating plan, 2011. Digital drawing. Image showing the scale and positions of the group attendees in relation to the table top with precise scale and spacing of Ouija lettering. © Tomas Klassnik, The Klassnik Corporation.




**9.8** The Klassnik Corporation, a conversation with Le Corbusier, plan of Le Corbusier related artefact table, 2011. Digital drawing. A selection of artefacts brought together to strengthen the spiritual connection to Le Corbusier during the session. Items included were: (1) photograph of Le Corbusier, metal frame, 160 mm × 115 mm; (2) five no. candles, 75 mm diameter; (3) glass, 70 mm base, 50 mm top; (4) incense and holder; (5) adjustable acrylic set square; (6) nerd specs; (7) assorted compass set; (8) Scotch 'Magic' tape; (9) electric fan; (10) ceramic mug; (11) coffee pot; (12) Vietnamese bass; (13) crystal ball, 100 mm diameter; (14) Villa Savoye kitchen (1930); (15) Clive Entwistle's drafting kit; (16) *Ouija Board, Ouija Board*, 12-inch single, Morrissey, recorded 1989.

# 10. Architectures of slowness: Actioning historical loops and repetitions

Matthew Butcher

## Introduction

The ongoing philosophical proliferation of modernity still permeates our contemporary existence – politically, socially and culturally. It is out of this legacy that we continue to propagate, without question, an ongoing celebration of technology, a technocratic means of operation, a desire to increase production and industrial efficiency consistently. This myopia towards mechanisation in turn drives a control of nature and natural systems – all in the name of progress.

The emphasis on these doctrines of modernity, particularly those around progress and efficiency,[1] remain central to the way architecture develops in terms of the production of buildings, the design of suburban and rural environments and the wider discourse around the discipline. I fear we are still seeking to emulate tropes of modernity, not for social emancipation – an original ambition of many architects associated with moves towards modernity in the early twentieth century[2] – but in order to bow to the needs of the market. Theorist and historian Douglas Spencer describes in his book, *The Architecture of Neoliberalism*,[3] how this market-driven approach – of which he believes many contemporary architects are complicit – increasingly stops the individual in society from having free will or the ability to form individual criticism. Instead, individuals are consumed into the complex system of economic governance to embody a status as just a 'things among things'[4] insuring 'the optimization of the subject's performance'.[5]

This chapter seeks to challenge this ongoing project of 'progress' and in particular its desire to negate factors that promote and allow time for 'interpretation and critical reflection'.[6] To do this, it will ask how we can develop unique and specific architectures that are intrinsically designed to highlight more complex understandings and experiences of time – ones that are not fundamentally focused on a constant drive forward. First, it will present ways that an architecture can slow down our experience of time in order to make us more aware of its passing. Second, it will seek to present methodologies of design that highlight the potential offered by seeing notions of time as non-linear and cyclical. It will show how references to past events and architectures are intrinsic in allowing us to form reflective and reasoned understandings, not only of the past but also of contemporary physical, social and political contexts.

To formulate this enquiry, I would like to suggest an architecture of slowness.

The origin for this idea of slowness has, in part, emerged from a reading of philosopher Bruno Latour's essay 'An Attempt at a "Compositionist Manifesto"',[7] where he seeks to criticise the actions of what he terms the 'moderns',[8] and their fixation on the pursuit of the new. It points to how the climate crisis we are now experiencing was driven by a desperate desire for individuals to progress and, specifically for Latour, to escape history. It was modernity's intrinsic emphasis on progress and with it the need to move quickly away from current and past conditions – whether social, political or cultural – that increased industrialisation and the desire for technical advancement. In the essay, Latour states: 'The ecological crisis is nothing but the sudden turning around of someone who had actually never before looked into the future, so busy was He extricating Himself from a horrible past'.[9] As a means to act against this condition, Latour instead invites us to acknowledge that 'time of *time* [. . .] has passed'.[10] It is a slowness that asks us to look around, feel and see the world in order to be more aware as we move forward.[11]

Interpreting the concept of slowness through architecture encapsulates these – and many other issues. In order to define how this architecture of slowness might manifest, I will turn to one of my recent speculative design projects, 'The Silt House'. 'The Silt House' functions as an original prototype dwelling located at the mouth of the Thames Estuary in Kent. The investigation will be split into two sections: the first section exploring how the form of 'The Silt House' responds to ideas of slowness as it manifests the environment in which it is located; the second section reflecting how slowness is embodied within the physical and intellectual design of and inspiration behind 'The Silt House'.

The first section sets out how 'The Silt House' exists as a prototype dwelling that operates with a specific affiliation to the environment in which it is sited – the flood-prone tidal environment of the estuary.

This creates an architecture where the natural processes and entropy of its environment are framed and exaggerated. Within this process, the passing of time is highlighted, manifest in the changes that can occur in the weather or the movements induced by the gravitational power of the moon as it drives the cycles of our oceanic currents. This section will also explore how the form and operations of 'The Silt House' sit in opposition to the desire of the UK governmental and environmental regulatory bodies to continue to plan for urban and rural development in places that are threatened by the effects of global warming such as flooding. In particular, these bodies' desire to negate these threats by relying on large-scale technological infrastructures which in themselves require vast resources to run and to be constructed. This investigation is of particular significance when considering geographer Leigh Glover's assertion that the propagation of modernity is leading directly to the proliferation of damage being done to our environment. In his book, *Postmodern Climate Change*,[12] he states: 'to identify climate change as an outcome of modernity is, at one level, a statement of the obvious – it is a contemporary issue born of industrial society'.[13] Glover sees the philosophical drives of modernity and its emphasis on positivist doctrines around scientific reasoning and technology to be central to this condition and driven by its fixation on the concepts of progress. Outlining this issue, he states: 'Central to modernity is the "doctrine of progress". Modernization is premised on the belief that through modernity, society improves upon its predecessors'.[14] He goes on to present how this trajectory forms society's meta-narrative: 'the concept of progress is embedded in the cultural rubric of modern society'.[15]

The second section will explore how the development of 'The Silt House' is manifest with specific and distinct methodologies that take historical references and analysis as the main starting point for the development of this new design proposal set within twenty-first century contexts. In doing so, the architecture presents an original means to collapse what is traditionally considered historical research and that which is understood as practice based. The aim of this architecture is also to enable a reflective space, cerebrally, theoretically or physically, in which to consider and to critique both itself and also the contexts in which it is placed in terms of both location and time, be that in the past, present or future. It is an architecture that is specifically set as a riposte, protest and provocation against two conditions. The first is that certain architectures utilise technologically advanced computational or cybernetic tools, and how the efficiency that will be embodied within the utilisation of these tools will bring new-found freedoms. Again, in *The Architecture of Neoliberalism*, Spencer expands on how the developments in this approach to architecture are being formed, and are forming the key political philosophies that govern Western economies, principally those associated with neoliberalism. He goes on to explain that they resonate with this political ethos to promote 'universalizing models of evolution, cybernetic systems and spontaneous orders, and its valorization of the market as a kind of super-processor, uniquely able to handle complexity of the world, legitimate its rationality'.[16] What is also important is that these architectures proliferate narratives of efficiency and progress against what is argued as an architectural profession that is antiquated, nostalgic and too traditional. Writing in her book *Architecture and Modernity: A Critique*, Hilde Heynen considered the idea to be central to early doctrines of modernity that also sought 'a break with tradition, and as typifying everything that rejects the inheritance of the past'.[17] Second, as set out by philosopher Jean Baudrillard in his text 'Modernity',[18] the ambitions of modernity and its ongoing pursuit of progress as an end in itself destroys the philosophy on which it is founded. No longer tied to core theoretical or philosophical ambitions, as modernity evolves, it 'gradually loses each substantial value, each ethical and philosophical ideology of progress that sustained it at the outset and it becomes an aesthetics of change for the sake of change'.[19]

This section will start by focusing on how and why the design of 'The Silt House' project was developed in relationship to the work of avant-garde architect Raimund Abraham. This exploration will be augmented with an investigation into the meaning that can be garnered more widely from returning to historical architectures. It will do this by looking at Abraham's own use of historical references in his work, alongside others working at the same time as him, principally Peter Eisenman. This analysis will be conducted with reference to certain contemporary historical and theoretical texts, including those of the theorist and historian K. Michael Hays, historian Stefano Corbo and architectural historian and philosopher Andrew Benjamin. Reflecting on how these avant-garde architects, through the repetition of historical architectures in their work, sought resonance with the political and ethical conditions of their time will aid our understandings of how these conditions again resonate within contemporary disciplinary and political contexts.

In the second part of this section, I will draw parallels between the design processes used within 'The Silt House' that seek affinities between certain historic architectures identified, and ideas and theories of practice present in contemporary art and performance. This will be framed by notions set out by theorist Rebecca Schneider in her book *Performing Remains: Art and War in Times of Theatrical Reenactment*, in

which she describes re-enactment as 'an intense, embodied enquiry into temporal repetition, temporal recurrence',[20] and also the work of artist Pablo Bronstein who role-plays certain historical characters, architects and architectural styles in the development of his intricate drawings and designs.

The purpose of developing this second set of analyses that exist across architecture, art and performance is to reverberate with performance practice's intrinsic characteristic to exist in and through time. Within this context, the essay will seek to resonate with the notion set out by historian and theorist Rosa Lee Goldberg: that the 'presence of performance' provides viewers with the sensation of 'stopping time'.[21] For Goldberg, this specific condition 'gives the medium its central position' in current cultural discourse and practice,[22] and allows it to act as 'an essential antidote to the distancing effects of technology'.[23] By traversing disciplinary boundaries in this way, the analysis will provide specific and unique methods of developing architectures that act as a counterpoint to those that promote ideas of speed and efficiency, all in the name of progress. Instead of the idea that time must be understood to move in only two directions, forwards and backwards, methodologies of re-enactment and role-play present a relationship to history that is elastic and malleable and can operate in loops. Thus, by looking to these practices, we can develop more supple and playful relationships with historical architectures. It is also worth noting that by placing emphasis on the processes of design within this cross-disciplinary discussion, I am considering notions of performance in their broadest sense, not just in the actions of performers on a stage but also in the process of creating, the actions of drawing that embody conditions of the performative.

This analysis of re-enactment will focus on the relationship of 'The Silt House' to Raimund Abraham's architecture and the way part of the project has been drawn to appear as if emerging from, and merged to, the historic architectural project 'The Manhattan Transcripts' by architect and theorist Bernard Tschumi.[24] This analysis of the design project will be augmented by the writings of theorist Rebecca Schneider, curator Catherine Wood and the work of artist Pablo Bronstein. Emphasising the action and process of drawing itself elevates it from its traditionally lowly position in which it is placed by the profession who considered it a legal artefact. Instead, by seeing drawing as a performative action, the process of design can itself exist as a space of slowness, a space for contemplation and reflection. In addition, analysing works that operate within the capacity of speculative architecture, accompanied by a historical and theoretical textual investigation, allows a unique and more expansive exploration into the conditions of contemporary architectural discourse than more traditional forms of architectural practice associated with building. Where building practices are often controlled and augmented by the heterogeneous conditions of regulations, economics and the desires of clients, the examination of speculative designs such as 'The Silt House' enables a broader reflection on the discipline and the contexts in which it operates.

## Section 1

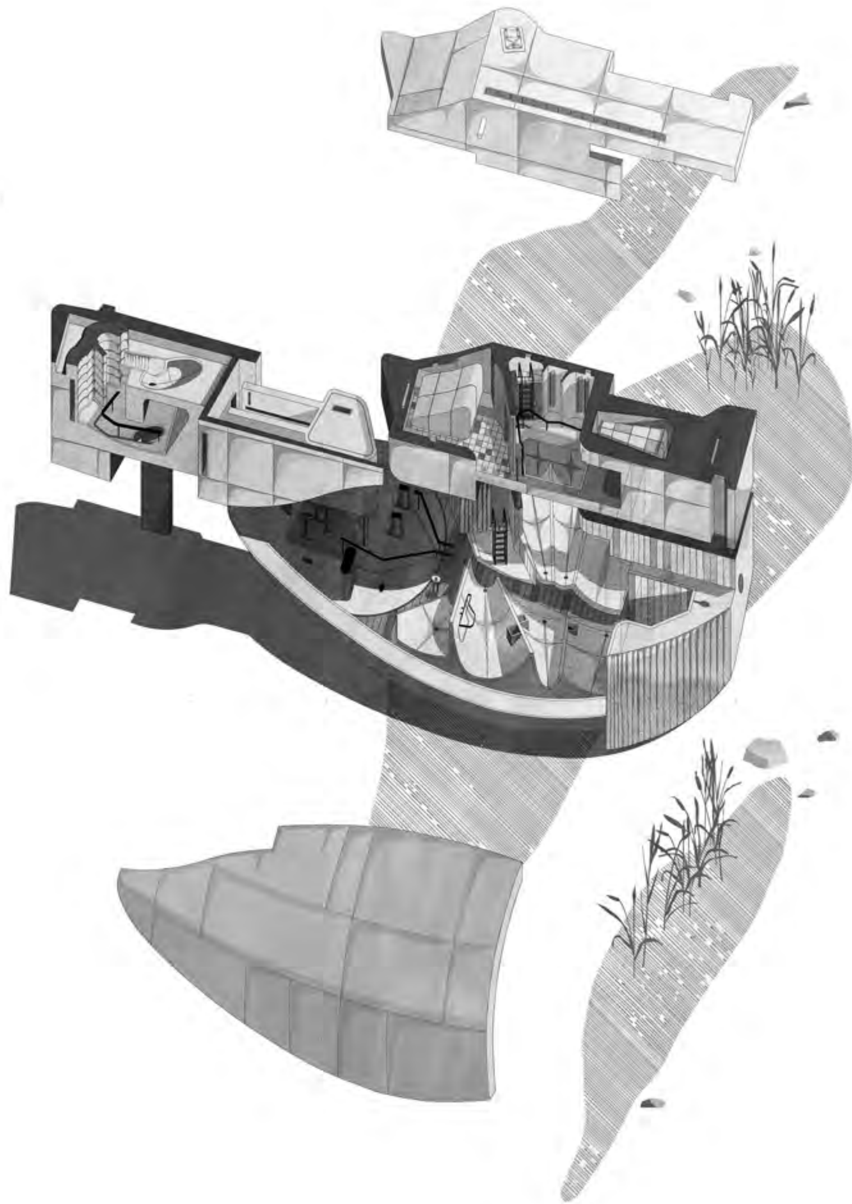
### 'The Silt House'

'The Silt House' project is a single concrete structure, located on the south side of the Thames Estuary in the Cliffe Marshes of Kent in the UK. Historically a salt marsh, the landscape here has been continually claimed from the sea and subsequently protected from it via a series of increasingly complex defence walls, the first dating back to Roman England.

The project proposes the removal of the current fortified concrete sea wall at Cliffe which would allow the Thames to splay into the land, and through the process, a salt marsh would form again at the apex of the river. Within this new environment, the ambition for 'The Silt House' is to propose an architecture that would be sited in this new intertidal landscape – a new typology of architecture that has more reciprocity with the natural processes of the flood plain and subsequently the landscape of the salt marsh.

The building is a single lone architecture which can be occupied by a number of people at once. By being sited on the edge of a new flood wilderness where access to the central electricity grid and water supplies would be limited, it facilitates a frontier-type existence. The form of the structure is not reminiscent of any vernacular. Instead, the curved,

**10.1** Matthew Butcher, 'Silt House', perspective, 2015. Digital collage. Drawing shows the 'Silt House' and sediment net structure on mud flats at low tide located at Cliffe in the Thames Estuary. © Matthew Butcher.



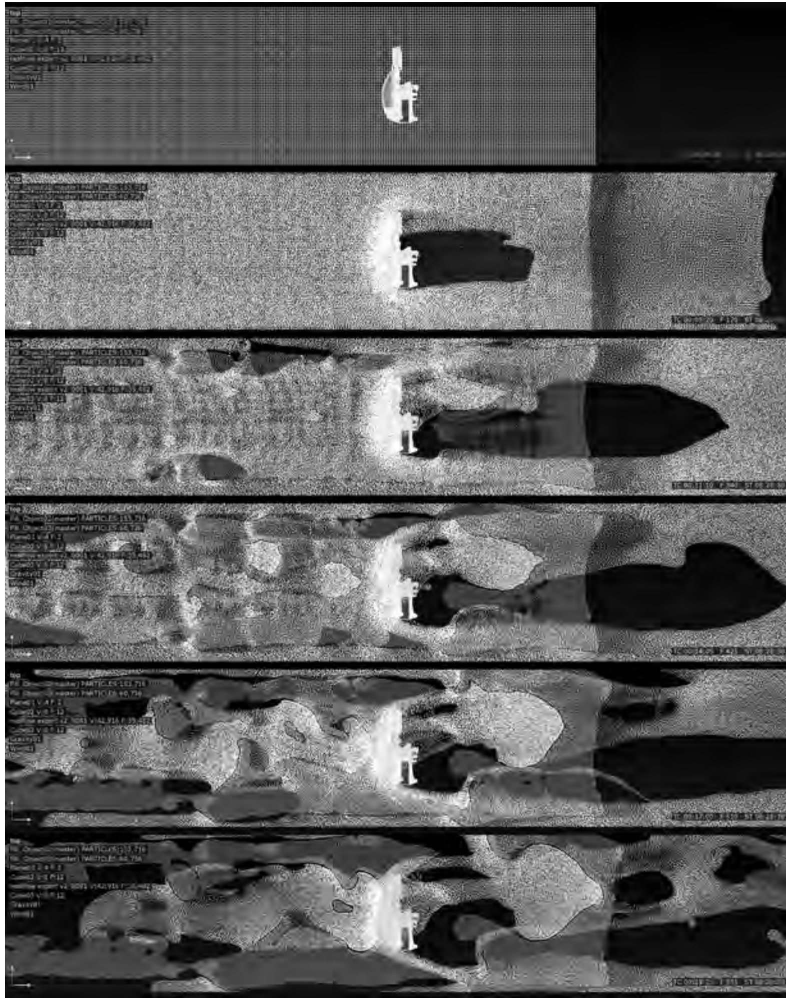
**10.2** Matthew Butcher, 'Silt House', exploded isometric, 2015. Digital collage. Illustration showing interior of the Silt House with undulating, wave-like floor slabs on the ground floor. © Matthew Butcher.

shell-like building is designed to allow water to flow around and over it, and for mud to settle on it.

'The Silt House' proposes an architecture that is explicitly of the ecology and the landscape in which it sits. It can be seen as a conduit attempting to channel natural processes, including the very floods that wash over it. To do this, the building must adapt to the tidal environment in two critical ways. First, it utilises the daily movements of the river's water to clean and sanitise the house and to control the sewage system – a process that occurs at high tide. Water is drawn into a system of pipes contained within the walls and floors of the building and is then diverted to the septic tanks where it swills wastewater and stored faeces out of a small circular conduit located in the back of the building. Second, when exposed to harsh North Sea winds during the winter months, it becomes necessary for the building to clothe itself temporarily to provide increased comfort and insulation to those inhabiting it. To do this, a system of nets encircling the house slow down the flow of water around the structure, allowing heavier sediment to fall and collect on the roof, enabling the house to bury itself in the silt and sediment of the river. This process increases both the mass of the exterior facade and the building's capacity to store heat during the winter.

Although the particular operations of the building serve clear programmatic and practical necessities, their specific nature, as well as the projection and discarding of sewage and the burial of the building, creates

**10.3** Matthew Butcher, 'Silt House', model photo, 2015. Photo with digital manipulation. Image illustrates the Silt House buried by the sediment of the river. © Matthew Butcher.



**10.4** Matthew Butcher, 'Silt House', sediment movement model, 2018. Animation stills. Stills from an animation that illustrates the movement of sediment present in the river water that would form around the Silt House. Patterns of sediment distribution were simulated using a variety of different-sized particles for accuracy. © Matthew Butcher.

an architecture that is both of the landscape of the flood but also draws attention to it by exaggerating its specific processes.

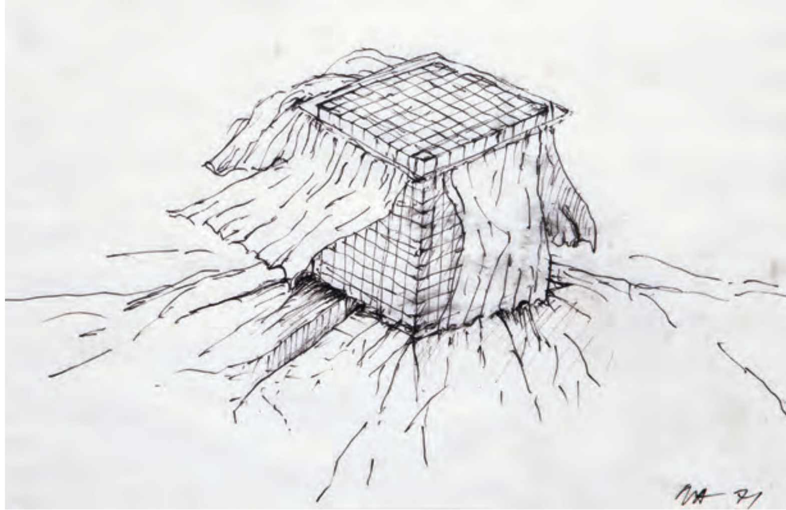
This specific architecture provides a distinct model of inhabitation in the estuary that acts in opposition to the sustained efforts by both government and the Environment Agency to prevent flooding by continuing to raise the sea walls – an ever-perpetuating task. It also aims to provide opposition to proposals to develop a larger flood barrier at Tilbury, further upriver. This constant drive to protect valuable real estate in the vicinity of the Thames and London from the threat of impending devastation to the environment caused by rising sea levels is driven by the belief in our superior technological prowess. But this drive to build larger and stronger flood barriers requires vast natural resources to enable these defences to be constructed, further adding to the issues of climate change – a paradox one could say. It also continues to distance us from an experience of the natural processes that manifest our environment on a daily, monthly and yearly basis.

Instead, the intention of 'Silt House' is to create an architecture that seeks to utilise and highlight the changing conditions of the river and, in particular, the daily and seasonal shifts in the nature of the tide and the increasing occurrence of flooding. This includes developing an architecture that is responsive to its environment and the passing of time – namely, the daily rise and fall of the tide and the associated movements of the river's sediment.

The building not only develops a more symbiotic relationship with the cyclical nature of the flood through its exterior and operation, it is also present in the design of the interior which promotes an interdependency between occupant and landscape. This is manifest through the irregular geometries of the building, destabilising typological norms traditionally associated with a house. Instead of the vertical walls and horizontal floors usually found in more traditional dwellings, the floors, walls and ceiling of 'The Silt House' undulate like a landscape, the concrete surfaces replicating the shifting mud flats of the estuary bed. These planes rise and fall, creating pockets of space that could be utilised for sleeping and sitting. There is also no central access within the house. Instead, the forms of the walls and floors choreograph the body into a continual contoured procession, and stimulate particular types of movement that require balance, poise and a steady foot in order to occupy the building safely. One must move slowly and carefully to navigate and transverse the house, just as you would on the shifting flood plain.[25]

## Section 2

In Section 1, we looked at how an architecture can allow a slow reflection on the daily and yearly processes of the river through movements such as the rise and fall of the tide and thus can, in turn, frame a different perspective of time that is marked by these movements. In this section, the



**10.5** Raimund Abraham, sketch for 'House with Curtains', 1971. Ink on paper. One of several drawings Abraham did for 'House with Curtains', one of the structures that made up the '10 Houses' project. The drawing clearly shows the juxtaposition of gridded forms of the house with a façade made from curtains that highlights the movement of the wind. © Una Abraham.

chapter will explore how these ideas were developed in 'The Silt House' project through a methodology that drew directly from references to historic architectures. In addition, it will explore how this methodology of returning to history to inform a contemporary design practice can be seen as a provocation to and resistance against certain disciplinary practices that emphasise a constant need for progress and efficiency emboldened by an emphasis on scientific and technological advancement.

As a starting point for this investigation, the chapter will explore the relationship 'The Silt House' has to the work of avant-garde architect Raimund Abraham. Known for his drawn and built work, Abraham is an important reference within the development of the project for three reasons. First, during the late 1960s and early 1970s when he was midway through his career, he began separating himself from the propositions and provocations of the technologically sophisticated mega-structures being explored by groups such as Archigram to look more closely at an architecture investigating the origins of dwelling. Historian Norbert Miller, writing in the monograph *Raimund Abraham: [Un]built*, states: 'In a significant departure from his visions of the city, Abraham returns in the early seventies to the primal vision of the *House*'.[26] This was also a concern of many of Abraham's peers working within the realm of the avant-garde at this time. As historian Sarah Deyong notes, architects who were working within explorations of the megastructure 'found themselves under attack for their love affair with technology, mass communication, and consumer goods on the one hand, and for their failure to create anything more than just images of the future, on the other'.[27] Second, and more critically, as Abraham moved away from interests in technology, he sought to explore the relationship of the poetic, or the lyrical and philosophical, to architecture. It was an investigation that focused on the connection between landscape, architecture, home and body. These investigations manifest in a series of drawn architectural proposals known as '10 Houses' – haunting propositions that partially bury architecture into a barren and unspecified desert landscape, making it part of the natural and environmental phenomena. Writing 20 years later in 1992, he addressed the tension that comes from inserting built forms into the environment: 'Any architectural endeavour is an interference with this site. One either builds up into the sky or down into the earth'.[28] The idea comes across most explicitly in two of his projects: the 'House with Curtains' (1972), in which walls are constructed from elements blown by the wind, and the 'House with Flower Walls' (1973), in which the physical enclosure is formed by the growth, and the process of decay, of the flowers. Here, the elements of the architecture are defined as much by traditional building materials, such as brick, steel and glass, as by others which are not normally associated with building fabric such as the wind and earth. Third, in parallel to his design output, Abraham's awareness of the issues associated with the environment extended beyond the immediate interaction of architecture to site. In a lecture he gave in 1991, he vocally expressed his concern with regards to the treatment and future state of the environment: 'we live in a time, when the air we breathe is so poisonous that we destroy the sculptures of our ancestors'.[29]

Each of these elements – Abraham's conscious and contradictory shift to look at the origin of the dwelling, his interest in not only the physical but also philosophical and lyrical aims of architecture, and his environmentalist concerns – allows for a deeper analysis of the more ephemeral and theoretical aspects of an architecture – conditions that informed the desire of 'The Silt House' to work symbiotically with the flood.

## Methodologies of appropriation and repetition

To incorporate Abraham's very particular modality towards architecture and the environment into 'The Silt House' and the physical context of the Thames Estuary, certain motifs were identified across Abraham's

'10 Houses' project (1970–3). These included specific materials, formal components and ideas such as burial mounds which mimicked natural forms.[30] Together, they were understood to comprise a kind of topological key to Abraham's work – a grammar of sorts – which was then developed to shape the spatial and formal logic of 'The Silt House' within the context of the estuary.

The floor plate of 'Silt House' is not flat but undulates with a wave-like form, mimicking the cloud-like shape present in the basement of another of the '10 Houses' designs, the 'Earth-Cloud House' (1970). These speak to the building's environment by echoing the way sediment and mud settle after the tide has withdrawn. The semi-burial motif seen in most of the '10 Houses' series manifests into aspects of 'The Silt House' as the operations of the building that allow it to be slowly buried beneath the sediment of the estuary mud flats when the tides allow. Finally, the juxtaposition between static and dynamic elements seen in the 'House with Curtains' (1972), where the solid walls stand in contrast to the fluidity of the curtains' movement which captures the presence of the breeze, is replicated in 'The Silt House'. This formal and spatial device designed to highlight the idea of the building as 'an interference' in the environment and the landscape is an idea that resonates with the position of 'The Silt House' in the estuary as a marker of tidal height and flow.

This approach can be seen critically as an attempt to ensure that Abraham's ideas are carried forward to develop a more symbiotic architecture where formal and spatial conditions are driven by philosophical and lyrical aspirations in relation to the temporal processes that govern the natural environment rather than those driven by a desire for technological prowess.[31]

## Meaning in repetition and the mime of history

The methodology set out above shows how 'The Silt House' has a distinct formal and conceptual relationship to a historical architecture, specifically that of Abraham. This process was itself also prevalent across the work of many architects associated with the neo or late avant-garde.[32] In his book, *Architecture's Desire: Reading the Late Avant-Garde*, K. Michael Hays describes how the late avant-garde, existing in 'the expanded decade of the 1970s',[33] was 'a moment in history when certain ways of practicing architecture still had philosophical aspirations'.[34] Alongside Abraham,[35] architects involved in this moment included Peter Eisenman and John Hejduk who were both, like Abraham, located in New York, as well as others such as Aldo Rossi who was based in Italy and Bernard Tschumi who moved between London and New York.

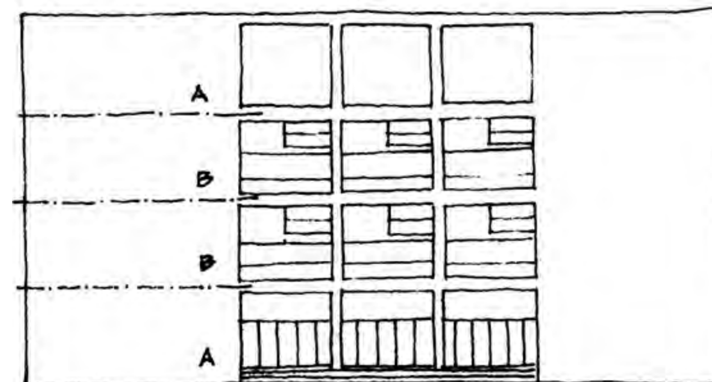
Hays sets out the central remit to the late avant-garde as 'the obsessive search in this work for architecture's fundamental codes and principles',[36] where a formal repetition and re-appropriation of motifs from historic architectures was one of the key strategies and considerations undertaken. This appropriation and repetition manifest in the use of forms adapted from the language of early modernism and early avant-garde architecture and design, such as grids, planes and primary geometries as seen, for example, in the work of Le Corbusier as well as De Stijl and the constructivist movements.[37]

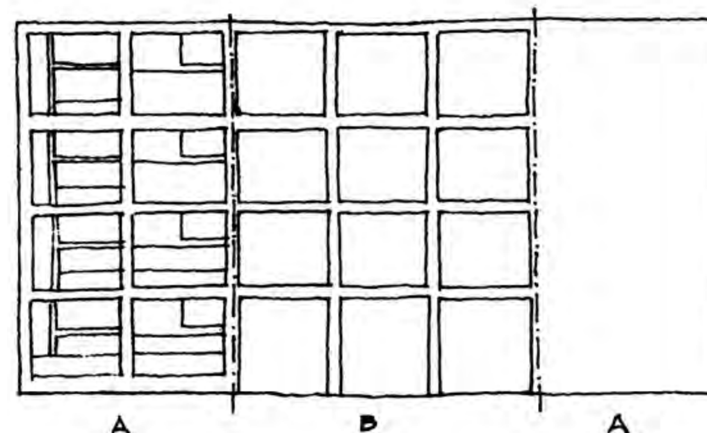
For Abraham, this manifests in the use of gridded cube forms and walls that jut out from the ground plane at 90° – a process that was often justified as returning architecture to fundamental components.[38] Regarding his fascination with these geometries, Abraham stated in his essay 'Elementary Architecture' from 1963 that the 'Cone, cube, cylinder are re-occurring elements of architecture which belong to a timeless order',[39] and sought to return architecture to a datum point or origin.[40] The use of these primary geometries for Abraham was also a methodology he often attributed in the work of architect Mies van der Rohe.[41] Abraham used these primary forms to create a visual juxtaposition to the effects and actions of nature, such as the way light falls on the structure, the movement of the wind or the decomposition of flowers.[42] These interventions are points at which we are able to confront and be shown the passage of time.

Although Abraham clearly sets out his purpose for utilising this formal repetition of primary geometries, simultaneously echoing the modernists of the early twentieth century and the ancient form of prehistoric structures such as burial mounds, it is in the work and writings of one of his fellow avant-garde architects, Peter Eisenman, that we find a more rigorous articulation in the meaning of this trend for historical repetition. Through this articulation, we can garner meaning from the repetition of Abraham within the design of 'The Silt House'. The process used by Eisenman to return to, and use, certain modernist forms started as part of his PhD thesis, which he completed at Cambridge in 1963, titled *The Formal Basis of Modern Architecture*.[43] Central to this exploration was a rigorous geometrical analysis of Italian modernist architect Giuseppe Terragni's two seminal works: 'Casa del Fascio' (1936) and 'Casa Giuliani-Frigerio' (1942). Writing in his 2007 essay 'Passing Through Deconstruction', theorist Andrew Benjamin describes how Eisenman saw these two buildings as 'critical architectural texts'[44] because 'the

readings of their facades, plans and sections are not stable'.[45] Eisenman used these buildings to explore the idea that you could potentially reorder the location of solids and voids in the buildings, as well as their walls and columns, while retaining the building's inherent formal and compositional coherence – the building was not defined by programmatic or functional logics. To conduct his analysis, Eisenman redrew the plans and elevations of Terragni's work, reworking them as hand-sketched abstractions drawn in line. For Benjamin, the significance of this analysis existed in these drawings and in the very action of their being drawn. Akin to a 'mime' of the existing work, Benjamin sees the process as enabling a criticality, assisting Eisenman to reread (interpret) the meaning of the building's geometric logic. Benjamin states: 'A critical textual reading involves as much the object's physical presence as it does its repositioning within a conceptual argument: a repositioning that, once again, would be the result of drawing'.[46] This was a process that for historian Stefano Corbo, writing in his book *From Formalism to Weak Form: The Architecture and Philosophy of Peter Eisenman*, allowed Eisenman to see form as 'no longer the fixed representation of a univocal narrative: form is [. . .] a field of possibilities'.[47]

Eisenman's technique of adapting Terragni's designs was also adapted for the development of the specific formal, material and spatial tropes I garnered from Abraham to design 'The Silt House'. Echoing Eisenman's PhD, the purpose of this process was to develop a specific and rigid relationship to a historic architecture and to ensure that the intent in this earlier work was carried forward to the new project in a new context. Like Eisenman's particular methodology embodied in the mime of redrawing, I sought to trace certain drawings from the '10 Houses' project by Abraham. Within this process, I did not seek to formulate the drawing exactly as it was. Instead, I started to isolate elements of each house separately across a sheet of tracing paper and to render these in line. Here, I was seeking to break down the original composition in the designs of Abraham into a series of components, separating wall from ceiling and floor from wall. Once this separation had occurred, I was then able to analyse and isolate components, before categorising them to ascertain the key characteristics that formulated each of them. Through this analysis, I could forensically evaluate the nature of Abraham's work, the specific materials that he used and the way he juxtaposed traditional building materials such as concrete with processes associated with the landscape such as the movement of the wind. It enabled me to become more attuned with the nature of this work as opposed to just visually reviewing it. From




**10.6** Peter Eisenman, figs 18 and 19 from *The Formal Basis of Modern Architecture*, 1964. Drawings were done as part of Eisenman's PhD thesis *The Formal Basis of Modern Architecture* and show his geometrical analysis of architect Giuseppe Terrangi's building Casa del Fascio. Source: Drawings are reproduced from the publication of the thesis in 2006 by Lars Muller Publishers: Peter Eisenman, *The Formal Basis of Modern Architecture* (Baden: Lars Muller Publishers, 2006). © Peter Eisenman.

there, I could then seek to determine the formal, spatial and material equivalences appropriate to a building located in the Thames Estuary.

Although the methods employed in this development involve a less rigorous geometric analysis of Abraham than those that Eisenman employed in his examination of Terragni, by enabling a repositioning of Abraham's ideas, it is akin to Benjamin's interpretation of Eisenman's 'mime'. In the case of 'The Silt House', the 'repositioning' of Abraham in the context of the contemporary environmental debate allows *his* desire to explore a poetic and lyrical means of dwelling, one that operates in synergy with the specific material qualities of the landscape, to have new-found resonance. This is manifest in how the architecture of 'The Silt House' questions the installation of new and large-scale infrastructures in the Thames Estuary to negate and hide the threat of flooding in that region and secure valuable land for development. Instead of ignoring its context, by utilising and encompassing the work of Abraham, 'The Silt House' suggests an architecture that is formed in part by the landscape in which it is sited. Its form challenges the didactic and problematic separation between land and flood that the new dams and flood defence would create – a separation that is born of the legacies of modernity to control natural systems for our own ends.

Peter Eisenman's Terragni work was extremely specific in its intent and formed part of a desire to complete what he saw as the unfinished project of modernism. Where modernism had been submerged by its institutionalisation within the project of modernity, its early ideals were tempered by the prevalent architectural viewpoint of the 1960s to a simple equation of form follows function. Corbo describes how Eisenman wanted to return to the radical origins of modernism that had been diluted by its actualisation in the hegemony of modernity, and find the original 'syntactical mechanisms that regulate architecture'[48] – a process that was searching for specific codes and rules for architectural form. Eisenman saw these codes as the key which would highlight the significance of the modern project as a conceptual and philosophical as well as aesthetic provocation, rather than one of technical innovation, manifest in its emphasis on formal abstraction. This abstraction was significant for Eisenman in that it sought to deny humanist philosophical positions that placed people at the centre of all invention and reasoning.[49] It was also a position that he saw return as ubiquitous in the techno and consumerist fetishism of the English practices of Archigram and historian and theoretician Reyner Banham. In his essay for the journal *Oppositions* titled 'Post Functionalism', Eisenman wrote how this fetishism was reducing the tenets of architecture to 'the same ethical positivism and aesthetic neutrality of the pre-war polemic'.[50] He associated this position in a lecture he gave in 1977 at the New York School of Interior Design with philosophical precepts and attitudes that he believed had helped move humanity towards the technology of destruction seen in World War II, the holocaust and the development of the atom bomb.[51] In its abstraction, looking again at the works of the early modernist period was, for Eisenman, a clear means to refocus man's viewpoint on the world away from his own specific experience, logics and self-serving actions, and instead take a broader perspective on society.

K. Michael Hays describes how the return backwards to historic modernist forms seen in Eisenman, as well as others in the late avant-garde, was not only an attempt to reposition the historic actions of modernism, but also an attempt specifically to critique developments seen in society at large. As society became increasingly obsessed with capitalism and consumption, Hays argues that 'ideological-representational engagements of architecture with the expanding consumer society of the 1970s were probed, and various strategies of distortion, resistance, and re-appropriation were devised'.[52] Referring directly to architectural production, Hays suggests that the desire to keep within the confines of strict formal limits sought to negate architecture's shifting fascination with postmodernism and the postmodern style – and with this its gradual appropriation as capitalist iconography. Again in *Architecture's Desire*, he stated: 'Unlike the fully commercialised postmodernism, the late architectural avant-garde keeps its namesake's commitment to rigorous formal analysis, making the material of architecture stand against consumerism'.[53]

Within this context, the act of repetition and 'mime' seen in 'The Silt House' is not only a means to draw synergy between the project and its environment, but can itself also be seen as a contemporary political, social and environmental commentary. The re-appropriation of Abraham's ideas can be read as a means of resistance: resistance not against the developments of the consumer society of the late 1960s and 1970s, but against the consumption of natural resources that would need to occur in order to develop the Thames Estuary as laid out in the Environment Agency's flood prevention report, the TE2100 plan.[54] Here instead, the model of technocratically driven infrastructure which fuels these developments is negated and supplanted with a synthesis following the model of Abraham's architecture, seeking to establish an altogether different approach: a synergy between the architecture and the landscape it is situated in.[55]

It can also be read as a means to manifest a condition of slowness that is equally present in the act of redrawing, echoing Benjamin's

assessment of Eisenman's reuse of historic modernism where 'drawing perhaps redrawing, becomes an instance of discontinuity' in history – a disruption.[56] Instead of repeating what went before and progressing unthinkingly forward on the same narrow path, Eisenman's mime of Terragni's buildings is a way to question and reflect on the style of and philosophy behind architecture. His 'mimes' instigate a slow architecture because they offer a means to work through architecture, allowing one to pause, question and reflect, not just to progress mindlessly. This process of redrawing embodied what he saw as the prevailing precepts of a rationalist and human-centric view of the world present in the mainstream of architectural discourse and in modernity. Simultaneously, it subverted the prevailing onslaught of capitalism and technology. It is a process that is mirrored in the methodologies of design in 'The Silt House' which allows the development of this project also to be seen as manifesting a desire to negate ongoing reliance on narratives of progress driven by a discourse on technological developments. By embodying this condition of slowness, 'The Silt House' challenges narratives of progress and efficiency as a central remit of architectural discourse and practice.

## Performing histories as a space for slow and endless reflection

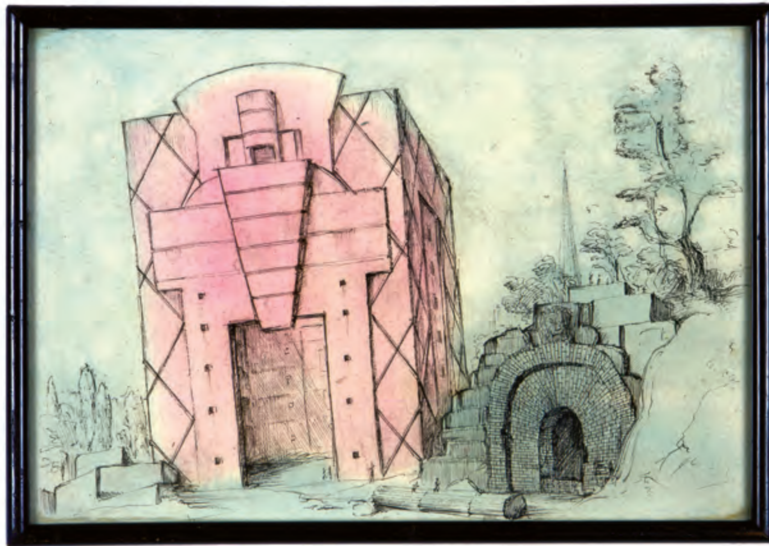
Where the previous part of this section reflected on the artefact of the drawing and its political and philosophical meanings for architecture, I would now like to expand upon the act of drawing itself: the performance of the repetition and re-appropriation. I am approaching this by exploring them in the context of current performance theory, in particular the associated processes understood as re-enactment and role-play. Re-enactment, as expressed by Rebecca Schneider in her book *Performance Remains*, is 'the practice of re-playing or redoing a precedent event, artwork or act',[57] as well as being a mechanism that 'troubles linear temporality by offering at least the suggestion of recurrence, or return, even if the practice is peppered with its ongoing incompletion'.[58] Role-play, as set out by artist Pablo Bronstein, is a mental process through which he can imagine himself as the character or historical archetype who created the original drawing while he is in the process of formulating the drawing.[59]

The purpose of this analysis is twofold. First, it seeks to present the specific methodologies of design as set out above as not just specific to architecture but intrinsic to a wider cultural disaffection with the ongoing proliferation of modernity. Schneider describes how the practice associated with temporal return seen in practices of re-enactment 'bears a political purpose for a critical approach to futurity unhinged from capitalist development narratives of time and secular investments in Progress as strictly linear'.[60] This idea is particularly prevalent when considering Benjamin's understanding of Eisenman's actions in redrawing the work of Terragni. By specifically using the term 'mime', Benjamin suggests that Eisenman's process of redrawing enacted a performative physical act as a temporal recoding of a previous historical moment – a process also mirrored in the methodologies of design seen in 'The Silt House'.

Second, the performative associations embodied by the processes of re-enactment and role-play are associative not only with actions of mimesis and physicality that the process of mime suggests, but also with those of theatricality and play. Where the methodologies of 'mime' outlined in Section 1 could be seen as slightly staid, archaeological and forensic, processes of re-enactment and role-play offer a more fluid and open territory in which to distort traditional notions of linear time and history further. In re-enactment and role-play, notions of history and time are elastic and stretchable, and operate in loops. Within these methodologies, one can seek to act out, improvise and inhabit different time periods, not just analyse them. And through this open territory, there is greater scope for exploration and experimentation that disrupt notions of temporal hierarchies. These are notions that resonate with curator Catherine Wood's suggestion that the practice of re-enactment should treat history 'not as a fixed set of facts with an inevitable outcome in the present, but rather an open space in conflict, being continually re-enacted'.[61] It is also a means perhaps to formalise Bruno Latour's call, set out in his 'An Attempt at a "Compositionist Manifesto"', to manifest what he describes as an end to the 'time of *time*',[62] instead encouraging us 'to care, to move slowly, with caution and precaution',[63] creating through the action of re-enactment a distinct space for reflection. These ideas will form a lens through which I will consider the ideas and practices of re-enactment and role-play in relationship to my own practice within the project 'The Silt House'.

## The practice of re-enactment and role-play

The Argentinian and British artist Pablo Bronstein is known for large-scale illustrations and installations that eerily confuse styles and subjects from different times, predominately from the eighteenth century or the latter half of the twentieth century. Rendering an item clearly of one era in the imagery and style associated with another, the installations, objects and



**10.7** Pablo Bronstein, monument in the style of Michael Graves on the debris of the Bastille, 2006. Ink and gouache on paper, artist's frame. An early work by Bronstein which illustrates the outcome of the artist's use of role-play as a process to design and draw – a process seen in this work with reference to the work of 1980s postmodern architect Michael Graves. Source: Courtesy of Pablo Bronstein and Herald Street, London.

drawings produced often portray designs such as clocks or furniture. We see this in works such as the drawing 'Monument' in the 'Style of Michael Graves on the Debris of The Bastille' (2006). In this drawing, a depiction of a small-scale building is rendered in the style of the famous postmodernist, Graves, but relocated to the eighteenth century and represented in a ruinous setting. Another work of note is Bronstein's built structure 'Beach Hut in the Style of Nicholas Hawksmoor' (2014). This installation sought to reference the great eighteenth-century architect, Hawksmoor, combining references to his buildings, the beach hut vernacular and a lighthouse. It stands 10 metres tall and was a permanent commission for the town of Folkestone as part of the 2014 Folkestone Triennial.

Although drawing can obviously be read as a physical operation, Bronstein's role-play is more cerebral. The artist has often referred to his practice as emerging from the process of viewing art history as a singular plane on which historical ideas and styles can be rearranged at his own command, a performance of acquisition as much as invention.[64] It is a process that resonates with Schneider's interest with re-enactment as an attempt 'to literally touch time through the residue of the gesture or the cross-temporality of the pose'.[65]

**10.8** Pablo Bronstein, four alternate designs for a lighthouse in the style of Nicholas Hawksmoor, 2014. Ink and watercolour on paper, artist's frame. A drawing showing several options for the design of the lighthouse that was constructed as part of the Folkestone Triennial in 2014. Source: Courtesy of Pablo Bronstein and Herald Street, London.

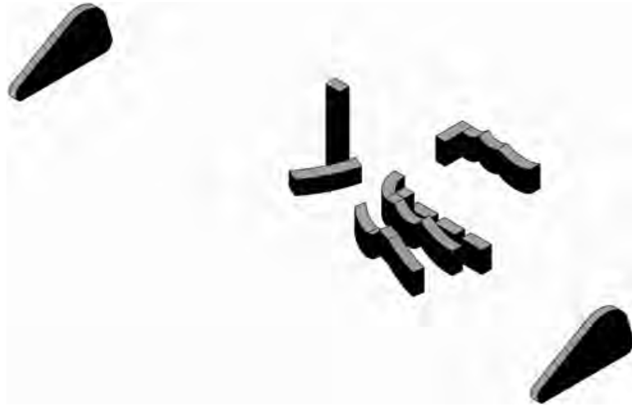
This process of re-enactment or role-play also allows Bronstein to disrupt certain ideas about how architecture has traditionally been designed. First, it does this by allowing him to create fantastical spaces and buildings that are not limited in their ambitions or scale through traditional design constraints such as client whims or costs. Instead, it is Bronstein's imagination within the space of the role-play that sets the parameters that determine the nature of the design. Second, the distinct methodology employed by Bronstein also allows him to step outside contemporary cultural mores around notions of taste – an action that allows him to disrupt associations we have to the buildings and environments that surround us. Art critic Kirsty Bell states how Bronstein's designs respond on a number of levels, historically, culturally and architecturally: 'Though escapist fantasies on one level, these works are rooted in a relentless probing of the architectural realities that determine our everyday urban surroundings. What is our relation to these buildings, or to the history they represent; what is our responsibility towards them, and how do they affect us'.[66] Through the juxtaposition and re-representation of our cultural and architectural histories, Bronstein forces us to re-evaluate

what our aesthetic, economic, political and social relationships are to the cities we inhabit. The designs ask us to consider why our buildings look like they do and why this is important to us. In this sense, more than any other, they offer a liminal and transitory space to reflect on and inhabit, simultaneously, our past and our present.

Re-enactment in 'The Silt House' could be said to manifest in two ways. The first exists, as suggested above, in the action of the mime as seen in the practice of Eisenman. In 'The Silt House', this 'mime' exists in the methods of tracing Abraham's drawing to establish a specific grammar to his work which is reinterpreted in a different time and place, in the form of the building. Second, and perhaps more critically, it is manifest in a set of drawings that were completed for the project after the main design of the house had been devised. The purpose of these drawings was to elaborate further on the project's narrative and to communicate ideas that were integral to the work but not necessarily made explicit within the initial set of images. These new drawings were principally set up to reflect the images that architect and theoretician Bernard Tschumi produced for his project 'The Manhattan Transcripts' from 1973. Consisting of a series of intricate and complex drawings, 'The Manhattan Transcripts' explores the notion that the city can be viewed as a stage set, framing and controlling the complex actions of movements of bodies through space. Simultaneously, the project also proposed that these movements in turn actually create and construct space. The project is instrumental in demonstrating one of Tschumi's key architectural principles that 'the future of architecture lies in the construction of events',[67] as 'there is no architecture without action, no architecture without event'.[68] The drawings in 'The Manhattan Transcripts' communicate these ideas by representing and illustrating the movements and trajectories of imagined figures and characters as they move through the city of New York – trajectories that are in part controlled by the nature of the urban fabric of that city, such as alleyways and the Manhattan grid. To represent the idea that the journeys of these bodies should be read architecturally, the particular movements illustrated are projected three-dimensionally as black graphic notations, fixing the movement at a point in time by drawing them as solid architectural entities that resemble walls. In setting out his reasoning for this work, Tschumi often refers to a performance of choreographer Lucinda Childs dancing in Philip Glass and Robert Wilson's contemporary opera *Einstein on the Beach*.[69] In a 15-minute section of the opera, she runs diagonally in a single line backwards and forwards across the stage. For Tschumi, in this action, she was not only a body moving through space, but also a wall or element of architecture, her blurred and continuous movement forming a distinct physical line in space. In an interview with the *New York Times* in 1999, Tschumi reflected on this performance: '"I like staging the movement of people in the building," he says. "You may remember, in 'Einstein on the Beach', Lucinda Childs doing diagonals for 10 minutes. She became a piece of architecture herself"'.[70]

In the drawings of 'The Silt House' that seek synergy with Tschumi's 'The Manhattan Transcripts', a series of black and grey notational elements depict possible movements of occupants or bodies as they journey through the rooms and spaces of the building. These notational elements are shown isolated from the building as if floating in a white space. Here, the drawing shows the specific trajectories of movements that weave in and around the drawing surface, acting as traces for the building's formal and spatial complexity. These graphical elements reference directly the drawing style used by Tschumi in 'The Manhattan Transcripts' and help delineate the undulating surfaces of the building's floor plate which would create a distinct obstacle and resistance to those that occupy it, forcing them to be aware of their body through adjustments that they would need to make to their balance as they navigated the structure. In addition, solid oval shapes appear in the drawings. This architectural notation of a cut through a solid form depicts the sediment that would be present having built up in mounds over time on top of the main structure. Where frames of a film represent a specific moment in time caught within the confines of the lens, so these drawings show the build-up of mud at a specific moment at that location, the sediment's presence forming a representation of the fluctuations which exist with the tidal movements of the estuary – a representation of the performance not of bodies in space but of the daily rise and fall of the tide.

Where the processes used to develop the specific architectural language of 'The Silt House' were analytical and precise, these drawings are more playful. Closer to Bronstein's association of his practice as role-play, they are created by imagining how the spaces would be used and how they change and respond at different times of day and through the year. The conceptual and theoretical complexity these drawings devise through their association with 'The Manhattan Transcripts' was only possible by reflecting on the finished design of the building. Where the 'mime' of Abraham's projects was integral to the design process, the relationship to Tschumi was developed as a means for me to undertake a process of self-reflection to consider the work. The process of re-enacting or role-playing the work of Tschumi was an action that enabled a greater understanding of how 'The Silt House' would control the actions and movements of those who would inhabit it, and how the building would inhabit the landscape.



**10.9** Silt House drawn as if part of the 'Manhattan Transcripts' development, 2015. Digital drawing. The purpose of the drawing is to create further reciprocity with the work of the avant-garde and the Silt House, in particular to draw out latent relationships between ideas that can be seen in 'The Manhattan Transcripts' (1976–81) by Bernard Tschumi. © Matthew Butcher.

**10.10** Silt House drawn as if part of the 'Manhattan Transcripts' development, 2015. Digital drawing. © Matthew Butcher.

In 'The Silt House' project and the work of Bronstein, we see specific methodologies of design that are enacted through certain operations of the performative, principally the act of role-play. In both instances, time and history become elastic entities, operating on a 'flat plane'. This practice enables a distinct creative process while also allowing the artistic and design intentions incurred to gain critical meanings through their association with certain historical architectures. Here, the process of re-enactment and role-play is, as Schneider notes, 'like language itself, vehicles for access to the transitive, performative and cross temporal real'.[71] It is this process of re-examination and re-enactment that allows events, objects, historical styles and artefacts to exist in a never-ending process of reinvention, re-contextualisation and, critically, reflection.

## Conclusion

'The Silt House' acts as an architecture of slowness, embodying processes that seeks to stop the continuing sensation of the pressures of time – forefronted within specific and ongoing doctrines of modernity that continually project us forward without critique or space for contemplation. This condition is manifest in the service of capital, the expense of our natural environment and conditions that seek to negate the space for individuals to feel agency, or the free will necessary, to question and reflect on their lives or the systems of governance they exist within.

'The Silt House' challenges this through its deliberate relationship to the landscape. The slowness exists in the way the architecture offers us a unique formal, material and spatial language that embraces conditions of the environment and frames and highlights the daily cyclical movements of the tide in the Thames Estuary. Internally, this occurs through the undulating surface that mirror the river's silt bed, whilst externally the concrete walls act as a canvas for the tidal changes. This process provides a different model of inhabitation of this landscape, making those experiencing the architecture more aware of their location and the daily and seasonal movements and actions of the river. Within this context, the project sits in opposition to the proposed large-scale infrastructures and dams which negate any direct experience of the effects of climate change: permanently separating the land from the river to maintain a situation that would require further reliance on technological advancements – advancements that have led directly to the climate crisis.

This slowness is also present in the distinct methodologies used in the design of 'The Silt House' – methodologies that take historic architectures and reconfigure their intrinsic qualities within contemporary political, social, environmental and cultural contexts. Through the use of these methodologies, the design practice of the project shows an alternative approach that transcends the didactic separation between what is considered past and present and the idea that time must follow a linear path.

It is a practice that has also been shown to have been present historically in the work of architects Raimund Abraham, Peter Eisenman and others from the late avant-garde, as well as in other art disciplines,

in particular in performance and art practices that utilise ideas of re-enactment and role-play. Through this analysis, we have been able to understand the meanings and actions of these other architects and artists to embellish further and to prove significant the ambitions and meanings of the process of development in ‘The Silt House’.

Within these contexts, ‘The Silt House’ represents a unique approach to design research that creates greater synergy and reciprocity between the disciplines of design and those that are considered historical and theoretical – a condition that is analogous to the desire for ‘The Silt House’ to form a greater reciprocity with the environment of the Thames Estuary. In doing so, the project presents a very specific model for practice, and creates an architecture that asks us to engage with processes of a slow and considered reflection, whether on history, the fragility and poetry of the passing of time, or the process of change that occurs within the natural environment. In this capacity, ‘The Silt House’ offers an original provocation against narratives of progress and efficiency, and it demonstrates why an architecture of slowness is vital if we are to pause, reflect and embrace an alternative way to engage with our environment.

## Notes

1. Hilde Heynen, *Architecture and Modernity: A Critique* (Cambridge, MA: MIT Press, 2009), 4. This fascination with efficiency and progress was central to the early modern project. Historian Hilde Heynen, writing on this ethos, states that for designers and architects working within the context of modernity, ‘functionalism was an evident requirement’ and that ‘their notion of design [. . .] was dominated by the needs of industry and mass production’.
2. Heynen, *Architecture and Modernity*, 14. Outlined in Heynen’s analysis of modernity is the premise that central to the project was the promise of emancipation and liberation.
3. Douglas Spencer, *The Architecture of Neoliberalism: How Contemporary Architecture Became an Instrument of Control and Compliance* (New York: Bloomsbury, 2016).
4. Spencer, *Architecture of Neoliberalism*, 163.
5. Spencer, *Architecture of Neoliberalism*, 162.
6. Spencer, *Architecture of Neoliberalism*, 161.
7. Bruno Latour, ‘An Attempt at a “Compositionist Manifesto” ’, *New Literary History* 41 (2010): 471–90.
8. In this essay, Latour refers to a wide range of certain philosophical and conceptual positions that could be construed as ‘moderns’, including those associated with the avant-garde art movements of the early part of the twentieth century that celebrated technology and ideas of progress. This should be seen in the light that not all those forming this avant-garde had belief in notions of progress and technology. Principally, this could be referring to the futurists who, more than any from this period, embodied these ideas. The notion also refers to all those from the Enlightenment onwards who have strived for an emphasis on notions of progress emboldened by faith in technology, reason and science.
9. Latour, ‘Compositionist Manifesto’, 486.
10. Latour, ‘Compositionist Manifesto’, 472.
11. It is worth noting that that my own desire for slowness sits in slight opposition to that of Latour who, in asking us to move slowly, requests that we ‘stop fleeing, break for good with our future, turn our back, finally, to our past, and explore our new prospects’. Instead, my slowness asks us to form a greater reciprocity to the past in order to move forward.
12. Leigh Glover, *Postmodern Climate Change* (London: Routledge, 2006).
13. Glover, *Postmodern Climate Change*, 1.
14. Glover, *Postmodern Climate Change*, 28.
15. Glover, *Postmodern Climate Change*, 28.
16. Spencer, *Architecture of Neoliberalism*, 161.
17. Heynen, *Architecture and Modernity*, 1.
18. Jean Baudrillard, ‘Modernity’, in *La Modernité, ou, L’esprit du temps, Biennale de Paris, Section Architecture, 1982* (Paris: L’Equerre, 1982), 22. Quoted in Heynen, *Architecture and Modernity*, 12.
19. Baudrillard, ‘Modernity’, 22.
20. Rebecca Schneider, *Performing Remains: Art and War in Times of Theatrical Reenactment* (Abingdon, UK: Routledge, 2011), 111.
21. Rose Lee Goldberg, *Performance Art: From Futurism to the Present* (London: Thames & Hudson, 2011), 248.
22. Goldberg, *Performance Art*, 248.
23. Goldberg, *Performance Art*, 248.
24. Bernard Tschumi, *The Manhattan Transcripts* (London: Academy Editions, 1994). Second edition, publication originally published in 1981.
25. This description of ‘The Silt House’ has been adapted from a previous text I wrote: Matthew Butcher, ‘The Silt House, A Lyrical Architecture of the Flood: Landscape, Infrastructure and Symbiosis’, *Architecture Research Quarterly (ARQ)* 19 (2016): 224–33. Also see this text for a more detailed description for ‘The Silt House’ and its relationship to the Thames Estuary.
26. Norbert Miller, ‘Imagination and the Calculus of Reality: Raimund Abraham’s Architectural Oeuvre’, in *Raimund Abraham: [Un]built*, ed. Brigitte Groihofer (Vienna: Springer-Verlag, 1996), 10.
27. Sarah Deyong, ‘Memories of the Urban Future: The Rise and Fall of the Megastructure’, in *The Changing of the Avant-Garde: Visionary Architectural Drawings*

*from Visionary Architectural Drawings from the Howard Gilman Collection*, edited by Terence Riley (New York: The Museum of Modern Art, 2002), 24.

28 Raimund Abraham, 'In Anticipation of Architecture, Fragmentary Notes', in *Raimund Abraham: [Un]built*, 102.

29 Raimund Abraham, 'The Silence of the Muses', in *Raimund Abraham: [Un]built*, 105. Text is a lecture given by Abraham for the international Competition for the New Acropolis Museum in Athens, 1991. See also Lecture at Athens School of Architecture, National Polytechnic, 20 March 1991, 108.

30 *Raimund Abraham: [Un]built*, 53–67. Raimund Abraham's '10 Houses' project existed as a series of 10 theoretical projects that were developed between 1970 and 1973. The drawings are particular in their use of coloured pencil and graphite, and all show isolated dwellings within non-specified landscapes.

31 See Butcher, 'The Silt House', 224–33, for a more detailed description of the relationship between 'The Silt House' and the work of Raimund Abraham.

32 The term 'neo avant-garde' is associated with Peter Bürger and his book *Theory of the Avant-Garde.* The term refers to cultural production that utilised forms from the historic avant-garde. The term 'late avant-garde' comes directly from K. Michael Hays. It is a terminology developed in order to separate his understanding of this period of architectural production from others. See Peter Bürger, *Theory of the Avant-Garde*, trans. Michael Shaw (Minneapolis: University of Minnesota Press, 1984), 148; and K. Michael Hays, *Architecture's Desire, Reading the Late Avant-Garde* (Cambridge, MA: MIT Press, 2010), 4–12.

33 Hays, *Architecture's Desire*, 2.

34 Hays, *Architecture's Desire*, 1.

35 In *Architecture's Desire*, Hays does not mention Abraham in his examples of architects manifesting the late avant-garde, alongside Eisenman, Tschumi, Rossi and Hedjuk. But it is difficult not to see him as having affinity with these other architects both formally and conceptually.

36 Hays, *Architecture's Desire*, 16.

37 Hays, *Architecture's Desire*, 3.

38 Text on Abraham adapted from an earlier text I wrote: Butcher, 'The Silt House', 224–33.

39 Raimund Abraham, 'In Anticipation of Architecture, Fragmentary Notes', in *Raimund Abraham: [Un]built*, 114.

40 Raimund Abraham, 'The Reality of the Unbuilt', in *Raimund Abraham: [Un]built*, 111.

41 Abraham, 'The Reality of the Unbuilt', 112.

42 Raimund Abraham, 'The Silence of the Muses', in *Raimund Abraham: [Un]built*, 108.

43 Peter Eisenman, *The Formal Basis of Modern Architecture* (Baden: L. Müller, 2006). PhD diss. reprinted from original submission to Trinity College, University of Cambridge, in 1963.

44 Andrew Benjamin, 'Passing Through Deconstruction', in *Critical Architecture*, ed. Jane Rendell, Jonathan Hill, Murray Fraser and Mark Dorian (London: Routledge, 2007), 41–7.

45 Benjamin, 'Passing Through Deconstruction', 45.

46 Benjamin, 'Passing Through Deconstruction', 45.

47 Stefano Corbo, *From Formalism to Weak Form: The Architecture and Philosophy of Peter Eisenman* (Farnham, UK: Ashgate, 2014), 2.

48 Corbo, *Formalism to Weak Form*, 24. Corbo in this quote is referring to the wider work ethos of the group of architects known as the New York Five, a group that included Eisenman, Michal Graves, John Hedjuk, Charles Gwathmey and Richard Meier.

49 Corbo, *Formalism to Weak Form*, 26.

50 Peter Eisenman, 'Post-Functionalism', in *Oppositions Reader: Selected Readings from a Journal for Ideas and Criticism in Architecture 1973–1984*, ed. K. Michael Hays (New York: Princeton Architectural Press, 1998), 10, quoted in Corbo, *Formalism to Weak Form*, 26.

51 Peter Eisenman, 'Lecture, Part 1 of 2'. Audio Recording of Lecture, *Giuseppe Zambonini Papers; Biographical and teaching (KA0130.01)*, 1977.

52 Hays, *Architecture's Desire*, 2.

53 Hays, *Architecture's Desire*, 11–2.

54 Environment Agency*, TE2100 Plan Managing Flood Risk through London and the Thames Estuary.* (London: Environment Agency, 2012) 30, https://www.gov.uk/government/publications/thames-estuary-2100-te2100 (accessed August 29 2019).

55 Originally, this idea was presented in Butcher, 'The Silt House', 224–33.

56 Benjamin, 'Passing Through Deconstruction', 44.

57 Schneider, *Performing Remains*, 2.

58 Schneider, *Performing Remains*, 30.

59 Emily Gosling, 'Pablo Bronstein on Art vs Design, and How Brexit Changed the Meaning of his Work', *It's Nice That*, 8 July 2016.

60 Schneider, *Performing Remains*, 183.

61 Catherine Wood, 'Human Chain', in *The Real and Other Fictions*, ed. Mariana Pestana (Lisbon: Trienal de Arquitectura de Lisboa, 2014), 65.

62 Latour, 'Compositionist Manifesto', 472.

63 Latour, 'Compositionist Manifesto', 487.

64 'Pablo Bronstein: A Fantasy-League Team of Architects, Columns, Cupolas and a Coffee Bar', *Frieze*, 6 May 2006.

65 Schneider, *Performing Remains*, 2.

66 Kirsty Bell, 'Pablo Bronstein Centre d'Art Contemporain', *Frieze*, 10 November 2013.

67 Bernard Tschumi, 'Six Concepts', *Columbia Documents of Architecture and Theory* 2 (1993): 93.

68 Bernard Tschumi, 'Violence of Architecture', *Artforum* 20 (1981): 44.

69 *Einstein on the Beach* was initially performed at the Avignon Festival in France in 1976. It has been restaged in various venues and with different casts since.

70 James Barron, 'Public Lives; An Architect with a Film Director's Eye', *New York Times*, 5 October 1999.

71 Schneider, *Performing Remains*, 30.

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# 11. A (drawn) practice(d) construction: Relational structuring, chased

Perry Kulper

First, a handful of things to get on the table: relational structuring is fundamental; architecture should be generous, creatively practiced and pithy; we need to be mindful of the history of ideas and our disciplinary participation with them; architects should think of themselves as cultural agents; and manifesting speculations through drawing practices courses through the developed and emerging mini-cosmologies – the work.

With these observations in mind, and to operate effectively in a rapidly changing global environment, the contemporary architect might need to be many architects – a hybrid species, agile and adept at morphing over and through time. This alternative breed could populate highly varied value structures while occupying multiple points of view, all the while inspiring cultural, disciplinary and personal aspirations, ethically located. Optimistically, this architect could be a new protagonist – one that is versatile and skilled, a kind of metaphorical fast-change artist, demonstrating expertise at occupying contested edges and dusty perimeters, and yet capable of turning on a dime.

Architecture is up to all kinds of things, historically, contemporarily and undoubtedly down the road. By structuring our experiences, it mediates our negotiations with a world, or worlds. Frequently, this mediation is articulated through the requirements of a functional programme, often articulated spatially with a sense of predicting a tightly bracketed and comprehensive range of spatial expectations and experiences. Could this be different? Might architecture mediate the more predictable realms of our spatial engagement, as well as provoking less certain and contingent occurrences? If so, architecture, or spatiality more generally, might be framed not so much to make sense of the events it gathers, but rather the mediation of those events might allow the occupant to co-construct her, his or their participation with the situation, whether it be real or represented.



To speculate on the spatial and drawn implications of these territories, three primary techniques have grounded my inquiries: a notational means of drawing that provides a visual framework for working – often comprised of visual fragments, evidence, samples as it were, gathered from varied sources, in which a range of ideas can be supported and pursued towards a design proposal; augmenting conventional vocabularies of architectural practice by inventing tailored terms – a use of language that encourages speculative practices and reroutes oft overused words such as programme, site and context; and, when appropriate, to think and work through analogues – that is, through relational likenesses that might be formal, material and/or operational. By using language creatively, by thinking through varied kinds of similarities, and by inventing means of drawing for the sorts of occurrences that are slippery and that resist easy articulation, exploring implicit and explicit representational and spatial communication becomes more accessible in the process of designing. This approach invites less cohesive ideas into the architectural equation by supporting fragments – pieces of metaphorical and real evidence that might evolve into synthetic but slightly indeterminate wholes in the course of developing a project. Importantly, these working techniques have enlarged what might be possible conceptually, spatially and experientially.

The foundations of architecture are strong. Broadening its foundations from the edges remains an implicit ambition – tickling the margins, the slightly promiscuous and off-leash realms, to feed the centre, augmenting spatial and representational production while avoiding forms of communicative reduction remain critical to this goal. Given the complexities of situations, both real and conceptual, these reductions are frequently linked both to the aftermath of American architect Louis Sullivan's now infamous axiom, 'form follows function', coined in his essay 'The Tall Office Building Artistically Considered' (1896), and to approaches that lead to autonomous architecture. Parenthetically, respect for these approaches is paramount. But the hope is to offer something different. My efforts attempt to impact how we think about architecture, how we educate architects to be and how we produce spatial realms. Ultimately, the aim is to augment, maybe even to help in overcoming problem-solving mentalities while at the same time challenging reductive forms of thinking – and homogeneous idea formations and approaches to making architecture.

## Constructing (a) practice(s)

To construct a practice requires an active involvement, establishing a discipline to encounter, alongside others, some of the aforementioned areas for consideration. As parallel allies in said construction, the amateur and the detective have played informative roles. Thoughts about the wilderness, metaphorical and real, lie nearby.

The amateur is considered to be the ideal balance of one who thrives on pure intent, maintains an open mind and develops a real interest or passion for a subject. This working definition spans an array of fields of interest and practices, across a range of cultures. Parenthetically, a key definition of the amateur may have its roots in ancient Greek philosophy and the accompanying values that enabled amateur athletes to compete in the Olympic Games. Unlike a contemporary focus on specialisation, the ancient Greek citizens would spend most of their time in other pursuits, and would compete according to their natural talents and abilities – making the roles of the amateur a viable and even necessary form of cultural construction.

Upon reflection, much of the thinking is buoyed by the influences of an amateur. Often, practices are unhinged from forms of expertise, or real knowledge, and are rather motivated by a willingness to probe relationships amongst things, known and discovered, in the course of making a body of work. In equal part, the work of the detective – in this case not a member of a law enforcement agency, but rather someone who collects evidence to implicate possible crimes – has been a metaphorical engine for putting parts, fragments and ideational and visual evidence together, anticipating a plausible and sometimes indeterminate whole. Here, an emphasis is placed on world building, producing a cosmology of sorts – one that is uncertain about what the metaphorical crime or crimes might attempt to make sense of. Part of the construction of practices is also linked to thinking about the wild – the wilderness, in part understood as a place for spatial and representational innovation, overcoming that which has been domesticated, normalised and stripped of a sense of the bewildering – establishing a place in a project for harbouring the unforeseen, the unknowable and that which remains at arm's length.

In the early days of developing a practice, following the lead of others was the norm – attempting to untangle curiosities and learning in rich environments while trying to find a way through the deep fissures of education, the profession and discipline. Eventually, I started thinking around things, up the sleeve of things – teasing the roles of mischief and shenanigans, and occupying the margins while trying to keep focused eyes on the ball. Oblique views were as much at home in some of the thinking as those things seen frontally. On this front, Robert Venturi and his now infamous book, *Complexity and Contradiction in Architecture* (1966), remain of real import. Venturi advocated for things that are both/and, multiple and ambiguous – a kind of messy vitality as it were, prompting many ways into a world. His influential book, alongside other outsiders, particularly from the art world, got me thinking about reframing what it means to practice – developing a kind of discipline where one might live multiple, or parallel lives – a kind of magnetic field where many amateurs and detectives could be composited into a multi-character, always on the hunt for effective engagement and transformation, in a wilderness. In this light, some foregrounded considerations for developing a way of practicing include: increased cultural, disciplinary and ethical responsibility, articulating and activating relationships that value the differences as much as the similarities between the discipline and profession; how one might frame things, let's say so-called content, outside programme, and contextual considerations – and default assumptions about them; and how to go about constructing a practice, or multiple practices, in a world that is constantly shifting gears.

A few other active ingredients for constructing a practice include: innovative architectural drawings and their varied generative capacities; implementing diverse design methods to increase a designer's agility to act differently in varied situations; and broadening the conceptual frameworks through which we imagine architecture to be possible. Interests in the roles of formal and programmatic typologies, in expansive material possibilities for spatial settings and in learning from other disciplines lie nearby. From a disciplinary standpoint, negotiating three core areas remains fundamental to constructing a practice: forming relational thinking, exposing and exploring the roles of paper or unbuilt architecture and probing the generative potential of architectural drawing.

Other things on the table for consideration in the construction of a practice include: unpacking things named – attempting to overcome the inherited limits of typological categorisation by thinking about how things are structured in addition to what they are called; understanding the varied roles that the constituent parts of a body of work play, for how long and with what kind of weight do they participate – the 'mechanics of engagement' as it were; capitalising on the advantages of developing language folds – pithy words and phrases, a part of a design practice, that might lead to thickened and enriched ideational frameworks in a project; tailoring visualisations to engage the interests, stakes and phases of a project more effectively; and including a greater range, a heterogenous

attitude, of ideas in a body of work – and as a result enlarging what a project might discuss while increasing and diversifying the audience range for the work.

In a way, many of the objectives parallel those of design thinking – namely, developing working techniques to consider loosely defined and diverse ideas while identifying sensitive responses to a range of temporally active variables in particular situations. I occupy centres, margins and in-betweens, on the prowl for meaningful design propositions. In the work, design is dynamic and non-linear, and the relations between making and thinking are blurred – this loss of a binary relationship enables disciplinary crossings, unexpected liaisons and forms of practicing that effectively enlarge the scope of architecture. Seemingly strange feedback loops, tangled conduits and unexpected and off-leash opportunities are more than welcome as a body of work develops.

And at the risk of redundancy, I will underscore the importance of relational thinking as a fundamental principal that grounds forms of practicing – thinking in terms of relational contours, or relational assemblies, structured temporally. This thinking involves considering objects, events or conceptual frameworks as structured relations, situated, somehow. A Dixon Ticonderoga wooden pencil, for example, is both a thing and is related, depending on its situatedness, in different ways to: the history of writing; to our bodies and gestural structure; to deforestation; to mass production; to other objects that dematerialise over and through time; and to censorship, as structured by the eraser. The architect effectively structures relations, representational and spatial, of varied types, weights and durations, over and through time. The aspiration is that a strong commitment to relational thinking, in its depths, allows me to work more effectively in different situations.

## Drawing practices

The architectural drawing remains important to relations established between different forms of spatial and disciplinary knowledge – relationships that are increasingly relevant as disciplinary silos are demolished, and knowledge across disciplines is shared and integrated. Teasing expanded relations through the accumulation of different languages of representation in some drawings is of increasing import. In many drawings sampling things, making collage-like assemblies is essential – a point that I will return to. The enlarged field of relations established by varied techniques of visualisation includes associations to phenomena external to a project, to indeterminate conditions and sometimes to pragmatic practices, perhaps realigned. Activating these relations by developing figurative and non-figurative drawing elements, including language, indexes, notations, diagrams and appropriated imagery, has gained increased representational potential. This approach to drawing affords the opportunity to: consider heterogeneous ideas, held in play, simultaneously; examine the possibilities of the connotative and denotative potential found in appropriated thought and image fragments; move between vague hunches and intellectually grounded certainties; and disclose possibilities about what spatial propositions and drawing practices might co-construct, to the mutual benefit of both.

In parallel, drawn spatial speculations, or paper architecture, are of another kind of significance, import and influence. Frequently motivated by injecting noise into the system, into architectural discourse or by probing personal ambitions, this form of architectural expression has substantial disciplinary impact – real staying power. Historically, the value of paper architecture is constructed through the iconic architectural propositions of visionary architects looking to make a difference, representationally, spatially and culturally. A few influential architects include luminaries such as the Italian artist Giovanni Battista Piranesi (eighteenth century), the French architects Claude Nicolas Ledoux and Jean-Jacques Lequeu (both around the eighteenth century) and more contemporary architects such as Archigram, Superstudio, Archizoom, Zaha Hadid, Lebbeus Woods and Neil Spiller. In its capacity to augment the necessary functions of architecture, paper architecture advocates for something new, for something different – for other forms of communicative significance that frequently upend what we take for granted. These practices are fuelled by the freedoms that accompany the languages of drawing, where the real and unreal meet, and where material is conceptual, where relations to gravity can be relaxed and where references to so-called time are malleable.

Paper architecture has served as a critical transitional phase for contemporary architects such as Peter Eisenman, Zaha Hadid (died 2016), Neil Denari, Daniel Libeskind and Rem Koolhaas as they moved from the practice of drawing to materialising architecture. Humbly, some of my drawn architectural and object proposals might act as springboards for actual architecture or spatial proposals. In equal part, the drawings are considered to be things in and of themselves, full of potential as objects in the world, regardless of their anticipation, or not, of spatial makeup. Germane to the activities of the architect, this understanding of the spatial drawing as both the content and site for working offers another

potential for architectural drawing – prompting an entirely different set of possibilities about what a project might discuss.

While in some cases changing before our very eyes, it is still the case that architectural ideas must be represented. Typically, this happens through the conventions and traditions of drawing and model making. Drawings and models, however, are not inert tools used as a default interface between ideas and building. Rather, the means by which we represent architecture, and the ways in which those techniques are used in the design process, disclose particular values, ways of thinking and of putting those ideas into action. Forms of representation are ethically loaded and should not be taken for granted.

And while I believe in the agency of conventional or traditional architectural drawings, those drawing types are not always appropriate to the tasks set for design. As a result, adjustments in drawing techniques and design methods to design effectively sometimes occasions invented representation techniques, and even design methods. Giovanni Battista Piranesi's Carceri, the prison etchings (c. 1749–50), emphasised this point by reflecting the politics of his time by incorporating recognisable symbols and tropes of the day, creating communicable narratives out of them through a non-perspective-based drawing type.

I share prolonged efforts through drawing with the lineage of many architects who have used them to debate political, social and situated conversations through architectural speculations. Such forerunners include: Daniel Libeskind's 'Micromegas' (1979) and 'Chamberworks' (1983) – two suites of drawings, numbering 10 and 28, respectively – that materialised his thinking about the nature of architectural space; Carlo Scarpa and his work from the middle of the twentieth century that occupies the literal and metaphorical margins of the architectural drawing, enabling other conversations to enter the primary figures of his architectural proposals; and Hugh Ferris's renderings (early and middle twentieth century) that depicted the architectural ramifications of zoning laws in New York, sparking debates about urbanism and the implications of regulatory bodies on space and its resultant social constructions.

## Specifics

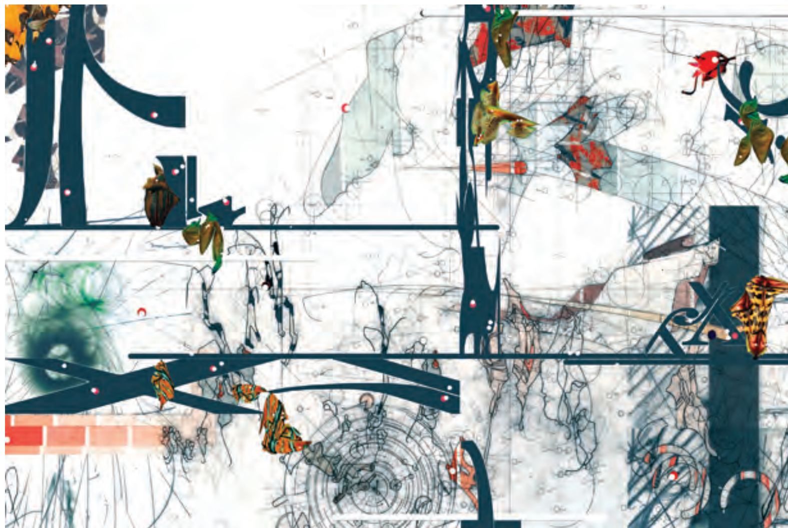
Drawings are made at different speeds. Some of them tweak our ingrained expectations, challenging default assumptions about what might be considered in drawing practices. Frequently, they afford reflections about the tools and techniques we utilise to design, frequently useful as one attempts to transform the construction of a drawing practice. The early fast drawings take the visualisation of speculative landscapes on as a programmatic motivation. Numbering 750, they expand an understanding about what might comprise landscape realms by sampling various materials, drawing techniques and motivations. They are made on two layers of 18″ × 24″ white tracing paper and are made quickly – normally accomplished in one to two hours. As a form of visual research, they are made in groups or series. And as an unintended by-product, many inform more deliberate work on architecture and landscape, exploring spatial and representational issues linked to materiality, colour, composition and landscape interests – a perspectival sky, a monochrome landscape, a double horizon and a fungal landscape, for example. They are speculative and made non-judgementally.

## Speculative houses, gardens+landscapes, also fast

Inspired by the combinatory possibilities of cut-and-paste procedures in Photoshop, and comprised of appropriated and manipulated image fragments or samples, some recent images for speculative houses, gardens and landscapes (figures 11.1 and 11.2) – numbering 150 – discover the potential of a few simple Photoshop operations. Unlike the physical drawings, these images are structurally similar but technically are digital collages. Also accomplished in short periods of time, normally one to three hours, they probe what might be possible if the work considered programmatic elements, speculatively – in this case that of domestic, garden and landscape realms. Using the wand tool to collect fragments, a form of sampling par excellence, of appropriated images – mine and others – these bits speculate on what might be spatially possible by assembling a type of evidence field towards spatial and material innovation. They are imagined as plan-ish in orientation.

Partially a result of working quickly, and without making heavy judgements along the way, a number of useful things evolved in the production of these images: a broadened range of formal and material possibilities grew quickly; issues hinged to variations in repetition – the cut-and-paste realm – was grist for the design mill; the image and spatial potential of the history panel – turning layers on and off, and getting behind the images scenes as it were – became a source of generative potential; the creative capacities of things such as file sizes, degrees of resolution and scaling opened new doors; the value of impromptu decision

11.1



**11.1 and 11.2** Perry Kulper, 'Establishing Shot; Deep Mused', speculative houses, gardens and landscapes, 2017–8. Digital collages. Curious about cut-and-paste operations, these digital collages open what might be spatially possible, by expanding formal and material vocabularies with a few simple Photoshop operations. Triggered by programmatic elements, in this case domestic, garden and landscape realms, these bits of downloaded, cropped and assembled visual evidence speculate on spatial and material possibilities, are plan-ish in orientation and are accomplished in short periods of time, one to three hours.

making; and discovering ideas rather than proving them, all came front and centre. Things such as the possibilities of using the invert tool and magic-wand operations contributed to an expanding sense of what was possible. Importantly, this way of working has enabled a reframing of what domestic, garden and landscape environments might be like, broadening a conceptual imagination about what might be spatially discussed in formal, material, programmatic and operational or making terms.

## Vertical surfaces, medium speed

This work utilises the architectural drawing to produce a collection of drawn, speculative vertical surfaces, or let's say architectural envelopes – they are meant to be varied and are intended to open a range of formal, material and disciplinary possibilities. Having identified six prospective surfaces, two of them have been drawn (figures 11.3 and 11.4). The interests in the six prospective surfaces emanate from varied analogical inspirations, including references to: M. C. Escher and the transitional figure, or morphological shifts from figuration to patterning; Chinese landscape paintings and multiple points of view, alongside cross-temporalities held together in the same view; games and puzzles, gone vertical to suggest forms of spectacle, change and dynamic projection in urban situations; optical devices that promote scalar shifts, alternative understandings of the figure and the hybridisation of surface and object; and to things in constant states of change, flux or transition, at different speeds.

The first vertical surface began by exploring the possibility of appropriating fragments of my own work – parts of the David's Island 'Strategic Plot' – now re-contextualised – to generate a prospective surface, or an image, a kind of speculative working drawing. With limited ambitions, the construction of the drawing provided latent opportunities, exploited and visualised in the drawing of the surface, where the technique of drawn production and architecture might be blurred. In the second version, a vertical surface, studying things such as magnetic resonance imaging scans and x-rays are explored for their representational and perhaps spatial potential. Here, characteristics that might become surface articulations, disclosing things otherwise unseen or undetectable – on both the surface and in the interior to which the surface points – are visualised in the space of the drawn and collected fragments. In both drawings, the primary ideas are augmented by the visual argument that is discovered in the act of making the drawing – opportunities for thickening the content of the work through the production of the drawing itself are explored.

**11.3** Perry Kulper, 'Promiscuous Fragments', vertical surface, v.01, 2016. Mylar, cut paper, transfer film, tape, graphite. 'Promiscuous Fragments', v.01, developed from an interest in developing thinking about urban architectural envelopes. Utilising fragments of an earlier drawing, the David's Island 'Strategic Plot', this constructed drawing challenges problem-solving approaches that favour the acceptance of a given problem. Rather, this work pursues a rigorous discipline where design opportunities are discovered, exposed and worked with towards design innovation.

**11.4** Perry Kulper, 'X-Rayed Vision', vertical surface, v.02, 2018. Mylar, cut paper, tape, graphite. 'X-Rayed Vision', v.02, considers medical visualisation techniques such as x-rays and magnetic resonance imaging scans, deployed analogously, as a way to speculate about an architectural envelope, or a building skin. Utilising sources as diverse as a lecture poster, downloaded x-ray images and cut paper, the assembly is worked on quickly without heavy judgement to open conceptualisations about what a possible architecture might be like.

Unlike problem-solving approaches that favour the acceptance of a given problem, working within the given parameters until the problem is worked out and a solution produced, this work operates under a different logic. Here, a rigorous discipline is established where design opportunities are discovered, exposed and worked with towards design innovation. The work of design is seen as fluid, capable of embroidering and fusing making and thinking as a synthetic practice.

## Aerial diptych follies, medium speed

The pair of analogical Aerial Diptych Folly drawings (figures 11.5 and 11.6) speculate on a kind of aerial theatricality inspired by surrealist techniques. Here, fictionalised narratives and histories, projected to exist in unspecified years apart, are carried out by invented didactic instruments – seemingly purposeless objects, allegorical follies as it were, cavorting about as aerial spectacles. The flying objects are sensitive to the presence of the other sky-borne follies, but are detached from one another at the same time. Collectively, they structure interactive combinations of distinctively different paired worlds into plausible but indecipherable wholes – opening the creative potential of the object instruments and the events to which they might refer, and might falsely (re)construct, temporally.

The development of these aerial follies also trades on analogic thinking, looking to visualise formal, material and entourage-like elements to structure ideas for the aerial acrobats visually. The images are meant to prompt a suggestive and provocative sense about what the follies are, alongside what they might become, in visually constructed environments to which they might belong. Using appropriated and constructed parts of downloaded images and cut paper, the images are promiscuous by nature, implicating connections that might not directly refer to the interests of the project, but that might hold potential – on which the work might trade as it progresses.

## The value of slowness

The slow drawings are more comprehensive than the fast drawings. Their construction establishes the grounds for more fully fleshed proposals for architecture and landscape. Imagined as mini-cosmologies,

**11.5** Perry Kulper, 'Angles of Incidence from the Ruby Sweep', Aerial Diptych Folly, v.01: analogic working drawing, aerial, somewhere, 2017. Cut paper, digital collage. The Janus-faced assemblies conspired. Their motives were pure, honest, unadulterated maybe. They snooped around for false histories, collaborative orbits and artificial mythologies – sometimes they gyrated aimlessly, rhythmically scripting the horizon.

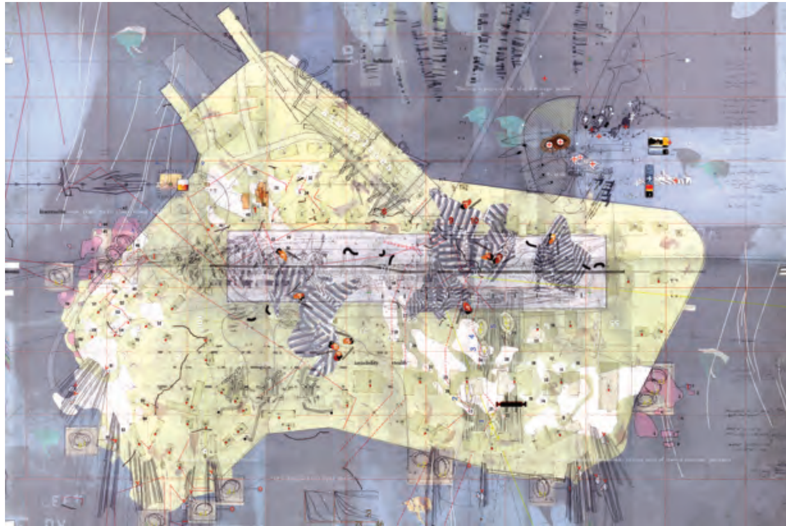
**11.6** Perry Kulper, 'Chromatic Triplets: Over-near the Marbled Canary Observatory', Aerial Diptych Folly, v.02: analogic working drawing, 2017. Cut paper, digital collage. Toiling undercover the purple gradient mapped aerial acrobats floating, parading, masquerading about – what they were up to was hard to tell, apparently something. En route, the light crafts carried out their individual errands circumventing an estranged albeit metrically sized-up feathered friend. Cardinal Lory, who was always micro-processing the heights at which they might negotiate altitudes, attitudes and trajectories.

the drawings cultivate a world of ideas and spatial speculations where pockets are emptied, a multitude of ideas and visual elements allowed to interact, affording an open wondering about a project's potential. When working on these kinds of drawings and their related projects, I raise specific questions about the timing of design decisions. Some ideas or questions matter now, some matter later – perhaps some matter now and later. I tailor the representation techniques and deploy design methods in search of an appropriate fit between what's being worked on, when it's being worked on and how it's being worked on. In addition to using conventional drawings, developing other kinds of drawings that are task specific has been beneficial – some parts of the drawings are more abstract and some are more figurative, and still others use multiple languages of representation, frequently at the same time.

While the kind of work they will do is partially anticipated, the ultimate destinations of these drawings are not foreseen or planned in advance. Rather, they are assembled, and drawn out, using all kinds of samples, and visual evidence, to trigger a relational field that puts key interests of a project into play and discovers others – all the while avoiding a crisis of reduction, or reducing things too quickly while designing a project.

The drawings are varied in intent and include: thematic drawings that visually establish the topics for a project – a cosmology of ideas, frequently articulated visually as non-scaler and non-hierarchically organised, setting the preliminary ambitions or scope for a piece of work; strategic plots (David's Island 'Strategic Plot'; figure 11.7) that visually plot things over and through time – these drawings are often comprised of diagrams, notations, indexes and language, and pursue temporally active and changing conditions; aspectival drawings (Central California History Museum, 'Aspectival Drawing, Proto-Formal Section'; figure 11.8) that establish the figurative attributes or aspects of architecture without relying on the synthetic resolution of perspective drawing – here, there might be 'gaps' in the drawings, and in the architectural features to which the marks point; and cryptic drawings that visualise the genetic or chromosomal characteristics of a spatial proposition – the cryptic marks are not yet figural or even recognisable architecturally, but are full of formal, organisational and programmatic implications. Collectively, the drawings are developed as an important component of the construction of a practice.

Early in a project, thematic drawings are often made to establish the range of topics or ideas for consideration in a spatial proposition. Describing the thematic drawing for the Central California History



**11.7** Perry Kulper, 'Strategic Plot', David's Island, New Rochelle, New York, 1996. Mylar, cut paper, transfer film, x-rays, tape, graphite. This drawing oscillates between a concrete spatial proposal and notations for further architectural and landscape development. Deploying drawn figurative and abstract marks, notations, indexes, cut paper, and language, representation borders are opened to sustain a more fluid ideational, critical and material scope for the project, avoiding the crisis of reduction. Tactically disposed, and pointed to in the plot, spatial and material messengers interface with the history, physicality and projective aspects of the island, sea and mainland. In the plot, a variety of new event infrastructures prompt a tensional play between tyrannies of control and borderless wandering.

**11.8** Perry Kulper, 'Aspectival Drawing, Proto-Formal Section', Central California History Museum Competition, Fresno, California, 2006. Mylar, cut paper, transfer film, paint chips, tape, graphite. This drawing type evolved as a way to relax expectations about the need of the architectural and landscape design elements to emerge in unison as the design process unfolded. It structures aspects of possible proto-spatial configurations. The drawn fragments challenge the continuous spatial preferences established through perspective constructions and open the potential for punctuated spatial make-up. Like other aspectival drawings, the role of this one is to structure the genetic or chromosomal characteristics of specific elements of the eventual spatial proposition visually.

Museum competition, for example, visually articulates the range of topics that belong to the project, establishing a relational ecology of marks, language and found imagery that were foundational to the scope, and to the formal, material and programmatic implications of the design proposal. The visualised topics range from the everyday practices and cultural expectations of museums to curational practices and optical connoisseurship to an aesthetic, historic and scientific understanding and articulation of collections, and to the real and rhetorical spatial potential of the nine Greek muses, etymologically linked to the museum typology.

This way of working values the construction or visualisation of explicit and, importantly, implicit information. In parallel to the content of a project, the drawings and their construction are a form of design rehearsal, staging a range of relational conditions, while capitalising on the optical and design intelligences of the architect. The location of figurative marks, the use of colour, font choices and the proximity of one part of the drawing to another are seen as constituting – or drawing out – a design practice. As with many drawings, the visual argument complements the intellectual and ideational positions. Drawings trade on explicit meanings and latent potential, considering the value and possible connections of things that might otherwise be stranded from one another. They augment traditional styles of thinking and drawing approaches through composite or collage-like techniques – akin to visual curiosity cabinets. The techniques open programme-based thinking, they support multiple families of ideas and they enable speculations about what it is about architecture that the architect might draw – or draw out.

Etymologically, a number of influences can be traced in the drawings. First, and likely foremost, is the sixteenth-century Wunderkammer, or cabinet of curiosities – an early precursor to the museum, and arguably linked to things such as the Internet. Here, a range of objects, often from varied and distant geographical contexts, including natural history,

archaeology and geology, were brought together, constructing an otherwise impossible world while demonstrating a patron's worldliness. The analytique drawing type developed during the heyday of the nineteenth century, Ecole des Beaux-Arts in Paris, is also a cousin, albeit a bit distant. Here, key elements of a building were brought together in a drawing, conferring more relational knowledge on each of the parts of the representation than would otherwise be communicated through individual drawn elements – the drawing(s) ultimately pointing to a synthetic whole. The import of the work of the surrealists, in the early twentieth century, particularly linked to automatic writing and to the exquisite corpse, can't be overlooked. Here, chance, indeterminacy and unexpected outcomes were brought into the equation, frequently explored by techniques that used evidence or partial accounts from other worlds, linked to produce an often improbable but plausible whole. Frequently, their work was not so striking in the individual elements, but rather it gained significance in the spaces between the fragments of varied worlds, insinuating themselves into the gaps between the pairings – ultimately triangulating relations to offer other readings, alternative worlds that reframed what was taken for granted. The American artists Robert Rauschenberg (middle and late twentieth century) and Joseph Cornell (early and mid-twentieth century) are also influential. Both made art from collected things – often completely unrelated fragments of words – to build or to construct mini-cosmologies of meaning, or worlds that might hold communicative significance.

## Visualisations, a few thoughts

Once an undeniable accomplice of the socially and subjectively constructed figure of the architect, representation or architectural drawing is an increasingly complex affair – a tricky business to say the least. Historically, the architectural drawing has been motivated by ideas, on the one hand, and by the projection of material make-up or construction, on the other. Both professionally and disciplinarily, we make assumptions about the relations that exist between the drawn surfaces or pixel-filled screens of speculation or architectural representation – and on to the space of construction or building. But what those relations are – the speeds by which they are changing and what they mean – should not be assumed or taken for granted. We cannot afford to operate from either default or naïve positions if architecture is to remain an active and, importantly, effective cultural medium. As the roles, capacities and even definition of the architect transform – the architect needing to be many architects, and a cultural agent – so too may the roles, capacities and potential of spatial visualisation or representation.

Visualisations in general and architectural drawings and images more specifically occupy deep cultural, disciplinary and institutional strata. They are located in structured histories and practices, and span an array of definitions, interpretations and practices – this is their legacy. While their status in the practices of design and even construction is changing, they remain fundamental to the work of the architect. However, they are not innocent. They are loaded, etymologically, politically and operationally. All forms of visualisation carry a range of biases and conceits, and they occasionally transgress ethical, political and material boundaries. They are empowering – and therefore disempowering machines.

The ethics of architectural representation are framed by questions of public responsibility and cultural relevancy for the larger good – a responsibility towards role modelling who we are through representational strategies. Equally, we need to be increasingly mindful of interactions with our peers by developing representative opinions, maintaining a care for the public good. Establishing a relevant portrayal of the values of those represented through visualisations, as an interconnected politics of communication, is a part of the conversation.

In searching for an effective ethics for participation, with these disciplinary allies, it is essential to understand a number of variables that comprise their make-up and communicative status, including: the definition of a drawing or visualisation type; its etymology or origin in the history of ideas and in developments of the discipline of architecture; the preferences or biases of the drawing type; the role(s) of the author in making visualisations; the directness, or not, of visualisations in relation to design propositions; establishing the characteristics or traits of the representation type so it can be deployed or put into action – developing a kind of template for operations; precedent awareness and studies; and an active, discretionary and critical reflection on them.

## Punchlist

The promise of architecture – its historical and cultural reach and its emergent potential to mediate our negotiations with the world, or worlds – remains extraordinary. And the drawing or some mediating

form of communication is still, by and large, the way that ideas are brokered and the instructions from which architecture is built. Whether in the space of drawing, erasing and redrawing on sheets of paper, or in the keyboard commands of digital interfaces, the work of design still largely happens in the space of the drawing or its computer counterpart, digital visualisations. Arguably, the architectural drawing – digital or manual, or combinatory – remains an operational compass for the work of the architect, its legacy and status stable and vulnerable at the same time, its histories established and waiting to be written.

Some work focused on drawing as a link or mediation between disciplinary tactics and communicating spatial ideas to architects and non-architects alike – expanding architecture's abilities to touch a more diverse public. Equally, the architectural drawing can broaden what is conceptually, representationally and materially possible. In parallel, the drawing can be practiced as a design rehearsal in its own right, as well as an object that has potential as a thing or object in the world – regardless of its roles, content and spatial aspirations.

Much like Wallace Stevens's poem '13 Ways of Looking at a Blackbird' (1954), animating a discussion about the roles, capacities and histories of drawing from multiple points of view, maintaining a commitment to how drawings are positioned disciplinarily and operationally, remains paramount. Equally, what drawings afford, articulating their preferences and biases and occupying the distances between the architect, the drawing and the act of producing architecture, are crucial. Tracing the efficacy of architectural drawing, with implicit interests in the retentive and projective capacities of drawing, as well as with an eye for that which eludes drawing, is part of the equation.

In the play of orientation and risk, the work finds relational synthesis, preparing the ground for broadening the designer's imagination and for establishing an alternative scope for architecture. Rather than materialising architecture, the production happens with design speculations through the act of constructing drawings. The pleasures of doing so in lines and layered assemblies of drawn and found fragments, rather than bricks, columns and beams, allow the work to incorporate necessary considerations while at the same time reflecting on issues that might otherwise be held at arm's length. Each work reflects accumulated experiences and new thresholds of vulnerability, motivating a lineage of increasing understanding and cumulative wisdom that reveal new horizons of risk. This bias can be traced through a drawing's taxonomy of speculation and restraint, and through its use of evidentiary traces towards a synthetic whole. These efforts unravel new relations



of spatial and drawn possibility for a designer in search of promiscuous stabilities – towards forms of cultural efficacy and durability, leveraged through the varied agencies of the spatial drawing.

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# 12. Open score architecture

Yeoryia Manolopoulou

This chapter draws on research in chance-aided design discussed in my book *Architectures of Chance* (2013), expanding the field of inquiry from the individual to the collective.[1] While *Architectures of Chance* concerns mainly individual explorations of chance in art and design, this project focuses on the complex cognitive and productive possibilities that emerge within a group of authors who welcome chance and temporality in the design process via the use of a score. Scores use textual, pictorial or numeric notations to describe and structure a process that occurs over time. Whilst linear scores specify an ordered sequence of operations, open scores can allow participants to invent and adapt units and relations temporally and spatially. Through an examination of an intensive design workshop I developed, named 'Lattice', and an exploration of the ideas underpinning it, I will show that one of the advantages of open scoring in architecture is the way in which it encourages both autonomy and collaboration, increasing the range of ideas, experiences and opportunities available to designers. By foregrounding the process rather than the outcome in architectural design; by opening up this process to chance encounters between actors, materials and tools; and by deliberately acknowledging its production within a collective, open scoring in architecture has the capacity to change fundamentally the ways in which architecture is practiced as a social activity and understood as a social artefact.

## 'Lattice'

In May 2017, I led an intensive architectural workshop called 'Lattice', which took place in the School of Design at the Université du Québec à Montréal (UQAM), in the company of 17 young designers. 'Lattice' was an experiment over seven days, during which the group of participants responded to an open architectural score. Working first individually, then in small ensembles and finally as a whole group, they created an entirely unpredictable, yet coherent, architecture.

Scores are generative devices used for guiding events, influencing aspects of what will occur over time. Whilst they have been used in sole-authored work across the arts, they have been particularly useful for guiding multi-authored live performances. Architecture is often multi-authored, but the process of architectural design itself is rarely considered as a real-time shared and performative event. In this context, 'Lattice' challenges our conception of architecture by testing in practice how an open score can affect architectural design and why its broader use in collaborative forms of architectural pedagogy and practice might be desirable. What kind of cognitive environment do we create when we utilise open scoring in architectural design? And what kind of architecture does open scoring produce, especially when it helps us expand the limits of single and static authorship?

During 'Lattice', 17 designers interacted fluidly in a shared environment using the emergent work itself as a conduit of communication. The experiment was also our experience of it: the embodied experience of spontaneous drawing and making, where design ideas, materials, tools and actions were interwoven in common space and time. The Latin root *experimentum* reminds us that experiment and experience are twinned: to experiment is to experience through practice. The making of 'Lattice' as a collective project was shaped by the designers' experiences and vice versa, demonstrating that the connection between architecture and experience not only exists in the relationship between building and inhabitation but is also played out within the process of experimental design.

At the time of announcing the theme of the workshop, I had not realised that its title, 'Lattice', would come to represent a new methodological approach to design, teaching and practicing rather than a finite or conclusive piece of work. There was no stable expectation about the end result of 'Lattice' and no preoccupation about determining the work's success in relation to its final outcome. My central concern was the nature of the process. The aim was to be *in* the work rather than foresee it.

## Preparations

The score for 'Lattice' fosters architectural design as real-time experience – as process rather than outcome. Tried for the first time in Montreal, it was hosted by UQAM's environmental design programme

which uses a multidisciplinary educational process to address the scale of the object (1:1), of the building (1:100) and of the city (1:1000) from within different design fields. 'Lattice' took place simultaneously with other intensive workshops – focusing on architecture, animation, typography, design and fiction – as part of UQAM's international design week.[2] My workshop was meticulously facilitated by Professor Thomas-Bernard Kenniff who prepared the setting, contributed daily to the process and documented the development of 'Lattice' systematically.[3] He explained in advance that the participants could have diverse backgrounds in environmental design, graphic design and event design and that they would be at different stages in their studies. I considered these variations in disciplinary background and length of study exciting for the possibilities of collaboration in 'Lattice'. It was important to establish a sense of community where individual differences and the particular knowledge base of each individual would be valued and enhanced.

My suggestions for how to prepare 'Lattice' were communicated to Thomas-Bernard via email in March 2017:

1. *The project is an activity, not a product. The end of the week will simply pause the process.*
2. *Prepare the setting as a shared room that will be used for drawing and making by all designers simultaneously in common time.*
3. *Bring along hand-drawing and model-making tools, cameras, laptops, tripods and lights.*
4. *Provide paper to draw, layer, cut, fold and join. To have consistency and uniformity in the material used, provide many sheets of the same type of neutral, economic paper but in different thicknesses from thin trace to card. The sameness of the material will create a positive ambivalence as to whether it should be used for drawing or making, or for both.*
5. *Make our site: a central stage onto which all collaborators will place their work and around which we will gather regularly for communal discussions. Make it from easy to find materials, such as recycled desk frames and large sheets of toughened glass. We could use the glass surface as a kind of light table, put translucent paper vellum on top, and then our card constructions. Lights underneath and above the glass would make the emerging formations luminous.*
6. *Record the course of the work as systematically as possible. Set a camera on the ceiling above the stage to capture the process minute by minute.*

## Day 1

On a Sunday morning in Montreal, we held a welcome session to meet each other and introduce the brief. We got to know the room in which we would spend the following days: a large, bright, long studio with a glazed wall and lovely distant views on the north side; a camera on the ceiling, centred above a large glass surface which would be our common site for gathering ourselves, processes and materials; a large blackboard and a light table on the west side; and lots of space with many free-standing drawing boards and chairs.[4] This would be our shared room.

After making a brief presentation, I explained the score. 'Lattice' was to be led by an open architectural score that would structure our time and activity elastically without prescribing a fixed outcome. The participants would need to work in multiple configurations: as individuals, in small ensembles of four or five and as a total group. Further details were given on an A4 page:

*L A T T I C E*

*An architectural score.*

*S E T T I N G*

| | |
|---|---|
| Site: | *Backlit glass table, appx 2.51 × 1.82 m.* |
| Actors: | *Four different groups, the 'ensembles', will work interdependently.* |
| Process: | *Each ensemble will create a 'slice' of paper construction, a formation, across the whole site of the glass surface. There will be mutations and counter-arrangements during the making process of these paper topographies. The project will end with four formations ('slices'), all overlaid on top of each other on the table and interlinked to make a unified paper whole.* |
| Scale: | *Relational. What you are making could be seen as object arrangements, a home, perhaps a neighbourhood, or even a city or larger territory. The result will be open to interpretation.* |
| Orientation: | *Agree to an orientation (North). The work is an ecology, influenced by light and seasonal cycles.* |
| Camera: | *Record all operations systematically from above to capture a sequence of stills.* |

(*continued*)

| | *PROMPTS* | | | |
|---|---|---|---|---|
| | *Formation:* | *Condition:* | *Purpose:* | *To be Expanded:* |
| *Ensemble 1:* | *Land* | *Continuity* | *Foundation* | *Mount Royal, 1877, plan, Frederick Law Olmsted* |
| *Ensemble 2:* | *Rooms* | *Pause* | *Society* | *Black Sixes, 1968, Kenneth Martin* |
| *Ensemble 3:* | *Screens* | *Membrane* | *Poetry* | *Design 4, 1954, Erwin Hauer* |
| *Ensemble 4:* | *Shells* | *Light* | *Sky* | *Bagsværd Church, 1968, section, Jørn Utzon* |

*SEQUENCE*

*Monday:* *Form ensembles. Respond to your prompt individually. Draw, draw, draw. Finish the day with a drawing sheet that communicates your ideas and techniques clearly. Place all sheets on the lit table, your site. Discuss.*

*Tuesday:* *Mix drawing and making. Work with your ensemble to develop common concerns, intentions and a shared design language. Your collective aim is to construct a large paper topography. By the end of the day, each ensemble to present a full plan of their paper formation across the site. Ensembles to take turns. Discuss around the site.*

*Wednesday:* *Develop your paper formations in ensembles. Keep exploring how your evolving constructions interrelate and may influence each other critically. Think through making. Keep making, developing and finessing. Gather around the site. Discuss.*

*Thursday:* *Continue your constructions. Define spatial relations with precision. By the end of the day all four formations should be completed in full, placed one by one on the site.*

*Friday:* *Intersect and integrate all formations – land/foundation, rooms/society, screens/poetry and shells/sky – into one polyphonic paper whole.*

*Saturday:* *Exhibit the whole topography and include around it the notes, drawings, constructions and instruments that you developed in the process. Review with invited guests and discuss.*

**12.1** Yeoryia Manolopoulou, 'Lattice' (score), 2017. An open architectural score, written in London and performed for the first time in the School of Design at the Université du Québec à Montréal. © Yeoryia Manolopoulou.



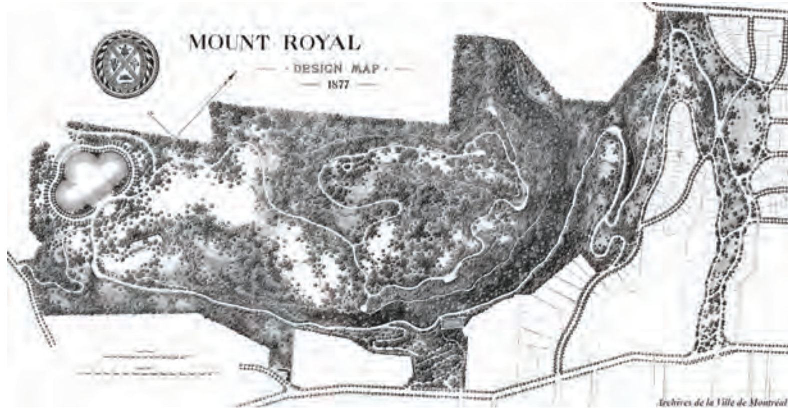
## Day 2

Early on Monday morning, we found the names of all participating designers written on the blackboard.[5] The group had already decided how to split themselves into four smaller teams:

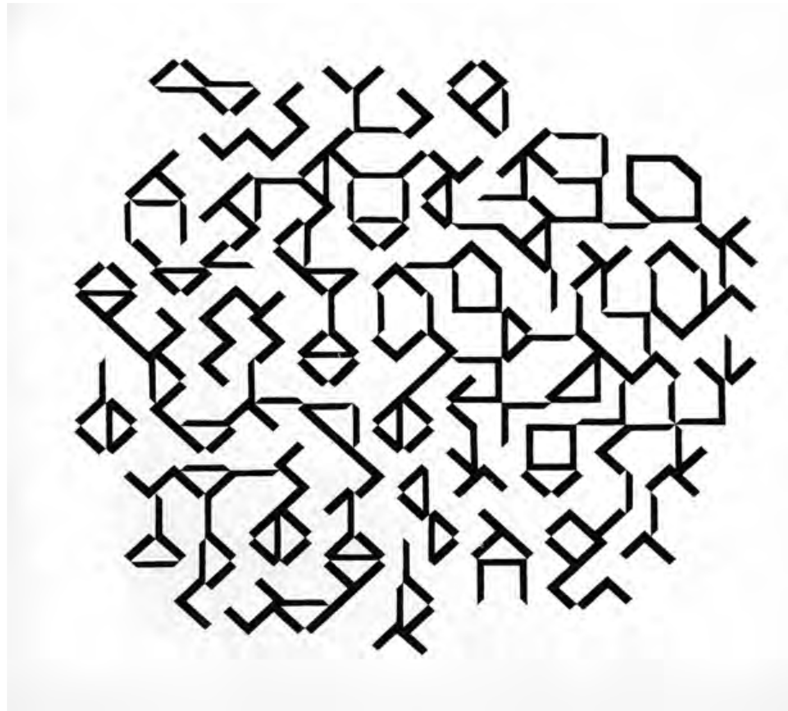
Ensemble 1: Sarah Bengle, William Couture, Alicia Turgeon, Basile Morel, Marc-Antoine Rodrigue
Ensemble 2: Marine Cance, Mathew Guénette, Olivier Havens, Jennifer Larocque, Joël Nadeau-Gauthier
Ensemble 3: Noémie Giroux-Carpentier, Hugues Lefebvre-Morasse, Clara Letourneux, Félix-Antoine Meilleur-Roy
Ensemble 4: Jacinthe Alias, Marion Henry, Liza St-Germain

Each designer would spend the first full working day drawing completely independently, taking as a starting point the visual prompt given to his or her ensemble. Members of Ensemble 1 responded individually to an A4 print of the plan for Mount Royal Park in Montreal, originally designed in 1876–7 by the American landscape architect Frederick Law Olmsted. Olmsted saw in Montreal's hill an 'intrinsic value of charming natural scenery' and aimed to make it look and feel more mountainous[6] (figure 12.2). Individuals in Ensemble 2 responded to an A4 copy of the geometric abstract painting *Black Sixes* (1968) by the British painter and sculptor Kenneth Martin.[7] We discussed how time has played a key role in the sequential process of making this piece, recalling the artist's concept of a 'history picture'[8] (figure 12.3). The four members of Ensemble 3 responded to a print depicting *Design 4* (1954), one of the mesmerising screens produced by the Austrian-born sculptor and proponent of modular constructivism Erwin Hauer[9] (figure 12.4). And, finally, the designers in Ensemble 4 worked in response to the long section of the Bagsværd Church, designed by Jørn Utzon and built on the northern outskirts of Copenhagen in 1976. The drawing shows the church's extraordinary vaulted ceiling with a succession of shell forms set against the rigid grid of an austere, modular exterior[10] (figure 12.5). These four visual prompts were conceived as graphic scores that should be open to interpretation whilst communicating specific spatial, structural and material qualities. The day should finish with 17 responses to the prompts in the form of distinctive drawings at A0.

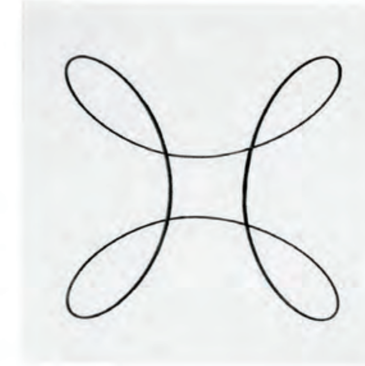
The process of drawing was experienced as an autonomous, absorbing and pleasurable activity. I walked around the room and talked with

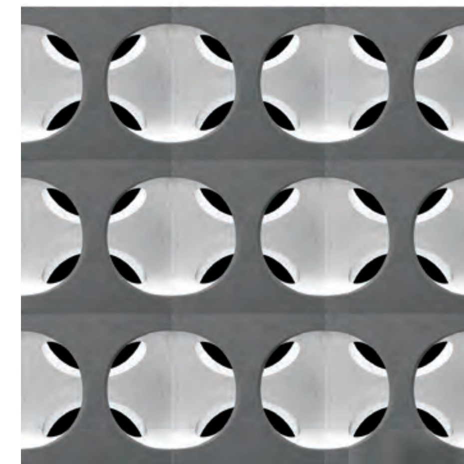



**12.2** Frederick Law Olmsted, 'Mount Royal', plan, 1877. This prompt was given to Ensemble 1 along with the words 'land', 'continuity', 'foundation'. Source: Reproduced from the online collection of the Archives de la ville de Montréal.

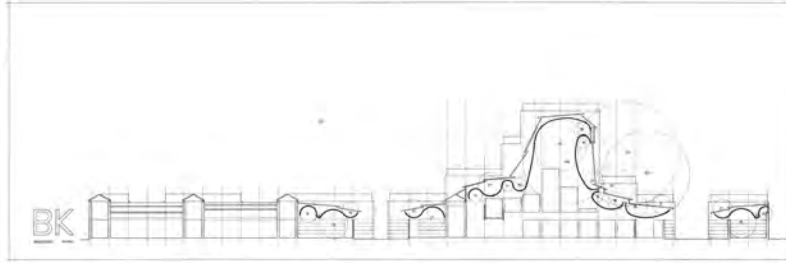


**12.3** Kenneth Martin, 'Black Sixes', 1967–8, oil on canvas, h.140 cm × w. 152.5 cm, UEA31207 Abstract and Constructivist Collection, Sainsbury Centre, University of East Anglia. This prompt, given to Ensemble 2, was associated with the words 'rooms', 'pause', 'society'. © Estate of Kenneth and Mary Martin.





**12.4** Erwin Hauer, 'Design 4', 1954, drawing and photograph. Ensemble 3 responded to this visual prompt and the words 'screens', 'membrane', 'poetry'. © Erwin Hauer Studios.




**12.5** Jørn Utzon, 'Bagsværd Church', section, 1976, h.33 cm × w. 105.2 cm. This prompt was given to Ensemble 4 along with the words 'shells', 'light', 'sky'. © The Utzon Archives/Aalborg University & Utzon Center.

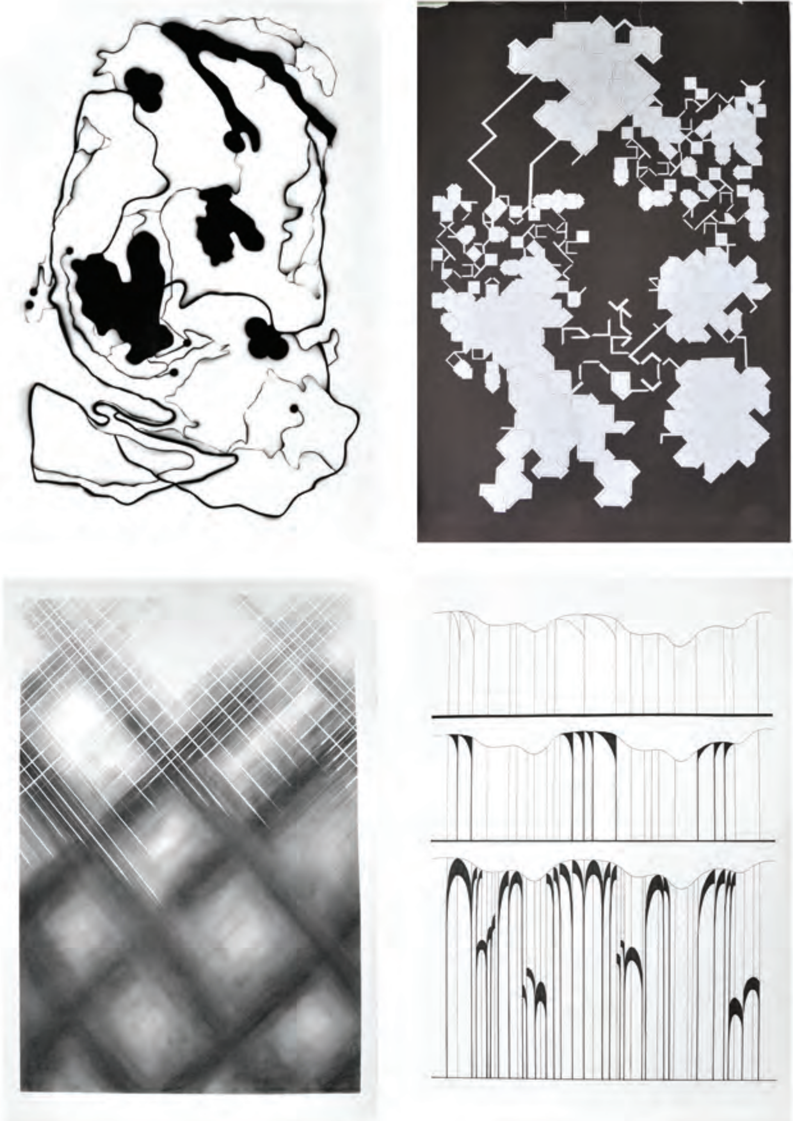
each designer individually while they were drawing, encouraging total trust in the activity of hand drawing which, if conducted with care, irrespective of skill, would yield satisfying results. Many designers worked on their drawings again and again through iteration; others took hours to draw meticulously the whole sheet in one go. In all cases, the sense of thoroughness and care was evident. The day finished with 17 evocative drawings, discussed vividly around the backlit glass surface – our site – among all authors. These drawings would be a kind of alphabet for our next steps (figure 12.6).

## Day 3

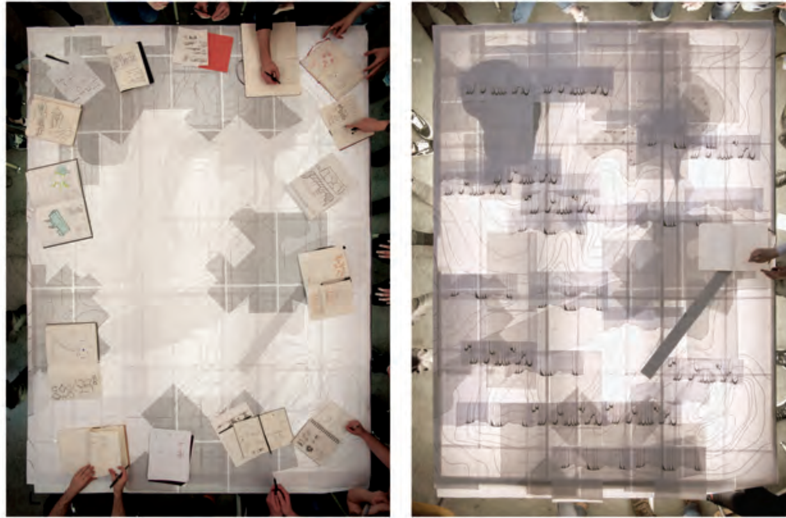
The next day, the score asked the individuals in each ensemble to exchange concerns and methods via the individual drawings they had produced on the first day. Despite their different qualities and intentions, the drawings should be negotiated, edited and assembled to generate a new shared architectural proposal for occupying the whole site. Shifting from a solo to a collaborative activity, each ensemble would also take into consideration the textual prompts given by the score, indicating the 'formation', 'condition' and 'purpose' of their topography. At the end of the day, each ensemble would fill the entire 2.51 m × 1.82 m backlit glass surface with their new drawn topography (figure 12.7).

In the evening, we discussed four full-scale drawings, layer after layer as they were laid on the site:

- Ensemble 1 evoked a quality of 'continuity': the 'land' which was also the 'foundation' and the first layer of the paper topography, responding to the plan of Mount Royal Park.



**12.6** Clockwise: William Couture, 'Land', ink on paper, h.100 cm × w. 70 cm, 2017; Marine Cance, 'Rooms', mixed media on paper, h.100 cm × w. 70 cm, 2017; Clara Letourneux, 'Membrane', graphite on paper, h.100 cm × w. 70 cm, 2017; Liza St-Germain, 'Shells', ink and graphite on paper, h.100 cm × w. 70 cm, 2017. Examples of individual drawings produced in the initial phase of 'Lattice', each one representing one of the four ensembles. © Yeoryia Manolopoulou, UQAM and authors.



**12.7** 'Lattice' (performance I), Montreal, 2017. Aerial view of gatherings around the site on day 3. The view on the left shows 'Land' and 'Rooms' integrated into one provisional topography across the site. The view on the right, taken later on the same day, shows all layers of the 'Land', 'Room', 'Screens' and 'Shells' superimposed on the backlit table. © Yeoryia Manolopoulou and UQAM.

- The draft topography of Ensemble 2 contained the 'rooms': a 'society', the second paper slice to be placed on our site, responding to *Black Sixes*.
- Ensemble 3 created a 'membrane' standing for 'poetry', rather than function, prompted by Hauer's screen design.
- Finally, Ensemble 4 introduced a design for the 'shells' in response to Utzon's section: this would be the 'sky', having a quality of 'light', and being the fourth layer of the overall paper topography, spread across the whole site.

Although these large topographical drawings were initially conceived as autonomous 'slices', they would need to acquire three-dimensional depth and reciprocity – to mutate, alter and transform each other in order to make a total integrated piece. With trust established, both in the process and between the participants, curiosity and confidence were able to grow.

## Day 4

Wednesday was about reworking the four large drawings into three-dimensional paper formations. Each topographical drawing produced by each ensemble was now to function as a score to generate a three-dimensional formation for the site.

Energy, productive chaos and a sense of fun spread through the room. Drawings were exchanged, redrawn and changed; model-making tools were brought in spontaneously; entirely new instruments were made in an ad hoc manner to create bespoke or systematised forms. Participants were exchanging tips and supporting each other continuously; learning was accelerated and deepened by experiencing design physically and socially simultaneously. As psychologist Bessel Van der Kolk has powerfully demonstrated, the precondition for mental flexibility, for curiosity and learning, is a visceral feeling of safety in the body: the mind is modified via bodily cues. Likewise, he emphasises that 'everything about us – our brains, our minds, our bodies – are geared towards collaboration in social systems'.[11] For each individual in 'Lattice', design cognition was not only embodied but 'distributed': diffused over the brain, the body and hands, offloaded to tools and objects and understood through interaction and connection with other bodies and other minds in the room.[12]

I made a conscious effort to instil confidence in each ensemble by encouraging them to trust the process and the material they were using, establishing a secure foundation so that they could take ambitious risks. Each designer cultivated their own distinct way of working while developing genuine curiosity about everyone else's work and an appetite to function in close proximity with one another. The score helped us to accept without judgement all ideas, skills and objects arising and drifting in the room. Gatherings and conversations recurred around our shared site which hosted all design experiments and iterations. This was our place for communication: drawn and made paper constructions were physically laid out on the surface of the glass to generate a material conversation among the group.

## Day 5

Drawing and making intensified, with everyone in the room working constantly. Each ensemble was focused on task, trying to complete their full-scale paper formation by the end of Thursday. Distinctive methods of making kept emerging informally and ingeniously. Ensemble 1 had constructed its own special instrument with recycled pipes for bending and curving white card. Ensemble 2 had systematised and modularised the making of a labyrinth of interconnected rooms at different sizes, trying them out relationally in various clusters. Ensemble 3 was threading through translucent paper vellum rolls to construct an elegant serpentine

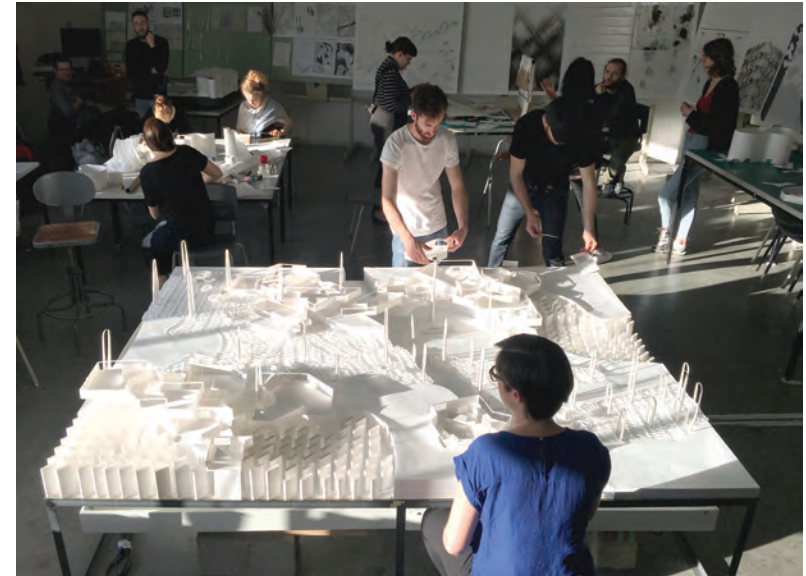
membrane that seemed endless. Ensemble 4 had interconnected a pair of chairs to shape and stiffen three different sizes of tall and uncanny arches that pointed towards future energy generation systems and technologies of communication. Secondary constructions were happening around these central tasks. Some designers had drifted into individual work, such as perforating 'moon openings', making abstract blocks or setting out grids while studying the orientation of all other formations as they were temporarily tested on our site. The enterprise was extremely fluid, non-hierarchical and multimodal: it had the shifting characteristics of conversation. The conduit that facilitated this organic flow of communication was not formed of words but the physical language of design – the objects and sketches that were made, the tools that were adapted or invented to perform demanding construction tasks.

In the evening, we gathered around our site for more discussion. The four formations were produced independently from each other. Although they were distinctive, they demonstrated common properties. They were all thought out of one material, made with white paper at different thicknesses and opacities – a strategy that would give coherence to the overall assemblage. They were flexible and adaptable – each one designed to fill our entire site whilst having to interact with other paper formations unpredictably. All four formations evolved simultaneously in the same room where tools and conversations were shared. And, crucially, all remained incomplete.

## Day 6

The four paper formations had evolved hour by hour, but their making had to stop because on the sixth day, the construction of the overall assemblage had to start. This was the day of maximum negotiation as the 17 designers had to assemble, edit and integrate their work into one combined edifice. Each formation seemed at odds with the other three, but the group accepted their autonomous character and chose to intertwine all of them seamlessly. Strange bits of incomplete paper constructions started piling up on the site, building up confusingly in all directions. We were all working as a hive. The ensembles challenged and negotiated each other; frictions and difficult neighbouring situations had to be managed; unpredictable formations had to criss-cross vertically and horizontally.

The work happened as a one-day performance: a paper-based piece constructed socially and materially by the coming together of multiple minds and hands in cooperation. It was an architectural symphony in four

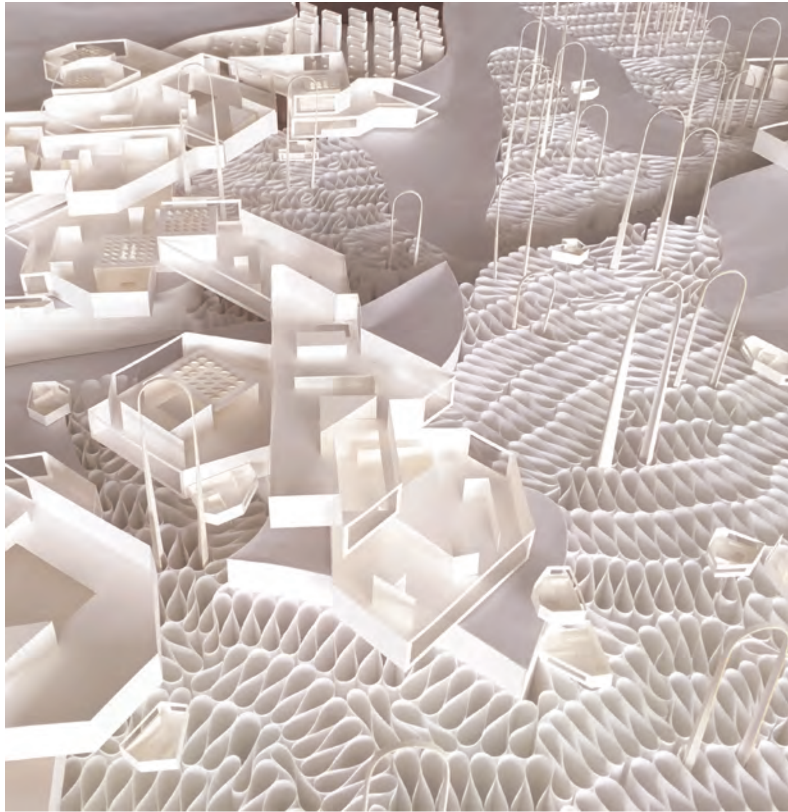


**12.8** 'Lattice' (performance I), Montreal, 2017. View of the setting on day 6 while construction was in progress. © Yeoryia Manolopoulou and UQAM.

movements: the land, rooms, membrane and shells were finally interconnected. Despite the discrete and diverse practices that contributed to the additive making of this paper world, we realised that a sense of 'oneness' prevailed.[13] This oneness can be superficially attributed to the singularity of the material used but, more significantly, to the overall cohesion of 'Lattice' that emerged gradually because the ensemble worked in the same cognitive environment, performing the same architectural score in common space and time (figure 12.8).

## Day 7

On Saturday, we opened our studio in UQAM to show and debate the first performance of 'Lattice'. External guests came in to see records and remains of the process rather than only our now occupied site. The blackboard noted the names of the authors and their configuration in ensembles. The 17 initial individual drawings were displayed one by one in a continuous line along one side of the room. In front of the windows of the northern façade, we had displayed notebooks, mock-ups, instruments, sketches, original drawings and unused prints. In the middle, there was a luminous white paper construction, looking like a strange future



**12.9** 'Lattice' (performance I), Montreal, 2017. Detail view of the paper construction. © Yeoryia Manolopoulou and UQAM.

city and glowing bright from underneath, its land and rivers. Finally, we had a screen showing in a continuous loop a stop-frame animation of the process of 'Lattice': how the glass site was occupied and transformed through social and material conversation and proposition bit by bit. The camera that captured our actions over the last week was still hovering above the site.

We gathered around the site, this last time with our guests, to look at the paper assemblage and discuss the meanings of our experiment. A comment by Thomas-Bernard resonates: 'The work feels democratic. It's not out there in the world but made out of the world collectively, standing for a public. The work is public'. Open scoring introduces in architectural design the value of communal and non-hierarchical action – the value of empathy as a reciprocal conversation with others. It argues that architecture with public purpose, or as public representation, means not only designing buildings for society but also making architecture literally *in* and *as* society (figure 12.9).



## Scoring architecture

The score for 'Lattice' guided an event that embodied time in the physical development of the work. The foundation, rooms, membrane and shells interconnected bit by bit through a collective effort on our site. Everything was documented by the camera which captured these layer formations as they gradually assembled. Was this a performance? Was this architecture?

In the second half of the twentieth century, music innovators such as Pierre Boulez, Karlheinz Stockhausen and John Cage questioned the linearity of the musical score. Using open scores instead, they gave the performer(s) opportunities for choice and opened the performance to chance. Discussing intersections in music and architecture related to scoring techniques, Galia Hanoch-Roe writes about the nature of open musical works:

> These works are composed in items of individual sections or fragments yet mobile in the order of appearance, creating unpredictability before and during the performance. The conventions which underlie the intelligibility of the traditional musical work as casual logic, linearity, continuity and predictability no longer endure since in open-compositions each unit is predominately important in itself and the order of these units become less and less important.[14]

Open scores such as 'Lattice' generate unpredictable relationships among elements and actions, and while this can lead to performances that easily become self-organised, the outcome can never be predetermined. The essential unpredictability of open emergent systems in the development of human action and cognition is explained by developmental psychologists Esther Thelen and Linda B. Smith:

> Open systems where many components are free to relate to one another in nonlinear ways are capable of remarkable properties . . . The system may behave in highly complex, although ordered, ways, shifting from one pattern to another, clocking time, resisting perturbations, and generating elaborate structures. These

emergent organizations are totally different from the elements that constitute the system, and the patterns cannot be predicted solely from the characteristics of the individual elements.[15]

What is more, the architectural score of 'Lattice' is malleable and open to variation for future performances: it can be entirely adapted by altering the setting, the prompts, the sequence and the range of participating designers. Although we have not yet seen the array of interpretations this score allows, we know that its elastic framework offers multiple rescoring and performing opportunities. However, a single idea will remain and underpin all future versions: this is the nesting, criss-cross arrangement of 'Lattice'. A bottom-up structure nests autonomy within collaboration, the individuals' actions within the group's overall operation: first the designer performs individually, then among a small ensemble and eventually within the dynamics of the larger total ensemble.

Here, it is worth considering the work of dancer and choreographer Merce Cunningham who worked and taught alongside the composer John Cage at the highly influential Black Mountain College in North Carolina in the late 1940s and early 1950s.[16] Their collaboration at Black Mountain College and throughout their lives encouraged the generative use of chance. Notably, their dance and music pieces, while they occurred together in the same space and time, were conceived independently. Cunningham, in particular, created a philosophy of collaboration that highly values the autonomy of the individual within an ensemble. He encouraged everyone to work freely on their own but simultaneously with others – a method that can be practiced in dance and many other forms of collaboration. To facilitate this simultaneously autonomous and interdependent way of working, Cunningham considered carefully the role of time and devised choreographic structures that were divided into strict time units. Music and dance would come together at the beginning and end of each time unit, but in between, they would be independent of each other. Music, dance and individual performers would be intentionally 'dissociated' to allow each dancer to perform independently while strictly sharing time units. Performers maintained their autonomy, but because they were working 'in common time', their actions formed a continuum.[17] Alluding to Cunningham's philosophy, 'Lattice' set a clear temporal structure for a continuous seven-day performance, but the actual content of the authors' individual tasks was undefined, ambiguous and open to interpretation. Each day was a time unit with an ongoing purpose, broken down by shorter units that were marked by intervals of work and group gatherings around our site. The score structured parallel and sequential activities in time but did not prescribe either exact architectural properties or the 'in-between' relationships through which to arrive at them.

At Black Mountain College, art lessons doubled as life lessons. The College's progressive pedagogic methods were based on the philosophy of the American pragmatist, psychologist and educational reformer John Dewey who allied art with learning, democracy and experience.[18] During its lifetime from 1933 to 1957, many experimental artists taught at Black Mountain College, as did the architect and systems theorist Buckminster Fuller who ran influential summer classes in 1948 and 1949.[19] Josef Albers, one of the College's most influential teachers, who headed its painting programme from 1933 to 1949, made the study of in-between relationships, or 'unfilled' spaces as he called them, a central material and social element of his teaching. He taught his students to observe 'negative' spaces between objects – whether that be milk bottles, leaves of plants or relationships between people – and saw in this study both a formal and social value. 'Respect the other material, or color – or your neighbor. Respect the one you weren't paying attention to', he told his students:[20]

> The activation of *negativa* (of remainders, intermediate, and negative values) is perhaps the only entirely new, perhaps the most important aspect of contemporary interest in forms. But few have noticed this yet – the word has yet to get around – because the sociological parallels have not been noted. (The sociological reasons for seeking these forms today deserve more extensive discussion here and elsewhere.) If one gives equal consideration and weight to positive and negative values, then there is no 'remainder'. Then we no longer draw distinctions between 'carrying' and 'being carried'; we no longer admit divisions between 'serving' and 'being served', between 'decoration' and 'that which is decorated'. Every element must simultaneously help and be helped by the whole, support and be supported.[21]

This emphasis on the space between elements resonates with 'Lattice', during which in-between relationships were fostered and enhanced through continuous reciprocal action and feedback. Just as Albers did with his students, Van der Kolk reminds us that while our culture 'teaches us to focus on personal uniqueness . . . at a deeper level we barely exist as individual organisms'.[22] He points to the discovery of mirror neurons in the human brain, which underpin our capacity for empathy, and whose function provides a striking parallel to Albers's negative spaces methodology. Mirror neurons register the behaviour of *other bodies*, vicariously

mirroring that behaviour internally, causing the same brain cells to fire in the observer as in the observed.[23] Watching somebody carrying is both to carry and be carried.

Architecture depends on a multitude of in-between material and social relationships that architects need to care for.[24] Not all these complex aspects of architecture can be scored of course, but the introduction of scoring in architectural design acknowledges the complex uncertainties involved in spatial production and experience, and it does so in empathetic and pluralistic ways. Introducing open scores in architecture will expand the range of approaches we have available for design, but it also has the capacity to change the nature of our discipline from a sole-authored to a cooperative practice that fosters the autonomy of each cooperator, and from an object-based to a performance-based discipline.

## Time drawing

Architectural drawing is usually discussed as a finished object rather than as a construction that is being built mentally and materially over time. It is rarely considered as an experience, one that starts from uncertainty, searching and wonder, and eventually leads to an expression of communication. Drawing in architecture is also typically seen as a representation that aims to describe a reality located externally to the space of the drawing. It is less often understood as a reality in its own terms.

In 'Lattice', we deliberately acknowledged the plethora of emotions entailed in the experience of drawing, recognising drawing as an ongoing event. Refusing to reduce architectural drawing to only its thingness, separated from its performance, we understood it as both artefact and activity where the two are intrinsically linked. We asked what happens if we shift our understanding of the word 'drawing' from noun to verb. And we asked deeper questions about the precise circumstances of drawing production: the setting, tools and materials used and the actions involved in its temporal emerging. Drawings conceived as pictures increasingly dominate our world, partly because the proliferation of digital and social media drives a desire for immediate visual impact. Instead, in 'Lattice', we relinquished the gratification – but also the fear – of drawing as image in order to harness its experimental and experiential potential as a mode of inquiry.

Time drawing in 'Lattice' created a secure scaffolding for spatial thought and curiosity, supporting without judgement the efforts and inquiries of the participating drafters/designers. Hand-based drawing was transformed gradually and spontaneously into three-dimensional making. The paper assemblage presented at the end of the workshop was a reality in itself rather than a representational or propositional model. 'Lattice' was built without adhering to a pre-drawn representation of itself and without itself then becoming a script for something else.

A design or building process happens over time, during which architecture is generated by assimilating into its own making a multitude of intentions, human actions and material contributions. The eventual building is a mesh of ideas, materials, techniques and human agencies, all developed in a reciprocal dance through time. We can recognise this immediately in humanity's great edifices, such as the Gothic cathedrals that are the slow work of centuries – 'human intelligence summed up and totalised' – and much admired by Cage who dedicated over a lifetime on creative indeterminacy.[25] It is easy to observe in this example that the accumulation of time and collective human effort instilled in the fabric of buildings and crafted things eventually comes to influence our perception of them and the meanings and value we bestow on them. But while it may be harder to discern, these processes of accretion and interaction are still at work in the formation of contemporary buildings that are quicker to build, or that seek to demonstrate the singularity of the architect's imagination.

Architecture is rarely the manifestation of a single author's efforts, despite how much that author might seek to represent it as such. The passage of time and combined human intelligence accrued in its design and construction are an integral part of the reality it creates. By developing collective and prolonged design processes that intentionally, and deliberately, assimilate the combined efforts and endurance of multiple authors, we come closer to recognising architecture as a social formation. 'Lattice' accumulated the ensemble's combined actions over time. It represents nothing other than the sincere and sustained efforts of its makers, embodied in its paper manifestation. Essentially, 'Lattice' is a drawing construction that describes itself as a social artefact.

Drawing played a critical role in reshaping the nature of architecture as a discipline and practice when it was formally and systematically introduced in the delivery of buildings. Building a construction without referring to a scaled drawing is a very different process to building it while following one. Speaking is not the same as writing; and writing by hand is not the same as typing or writing electronically. The same can be said for methods of drawing and building in the evolution of architectural thought and practice. The cultural historian and philosopher Walter J. Ong has demonstrated that shifts in verbal, textual and graphic

practices parallel changes in human consciousness. He has explained beautifully how the invention of writing transformed the human mind: orally, chirographically, typographically and electronically based thought has gradually shifted the way the mind operates.[26] Ong's work reveals the ways in which our minds are transformed by our tools and practices, while Van der Kolk's reminds us why: the human brain reorganises itself around visceral, bodily cues. At the most fundamental level – that of deeply knowing ourselves, our relation to others and our environment – the locus of learning, or rather of understanding, is the body; the body feels, the brain follows and without a human, feeling body, machine learning can never approximate that of an embodied human mind. Might scores such as 'Lattice', then, be further extended to explore more challenging forms of conversation in architecture by potentially developing useful connections between embodied and electronic minds? While machine learning and processing is extremely useful in architecture in a number of ways, computers both lack in their nature and obstruct in ours the intuitive immediacy of tacit, *tactile*, knowing: such as when, for example, we hold pen on paper to draw in order to think as much as to communicate. In 'Lattice', construction and conception happened in close proximity precisely because its processes were manual. Intimate and spontaneous kinds of drawing and making may well be compromised, *disembodied*, by introducing a layer of electronic mediation, but the potential of open scores to harness the inherent capacity for connection between human minds, brains and bodies, and to bring this into an encounter with computers, may help us expand the nature of conversation in architecture, interweaving machine learning with embodied human design action.

## Extended cognition

The score for 'Lattice' structured a combination of individual and ensemble activities: the authors interpreted the score's prompts to produce individual drawing solos in response; their solos gradually led to more complex configurations produced by ensembles, and these, in turn, culminated as one ambitious paper symphony. Notably, the score did not pre-assign value or meaning; it was non-judgemental and non-hierarchical. The content of the work and the paths to achieving the overall group activity were left intentionally indeterminate. The exact allocation of roles was not predefined; the prompts could be expanded; the methods of drawing and making were open equally to all designers. As landscape architect Lawrence Halprin explains in *RSVP Cycles*, scores:

> treat all persons, groups or elements involved in the activity as having the same importance in the score. As the process proceeds, that is the score is played, the 'influence' of various inputs may be felt variously and weightings may change as activity continues, but the score itself does not preweight input. Scores are pluralistic.[27]

The score's capacity to break down hierarchies between authors, materials and actions can offer major benefits to architecture – a profession that has long suffered from the effects of unequal power structures.

Moreover, in 'Lattice', learning and practicing happened in the same environment, becoming one and the same process. The open score helped us to self-organise and produce a shared cognitive environment, strengthening each individual's autonomy as well as the ensemble's collective knowing. Cognition can be socially extended. Collaboration both requires and enhances the self. In fact, it strengthens each author's individuality. As psychologists have discovered, attachment and attunement to others are fundamental to the development of the individual self.[28]

'Lattice' demonstrated that guiding an open performance among individuals who have not worked together before can be free and informal but also lead to a coherent architectural project. Its 17 authors threw themselves into a process that had the fluid characteristics of a social event, perhaps resembling a conversation. To converse means to interact socially among others and to take turns in interchanging thoughts through language, usually in an informal manner. In architectural conversing, rather than using words, we use the conceptual and material tools of our discipline. Design gestures, geometry and modelling form a physical conduit through which we produce architectural discourse (figure 12.10).

Key to this process is the way in which we cohabit a work environment: playfully working in the same room, co-making, co-breaking and evolving tools and objects at different scales in conjunction with others can have a profound effect in extending the possibilities of design work, as well as expanding the breadth of each individual designer's thinking. In 'Lattice', once the textual and visual prompts were given out, design play became unstoppable. The score prompted spontaneous improvisation and organised its potential phases. Drawing was quickly extended to a performative activity of making between two and three dimensions. Tools were invented on the way, and so the process was not only about making free architectural constructions but also about making instruments without which the resultant architecture could not have been

**12.10** 'Lattice' (performance I), h.251 cm × w.182 cm, Montreal, 2017. Aerial view of the completed paper construction in full on day 7. © Yeoryia Manolopoulou and UQAM.

imagined or performed. Referring to James J. Gibson's seminal concept of 'affordances', we can say that the ensemble environment created possibilities for action for the ensemble designers who kept altering their surrounding constructions to suit their intentions better.[29]

Creative thinking can be socially and technologically extended. As cognitive scientists have shown, minds, tools and the environment are an interlinked cognitive system.[30] Group cognition is not simply the aggregation of individual cognition.[31] Each participating mind is extended by its partnership with other minds and the state of thinking and action of other individuals next to it, recalling both Albers's negative spaces and the reciprocity of mirror neurons. Collaborators shape an emergent ensemble and are at the same time shaped by the ensemble. Shared tools, objects and constructions facilitate and are facilitated by the collective intelligence of the group whose cognition is embodied, situated and extended all at once.

## Scoring change

An open score for collaborative architectural practice foregrounds the experience of designing rather than its end product. Trusting the reciprocal in-between relationships among authors, tools, techniques and things being made, it builds self-organising worlds rather than predetermined fixed objects. Scoring architecture in this way can elicit curiosity, skilled intuition and inventiveness among the partnered designers and allow the work to be open-ended yet cohesive. This open-ended making of social connections is remarkable because although it starts from distinct individual differences, it gradually converges towards a unified architecture that was initially unforeseen. Without pre-assigning value, materials, intentions and techniques mix in multimodal and multi-scalar ways to create a social world that is also an embodiment of time.

'Lattice' is not a design proposition for something outside itself; it is a reality in its own right. It is architecture designing itself in ensemble, describing itself as a social formation. Its open score demonstrates a productive method for producing architecture through conversation in a shared and extended cognitive environment. It points to a new way of generating and experiencing architectural autonomy *and* collaboration – especially important in a world with increasingly complex communication needs, including among humans, environments and machines. What we all experienced in May 2017 in Montreal was the result of a certain configuration of people who coincided and worked together over a specific period of time. The same situation cannot be reproduced, but the foundation of our collaborative experiment – the open score – can be developed further to transform architectural practice and pedagogy by helping us to acknowledge the complex cooperative and performative aspects of spatial production. We can make the process of architectural design more relevant to society, and highly inventive, by first understanding it as a social reality in its own right.

## Acknowledgements

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## Notes

1. Yeoryia Manolopoulou, *Architectures of Chance* (London: Ashgate, 2013).
2. UQAM's international design week has a dedicated website, http://designinternational.uqam.ca (accessed 13 May 2019).
3. An informal documentation of 'Lattice', along with documentations of the other five workshops, can be found on UQAM's website, http://designinternational.uqam.ca/edition2017/?page_id=48309 (accessed 13 May 2019).
4. Marc-Antoine Rodrigue fabricated the light table to our specifications and helped Thomas-Bernard to set up the room and the recording apparatus.
5. The 17 participants who joined my workshop had an environmental design background.
6. A. L. Murray, 'Frederick Law Olmsted and the Design of Mount Royal Park, Montreal', *Journal of the Society of Architectural Historians* 26 (1967): 163–71.
7. Kenneth Martin gradually shifted his work from realism to abstraction, and became a leading figure for the revival of constructivism in Britain and the USA in the 1940s. For a description of his later work alongside Mary Martin, see Sarah Martin and Celia Davies, *Kenneth Martin and Mary Martin: Constructed Works* (London: Camden Arts Centre, 2007).
8. Martin used the term 'history picture' to describe the role that time can play in the sequential generation of a work in which he often tried to programme in chance as a special type of objectivity. Jeffrey Steele, 'Chance, Change, Choice and Order: A Structural Analysis of a Work by Kenneth Martyn', *Leonardo* 24 (1991): 407–17.
9. Notably, Hauer was connected with Josef Albers who, as the then chair of Yale School of Art's Department of Design, invited Hauer to Yale – first as a special student and then as a faculty member. A series of three-dimensional screen designs are presented in his first book: Erwin Hauer, *Continua: Architectural Screens and Walls* (New York: Princeton Architectural Press, 2007).
10. The building was completed in 1976. For a comprehensive description, see Global Architecture No. 61, *Jørn Utzon: Church at Bagsværd, Near Copenhagen, Denmark, 1973–76* (Tokyo: Ada Edita Global Architecture, 1981).
11. Bessel Van der Kolk, *The Body Keeps the Score: Mind, Brain and Body in the Transformation of Trauma* (London: Penguin, 2015), 166.
12. The cognitive anthropologist Edwin Hutchins, who developed 'distributed cognition frameworks' in the mid-1980s, has demonstrated that cognition is offloaded into the environment through technological and social means. In the 1990s, he published a detailed study of ship navigation in which minds, tools and the environment are an interlinked cognitive system: Edwin Hutchins, *Cognition in the Wild* (Cambridge, MA: MIT Press, 1996).
13. In *Non-Referential Architecture* (Basel: Parkbooks, 2019), the architect Valerio Olgiati and architectural theoretician Markus Breitschmid define 'oneness' as one of the underlying principles of what they call 'non-referential architecture', 'the architecture of the 21st century' that must no longer be symbolic or ideological. Non-referential architecture is based on experience, sense making and contradiction, but it is not produced additively and insists on the autonomous state of the 'author-architect'. Whilst open scoring produces architecture incrementally and collectively over time, the architectural score itself is inherently singular and devised by the director-architect as a sole author.
14. Galia Hanoch-Roe, 'Musical Space and Architectural Time: Open Scoring versus Linear Process', *International Review of the Aesthetics and Sociology of Music* 34 (2003): 147.
15. Esther Thelen and Linda B. Smith, *A Dynamic Systems Approach to the Development of Cognition and Action* (Cambridge, MA: MIT Press, 1994), 54. This passage is also discussed by Nina Martin in her highly relevant and interesting 'Emergent Choreography: Spontaneous Ensemble Dance Composition in Improvised Performance' (PhD diss., Texas Woman's University Graduate School, 2013).
16. Black Mountain College was committed to an interdisciplinary pedagogic approach and the holistic study and practice of art as central to a liberal arts education.
17. Recently, the Walker Art Centre in Minneapolis and Museum of Contemporary Art in Chicago dedicated a conjoined show about Cunningham's influence on fields far beyond dance, entitled 'Common Time'. Fionn Meade and Joan Rothfuss, *Merce Cunningham: Common Time* (New York: Distributed Art Publishers, 2017).
18. John Dewey's major text on aesthetics is *Art as Experience* (1934; New York: Perigee Books, 1980).
19. Notably, one of Fuller's most spectacular lattice-type structures, the Biosphere, built for the 1967 World Exposition, is located in Montreal.
20. Frederick A. Horowitz, 'What Josef Albers Taught at Black Mountain College, and What Black Mountain College Taught Albers', *Black Mountain Studies* 1 (2005), http://www.blackmountainstudiesjournal.org/volume1/1-9-frederick-a-horowitz/ (accessed May 13, 2019).
21. Josef Albers, 'Teaching Form Through Practice', trans. Frederick Amrine, Frederick Horowitz and Nathan Horowitz, *Bauhaus* 2/3 (1928), https://albersfoundation.org/teaching/josef-albers/texts/ (accessed 13 May 2019).

22 Van der Kolk, *The Body Keeps the Score*, 78.

23 Van der Kolk describes the accidental discovery of mirror neurons by a group of Italian neuroscientists in 1994, during an experiment monitoring which individual neurons fired when a monkey picked up a peanut or grasped a banana: 'At one point an experimenter was putting food pellets into a box when he looked up at the computer. The monkey's brain cells were firing at the exact location where the motor command neurons were located. But the monkey wasn't eating or moving. He was watching the researcher, and his brain was vicariously mirroring the researcher's actions'. Van der Kolk, *The Body Keeps the Score*, 58.

24 Jeremy Till discusses the contingent nature of architectural practice and the multiple factors architects cannot control in *Architecture Depends* (Cambridge, MA: MIT Press, 2013).

25 Victor Hugo, *Notre-Dame de Paris*, trans. Frederic Shoberl, https://etc.usf.edu/lit2go/107/the-hunchback-of-notre-dame/1891/book-third-chapter-1/ (accessed 13 May 2019).

26 Walter J. Ong, *Orality and Literacy: The Technologizing of the World* (London: Routledge), 2002.

27 Lawrence Halprin, *The RSVP Cycles: Creative Processes in the Human Environment* (New York: George Braziller, 1970), 190–1.

28 For a discussion of psychological discoveries in this area, see Van der Kolk, *The Body Keeps the Score*, part 4.

29 The psychologist J. Gibson coined the noun 'affordance' to explain how an environment can offer an animal possibilities for action, a concept that is now used in a variety of fields from environmental psychology to design interaction and artificial intelligence. James J. Gibson, *The Ecological Approach to Visual Perception* (1979; New York: Taylor & Francis, 2015).

30 Hutchins, *Cognition in the Wild*, 1996.

31 For an examination of group cognition as an emergent phenomenon that goes 'beyond the simple aggregation of the cognitive capacities of individuals', see Georg Theiner, Colin Allem and Robert L. Goldstone, 'Recognizing Group Cognition', *Cognitive Systems Research* 11 (2010): 378–95.

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# 13. Saved from the wrecking ball on a daily basis: Participation in design conversation and everyday experience

Tom Coward/AOC

In 2016, Professor Tim Ingold, a Scottish anthropologist, was asked a useful question after a keynote at an Architecture Foundation event at the Barbican Centre in London.[1] He was asked whether architecture primarily resided within matter or as a social contract, and his response was not to 'split hairs' over what was included as architecture or not. He wondered whether words such as 'architecture' are words for questions rather than answers; 'That is the question of architecture; How is it that forms appear in the world? and how do they stay in place?'

I like the suggestion that architecture is almost saved from the wrecking ball on a daily basis, having to constantly reconfirm its relevance, and that on any finer points beyond mere utility or convenience, the expression of an architecture is also reappraised and validated day to day by every user. You stop assuming in the status quo of the built form you find yourself in and can accept that the particular constructs that brought a building into existence are still to some extent open for manipulation.

Paul Connerton in *How Societies Remember* (1989)[2] argues that as far as societies are concerned, material objects have less significance in perpetuating memory than embodied acts, rituals and normative social behaviour. It is what we do with buildings every day that has more significance than perhaps they themselves in defining our culture.

I am interested in our *collective* memories because as an architect, I practically rely on my experience to qualify any proposals I make, and typically compound diverse experience upon experience in any iterative design process. I prioritise collective memories because I never design by myself – even on small private commissions, there is a conversation with a client, there is also always a conversation in practice, and for public work to a greater or lesser extent a public conversation through engagement, consultation and hopefully meaningful public participation. I would argue that in all those situations, what an individual is best able to offer is their experiences.

Back to *How Societies Remember*, the author argues that images of the past and recollected knowledge of the past are conveyed and sustained by ritual performances, that performative memory is bodily and that bodily memory is an essential aspect of social memory. In relation to architectural practice, the act of design is an important performative part of the contract in carrying architecture forward – how we design is as legitimate a concern as what we design – and in terms of what we choose to remember and what we choose to forget, the process of design is a key mechanism towards being inclusive or exclusive.

In calling a design process a conversation, we admit that it is a temporal fusing of individual horizons 'being transformed into a communion in which we do not remain what we were'[3] – it has to be cooperative to continue, and the architectural project is therefore relatable as a fusion of social and spatial contexts. The design process of AOC Architecture (Agents of Change) has evolved over the years, responding to a range of internal and external shifts – commercial, political and most explicitly to the nature of the work we have been invited to engage with. In this chapter, I reflect upon a series of three early projects, and (in relation to Ingold's preference) look to identify the forms of conversational practice that have stayed in place. The ambition is to consider the impact of the process upon the project's execution, and the experience of the works themselves.

The three projects follow a practice trajectory: 'The Janet Summers Early Years Centre' (2005–6), an external landscape and building extension to Friars Primary School in Waterloo, central London; the 'LIFT – A New Parliament' (2006–8), a portable venue, part theatre and part community centre; and the 'Dream House', a contribution to a performative exhibition 'Building Blocks' at Fargfabriken, Stockholm (2010–1). On that trajectory, they can also be seen to develop a growing ambition for a cooperative conversational design process – moving from an ambition for making a suggestive space to creating a kit of parts to support public participation and finally an attempt to construct an installation as a collective imagination.

### Making suggestive spaces

Friars Primary is a one-form-entry primary school where the existing nursery and reception classes were housed in separate, standardised 1960s classrooms. AOC's brief was to build a physical link between the rooms and develop an integrated environment in response to the new Early Years curriculum. An existing fire escape route and dysfunctional drains complicated the proposed extension, requiring a reworking of the school's escape strategy and significant development of the existing services infrastructure.

A tight funding deadline necessitated the design be completed in 10 weeks. AOC and the Early Years staff went on a tour of new foundation-stage facilities in London, developing a shared language of environments, materials and experiences. Developing the designs through large-scale models led to intense, productive, regular design meetings with the school, allowing the designs to evolve quickly and within the programme. The infill extension evolved into an L-shaped roof element, defining three distinct but joined teaching spaces: a connecting role-play room, an external classroom and a covered play area. On top, a new external teaching terrace and roof garden is created for the older year groups in the first-floor classrooms.

The combination of ceiling surfaces, floor markings and existing elements (benches, handrails, trees) creates a series of suggestive spaces, encouraging teachers and pupils to appropriate and adapt the spaces – today ancient Egypt, tomorrow Narnia. Real and perceived nooks, hideaways and caves enable the children to be visible in the public, fluid space of the shared facilities whilst being separate and apart, alone or with a friend. A stand-alone playhouse (an adapted proprietary shed), an understair sensory room, a low external store and a collaged landscape of new and existing elements continue this quest to provide a suggestive range of spaces in which the children can play out their imaginations.

The Early Years unit was commissioned in response to the Department for Education and Skills (DfES) Foundation Stage Curriculum[4] which, in 2000, revised educational provision for three- to five-year-olds. The emphasis was on self-initiated learning, role-play and the blurring of internal and external activities. The curriculum asked Early Years centres to 'create a climate where curiosity is encouraged and where children can experience the unexpected . . . Provide an environment, materials and experiences that promote aesthetic awareness and an appreciation of things of beauty'.[5]

Journalist Jay Merrick well described the project spatial intentions upon its completion:

> The design suggests a reversed gestalt process; a morphing of the pre-existing and familiarly ordered functional plan into a dynamic collage whose programmatic effects are not so much a curriculum-friendly blurring of function, as a series of spatially and graphically atonal architectural block chords; if considered in musical metaphorical terms, we're in the realm of the pianistic asymmetries and eccentric tonal colorations of Thelonious Monk . . . The volumetric affiliations, rational in plan but much less definable in terms of presence and ambience, give the architecture its essential character.[6]

How do we provide suggestive spaces for children which cultivate their potential? We did not provide an imitation of childlike imagination – an existing climbing fort was retained, but no pirate ship was added. We hoped for appropriation and, after continued use, were pleased to see how it happened. The figure-of-eight pathway is a good example – it is not a big leap for this to become a raceway for the school's yellow tricycles – but its tight bends and chicanes demanded some evolved protocols. First, queue management – a large egg timer is hoisted on the plinth of the built-in benching, counting down turns whilst the eager crowd climbs the adjacent ramp handrails for a better view. Second, high-five raceway 'tolls' at the unintended raceway bridge – a level-entry access formed a short ramp in an ideal location to manage traffic flow.

The palette of materials was shaped by a tight budget, developing a simple ornamentation by juxtaposition and alternation; pin board, cement board cladding, cedar cladding, metal sheet, GRP, rubber crumb safety surface, asphalt, concrete paving, metal trim, handrails, paint – all somewhat prosaic until orchestrated to make a range of atmospheres for play.

The process of looking for opportunity in design on a tight site was surprising in terms of when such opportunities presented themselves. Some came through managing the arrangement – the fantastic external teaching terrace, the discrete sensory room and the 'child-sized space' role-play nook all developed out of dealing with the complexities around the building's only fire stair. The late to the game over cladding of the playhouse to provide a blackboard, loved by timetable writers and young theatrical scene painters alike. More surprising, the tricycle store – perhaps epically formed from multiple doors and a single pink

13.1 AOC Architecture, a drawn programme of events for the LIFT sharing event, the 'LIFT – A New Parliament', London, 2008. AOC mocked up a provisional LIFT event space for one day in Theatre Royal Stratford East. © AOC Architecture.

translucent GRP sheet – serves as an unintended secret cave, demanding a daily fastidious approach to 'tidy up time' by all attendees.

## Public participation

AOC won the commission for the 'LIFT – A New Parliament' (LIFT) in an open competition organised by the Architecture Foundation in 2006. The temporary project was to support the London International Festival of Theatre, an arts charity that typically commissions performance in found contexts, conceived as a setting for public meetings and debate as well as for performances and ultimately was sponsored by the Thames Gateway Development Corporation. The competition brief placed particular emphasis on the idea that the building should seek to promote a culture of public participation. Over the course of six months, the practice took part in 30 workshops hosted by LIFT 'seekers' (art practitioners and curators) with East London community groups and arts organisations. This ultimately led to a day-long event in Theatre Royal Stratford East theatre, for which AOC mocked up a provisional LIFT event space and ran a day of activities. With a budget of only £1000, this was essentially



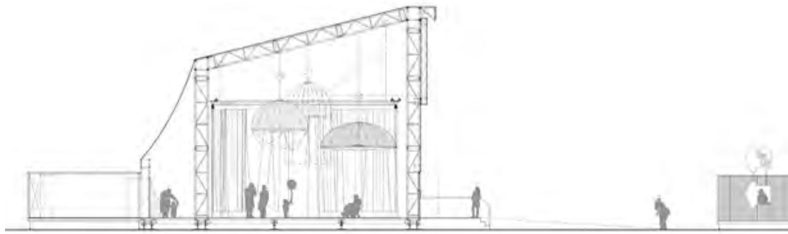
a stage set assembled with 'found' items such as a tent from Argos and a B&Q shower curtain. Cheap and cheerful, but as a setting for a day of public conversation, it proved both popular and provocative.

The final project took the form of a tent, but not a normal tent. The building's shape is the product of the difference between the geometry of the floor plan and the roof, arranged to create a high, flat principal building façade giving a front as either a landscape landmark or an urban elevation. The fabric decoration – at competition a participative colour-by-numbers – became a multi-authored arrangement of an upscale popular quilting pattern sampled and scaled, increasing in size across the elevation. Internally inflatable 'deployables' allowed the space to be transformed into an ensemble of three fabric 'rooms'. Part of the interchangeable kit of parts is the large shuttered front window. It can also be exchanged for a screen that accommodates back projection or that can be removed entirely, enabling sound equipment or even loads up to the weight of a car to be mounted on its support structure.

The LIFT initially ran theatre festivals in Stratford and the Southbank before a series of events in Shoreditch, Canning Town, Barking and Rainham – all locations in the Thames Gateway Development Corporation. The Thames Gateway is an area where change is under way, and the festivals were there to host a population at risk of feeling cut out of the decision-making process. In this context, the LIFT had the potential to play a valuable role as a mobile village hall where community voices could be heard.

The project asked what conversations we need to share as citizens in order to negotiate the particular challenges and possibilities of changing places. It asked how art and artists might provoke and facilitate those conversations, and what kind of space would best accommodate and even stimulate them. The LIFT as a design process enabled an exploration of what constituted a better public discussion between architects and non-architects. We were keen to develop an exchange on equal terms, where we willingly 'accept the losing of some control whilst maintaining ability to envision (and to challenge)'.[7]

The seekers led a process of exploring community space through performative activities, group movement, but also embodying the space with giant text and drawing exercises. AOC drew every space where we met our 30 East London groups, each recorded space shown to scale in plan and section as an audit of community spaces young and old, big and small. They were used as a constant comparator to our design proposals. These activities opened the working group up to the iterative role of drawings in design. Our subsequent collective preparation of a spatial



**13.2** AOC Architecture, sectional drawing, the 'LIFT – A New Parliament', London, 2008. Inside the tent, three 'deployables' allowed the space to be transformed into an ensemble of fabric 'rooms'. © AOC Architecture.

constitution – an evolving written and drawn collaborative brief linked intimately to the evolving practices of the Parliament – fed off the outputs of the shared creative spatial activities.

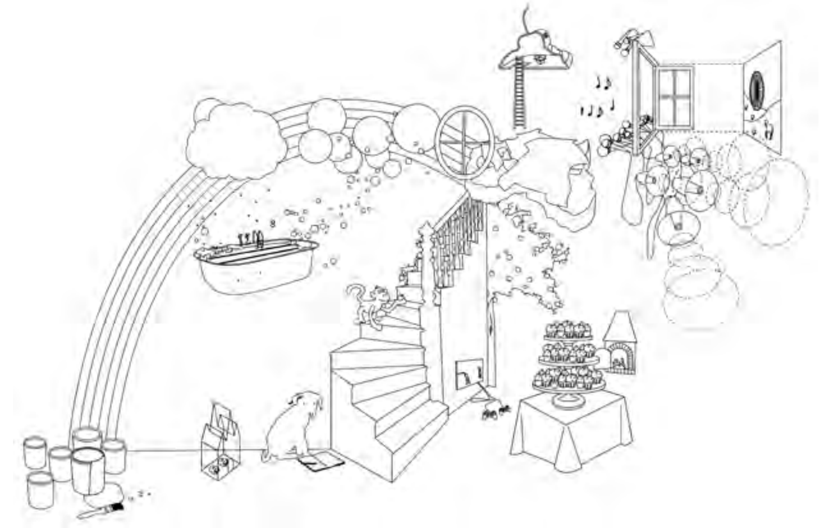
Conceived as a building like no other, the LIFT is a meeting place that hosts performances, ceremonies, forums, talks, workshops, virtual conferences, installations and exhibitions by day. By night, it is a beacon, an after-dark installation, a place to celebrate and let off steam, transmitting sound and image, radio broadcasts, films and documentation of the day's activities, communicating messages of its activities through theatre and the web.

The building is constructed from a logic of portable stage rigging, but carefully coordinated to feel unlike either a normal or temporary space. The three deployables define the space; two are hung with voiles, the larger by serge, and all three are coloured a theatrical red.

> Floating like jellyfish in the space, they suggest a crazy mish-mash of sources – the lush theatricality of Frank Matcham, the exhibition designs of Lilly Reich, Andy Warhol's pillows, and perhaps most of all the touch-of-a-button mutability of Archigram. This hybridity pervades the whole project: the building invites multiple associations but is careful to ensure no single one dominates.[8]

The overall composition is multivalent, inviting its users to extend the range of associations. Beyond mere physical change and adaptation, the unsettled character of the building's imagery has also been taken as a licence to interpret it in different ways. The pattern was proposed as something domestic to challenge the monumentality of the building's form, mixing the intimate with the epic, and sourced in Western culture community quilt making. But Ellis Woodman comments in his study of the project, for members of the large Muslim audience that the building





**13.3** AOC Architecture, spatial constitution of the collective imagination, 'Dream House' at the 'Building Blocks' exhibition, Stockholm, 2011. The 'spatial constitution' diagram brought the children's key ideas from their dream home drawings together on one page. © AOC Architecture.

serves on its travels around the eastern reaches of London, they have detected a relationship to the culture of Islamic tile design in the building's tessellated skin.

## A performative test

The 'Building Blocks' exhibition was a temporary experience of play designed with or for children. The members of the gifted and talented club at Friars Primary School were invited to act as client in the commissioning of a building through a series of workshops with AOC. The students were a diverse group representing all school years within Key Stage 1 and Key Stage 2 (ages 5–11) of education. The children were encouraged to develop their own ideas for the 'Dream House', producing drawings that were used to develop a brief for the building. AOC prepared a 'spatial constitution' diagram, bringing the children's key ideas together onto one page. The children identified the most important ideas and determined a list of priorities for the design. A final proposal was presented back to the children as a scale model. This led to discussions about detailed design such as the use of colour, pattern and actual uses accommodated within the house, which the children then entrusted to AOC to deliver for the

exhibition. The design was constructed by students of Hermods Design & Construction College, and the exhibition was open to the public at the Fargfabriken Gallery.

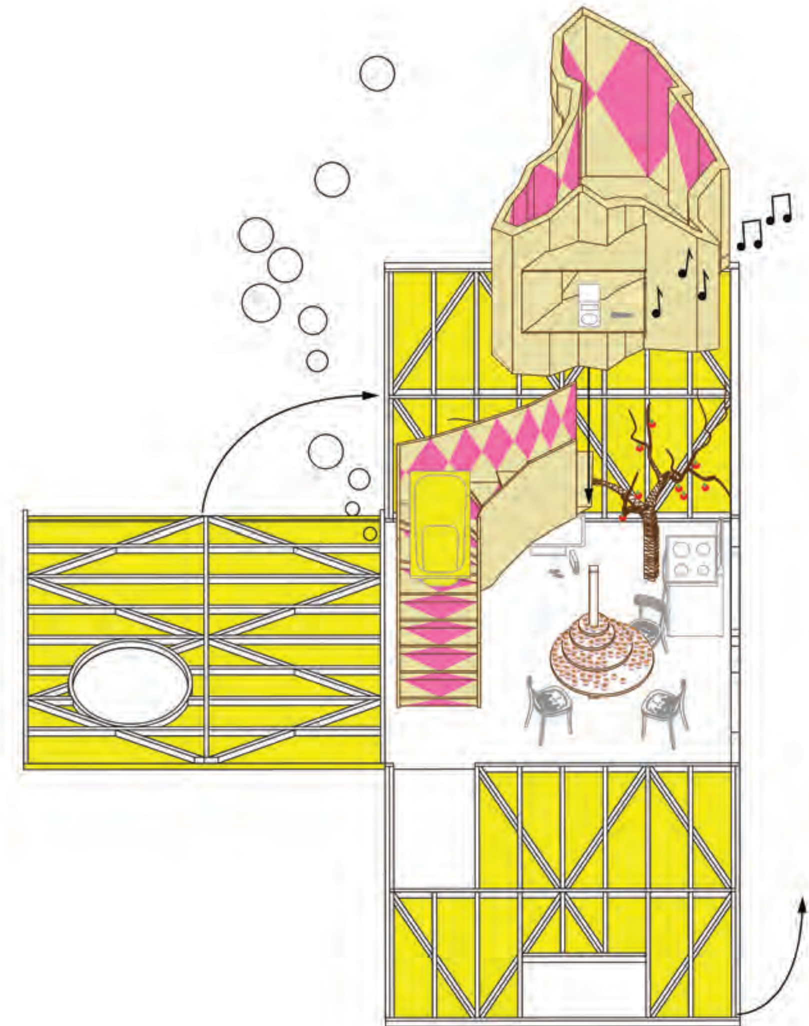
The bright golden cladding shimmers in the space, the two-way mirror offering glimpses into the colourful interior of the house. Inside the house, the big kitchen welcomes visitors with a giant cake stand full of freshly baked cupcakes. The apple tree is a column laden with red apples for picking. The virtual (console) window offers a more private and cosy space under the stairs. The winding stair leads up past the suspended bath, with bubbles spilling out of the round window. At the top of the stairs is the Africa-shaped attic room with the karaoke system on the cill of the singing window which looks out onto a view of a beautiful landscape.

The ambitions of the children raised issues for the 'Building Blocks' curators. Elements of the proposal were vetoed in relation to the held principles of child's play (within the exhibition hall); cakes were allowed, but not real cooking (for fear of health and safety); the karaoke machine made the cut but not the computer console. A performed embodiment is not just an objective reflection but is a lived process of compromise or ritual, and inherently prioritises the active role of objects set within the context of other objects.

The building block started as a pure 4 m × 4 m × 4 m cube in conception. Of all the commissions for the show, the collective work supported by AOC managed to both break and maintain this briefing. The monolithic gold wrapping not precluding Pandora's box of performed memory, the everyday lived experience, situated dreams and indulged memories treated as equivalent – a purposely rude combination of a social imagination – as loaded as a folklore.

Power was vested in each performer – workshop leads, teaching assistants, the children – but as such, the power was interestingly collective and mutable. One workshop focussed around a priorities process, ranking all ambitions in importance. But a social dynamic was at work: on one side, a responsible mutual grading of attributes, whilst on the other, a more devious and relentless reinsertion of more individually motivated ambitions. Another design workshop was subject to creative influence. In the demand for good ideas, ideas would be catching – one hand draws an ice cream in a cone, by another hand it's instantly a microphone, by another it becomes a globe . . . Narratives subject to community influence, taken in turns, implied meaning shifting in the time it takes to draw a drawing.

Conceived by school children (and teachers), built by college students (and tutors), tended by curators (and funders) and enjoyed by visiting children (and families), the effort resided in managing each handover of responsibility and management of production across age groups, languages and borders. A low budget and modest materials transformed through co-creation and co-production, against many odds. All this good intention made real through an individual ambition for a 100% gold-plated fantasy.



**13.4** AOC Architecture, planometric of the 'Dream House' installation, 'Dream House' at the 'Building Blocks' exhibition, Stockholm, 2011. A box of tricks, with cake making, computer playing, karaoke singing and bubble blowing, all as actions that make the limited space generous and active. © AOC Architecture.

The performative beauty resides in orchestration of the event and the positive role of the imagined. Cake making, computer playing, karaoke singing and bubble blowing – all actions that make the moment generous and active, combining arenas with players, space and tools. This added notion of aspect and orientation in relation to use, however – a sleeping deck, a belvedere and a view-defined forecourt (all in a factory shed) – makes space for the convivial and the relational as if by accident.

## Cultural approaches

Adrian Forty in his introduction to *The Art of Forgetting* (1999)[9] outlines a culture of memory and the difficulty for architecture to design with forgetfulness. As an example, he describes the Staatsgallerie as a conception to fill the emptiness of no memory (inherited from the modernist project). He goes on to criticise Rossi, and the notion that the mere replication of object space might be able somehow to change the collective mental life of a place. Instead, he cites Certeau – that memory is not localisable – and that objects alone cannot be relied upon to deliver memories to a collective consciousness. In other words, there is no real relevance possible through just the positing of abstract historical form; only through the contract of bodily meaning, the 'remembered' lived repetition of feelings in the beholder, can there be any real relevance. Shared relevance is perhaps the poetical content of reality – our recognition of an experience somehow mirroring that same good feeling felt before.

AOC find ourselves practicing in a modern architecture culture, and in a modern society, somewhat unable to reconcile the contradictions between objectifying and experiencing it. We feel a popular disconnect with much architectural discourse in principle, alongside a collective community request for architectural production to maintain comfortable established narratives in the midst of perceived change. Much architecture appears to be responsible for codifying spatial needs and delivering decorum within a democratic planning process, whilst at the same time modern life is ever shifting any previously understood basis for space and democracy.

Alberto Perez-Gomez describes a crisis in modern architecture where the poetical content of reality, the a priori of the world, is hidden beneath a thick layer of formal explanations.[10] In the rational framework post Enlightenment, the material world becomes a mere collection of inanimate objects, and here architecture can no longer be a legitimate art of imitation. 'Once it adopted the ideals of a positivistic science, architecture was forced to reject its traditional role as one of the fine arts. Deprived of a poetic content, architecture was reduced to either a prosaic technological process or mere decoration'.[11]

The simple act of conversation seems a pertinent way of collectively 'forgetting' or at least getting away from the facts. A broad and shared conversation helps everyone (the stakeholders, however defined) join in, releasing their ambitions and concerns into the territory of the project. The way that a conversation demands a to-and-fro, demands a compromise and demands that thoughts are translated means they all become unlocalisable. Once the objects are released into the milieu, they can be remembered anew and following Perez-Gomez, form can perhaps again fulfil its primary role as a means of reconciliation – one that refers ultimately to the essential ambiguity of the human condition.[12]

In AOC's work, the shared responsibility to support the collective imagination of a client, a design team, stakeholders and users is a constant provocation. The process of participation and the acts of a design conversation are critical points in establishing the shared understanding of what an evolved project might become. The journey we all commit to inevitably engages both the rational and irrational in its resolution. Giving time to the experience does much to break down oppositions and restrictive dogma and set the agenda around commonly held and communally expressed feelings and experiences.

Perez-Gomez usefully describes a pre-Enlightenment honesty in architecture – where form might be said to mirror the society it supports: 'Form was the embodiment of a style of life, immediately expressive of culture and perhaps more analogous to a system of gestures than to articulated language'.[13] I think this means that there were *familiar* solutions continually deployed and relied upon, but also a confident ambivalence when those tropes shifted to cope with something emergent. We are keen to develop a system of gestures for now, looking to test 'rude work' through assemblage. Formally, assemblage is common in our work, but beyond that, we hope for a critical assembly that can cope with the complexities that come out of diverse cultural engagement and conversation, where the ritual of participating in the memory of good experiences, or normative social behaviour, might inform the aesthetic and tectonic expression in objects for now. For us, this might be an 'honest' use of material.

## Notes

1. Architecture Foundation, 'New Architects 3 Launch Event', Barbican Centre, London, 24 March 2016. There are no published transcripts of the event. However, a sound recording is available on SoundCloud (see Bibliography). The relevant question and answer commences approximately 1 hour 29 minutes into the recording.
2. Paul Connerton, *How Societies Remember* (Cambridge: Cambridge University Press, 1989), 3–5.
3. Hans-Georg Gadamer, *Truth and Method*, trans. Joel Weinsheimer and Donald G. Marshall (London: Bloomsbury, 2004), 371.
4. The curriculum guidance was archived in 2004, and was replaced in 2017 with the Early Years Foundation Stage Statutory Framework (EYFS).
5. DfES, 'Curriculum Guidance for the Foundation Stage', Ref: OCA/00/587', 118.
6. Jay Merrick, 'The New Curriculum's Catchphrase – "Expect the Unexpected" – Is Carried Through with Bebop Brio', *The Architects Journal*, 27 July 2006, 24.
7. Jeremy Till, 'The Architect and the Other', *Open Democracy* (2006).
8. Ellis Woodman, 'AOC's Mobile Performance Space, the Lift, Goes Public', *Building Design*, 17 July 2008.
9. Adrian Forty and Susanne Kuchler, eds. *The Art of Forgetting* (Oxford: Berg, 1999), 1–18.
10. Alberto Perez-Gomez, *Architecture and the Crisis of Modern Science* (Cambridge, MA: MIT Press, 1983), 6.
11. Perez-Gomez, *Architecture and the Crisis*, 11.
12. Perez-Gomez, *Architecture and the Crisis*, 7.
13. Perez-Gomez, *Architecture and the Crisis*, 12.

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# Landscape and Ecology

# 14. Writtle Calling/ 2EmmaToc: A radio station for Essex

Melissa Appleton

> This is two Emma Toc Writtle Testing,
> This is Two-o-o Emma Toc w-W-Writtle Testing,[1]

Writtle Calling/2EmmaToc was a temporary radio station and performance space that operated from a field in Essex in September 2012. A collaboration between architect Matthew Butcher and me, working together under the name of Post Works, the structure was situated in the grounds of Writtle University College, one of the UK's largest agricultural institutions and formerly Writtle College. The project responded to an invitation from Writtle College's Centre for the Arts and Design in the Environment (CADE) to develop a site-specific response to the university's 220-hectare site. We developed a physical structure comprising of a stage, broadcast studio and mast activated by a week-long programme of broadcasts, working in collaboration with writer and curator Jes Fernie. Artists, writers, scientists and musicians were invited to make content for the station, responding to the agricultural origins of the term 'broadcasting' and the structure as a propositional framework. Imagined as an outpost – out of time – the radio structure acted as a vehicle of content: layering different places, shifted worlds and time zones – yet anchored in the context of Essex. Broadcasts included: a conversation recorded at writer Ronald Blythe's ancient farmhouse on the Suffolk–Essex border; six bells ringing in All Saints Church Writtle; the Arizona sky as observed from comet hunter David Levy's backyard; a mix tape made by London-based Kwesachu; composer and sound artist Cathy Lane generating live electronic sound from the broadcast studio; opera singer Jenny Hextall singing Puccini's *Addio di Mimi* from the radio stage (sung by Dame Nellie Melba and broadcast live from Chelmsford Marconi factory in 1920); and

**14.1** Melissa Appleton and Matthew Butcher (Post Works), elevation drawing, Writtle Calling/2EmmaToc, Writtle College, Writtle, Essex, 2011. Digital drawing. Original design drawing for the radio station structure that combined architectural forms sampled from existing Essex architectures witnessed on a journey along the A12 from London to Writtle in Essex. © Melissa Appleton and Matthew Butcher.

**14.2** Tom Noonan, perspective drawing, Writtle Calling/2EmmaToc, 2011. Digital drawing. The original design for the structure compositing sampled Essex vernacular forms. © Melissa Appleton, Matthew Butcher and Tom Noonan.

Heather Phillipson and Edwin Burdis inviting us to embark as passengers, the radio stage imagined as aircraft cabin and head.

Below a series of visits to Writtle during the development of the project and one evening in the life of the structure, Wednesday 12 September 2012, are described. The text reconsiders the origins of the project, its relationship to the history of radio broadcasting and the radio structure as a sonic and excavatory instrument in the Essex landscape.

## Beginning/frontier

It looked like a grounded homemade space station.[2]

A rough Autumn field; a series of shallow indentations scratched into the boulder-clay earth; a platform springing from a dense tangle of scaffolding; a column of aluminium trusses rising to support delicate arcs of strings; a massive bitumen-covered railway sleeper; a crooked fence post; a cut-out shape suggesting the space between a roofline and the sky; a garden shed with lapped timber walls; a shifted and shingled roof structure; a long nose-like form extruding across the Essex horizon.

During Summer 2009, we took photographs as we drove along the A12 from East London to Writtle, a small village in Essex on the outskirts of Chelmsford with a duck pond and a pub called the Rose & Crown. We captured fragments of mobile homes, gable ends, curved-heel gates, agricultural sheds, medieval barns and al fresco dining structures in pub gardens. In many cases, these structures and buildings had already sampled and remixed the Essex vernacular into their current form several times over. The agricultural working landscapes of Essex were still there – the 'telegraph poles, ruined barns, decoy ponds and isolated farms'– but suspended in the 'experimental compromise between the town and the country, the expanding city and the defiant swamplands'.[3] Driving across that leaky border between Essex and London, our perspective framed by the car window, we collected elements at speed, frozen in the June sun.

We stumbled around the fields, outbuildings and greenhouses of the site – test beds for the college's land-based studies. Piles of abandoned earth, exploratory holes and fenced-off areas of ground brought to mind Robert Smithson's 'ruins in reverse' as observed in his essay 'A Tour of the Monuments of Passaic, New Jersey' (1967). As Smithson observed the craters, pipes and bitumen heaps of the New Jersey edgelands '*rise* into ruin', could these field experiments also be 'memory-traces of an abandoned set of futures'?[4] We were looking for a corner of a field. We had a vague idea that the site of an ex-army hut – the birthplace of British broadcasting – was somewhere nearby in this fittingly techno-agrarian landscape. Captain Peter Eckersly, the voice behind station '2MT', or 2EmmaToc in the military phonetic alphabet of the day, described the

transmissions from the hut, the first regular scheduled radio transmissions in British history, as 'this thing called broadcasting'.[5] No doubt, Eckersly was riffing on the agricultural term 'to scatter seeds broadly' as he looked out across the Writtle fields on Valentine's Day in 1922.[6]

The hut was no longer there, but we found it in the Sandford Mill Museum, Chelmsford, the former waterworks of the Chelmsford Corporation and originally a corn mill. Following the lead of the nineteenth-century plotlanders[7] in utilising Essex as an 'expansionary frontier',[8] the Marconi Airborne Telephony Research Department, unable to develop airborne wireless from their offices in central London, repurposed an abandoned ex-army hut in Writtle to conduct their experiments in telephony, the transmission of human speech.[9] 2MT broadcast for half an hour each Tuesday evening and joined a handful of radio stations experimenting with speech and music transmissions across relatively empty airwaves – 32 stations worldwide, including 'FL' which transmitted from the Eiffel Tower in Paris. Building on experiments at Marconi's nearby New Street Works, Chelmsford, 2MT broadcast gramophone records, speech, weather reports, anecdotes, live music and early radio play adaptions – an improvised departure from reading out railway timetables to test the distance and quality of the radio transmissions.

We found the hut as described by Captain Peter Eckersly, 'a long and low'[10] shiplap timber structure – the centrepiece of a display on Guglielmo Marconi's pioneering radio work in Essex. The hut contained a mustard-painted interior, an upright piano and an ensemble of mannequins, staged as if midway through a live musical broadcast. The piano player was seated alongside, rather than in front of, the piano, and the effect was that his white-gloved hands were paused in mid-air whilst his sheet music was hastily tucked into his tuxedo. Outside, wooden radio and TV sets were piled up high against the end wall of the hut, perhaps the designs of Southend-on-Sea company EKCO (1924–60) who employed Wells Coates to design its pioneering 1930s AD-65 radio with Bakelite shell.[11] 'Modernity struck Essex hard in the twentieth century', writes Tim Burrows in his essay for *Radical Essex*, a recent project re-examining 'the history of the county in relation to radicalism in thought, lifestyle, politics and architecture' which centred around a series of events and commissions throughout Essex in 2016–7.[12] Alongside radio and communication technologies pioneered by Marconi, EKCO and others, industrialist-led communities such as Crittall's Silver End and Bataville produced extensive modernist settlements which remain inhabited to this day, outliving the industry which spawned them. Alongside the industrialists and plotlanders, a range of socialist, naturist, therapeutic and



self-sufficient communities utilised ex-agricultural land made available by the decline of Essex farming in the mid-nineteenth century – seemingly remote locations, yet on the fringes of London.

Driving back to London that day along the A12, the car radio skipped between stations as we crossed the porous London–Essex border – the city's outer edges, once solidly part of neighbouring Essex before the formation of Greater London. Photos from the car journey reveal the skeletal outline of the Olympic stadium, picked out against a swarm of cranes and Canary Wharf. Looking back east on that journey and writing from the present, radio seemed to be the absolute medium for this ambiguous county: the Essex coast 'growing blue and hazy' in H. G. Wells's Martian invasion story (1898); Holst writing *The Planets* in Thaxted, north Essex during the early years of World War I (1914–6); *Mars, the Bringer of War* opening the BBC's Orson Wells radio production of *War of the Worlds* (1952); pirate radio stations operating from ships and disused sea forts only a few miles from the coast of Essex in the 1960s.[13] In 2017, Arron Banks, a prominent backer of the Eurosceptic hard-right UK Independence Party (UKIP), drew on this well-known Essex radio history in a gesture of contained anarchy and nostalgia. Banks planned to bolster his unrealised campaign for the Clacton-on-Sea UKIP candidacy by broadcasting from a shipping trawler in international waters off the Essex coast.[14]

## Middle/underground

> As the audience – all eight of us – sat on hay bales in the early-evening twilight, the radio station squeaked and moaned into life, with an eerie sound of the wind blowing through the transmitters. This performance, delivered by the radio station itself, was followed by storytelling, readings, and a geology lecture about the location's topology and what would become of this little built structure in a hundred thousand years' time.[15]

Abandoning thoughts of a folly or pavilion, typologies connected to a picturesque landscape tradition of the Claude glass and Capability Brown,[16] the idea for our temporary radio station began to evolve as an instrument to channel a technologised landscape – to transmit a history lightly buried beneath the surface of a stony Essex field. Ken Warpole writes in *The New English Landscape*: 'The Claude glass, once used to frame the perfect composition, was in the 20th century replaced by the view from the car window'.[17] If the twentieth century bound landscape and

**14.3** Mark El-khatib, project flyer, Writtle Calling/2EmmaToc, 2012. Digitally manipulated image. Flyer designed and distributed to announce to public and press the launch of the project. Source: Flyer was designed by Mark El-khatib. © Mark El-khatib.

the car together, cars and radio continue to be inextricably linked into the twenty-first century. Car batteries powered the pirate radio stations that the 1967 Marine Broadcasting Offences Act pushed onshore from the Thames Estuary and Essex coastline, up into the tower blocks of London. As countries begin to switch off their analogue radio signals,[18] online radio stations such as NTS thrive and broadcasters such as the BBC move towards the universal label of 'sounds', FM radio survives in part due to the endurance of analogue radio sets in cars.[19] Arriving in the field by flatbed lorry, the unassembled parts of the Writtle Calling/2EmmaToc structure piled on the horizontal bed recalled the ensemble of forms in British surrealist painter Paul Nash's painting *Equivalents for the Megaliths* (1935). Floating in the tips of the thistles, fragments of structure, crane and lorry cab coalesced, recalling the hybrids of vehicles and dwellings that we had encountered on our journeys from London to Essex and back.

The field itself was uncompromising: a flat plane of shoulder-high scrub divided from the huge Essex sky by an undulating horizon of trees. The work of another British painter, Kenneth Rowntree,[20] provided a starting point for the curated broadcast programme, resonating with the horizontality of the site. *Sky, Sea, North Umber* (1981) is a visual and textual landscape: a series of coloured horizontal bands overlaid with corresponding hand-painted words, reflecting the work's title. The word 'sky' almost disappears against the white upper band, whilst the text becomes more evident as the layers darken and move downwards. 'North' read together with 'umber' suggests a fictional and subjective etymology of Northumberland (where Rowntree later lived): umber, a dark earth pigment from Umbria in central Italy; the Latin 'umbra' the very darkest part of a shadow; House Umber of the Last Hearth, an extinct vassal house from HBO's *Game of Thrones*. Undertaking a kind of reverse excavation of the site, moving from the compressed geological layers beneath the radio structure to the Essex sky, the broadcast programme was filtered through wide thematic layers such as underground, ground, sky and ether. The term 'broadcasting' underpinned these loose thematic bands – the interrelationship of technology and the rural, the local and the faraway, the scripted and the improvised – a term coined in this very place. The daily transmissions, composed of several fragments and authors, were aired at 6:00 pm, transmitted on 87.8 FM to a 10-mile radius and streamed live online via a website.

On Wednesday 12 September 2012, we descended into the earth with contributions from geologist Jan Zalasiewicz, contemporary artist Benedict Drew and poet Fabian Peake. Jan Zalasiewicz, broadcasting live from the windy field, interpreted a 'hole of time', dug for the local fire service to fill with water annually and practice rescuing a plastic horse. The hole exposed the 'pebbles, the sandgrains and mudflakes' of surface boulder clay: the 'geological goulash' spread across East Anglia by a mass of ice that covered most of Britain and left a landscape devastated as it retreated about a third of a million years ago. Then, flint pebbles, formed in the layers of white chalk produced when most of England was covered by sea, their spherical forms telling of a subsequent journey: piled up as shingle for millions of years on the edge of the 'old North Sea'. Displaced by the same slab of moving ice, the deeper sandstone pebbles at the base of the hole were formed from intense compression beneath the mountains of Wales – 'well before dinosaurs, fish, plants and flowers'. Zalasiewicz imagined the Writtle Calling/2EmmaToc radio structure itself buried by the descending tectonic escalator, speaking of the 'wonderful, awful, awesome' effect of the Anthropocene's untold geological impact: 'If it's buried, if the sea comes in, if the crust of this earth keeps going down then there's nothing to stop the fossilised radio station surviving for a billion or two billion years. It's in the hands of the tectonic gods'.[21]

Benedict Drew's 'Concrète Decent Transmission' described a protagonist pacing back and forth in artistic frustration in his studio by the

sea – his motion recalling the push and pull of pressure waves that deliver sound to our ears. Jolted into action by the sound of pealing bells, he sets off for his local park in search of the perfect reverb.[22] Lost in thought, he begins to walk around and around, his furious walking making an indentation into the earth, 'his line of sight now level with the ground'. As he descends, shovelling the earth around him, he encounters layers of detritus: plastic bags, buildings, plants and body parts. The synth-heavy sound work captured a sense of increasing geological compression and proposed an equivalence between tectonic escalation, digital compression and technological obsolescence: 'The deeper he got the more compressed everything became. The reverb for which he so longed for was gone. No air at all. Just compression – like VHS'. Finally, the ground digests Drew's protagonist, and he is 'excreted out into the most wonderful shimmering of caves . . . lined with crystalline layers'. At once becoming part of an accelerated geological strata and retreating into the reverberating chambers of his own body – 'your rib cage, your chest'[23] – the sonic vignette recalled the well-known account of American composer John Cage's experience in an anechoic chamber where he was confronted with two unknown sounds, thought to be that of his circulation and nervous system. David Toop recounts the 'uncanny' parallel of Cage's experience with the mole in Franz Kafka's short story *The Burrow*, obsessively excavating trenches and undertaking experiments to find the source of two near-constant sounds without an apparent source.[24]

Back on the surface, poet and artist, Fabian Peake, used charcoal lumps formed of geological compression to scratch words onto the lapped timber walls of the station itself. 'Concrete Forest' composited several layers 'using voice, loud, gentle, performance'. Live and pre-recorded voice recited fragments of a poem *outline (before I know)*, written in response to visiting the empty field before the radio structure. A melodic mimicking of Morse code, transposed from machine bleeps to the human voice, repeated as a refrain through the work: 'dah dit/dah dah dah/dah dit dit/dah dah dah/dit dit dah/dah dit dit dit/dah'.[25] Peake's live voice, whipped by the wind, became an object in a landscape, a register of distance, loud and gentle as he moved towards and away from the microphone. The sounds of bodily actions came and went: the scraping of the charcoal on rough timber; the thud of an umbrella thrown down on scaffold boards; an object hitting bright aluminium scaffolding. As Douglas Kahn writes in *Wireless Imagination*, nineteenth-century phonography, derived from the Greek 'sound writing', 'brought sound down to earth', inscribing any sound – 'even a very distant or dead one' into tin, wax and later

**14.4** Fabian Peake, 'Concrete Forest', 12 September 2012. Performance with live and recorded sound. Photograph shows performance of 'Concrete Forest' by Fabian Peake, broadcast live from 2EmmaToc/Writtle Calling structure on Wednesday 12 September 2012. Peake's performance consisted of the artist simultaneously writing on the walls of the structure while reading from a poem *outline (before I know)*, written in response to an earlier site visit. Fragments of the poem, spoken by Peake, formed a pre-recorded sound work played alongside the live performance – all elements were broadcast live on the radio. 'Concrete Forest'. Source: Photograph Melissa Appleton. © Fabian Peake.

vinyl – shifting boundaries between humans and machines, writing and voice, music and noise.[26] Peake's broadcast at once captured the 'phantasm' at the heart of radio and recorded sound[27] and grounded it in the materiality of 'super dense' charcoal, rocks and Essex earth. Predating radio by some three hundred years, writer, monk and physician, François Rabelais, writing in the sixteenth century in the fourth book of *The Life of Gargantua and of Pantagruel*, describes voices frozen in the winter air near the scene of a bloody sea battle, which thaw out in warmer air and on being touched:

**14.5** Melissa Appleton and Matthew Butcher (Post Works), Writtle Calling/2EmmaToc, 2011. View of 2EmmaToc sited at Writtle College before activation via the radio broadcasts. © Brotherton - Lock.

> Now that the rigour of winter has passed and fine, calm, temperate water returned, they melt, and can be heard . . . He then cast fistfuls of words onto the deck, where they looked like sweets of many colours . . . And I saw many sharp Words, and bloodthirsty Words too . . . When they had been all melted together, we heard: *Hing, hing, hing: hisse; hickory, dickory, dock: brededing, brededac, frr, frrrr, frrr, bou, bou, bou, bou, bou, bou, bou, bou. Ong, ong, ong, ong, ououououong; Gog, magog* and who-knows-what other barbarous words.[28]

### End/ether

> I see it glowing numinously like some imaginary outpost of the kind Buddy Holly & The Crickets must have played in Lubbock, Texas – a UFO perhaps hovering in the background.[29]

The Writtle Calling/2EmmaToc radio structure was dressed with lights, microphones and speakers. Sound artist Max Eastley's 'Aeolian arcs', four delicate bow structures, were fitted to the scaffold antenna. Instruments with their own autonomy, drawing on ancient Aeolian harps, they were played by the wind. The sound produced was transmitted to the control room and broadcast live between the evening radio transmissions – a sonic manifestation of site and weather. The uncanny and raw sound of the radio station-as-instrument evoked the sense of tuning into a potentiated space with the inert structure of wood and metal at its centre. This potency is contained in the word 'radio' itself, derived from the Latin 'radius' meaning 'staff, spoke, ray',[30] capturing an early understanding of the potential of 'empty air' and 'that harmonic maps hummed beyond the reach of the human senses'.[31] Writer and musician, David Toop, also a contributor to the broadcast programme, refers to the moaning of wind through human-made structures and natural formations as an 'auditory metaphor' that saturates folklore, religion and literature invoking primordial or 'inchoate beginnings'. From the Colossi of Memnon on the west bank of the River Nile, a statue which sang each dawn as wind played through a fissure in the massive stone figure, to Thomas Hardy's description of Stonehenge as a 'gigantic one-stringed harp'.[32] The radio structure itself became an instrument, acting as an acoustic resonator for the delicate instruments on its mast. The wind playing through the arcs could be heard without amplification as a constant presence beneath the evening broadcasts. When live, their contact microphones picked up footsteps climbing the structure and moving across the radio stage – a mechanism which collapsed together the conditions of landscape, present in the weather of Essex, the materiality of the structure and the actions of those who inhabited our UFO.

### Notes

1. One of the regular on-air phrases of Captain Peter Eckersley, presenter and sound engineer of 2MT radio station that operated from Writtle in 1922. Tim Wander, *2MT Writtle: The Birth of British Broadcasting* (Sandy, UK: Authors OnLine, 2010), 109.
2. Oliver Basciano, 'Off-Space Travels No 7: Writtle Calling 2 Emma Toc', *Art Review* (2012): 40.
3. Ken Worpole, *The New English Landscape* (London: Field Station, 2013), 13–4.
4. Robert Smithson, 'A Tour of the Monuments of Passaic, New Jersey', *Art Forum* (1967): 55.
5. Wander, *2MT Writtle*, 79.
6. The eighteenth-century term 'broadcasting' was an adjective to describe 'seeds dispersed upon the ground by hand', swiftly followed by the use of the term in a figurative sense 'widely spread'. 'As a verb, recorded from 1813 in an agricultural

sense, 1829 in a figurative sense, 1921 in reference to radio'. 'broadcast (adj.)', https://www.etymonline.com/word/broadcast (accessed 9 April 2019).

7 'Plotland premises were holiday homes with a unique twist: they were often built of London's detritus. From train carriages to old doors and sheds, East Enders used bits of London to build homes from Canvey Island to Clacton – a tangible representation of the leakage of the overpopulated city into the vacant countryside'. 'The Only Grave Is Essex: How the County Became London's Dumping Ground', https://www.theguardian.com/cities/2016/oct/25/london-dumping-ground-essex-skeleton-crossrail-closet (accessed 7 July 2019).

8 Worpole, *New English Landscape*, 12.

9 'Telephony' referred to the transmission of speech as opposed to 'telegraphy': transmission of the dots and dashes of Morse code.

10 Wander, *2MT Writtle*, 56.

11 Coates also designed a house, *Shipwrights*, for John Wyborne, a director of EKCO, influenced by Corbusier's Villa Savoye and a number of prefabricated 'Sunspan' houses at Chadwell St Mary, Thurrock. 'Shipwrights: A Grade II* Listed Building in Boyce, Essex', https://britishlistedbuildings.co.uk/101337691-shipwrights-castle-point-boyce-ward#.XP6AAy2ZP-Y (accessed 9 June 2019).

12 Tim Burrows, 'The Essex Escape, A Partial History', in *Radical Essex* (Manchester: Cornerhouse, 2018), 23. For further information on the Radical Essex project, see https://www.radicalessex.uk (accessed 13 July 2020).

13 Tim Burrows maps the interconnections between Essex, radio, Holst and H. G. Wells in his essay for Radical Essex: 'The Essex Escape', 16–8.

14 'Ukip's Arron Banks to Set Up Pirate Radio Station on Fishing Trawler off the Essex Coast if He Is Selected as Clacton Candidate', https://www.telegraph.co.uk/news/2017/04/21/ukips-arron-banks-set-pirate-radio-station-fishing-trawler-essex/?icid (accessed 30 April 2019).

15 Phillyda Barlow, 'The Artists' Artists: Writtle Calling', *Art Forum* (2013): 116.

16 The Claude Glass, named after the seventeenth-century painter Claude Lorrain, was a small darkened convex mirror, designed to be held by hand and used as a tool to simplify and abstract landscapes for landscape painting. Lancelot 'Capability' Brown (1716–83) was a prolific eighteenth-century British designer of landscapes, parks and gardens for private landowners.

17 Worpole, *New English Landscape*, 23.

18 In 2017, Norway became the only country in the world to switch off its analogue radio signals. 'Norway Becomes the First Country in the World to Completely Switch Off its FM Radio Broadcasts', https://www.independent.co.uk/life-style/gadgets-and-tech/news/norway-fm-radio-dab-switchover-switch-off-signal-svalbard-britain-switzerland-roberts-a8108456.html (accessed 29 August 2019).

19 Ofcom's 2019 Media Nations report states that 'sixty-eight per cent of radio listeners who use a car said they listened to live radio on an in-car FM/AM radio', 'Media Nations: UK 2019', https://www.ofcom.org.uk/__data/assets/pdf_file/0019/160714/media-nations-2019-uk-report.pdf (accessed 29 August 2019).

20 Kenneth Rowntree lived and worked in the Essex village of Great Bardfield 30 miles north of Writtle, home of the 'Great Bardfield Artists', including Marianne Straub, Eric Ravilious and Edward Bawden.

21 Jan Zalasiewicz, 'Deep Time', *2EmmaToc* radio broadcast, Wednesday 12 September 2012, transcribed by the author.

22 'Reverberation': 'Prolongation of a sound; resonance', 'Definition of Reverberation in English', https://www.lexico.com/en/definition/reverberation (accessed 9 June 2019).

23 Benedict Drew, 'Concrète Decent Transmission', *2EmmaToc* radio broadcast, Wednesday 12 September 2012, transcribed by the author.

24 David Toop, *Sinister Resonance: The Mediumship of the Listener* (New York: Continuum Books, 2011), 206–7.

25 Fabian Peake, '*Concrete Forest*', *2EmmaToc* radio broadcast, Wednesday 12 September 2012, transcribed by the author.

26 Douglas Kahn and Gregory Whitehead, eds., *Wireless Imagination: Sound, Radio and the Avant-Garde* (Cambridge, MA: MIT Press, 2004), 17–8.

27 Allen S. Weiss, ed., *Experimental Sound and Radio.* A TDR Book (Cambridge, MA: MIT Press, 2001), 1.

28 Francois Rabelais, *The Life of Gargantua and Pantagruel*, trans. and ed. M. A. Screech (London: Penguin, 2006), 829–30.

29 Ed Baxter, email to the author, dated 5 July 2012.

30 'Definition of radius in English', https://en.oxforddictionaries.com/definition/radius (accessed 10 July 2019).

31 Marina Warner, *Phantasmagoria* (Oxford: Oxford University Press, 2008), 258.

32 Toop, *Sinister Resonance*, 174.

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# 15. The fossilisation of architecture in the Anthropocene

Jan Zalasiewicz

## The making of fossil cities

One of the more engaging aspects of the Anthropocene – the concept that human impacts on the environment are changing the fabric of the Earth system sufficiently, and with sufficiently long-lasting effects, to give rise to a new geological epoch[1] – is contemplating what kind of future fossils lie within the walls of the buildings that we live in.

There is quite a variety. Let us take a modern building, with a good deal of concrete in its structure. The rock that is concrete (for this is very much a rock, albeit one that we make ourselves) is largely sand and gravel, which is eminently geological stuff and easy to fossilise, having already been sorted and sieved in the mill of erosion and sedimentary transport. Around these hard-wearing particles, there is the cement, a mixture of lime and mud that, in hardening, forms an array of distinctive minerals, which tend to be rare in nature but are now becoming abundant via this novel addition to the Earth's rock types.[2] These days, much concrete has fly ash added to it – novel human-made particles that are produced in millions of tons in our power stations, with some escaping from the electrostatic precipitators of the power stations to leave a kind of smoke signal across the Earth's surface.[3] The round, dark, carbon-rich particles of fly ash – otherwise useless – are striking when viewed through a microscope, and look quite unlike anything else I have seen as a major sedimentary rock constituent. This extraordinary new rock is shaped by us to form the unnatural structures of walls, foundations, walkways and a myriad of other kinds of construction. We have made concrete on a planetary scale: more than five hundred billion tons or so, almost all since the mid-twentieth century. That is the equivalent of a kilo of the stuff for every square metre of the Earth, land and sea – or, if you prefer, to make a full-scale model of the Earth as a kind of monstrous concrete eggshell, two millimetres thick. Some will inevitably find its way into contemporary strata, part of which will persist for many millions of years.

The regular oblong shapes of bricks, separated by mortar, are of flash-metamorphosed mudstone. This gives another mass-produced new kind of rock that, if buried, will have little trouble being preserved in fossil form. The building has a cladding of, say, granite and slate – and that would be a strange juxtaposition, in itself, of igneous, sedimentary and metamorphic rock. Snaking through the building are copper wires – a narrow segregation of the pure metal, which is rare enough in itself – in a quite non-natural form. Within the rooms there will be tables and desks of wood – a natural material, but once more in decidedly non-tree-like shape, and in forms that are, moreover, primed for future fossilisation by being dried, seasoned and varnished, to protect them against the ravages of termites and microbes.

On the desk, there will be a penholder – made of plastic that might, once entombed within strata, break down to produce a teaspoon of oil and a carbonised husk remaining within a penholder-shaped hole. Next to it, there might be ball-point pens – the pens once more of plastic and the ball being made of tungsten carbide, a mineral that is exceedingly rare in nature and never otherwise found in such a form, one of a huge range of new 'mineral' types produced by humans.[4] The ink, now, might fossilise as a dark linear patch, much like the fossilised ink sacs of primitive cuttlefish from ancient strata described by palae-ontologists. A really keen-eyed palaeontologist of the far future might spy the fibrous remains of more plastics in the microscopic, blackened filigrees that will be the remains of carpets, the artificial fabrics of the seat coverings and any polyester coats or jackets that happen to have been left in the building.[5]

And so on and so on . . . It is a great game, and can be played for hours. Its light-heartedness masks the remarkable way in which our urban constructions have provided an extraordinary and quite distinctive new form of geological stratum to add to the range of strata that have formed on Earth over the past four and a half billion years. In composition, shape and texture, this urban stratum is quite unique, not least in its biological aspects. It is we humans, of course, who are the biology because we have built all of this, and so – drawing on analogies with bees and termites and their nests, and worms and their burrows – our cities are not just strata, but also trace fossil systems of geologically unprecedented shape and extent, with roots (in our subways and sewer systems and also in the mines that we excavate and the boreholes that we drill) that extend to several kilometres below the surface.[6]

But, one might say, our cities are here now, having been built over the time span of a geological blink of the eye, and they might be abandoned just as soon. Then, would our magnificent structures crumble and corrode and be worn away, to leave no trace of our brief transformation of the landscape? Well, in many places, yes – but not everywhere, and it is one of the gifts of geology that can make us predict which of our cities are destined for oblivion and which may be fossilised (at least in part) to leave a record of our constructional achievements (or at least some part of them) that may, entombed underground, last for many millions of years.[7]

In Britain, Manchester, Leeds and Sheffield, for instance, and Edinburgh too, will likely leave little trace of their handsome architecture, except a kind of trail of sedimentary detritus that will be carried through river systems to be washed along nearby coastlines, or carried farther down by marine currents into the deep sea. London has a better chance of posterity and, over on the Continent, Rotterdam and Amsterdam will very likely become fossilised. It is simply a question of tectonics. As land rises (one might take North West England as an example), it will erode, until nothing at the surface is left intact. As it subsides (like South East England and more especially the Netherlands), it will become increasingly buried by fresh layers of sediment, to give a good chance of fossilisation to anything at or just below the surface. The resultant pattern of erosion and sedimentation will determine what we will bequeath to the far future. This will be the record of the Anthropocene, millions of years from now.

But the changes we are making to the Earth's geology are being made now, as we carry out our daily lives, and the impacts are already being felt – and will intensify over the lives of our children and grandchildren.

Some of the changes will lead us quite literally into a new landscape. We have become accustomed to thinking of human history in terms of a succession of many human generations in which political dynasties rise and fall, social, economic and technological progress is made (or suffers setbacks) – but in which this play is acted out on the timeless, fundamentally unchanging stage of the natural world. This natural world outside us might be modified (as forests give way to ploughed fields) but does not *really* change – or so we once thought.

Fundamental change, though, now seems imminent, perhaps even poised to begin in this century. It will be of a kind not experienced in all the years of recorded human history. It will involve many parameters – temperature, rainfall, the kind of plants and animals that surround us (and that feed us), new kinds of structures in the landscape – but perhaps the most striking of all will be the distribution of land and sea, which will have many consequences, not least for our national identities.[8]



Ever since sea level stabilised some six thousand years ago, following its rise of some 120 metres globally in the wake of the last glaciation (it took several thousand years to reach this level, as major parts of the Earth's ice sheets progressively melted), it has stayed remarkably stable – probably more stable than at any time in the past third of a million years. This has literally shaped the landscape at its margins. Rivers pour sediment into the sea, and it piles up by the shoreline as beaches, delta tops and coastal plains. It is a geologically rapid process. Most of the Netherlands, most of Bangladesh, half of Vietnam, the Mississippi Delta, the Nile Delta – all these and many more were shaped by this process, which geologists call 'coastal progradation'.[9] It provides a platform of fertile, flat land that humans have found immensely attractive. So, they settled, developed – and built: Venice, Amsterdam, Shanghai, New Orleans, Lagos, Hanoi – those cities that one may identify as prime targets for fossilisation.

The subsidence of the crust here is amplified. Typically, where land is sinking tectonically, rivers will be naturally directed towards it, simply because it is lower ground. Then, as the rivers drop their sediment load at the shoreline, the sheer weight of this material (many billions of tons) forces the crust downwards. (The crust of the Earth might seem rigid and immovable, but in reality, at a large scale and over time, it is distinctly pliable.) As the crust is forced downwards, more sediment is directed towards it, forcing it down further and further.

A positive feedback mechanism, geologists call it. It has been largely responsible for the enormous thickness of strata that have accumulated on Earth, and this mechanism has no close counterpart anywhere in the solar system. The resulting strata have – as a chance by-product of planetary mechanics – provided us with the materials to build our civilisation and the fossil fuels with which we power our lives.

These fuels now have largely provided the energy to refashion natural landscapes into urban ones, and go on to power that day-to-day urban metabolism that keeps its human inhabitants alive.[10] It has been an enormous planetary outburst of energy – but even that phenomenon is dwarfed by the energy inadvertently now being trapped within the Earth system by the trillion tons or so of carbon dioxide that we have released into the atmosphere as a by-product of our collective energy hunger. Most of that greenhouse gas–trapped solar energy is now going into warming the oceans[11] at a rate that has been compared to a billion cups of boiling hot tea being poured into the oceans each second.[12] Sea level is therefore rising, partly because water expands as it warms, and partly because the warming ocean water, and the warming air above it,

is now melting polar ice at a rate of several hundred billion tons a year (and accelerating).[13] Combine a rising sea level with city-encrusted subsiding delta tops and coastal plains (subsiding all the faster as water and hydrocarbons are pumped out from beneath them), and the scene is set for fossilisation of a good part of those cities. It is all part of the extraordinary workings of this planet, now with its additional human forces – and it will help our coastal cities achieve their own kind of immortality, long after we are gone.

## Living through the start of city-fossilisation

The far-future architectural legacy of our expanding cities is hence already being put into place. The geological robustness of modern building materials, the extraordinary extent of our growing megacities and the depth to which foundations reach, mean that it is now inevitable that an urban stratum, of a pattern and complexity unprecedented in Earth history, will persist for many millions of years into the future. And simple considerations of geological context, especially as to whether a part of the Earth's crust is rising or sinking long term, helps predict which cities are likely to enter the geological record and which will not.[14]

Of more immediate significance to human communities today is quite how fossilisation of the urban fabric will begin at any location, particularly in coastal settings vulnerable to sea-level rise. This will have significant consequences for the evolution of cities, and the prospects of their inhabitants, as Anthropocene conditions evolve over coming decades, centuries and millennia. The end result – deeply buried city strata as objects of curiosity for far-future geologists – we will contemplate shortly, for diversion. But the *process* of fossilisation will have real human significance on a timescale that is now uncomfortably close.

Let us consider some of those cities that are now on the cusp of this process. New Orleans, below sea level and protected – for now – from its combination of rising sea level and sinking land by ever-higher (and ever more expensive) sea walls. Or parts of Djakarta and Venice, already flooded at regular intervals. At some stage, and very likely this century, those urban landscapes must begin to succumb to the developing Anthropocene marine transgression. The question 'What next?' might be examined from any number of social, political, economic or governmental points of view. But let us consider it – following the theme of this chapter – as geological process, as the onset of fossilisation.



The abandoned superstructures of the buildings, standing now in shallow water, and weakened by the chemical ravages of seawater, buffeted by waves and swept by tides, will collapse sooner rather than later. The resultant piles of debris will then be acted upon by those same marine forces, just as a sea cliff is eroded by waves and scoured by tides. In the case of the natural sea cliff, geologists will track the journey from the mounds of blocks resulting from cliff falls, transformed into beach pebbles by swash and backwash, then into sand grains and mud flakes that are swept along the coast, segregating into sandy beaches and muddy tidal flats. Sediment from these coastal areas is then swept offshore to be transported across the continental shelf, before much tumbles under its own weight down the continental slope in the enormous submarine 'avalanches' termed 'turbidity currents', which can travel hundreds or even thousands of kilometres across the ocean floor, eventually coming to rest as a newly formed stratum of the ocean floor.

This kind of journey will be the fate of much of this collapsed superstructure – while the substructure of water pipes and sewers, metro systems and pilings will remain buried beneath this churning and travelling sediment, on its way to being petrified in situ. The eroded urban rubble, though, will show its own peculiarities as it begins on its long sedimentary pathways. Concrete and brick will behave more or less like natural rock as boulders being worn down to pebbles, to sand, eventually to mud – though concrete will release a natural cement too to harden the sediments around it (this process already creates remarkable, fast-growing stalactites in abandoned metro systems). Glass will eventually be worn to beautifully rounded translucent pebbles and grains.

Plastics will take a particularly long and wide range of journeys. They will range from tough sections of netting and pipework that will resist being moved by waves and currents to discarded polyester clothing and wet wipes that will become waterlogged and impregnated with mud, piling up to form structures that resemble algal mats, though *much* tougher and impenetrable to oxygen. Such accumulations already form a distinct new sedimentary structure on the banks of the River Thames and doubtless along other urban rivers too. Other forms of plastic – bottles, bags, cotton bud stems, wrappings, fibres, microbeads, discarded toys and ball-point pens – will travel along pathways that will reflect their size, shape, density and hydrodynamic properties. These journeys will be long, given that plastics are strong and decay resistant, and will develop into prolific, long, colourful trails of re-transported plastic litter when erosion bites into the many plastic-rich landfill sites that fringe our cities.[15] Once

finally buried at the end of this sedimentary journey – perhaps just a little along the coast or perhaps on some sea floor on the other side of the globe – these durable little items will begin their journey *downwards* into the crust, via burial by sediment, and towards petrifaction.

The eroding landfills too will release a variety of buried pollutants that will make these new strata-in-the-making chemically distinctive, and probably disquietingly hazardous, for the human populations coming to terms with this new and diminished geography – for the human response will also be a large factor in the shape and pattern of the urban strata that will ultimately survive us. Just as fossil coral reefs can be shown to have shifted their position, to grow and shrink successively as they adapt to changing sea levels, so human populations in the all-too-near future too will do their best to rebuild coastal cities on higher ground, in a kind of rolling inland migration of the urban fabric.

This rebuilding will influence, and be influenced by, the dynamic, evolving pattern of the drowning process of the abandoned city remnants. The beginning of the city-fossilisation process will be anything but abstract for those humans trying to cope with its consequences. The process will throw up all manner of little practical geological conundrums of its own. For instance, as sand and gravel-rich coastal plains are drowned, there will be a diminished supply of building materials, exactly at the time as there is an urgent need for more sand for more new concrete to replace the concrete lost to sea-level rise. The adaptation will be made more challenging by uncertainties as to how fast sea level will rise – an uncertainty with its own inbuilt geological calculus. Thus, the faster sea level rises, the more hurried will be the urban rollback, but the less erosion there will be of toxic coastal landfill sites, which will be submerged (mostly) out of harm's way all the more quickly.

## The long view

After many millions of years, the petrified results will create strata dramatic enough to rival, say, the Hell Creek Formation of Montana, strewn with dinosaur bones, or the archaeopteryx-bearing Solnhofen Limestone of Germany. To some far-future palaeontologist – the hyper-evolved descendent of the likely survivors of the present biological crisis, perhaps a future member of the cat or rat lineage – the strata that represent, say, the lower portions and substructure of a drowned and buried coastal megacity will be like nothing else in geology. Imagine one of those beautiful, detailed, old-fashioned cutaway drawings showing the below-ground structure of a city like artists used to draw for those serious-minded comics published for children with a yen for engineering and science. Then, take that drawing, tilt it or even turn it upside down – as might happen if our city strata get caught up in the tectonic mayhem of a mountain range. Crumple that image, then perhaps slice it across in a few places to represent the tectonic damage in fine detail. Take the details of those engineering-structures-become-geology, and squash some of them, blur others, render yet others in unfamiliar textures and colours. *That* might give some idea of what those far-future geologists/palaeontologists (of whatever species) will have before them, dotted here and there on that far-future landscape.[16]

Assume that these future excavators will have something like the same kind of intelligence, curiosity and manipulativeness that we have now, and that they have developed some experience of what we might now call 'normal' rock strata and fossils (as well they might, as any newly growing material civilisation will need to understand and exploit below-ground resources, just as we do now). They cannot fail to be struck by the difference between the complex organic textures of, say, a petrified coral reef or a dinosaur-bone-bearing fossilised riverbed and the bizarrely fractal geometrical patterns of the compressed and naturally cemented remains of a human city.

They will be struck too by the sheer diversity of the fossilised structures that our far-future chroniclers will very likely, with a combination of avidity and laboriousness, be beginning to excavate from this new treasure trove. They may well by then be used to fossil diversity – as in the complex array of organisms that one can find around that coral reef, for instance. But as regards the shaping of eminently fossilisable material into myriad different forms, patterns, shapes, sizes, textures, there has been nothing remotely like the diversity of human-made artefacts: the detritus of the technosphere become the extraordinary array of technofossils that will litter those city strata. These will range from gigantic – the preserved remains of metro and subway systems[17] – to the tiny, such as computer microchips.

Currently, there are something like ten million living biological species, and once there has been recovery from the current ongoing sixth major mass extinction in Earth's history, something like that number will probably be in existence in that geological far future we are envisaging here. Nobody has counted the number of distinct kinds of human artefact that are in existence today – just how many different types of bottles, bottle tops, knives, screwdrivers, screws, pens, door handles, books, roof tiles, lamps, chairs, tables, bricks, coins, pipes, toothbrushes

and mobile phones (to name just a few) are there today? The number of these technofossil types[18] probably runs into the hundreds of millions, this 'technodiversity' far exceeding the level of biodiversity – at least using the kind of classification that palaeontologists use of 'morphospecies' based upon fossilisable shape alone.[19]

This bizarre, highly technodiverse rock stratum will puzzle – and perhaps delight – these far-future explorers, just as the discovery of a marvellous new fossil locality is celebrated by palaeontologists today. But there will be a wider context too. Those far-future geologists, standing back from this singular urban event stratum, will see that it separates two major rock units on a planetary scale, characterised by two fossil dynasties: the familiar strata that we now call Cenozoic, with fossils of a steadily evolving array of molluscs, fish, land plants and large mammals, as were studied by Victorian geologists such as Charles Darwin and Charles Lyell; and the fossils of whatever forms of life will arise after the great biological perturbation of the Anthropocene that coincides with the geological level of the petrified city stratum, and with the evidence of a sharply warming climate and rising sea level that will be written into the strata too. This will be the really big story to be unpicked, just as geologists today puzzle over what killed off the dinosaurs. And the species most clearly associated with city strata (for our own skeletons will be present among the remains, as will be the dismembered fossil bones of the animals we keep in vast numbers as prey species[20]) will likely be puzzled at for combining such constructive power and such destructive consequences.

That is a narrative of the far future – in some ways, an effective and simplifying perspective on our current complex struggles and actions. In the meantime, though, we must learn to build our lives, and our new cities, against the backcloth of a planet undergoing hyper-rapid geological transformation. It would be helpful to try to build cities of rather less dramatic geological potential. In that way, there may be a little less to excite the awe of our imagined community of hyper-evolved and hyper-curious cats or rats of future eons. In return, though, our own immediate descendants may be able to enjoy urban lives that are a little less precarious.

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## Notes

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# 16. Architecture in the dark

Jonathan Hill

## The inner eye

We learn to see. Vision is acquired not innate. Informed by memory and all the senses, visual perception is dependent not only on what we see before us at a given moment. The eyes receive inexact information, and the brain extrapolates from previous knowledge and experience to create a plausible, seemingly comprehensive image. Richard Gregory states that vision 'is intelligent decision-taking from limited sensory evidence. The essential point is that sensory signals are not adequate for direct or certain perceptions, so intelligent guesswork is needed for seeing objects'. Consequently, 'perceptions are hypotheses . . . retinal images are open to an infinity of interpretations'.[1] We experience this process in action when the brain selects a viable image to fit the available information; out of the corner of an eye, we fleetingly glimpse the image of a black cat only to turn and realise that it is instead a black bag. The physiology of the human eye was formed in response to the light it receives. But Arthur Zajonc concludes: 'The sober truth remains that vision requires far more than a functioning physical organ. Without an inner light, without a formative visual imagination, we are blind'.[2] If we are unable to nurture this capacity early in life, it is difficult to acquire beyond adolescence. A previously blind person who acquires partial sight in middle age will not immediately recognise the things around them and may never do so.

Each person learns to see in youth, and each society learns to see collectively in a process that Peter De Bolla describes as 'the education of the eye'.[3] What we see and comprehend is culturally, socially and historically informed, varying according to time and place. Each society – and also each discipline within a society – formulates complementary conceptions of light and vision that meet its needs at a specific time and inform its development. Therefore, this understanding is partial and incomplete.

Rather than prioritise one over another, Zajonc concludes that we should appreciate varied eras and disciplines if we are to understand 'the full biography of light' and vision.[4] Consequently, he asks: 'What will light look like tomorrow?'[5]

Today, we acknowledge that light does not necessarily move in a straight line but weaves through space–time. Given the speed of light and thus the time that light takes to reach us, the stars we see in a night sky are in the past not the present. Equally, the sun we observe on a summer's day is the past sun not the present sun. Light sources vary in many ways such as brightness, hue, angle and direction, while light quality is affected by atmospheric conditions such as pollution, humidity and the surface texture onto which light falls. In daytime, most of our light is generated directly by the sun, but light reflected off the moon and planets may also be visible. Around the world, we experience a different light and a different night. Roy Sorenson notes that as we travel north from the equator, tangential velocity reduces as the circumference of the Earth diminishes. Thus, twilight expands in time: 'Trondheimers travel through twilight more slowly than do Bogotáns'.[6] The daytime sky is bounded because the sun illuminates the Earth's atmosphere. But as sunlight leaves the sky, space expands, and we observe the infinite starlit universe.

There are degrees of darkness. For example, the Bortle scale ranks the increasing darkness of the night sky from 9 to 1.[7] We only observe the darkest depths of the cosmos when there is no cloud cover and light pollution and no celestial objects onto which the light of the night sky can fall. Perceived darkness is not always the absence of light. Waking up from a deep sleep on a bright morning, we are at first blinded by the light. According to Sorenson, 'Sunspots look dark only because they are less luminous than the surface of the sun'.[8]

A shadow is only identifiable when it is seen on a surface and in relation to other shadows and areas of illumination, and will reconfigure as it moves from one surface to another. A black shadow is rare because the colour of a shadow depends on the colours of the surfaces on which it is cast and those of adjacent surfaces, shadows and light sources. In complete darkness, it is not possible to differentiate individual shadows, as everything is in equal shadow. On a hot day, we may experience a shadow as a change of temperature with our eyes shut. Due to their relative locations, objects of different dimensions can produce similar shadows. It is even possible for a shadow to continue after the object that caused it no longer exists. Sorenson's example depends on the speed of light – '299,792,458 metres per second in a vacuum' – and the distance of the moon from the Earth – 'about 384,400,000 metres':

> Hence, if the moon were instantly obliterated during a solar eclipse, its shadow would linger more than a second on the surface of the Earth. If the moon were farther away, its shadow could last several minutes. We can extrapolate to posthumous shadows that postdate their objects by millions of years.[9]

The three-dimensional world appears on the retina in two dimensions, but through experience, we understand it as three-dimensional. In an analogous manner, we extrapolate two dimensions on paper into three dimensions, although the retina is curved rather than flat. The retina has two types of light-receptor cells: the cones and the rods. Mostly located at the centre of the retina and functioning in the light, the three cone types are respectively sensitive to blue, green or red light, and each is sensitive to white light. They also vary in the time they take to respond to a light source and the time they continue to respond after it is removed, which explains the coloured after-images we sometimes experience. Another example of this process is the film projector that presents alternating moments of light and dark at high speed. The viewer perceives the illuminated scenes collectively 'because the excitation of the retina outlasts the stimulus. The retina is like a bell that rings steadily by being struck intermittently', writes Sorenson.[10]

The rods are mostly at the periphery of the retina and function in the dark, representing scenes in blacks, greys and whites. The ability to perceive colour, depth and detail is reduced at night, and the human eye sees little when first exposed to the dark. Gregory emphasises that the cones and rods 'adapt at different rates: cone adaptation is completed in about seven minutes, while rod adaptation continues for an hour or more'.[11] Consequently, a sudden exposure to bright light will undermine many minutes of slow adaptation to the dark. In semi-darkness, some of the cones are at their most sensitive, enabling us to see to a degree of colour, while strong colours can seem even brighter when illuminated in the dark. Keeping the eyes in motion will assist night vision, as it generates a retinal protein that converts light into electrical signals to the brain, and peripheral vision can aid clarity because the retinal image falls on rods sensitive to the dark. Some creatures such as the bat and the owl have superior nocturnal vision, but Sorenson emphasises that humans 'are designed to see dark things. Natural selection has favoured the perception of shadows since the inception of vision 500 million years ago'.[12] Gregory equates the slow adjustment to the dark to a journey back to an archaic understanding of time before it was measured into hours and minutes: 'whenever we look from the central fovea towards the periphery we travel

back in evolutionary time – from the most highly organized structure in nature to a primitive eye'.[13]

### Between light and dark

Classical antiquity characterised vision as a metaphor for understanding, and many societies have conceived light as revelatory as well as divine, which Christianity expressed in the immersive luminosity of a stained glass window in a Gothic cathedral. In *The Bible*, John 8:12, Jesus proclaims: 'I am the light of the world. Whoever follows me will never walk in darkness, but will have the light of life'.[14] Light is familiarly given positive connotations, and dark is frequently a pejorative term associated with the primitive, as in the distinction between historical eras: the Dark Ages and the Enlightenment. Beginning in the mid-seventeenth century, the Enlightenment – the natural light of reason – was founded on the assumption that humanity and nature are subject to the same laws of divine reason. Derived from e*mpeiria*, the ancient Greek term for experience, the principal British contribution to Enlightenment theory was empiricism, which made reason specific rather than generic. John Evelyn considered the sun to be an appropriate emblem for the intellectual enlightenment of the Royal Society, which was founded in London in 1660 and received a royal charter two years later with the purpose of advancing scientific knowledge through empirical investigation.

In the light, there is nowhere to hide. Describing the Enlightenment as 'subjection by "illumination"', Michel Foucault characterises the dark as 'the negative of the transparency and visibility' of reason.[15] Questioning age-old superstitions about the dark and what dwelt there, the Enlightenment stimulated new fears and obsessions in the manner that a bright light creates deep shadows. According to Foucault, the Enlightenment era found 'both in itself and outside itself, at its borders yet also in its very warp and woof, an element of darkness, an apparently inert density in which it is embedded, an unthought which it contains entirely, yet in which it is also caught'.[16]

Life begins in the darkness of the womb and ends in the darkness of death. The dark takes many forms – the dark of winter, the dark of night, the dark of a forest, the dark of a cave and a mythical origin of architecture – and has many associated metaphors. The Christian calendar follows the sun, and illumination is the principal metaphor for spiritual enlightenment and the heavenly afterlife.[17] But the Jewish and Muslim calendars are ordered according to the moon, and their religious festivals start at sunset. The night is a time of contemplation and prayer in many philosophies and religions, and may involve calm reflection as well as struggle and torment. The phrase 'dark night of the soul' is associated with the Spanish sixteenth-century Carmelite monk St John of the Cross, a major figure of the Counter-Reformation. The night can also be a magical time – a stimulus to the imagination when social conventions are challenged, as in William Shakespeare's *A Midsummer Night's Dream* (c.1595–6). Carl Jung continues the negative connotation given to darkness: 'Everyone carries a shadow, and the less it is embodied in the individual's conscious life, the blacker and denser it is'.[18] But recognising himself in 'the dichotomy of Faust–Mephistopheles' dramatised in Johann Wolfgang von Goethe's *Faust* (1808–32), he emphasises that 'Faust, the inept, purblind philosopher, encounters the dark side of his being, his sinister shadow, Mephistopheles, who in spite of his negating disposition represents the true spirit of life as against the arid scholar'.[19]

The tracing of a shadow's outline is sometimes cited as the first artwork and a precursor to the painting as mirror image.[20] In the first century CE, Pliny the Elder concluded that 'all agree that painting began with the outlining of a man's shadow' drawn by a woman on a wall.[21] Giorgio Vasari depicted an alternative version of this myth in a fresco, *The Invention of Drawing* (1573), in which a male artist draws his own shadow.[22] Analysing shadows, a sixteenth-century diagram by Leonardo da Vinci depicts light landing on a man's face. Three types of shadow are seen. The *cast shadow* occurs on parts of the face that look towards the light but are in shadow because of an obstruction such as a nose or chin. The *attached shadow*, or self-shadow, results on areas of the face that look away from the light. A third type of shadow, *shading*, refers to sequential gradations from light to dark on those parts of the face inclined away from the light source.[23] At night, we inhabit the attached shadow generated by the sun on the surface of the Earth and experience the cast shadow of moonlight reflected from the sun.

### The architect's vision

Light, vision and shadow have crucial interdependent roles in the history of the architect. Classical antiquity established the principle that ideas are immaterial and that intellectual labour is superior to manual labour. In *Timaeus* (c. 360 BCE), Plato claims that all the things we experience in the material world are modelled on ideal forms defined by geometrical proportions.[24] Consequently, there are two distinct realms: one consists

of ideal originals, which only the intellect can comprehend; the other of imperfect copies subject to decay. In *The Republic* (c. 380 BCE), Plato's disregard for art is evident in the allegory of the cave, in which men are imprisoned since childhood to see only the shadows not the generating fire. Set free, they still prioritise the shadows.[25] Plato distrusts art because it mimics natural objects and thus adds one layer of misrepresentation onto another: the drawing is a mere shadow of a shadow.[26]

Concerned to establish their intellectual status, Italian Renaissance artists promoted a concept of beauty based on geometric ideals but undermined Plato's argument that the artwork is always inadequate and inferior. The term 'design' derives from *disegno*, which means drawing in Italian and associates the drawing of a line with the drawing forth of an idea. Establishing architecture, painting and sculpture as intellectual rather than manual arts, the command of drawing not building transformed the status of architects. Emphasising the immaterial idea of architecture not the material fabric of building, Leon Battista Alberti concludes: 'It is quite possible to project whole forms in the mind without recourse to the material'.[27] According to Marsilio Ficino, who founded the Platonic Academy in Renaissance Florence and provided the first translation of Plato's works into Latin: 'The beauty of bodies does not consist in the shadow of materiality, but in the clarity and gracefulness of form, not in the hidden bulk, but in a kind of luminous harmony, not in an inert and stupid weight, but in a fitting number and measure'.[28]

In an early demonstration of linear perspective in around 1415, Filippo Brunelleschi depicted the square around the Baptistery in Florence in daylight.[29] According to Robin Evans, 'Light is, after all, the ultimate geometric instrument . . . in other words a line that is identical to a light path'.[30] Identifying light rays meeting at the eye as well as vision emanating from the eye, the etymology of 'perspective' means 'to look through'. Before the fifteenth century, the drawing was thought to be no more than a flat surface, and the shapes upon it were but tokens of three-dimensional objects. The Italian Renaissance introduced a fundamental change in perception, establishing the principle that a drawing is a supposedly truthful depiction of a three-dimensional world and a window to that world, which places the viewer in command of the view.

Acknowledging two distinct realms, Renaissance architects assumed that although the ideal could not exist in the physical world, their purpose was to bring the ideal to mind. In built architecture, the dialogue between the immaterial and the material was explored with considerable subtlety. Due to the identification of light and vision with drawing, geometry and understanding, architects familiarly designed for daylight, often



emphasising a bright sun, and defined shadows to reveal the beauty of form.

In his letter to Pope Leo X (c. 1519), Raphael associated the picture with the painter and the plan with the architect, confirming an opinion earlier expressed by Alberti.[31] Most of the drawings in Andrea Palladio's *I Quattro libri dell'architettura* (*The Four Books of Architecture*; 1570) are orthogonal. However, Palladio emphasised perspectival and scenographic effects. Shadows proliferate in the illustrations to *The Four Books of Architecture*. The arched openings of the Basilica 'in Vicenza' are shown in dark shadow, as often occurs in the actual building, which is faced in white stone quarried from nearby Piovene to accentuate the contrast between the masonry porticos and shadowed recesses.[32] Continuing this tradition in *Vers une architecture* (1923), Le Corbusier's praise for 'the light play on pure forms' requires shadow as well as illumination.[33]

Just as the conception of light is specific to a time and a place and informed by geography and climate, so too is our understanding of shadow. The deep eaves of a traditional Japanese house protect the interior from direct sunlight, ensuring that soft shadows are cast through windows faced in opaque rice paper, which is oiled to become waterproof. First published in Japanese in 1933 and translated into English in 1977, Jun ́ichiró Tanizaki's *In Praise of Shadows* concludes 'that the beauty of a Japanese room depends on a variation of shadows, heavy shadows against light shadows – it has nothing else'.[34] Tanizaki's conception of Japanese architecture differs from the dualistic contrast of light and shadow in the Western tradition.

According to the Norwegian architect Sverre Fehn, 'each material has its own shadow' and the 'shadow of stone is not the same as that of a brittle autumn leaf'.[35] Distinguishing between places as well as materials, he emphasises that in the Mediterranean, 'you only need to scratch the marble with your fingernail and the scratch is visible. Up here in the Nordic light, it just wouldn't be visible at all. These factors render our architectonic world shadowless'.[36] The appreciation of ambiguity rather than clarity has social and cultural implications: 'The dramaturgy of Nordic countries is never either exact or direct'.[37] Fehn eloquently exploits this poetic dialogue at the Nordic Pavilion (1962) in the gardens of the Venice Biennale. Two perpendicular layers of closely spaced concrete roof beams – cast in white cement, white sand and crushed white marble against a smooth surface – are aligned east–west and north–south to exclude direct sunlight and minimise shadows, transforming Venetian light into Nordic light and thus questioning the dualism of light and shadow.

Asserting that the Norwegian terms for '*vær*' (weather) and '*å vær*' (to be) are closely related, Christian Norberg-Schulz also associates Nordic culture with its sky, but emphasises instead dark midwinter days when the sun barely rises in the title of *Nightlands: Nordic Building* (1996).[38] The book's cover image depicts 'the Nordic winter's dark light' reflected off the snow in Harald Sohlberg's painting *Winternight in Rondane* (1914).[39] However, there is little discussion of darkness in the book apart from an occasional, poetic passage: 'The stave church reifies this light. In its interior, heavenward structural masts are lost in the reaches of upper darkness, where small peepholes illuminate like stars'.[40] None of the photographs depict a building during a dark night; the majority show exteriors in sunlight, and the comparatively few interiors are also seen in daytime.

In analogue drawing, ink is layered on a paper surface to represent a shadow. In digital drawing, even the darkest shadow is illuminated by the light of the computer, at least until it is printed. But architects still design for the all-seeing, universal eye of perspectival daylight vision and largely ignore the varied ways we see individually and collectively, which are informed by physiology, culture, history, geography and climate. It is very rare to see a building depicted at night in a book or a journal. Few architects design for the dark, and artificial light is usually an afterthought.

## The treasury of the shadows

The history of the sublime offers the most sustained appreciation of darkness and is a continuing stimulus to the architectural, artistic and literary imagination. In the sixteenth century, a barren wilderness was considered to be brutish and deformed, and the immaterial soul, 'as a visitor in matter', could not 'be truly at home in nature', remarks Ernest Tuveson.[41] Sublime nature did not receive extensive praise until the late seventeenth and early eighteenth centuries when nature and moral virtue were linked for the first time.[42] Although it was an established concept well before *Philosophical Enquiry into the Origin of our Ideas of the Sublime and Beautiful* (1757), Edmund Burke's achievement was to compile a coherent argument for the sublime.[43] Undermining the classical tradition that prioritises harmonious, formal beauty and emphasising perceptions rather than proportions, Burke equates the sublime with darkness, vastness and even deformity, emphasising degrees of darkness rather than complete darkness. While the beautiful is merely pleasant, the sublime is magnificent. Furthering the fascination for uncultivated nature, Burke identifies the sublime with desolate and expansive landscapes that are subject to the drama of natural forces. But he also attributes it to human constructions, stimulating architectural speculations on the sublime. Burke avoids definitive conclusions to the question of whether the sublime resides in the object, the subject or an interaction between the two. But his understanding of gender is less thoughtful as he describes the sublime as masculine and the beautiful as feminine. However, citing the writings of Anne Radcliffe, Charlotte Smith and Ann Yearsley, Philip Shaw notes that late eighteenth-century and early nineteenth-century interpretations of the sublime were not always so simply gendered.[44]

As the sixteenth-century building was analogous to the body, the ruin was associated with dismemberment, decline and decay, and was not then a significant design theme. In drawing greater attention to the conditions that inform self-understanding, the eighteenth century fundamentally transformed the visual arts, its objects, authors and viewers. The dilemmas, struggles and contradictions of complex and fractured identities in an increasingly secular and mercantile century emphasised life more than the afterlife and coupled the dark with the ruin as metaphors for time: the past as well as the future. Evoking life and death in a single object, the ruin of a building was linked to the ruin of a person or a place, as well as their potential for renewal. Allowing forms to collide, wrap and frame one another, Giovanni Battista Piranesi depicted massive, broken forms in dark, dramatic shadows. Combining multiple, oblique perspectives in a single image generated a multi-directional spatiality suggestive of alternative scenarios and journeys. In preparation for each image, Piranesi carefully studied and sketched his subject in differing weather and light conditions, including moonlight. The night transforms even a complete building into an apparent ruin, fragmented, barely observed and a stimulus to the imagination.

In *The Seven Lamps of Architecture* (1849), John Ruskin concludes: 'For, indeed, the greatest glory of a building is not in its stones, or its gold. Its glory is in its Age . . . it is in that golden stain of time, that we are to look for the real light, and colour, and preciousness of architecture'.[45] He associates the sublime 'power of architecture' with the 'quantity . . . of its shadow' because this expresses 'a kind of human sympathy, by a measure of darkness as great as there is in human life' and concludes: 'I do not believe that ever any building was truly great, unless it had mighty masses, vigorous and deep, of shadow'.[46] In the fourth volume of *Modern Painters* (1856), Ruskin further appreciates the sublime and writes of 'shadow-hunting', 'the singular importance of cast shadows, and the chances of their sometimes gaining supremacy in visibility over even the

things that cast them'.[47] Restricting his praise for ageing to the effects of weather and use, Ruskin regrets industrialisation, which he believes to be dehumanising. Extending the biblical affiliation of human misadventure with environmental retribution, he dismisses the 'pitch-dark' shadow of industrial pollution and associates 'the storm-cloud of the nineteenth century' with the spiritual abstinence of the modern world.[48]

Acknowledging a debt to eighteenth-century architects such as Piranesi, Louis Kahn invented the terms 'lightless: darkless' and encapsulated his design strategy in the phrase 'the treasury of the shadows'.[49] Indicating a concern for chiaroscuro, he remarked, 'Even a space intended to be dark should have just enough light from some mysterious opening to tell us how dark it really is'.[50] In contrast to Tanizaki's understanding of Japanese architecture, there is always some light amongst the dark in Kahn's shadow treasury. In 1961, discussing his unrealised design for the American Consulate in Luanda, Angola (1959–63), Kahn emphasised the need to provide strong shadows, reduce glare and create a soft, reflected light: 'I thought of the beauty of ruins . . . the absence of frames . . . of things that nothing lives behind . . . and so I thought of wrapping ruins around buildings', a principle that he adopted wherever he built.[51] Kahn's attention to ruins and shadows suggests an archaic understanding of time before it was measured into hours and minutes. Confirming architects' preference for the daylight of a pre-industrial era, he remarked, 'Artificial light is only a single, tiny, static moment in light and is the light of night and can never equal the nuances of mood created by the time of the day and the wonder of the seasons'.[52]

Suggesting 'that at the dawn of romanticism, *Burke's* elaboration of the aesthetics of the sublime, and to a lesser extent *Kant's, outlined a world of possibilities for artistic experiments in which the avant-gardes would later trace their paths*', Jean-Francois Lyotard states, 'The sublime is perhaps the only mode of artistic sensibility to characterize the modern'.[53] He concludes that art's fundamental purpose remains the same as in the eighteenth century: to offer a 'pictorial or otherwise expressive witness to the inexpressible', including 'impending death'.[54] The influence of Barnett Newman's 'The Sublime is Now' (1948) led Lyotard to distinguish between the romantic sublime and the modern sublime, which is concerned only with the present time and place, he contends. But in *Modern Painting and the Northern Romantic Tradition* (1975), Robert Rosenblum still places Newman within a romantic tradition, noting that 'the Jewish tradition of proscribing graven images' may have encouraged him to emphasise abstraction as a means to encounter the sublime.[55]



The technological sublime has been notably evident since industrialisation, which the moon landing exemplified in 1969, in the sense identified by Burke that natural forces and a human construction – in this case the lunar module – could each be sublime and in the sense defined by Kant that the human ability to remain rational in the presence of terrifying natural phenomena is itself sublime. The blue planet observed floating alone in the darkness of space transformed human understanding of the Earth. In an era fearful of nuclear proliferation and anthropogenic climate change, technology evokes the sublime through failure as often as success.

## The times of design and use

Questions of light, dark and shadow are interdependent with questions of time in terms of days, seasons, decades and millennia, as well as the past, present and future. Buildings are not necessarily conceived for the time in which they are constructed. A building can be designed for the present in acknowledgement of contemporary contexts, needs and desires. A design can also be a selective, critical and creative response to the past. Equally, a prospect of the future can be implicit in a design, which is always imagined before it is built and may take years to complete. Some architects design for the present, some imagine for a mythical past, while others create for a future time and place. Alternatively, a design can simultaneously envisage the past, present and future in a single architecture.

In many eras, fruitful innovations have occurred when ideas and forms have migrated from one time and place to another by a translation process that is stimulating and inventive. Thus, a design can be understood as specific to a time and a place, and also a compound of other times and other places. Nostalgia is frequently derided as negative and passive, but it can instead stimulate imaginative responses to the past that influence the present and the future. Erwin Panofsky identifies an extensive nostalgia for classical antiquity 'that distinguishes the real Renaissance from all those pseudo- or proto-Renaissances that had taken place during the Middle Ages'.[56] In *Anachronic Renaissance* (2010), Alexander Nagel and Christopher S. Wood write that 'the ability of the work of art to hold incompatible models in suspension without deciding is the key to art's anachronic quality, its ability really to "fetch" a past, create a past, perhaps even to fetch the future'.[57] In the centuries since the Renaissance, classical revivals have seen contemporary architects repeat previous architects' speculative reconstructions of the past. The modernist faith in progress

has stimulated a recurring nostalgia for past images of the future, leading architects to return to the designs of earlier modernists and assume that they remain futuristic. But even the exact replication of a past design is still new to some extent because the present context is never exactly the same as the past one.

The authorship of a noted building is most often identified with a single architect, even though architectural authorship is notably complex and may involve a number of initial protagonists such as the designer, client and engineer. The resulting intermingling of influences is often complex, sometimes contradictory and never simply one-way. The term 'architecture' has a number of meanings. For example, it is a subject, a practice and a certain type of spatial structure, typically the building or the city. I acknowledge each of these definitions but emphasise another: architecture is a certain type of spatial experience. A building may be designed with a particular time in mind, but the time of use will nearly always differ from that conceived by the architect. Consequently, this chapter now turns from a theoretical investigation to personal accounts of two events nearly 40 years apart in 1977 and 2015, respectively. The changing climate and weather have been a stimulus to the artistic, architectural and literary imagination for centuries, but scientists only acknowledged anthropogenic climate change in the 1970s. Now that it is the focus of public debate, there are many reasons to appreciate lower levels of light and energy pollution. Rather than a hierarchical dualism of light and dark, the discourse and practice of architecture should value the dark as much as the light, and night as much as day.

The Renaissance established the perspectival understanding of architecture. But we don't actually see in a single, concentrated gaze. Instead, our attention shifts from moment to moment and place to place as perceptual fragments combine into a montage of visual experience. Architecture is most often experienced habitually, when it is rarely the focus of attention. Walking along the same street every day, we do not scrutinise the details, forms and colours of individual buildings. But habit is not passive. Instead, it is a questioning intelligence acquired through experience and subject to continuing re-evaluation. Use is a particular type of awareness in which a person performs, sometimes all at once, a series of complex activities, some habitual, others not, that move in and out of conscious attention. Indicating that architectural authorship is multiple not singular, the user makes a building anew, whether through a physical transformation, a change of function or an unexpected association.

Understanding a building in temporal terms and extending architectural authorship to include the times before, during and after design,



construction and use also leads us to acknowledge the significant authorial voices of the climate and the weather and the light and the dark. As vision is 'intelligent guesswork' even in daylight, is it simply guesswork at night or does the dark stimulate perception, intelligence and imagination?[58]

## Chapel Farm, 1977

Genevieve Ludlow Griscom and her husband, Clement Acton Griscom Jr, a wealthy shipping magnate, were prominent members of the Theosophical Society in early twentieth-century New York. Uniting two Greek words – *theos* meaning 'god' and *sophia* meaning 'wisdom' – with the purpose of acknowledging the spiritual understanding unifying religions, sciences and philosophies, the Theosophical Society was founded in New York in 1875 by Helena Petrovna Blavatsky who moved the international headquarters to India seven years later. Theosophism spread worldwide, but schisms led to a number of distinct organisations such as the Anthroposophical Society founded by Rudolf Steiner in 1913, nine years after he was appointed General Secretary of the German-Austrian branch of the Theosophical Society.

In the 1920s, a few years after her husband's death, Genevieve purchased a steep, rocky, heavily wooded 16-acre site in Riverdale, the Bronx, close to the Hudson River in the north-west corner of New York City. She chose Chapel Farm as a perfect base for the Outer Court of the Order of the Living Christ, a religious group that appreciated divinity in nature and aimed to combine Christianity and Theosophy.[59] The elevated setting has traces of prehistoric quartz quarries and includes the second highest point in the five New York boroughs.[60] At the summit of Chapel Farm, Genevieve commissioned a house for the Second Coming of Jesus Christ, convinced that the past, present and future would meet in a single architecture. It is unclear why she believed that the Son of God would soon reappear in this location in her lifetime and want a substantial, ponderous Arts and Crafts house with rough stone walls, a steep tiled roof and many bedrooms. Completed in 1928, the house was left empty but regularly cleaned and dusted while it awaited Jesus's imminent return. Within the woods, Genevieve constructed a chapel and somewhat smaller homes for Christ's twentieth-century disciples. Living on the estate, she visited the main house every day. Genevieve died in 1958, aged 90, and the Order disbanded soon afterwards. Chapel Farm was sold to a developer in 1960 but remained undeveloped. The estate was then given to the Archdiocese of New York who in 1969 sold it to Manhattan College, a private Roman

Catholic liberal arts university founded by Christian Brothers in 1853 and named 'Manhattan College' since 1861 due to its original location. In 1922, the university moved to a new site in Riverdale close to Chapel Farm.

A high metal fence encircles Chapel Farm, and two large steel gates mark the entrance, deterring visitors. The estate is very quiet and very dark. The only route is a no-through road, and there are no passers-by. The few cars belong to residents or the College's security patrol. No one walks. The driveway turns first to the left and then twists in slow curves as it rises towards Christ's house at the summit. As the site is heavily wooded and the houses are not close to each other, the road is often enclosed solely by trees before another house comes into view. Senior members of Manhattan College reside in the houses along the driveway and my uncle, as Vice President of the university, lived in the penultimate one, closest to Christ's house and intended for a modern-day St Peter. Distant from the road, hidden deep among evergreen trees that muffle sound and deter sunlight, the house is large, rambling and dark.

In the summer of 1977, I went to stay with my aunt and uncle at Chapel Farm. Jet-lagged soon after my flight, I was left alone to sleep one morning while they went to church. I awoke to hear heavy banging breaking the deep silence with no idea why I was alone. After a while, my relatives returned from church, and I realised that the basement sounds were merely a repairman working on the boiler, not some long-dead member of Genevieve's Order.

Chapel Farm abuts the northern boundary of Fieldston Historic District, a prosperous and exclusive Riverdale neighbourhood untypical of the Bronx. Influenced by Frederick Law Olmsted, streets curve and undulate in the 1914 layout plan, following the contours of the land. Fieldston is purely residential with shops, restaurants and schools at its edges. Sparingly distributed across the 140-acre estate, around 250 substantial villas in a limited range of styles – Classical, Tudor and Art and Crafts – nestle in the folds of hilly ground verdant with mature trees. Fieldston incorporates a sizeable portion of one of New York's four Special Natural Area Districts, which protect 'natural features' including 'rock outcrops, geologic deposits, steep slopes, existing natural topography, topsoil, aquatic features, botanic environments and trees'.[61] Founded in 1923, the Fieldston Property Owners' Association manages and maintains the estate, repairs the roads and sewers, and employs a security firm with the purpose 'to maintain a "private park" atmosphere'.[62] Residents' cars display a Fieldston logo and are kept in their 'respective garages and driveways . . . to preserve the bucolic aspect of the streets' and allow 'the security patrol a clear identification of out of the ordinary vehicles'.[63] To deter and slow unwanted vehicles further, the road surfaces are deliberately broken, uneven and pockmarked. In contrast to much of the city, the poor road quality is a sign of prosperity not poverty. At night, Fieldston is sparsely lit. But like its broken roads, Fieldston's low, uneven illumination is a sign of wealth. Protected from intruders, its wealthy residents are comfortable in *their* dark.

Fieldston inverts the familiar narrative of the city at night in which more light is reassuring and less light is disturbing. For most of human history, rural darkness was familiar, and towns were sparsely lit. It is only in recent centuries that urban darkness is hard to find and less often experienced. Paris pioneered street lighting in 1667, and London followed in 1684. The French capital initially employed candle lanterns, but oil lamps were the most common method of illumination in eighteenth-century European cities.[64] Alongside the establishment of professional police forces, the advent of gas lighting then electrical lighting, which first appeared in New York in the late nineteenth century, were a practical response to the need for illumination and a means to allay fears of those who might lurk in the dark. Rather than the flickering glow of early street lighting in which buildings seemed to rise and fall with the breeze, later street lighting provided a constant glow. But the gentrification of the night was uneven as street lighting varied from wealthier to poorer neighbourhoods. Matthew Beaumont concludes that 'like enlightenment, illumination was the privilege of the middle and upper classes'.[65] In the cities of medieval Europe, night curfews were common, and nocturnal labour was a crime in many trades. The advent of street lighting removed the need for curfews and stimulated legitimate workers, including cleaners, security guards and transport workers, as well as a counter-cultural urban nightlife that cultivated its association with social transgression. Once city dwellers became used to higher levels of illumination and relished the spectacle of street lamps and glowing signs, darkness became exciting as well as disturbing. According to Beaumont, 'vestiges of the long history of legislation against nightwalking in England are visible even today in the United States'.[66]

As everyone else had a car, I was the only pedestrian at Chapel Farm. Each morning, I would leave my aunt and uncle's house, walk down the twisting driveway through the dense wood, unlock and relock a high entrance gate with a large key, become a rare pedestrian on Fieldston's exclusive lanes and then travel down to the clamour of Manhattan, returning in the early evening to the isolated house in the wood. Diminishing

one or more senses draws attention to the senses absent and present. Dark, silent Chapel Farm heightened my awareness of the sights and sounds of Manhattan.

Opened in 1936, the Henry Hudson Parkway passes close to Chapel Farm, leading south to Manhattan and north to the Bronx perimeter of New York City. At Manhattan's 56th Street, the Parkway continues south as the Westside Highway adjacent to the Hudson River. In 1973, a section of the Highway collapsed after a truck crashed to the street below, remaining closed to traffic as the city administration could not afford the repair costs. Drivers travelling from the Bronx to Manhattan turned off the Parkway and continued south at street level alongside and beneath the disused aerial Highway. The irony was obvious and sad. An exclusive New York neighbourhood deliberately damaged its lanes to deter traffic while the city could not afford to repair a major Highway.

On 29 October 1975, US President Gerald Ford gave a speech in which he denied federal financial assistance to New York, then close to bankruptcy. Next day, the front page of *The Daily News* read 'FORD TO CITY: DROP DEAD'. The Democrat mayor, a morose Abe Beame, was photographed holding the infamous headline. The broken and bankrupt city became the personification of urban violence and decay. Beginning in the summer of 1976, the serial killer known as 'Son of Sam' murdered six people and wounded seven others, taunting the police in letters that he left at the crime scene. The first killing occurred in the Bronx, and he had still not been apprehended in July 1977.[67] Based on Sol Yurick's 1965 novel of the same title, Walter Hill's film *The Warriors* (1979) captures the chaos. The film begins with a night-time gathering of New York gangs in Van Cortland Park, the Bronx, immediately to the east of Fieldston and Manhattan College, to discuss a truce that would allow the gangs to divide and control the city. The meeting breaks down without agreement, and one gang, The Warriors, are falsely accused of murdering the gang leader who proposed the truce. Stylising gang violence and ambivalent on gang culture, the film then focuses on The Warriors' night-time escape to their home base of Coney Island at the opposite edge of the city as the other gangs seek them out. The final battle occurs at sunrise. Two years later, John Carpenter's film *Escape from New York* envisages the city's exponential decline in the near future with Manhattan as a maximum-security prison in which the inmates are left to their own brutal devices, and guards patrol the surrounding rivers.

Returning from Long Island to New York on a hot summer evening after a rainstorm, my train turned on a long, slow curve to reveal a full panorama of the Manhattan skyline at dusk. A sublime shadow of pollution delineated building profiles as humid, contaminated air accentuated the vibrant colours of sunset. One by one, the city lights started to embellish the early night sky. One moment, Manhattan was brightly illuminated; the next moment, it disappeared. All the lights went black. A series of lightning strikes at power plants caused an electrical blackout, plunging the bankrupt city into gloom by 9:30 pm on 13 July 1977. As eyes adjusted to the blackout, the city reappeared as a pale silhouette barely distinguishable against the fading embers of a setting sun. Very gradually, as the train swung in to the terminus, a few scattered lights came on, powered by emergency systems not reliant on the main electrical grid. Darkness predominated New York.

I enjoy the dark. I grew up in the countryside, and cherish inky country lanes where illumination is an unwelcome interruption. In my London home, I enjoy the glow of a single candle and the borrowed light of the city. Throughout the night of 13 July 1977, I was aware that this would be one of the most magical, sublime and terrifying experiences of my life. The blackout was the catalyst for extensive looting and arson, with thousands of arrests across the city. Disembarking at Penn Station, where Kahn had died of a heart attack just three years earlier, I recalled his disregard for electric light and praise for 'the treasury of the shadows'. At first, the entire subway system was out of action. But very gradually, some lines began to reopen partially. The station closest to my uncle and aunt's house remained shut. Identifying a fractured route from one station to another, I found a line that terminated elsewhere in the Bronx, a few miles from Chapel Farm. From the final station, I walked through a part of the borough I did not know. The blackout returned urban experience to a time before electrification. A. Roger Ekirch writes that 'in early America, almanacs represented the most popular publication after the Bible', charting the moon's progress in monthly tables.[68] But on this night, the visible moon was just a thin crescent. As the sky was clear of cloud cover and light pollution, a vast array of stars was revealed. With no buildings illuminating the streets and all civic and commercial lighting systems out of use, the enveloping darkness was interrupted only by an occasional personal light source such as a candle, torch or car, which tended to dazzle rather than illuminate. Spatial comprehension became more fragmented and less coherent as I tried to piece together what I could see and hear. As darkness diminishes appreciation of colour and distance, I was more aware of the reflective or absorbent properties of a surface when a light glanced across an object. The streets were deathly quiet, as no one ventured out unless absolutely necessary, amplifying to a disturbing level any sound such a door slammed shut. I started to

relax somewhat as I gradually drew closer to the area I knew. Suddenly, I heard fast, heavy footsteps in the darkness behind me. But it was merely a midnight jogger appreciating a secluded run. Once I reached Fieldston, the threatening gloom became a familiar darkness. When I arrived back at Chapel Farm at 2:00 am, my uncle was still awake, very relieved and even surprised to see me. From his facial expression, I could see that he had already prepared a speech to tell my parents that their son was lost.

### 'St Elmo's Breath', 2015

The artist James Turrell recalls 'a very odd time' in Los Angeles just after America joined World War II: 'The anti-aircraft positions opened fire at what were thought to be attacking aircraft . . . In the midst of this real or imagined attack, I was conceived'.[69] Growing up with blackout curtains leftover from the war, he recalls:

> When I was six years old, in order to assert my presence in the room, I took a pin or needle to these curtains and pierced them to make star patterns and the constellations. I would simply make bigger holes for stars of greater magnitude. Pulling down the curtains and darkening the room, you could see the stars in the middle of the day. These weren't just holes in the curtains, they were holes in reality.[70]

Turrell identifies two further experiences as catalysts to his art. As a pilot, he was immersed in light. As a prisoner, he was immersed in dark:

> As a result of things I said as a draft counselor during the Vietnam war, I spent time in the penitentiary, and to avoid being assaulted or raped, I would do things that got me into solitary . . . At first, as a punishment, they make it extremely dark, totally dark, so that you can't see anything. However, the strange thing that I found out was that there never is no light. Even when all the light is gone, you can sense light. In order to get away from a sense of claustrophobia or the extremeness of punishment, the mind manufactures a bigger space and it doesn't take long for this to happen.[71]

Turrell succinctly explains his intention: 'I always wanted to make an architecture of light'.[72] He emphasises the physicality of light as 'matter converted into energy' and its effects on the whole body, as in vitamin D absorbed through the skin: 'I try to take light and materialize it in its physical aspects so you can feel it – feel the physicality; feel the response to temperature and its presence in space, not on a wall'.[73] Turrell's art recalls a modernist conception of light as space and a premodernist conception of light as spirit. Referring to his upbringing, he emphasises the light within and around us: 'Of course the Quakers always believed that it was the light inside' each person that really mattered.[74] Consequently, 'in a way, light unites the spiritual world and the ephemeral, physical world'.[75]

Appreciating the interdependence of science and art, Turrell praises the physicist Zajonc who was General Secretary of the Anthroposophical Society in America between 1994 and 2002.[76] Zajonc equates their endeavours in *Catching the Light: The Entwined History of Light and Mind* (1993) and also remarks: 'Like Kahn, all I am able to do is put my words where light is not. But perhaps by doing so, this book, too, will become absolutely luminous'.[77] Devising an artistic taxonomy of light, Turrell identifies 'Vermeer with an intellectual light, or Velázquez or Goya with a very emotional light'.[78] Referencing Barnett Newman and Mark Rothko, Turrell notably praises Ad Reinhardt who has 'beautiful, lush colour coming out of darkness . . . He approached the sublime in a very disciplined manner'.[79] Turrell transfers their concern for radiant colour from the medium of paint to light itself, creating installations for natural light, artificial light or a combination of the two. No attention is drawn to artifice. Standard construction techniques and components are a means to an end: 'Well, it's very simple. It all comes from seventy-five and sixty-watt frosted light bulbs. It's straightaway light that you have everywhere else'.[80] The focus of attention is the immersive experience of light. Time, space and distance are subtly confused. Just as the body feels suspended, so too is there 'a slight suspension of . . . time'.[81] The resulting gentle disorientation is positive. First, because it concentrates awareness on perception itself: 'So I'm interested in the capacity to just perceive one perceiving'.[82] Second, because the visitor needs to let go of any preconceptions and discover new ways to navigate: 'Talk to any instrument pilot and you know damn well you've had to do that to gain that license'.[83] Third, because it engenders unsettling but playful interactions between a community of occupants who perceive themselves perceiving and observe each other so that their experiences are personal and social.

Identifying a means to profit from his art Turrell quips: 'So I thought I would make follies, those could sell'.[84] And of course, Britain is 'a good country for follies'.[85] Reflecting on commissions around the world and praising J. M. W. Turner's depiction of weather and climate, he concludes:

'the biggest finding was how different each atmosphere is; and in England you're at sea, absolutely you're at sea. It's a maritime sky with a lot of moisture in the air and there's a softness that's really beautiful'.[86] In 2015, Turrell's art was displayed throughout the Houghton Hall estate in north-west Norfolk. The exhibition title, 'Lightscape', implied a companion piece to the transformation of 'Landscape' in the early eighteenth century when Sir Robert Walpole, the first British Prime Minister, commissioned the new Hall and Park. Various estate buildings housed immersive light installations and a choreographed light projection appeared on the Hall's west façade at dusk. Alongside works installed for the summer, the exhibition incorporated two contrasting existing pieces: one encapsulating a sky, the other celebrating a dark interior.

Edged by rows of conical topiary, an axial broadwalk extends westwards of Houghton Hall. To the north and south, clipped beech hedges enclose 'wilderness' garden rooms that recall a seventeenth-century formal layout rather than the early eighteenth-century picturesque. Commissioned in 2000 and completed two years later, the 'Skyspace' entitled 'Seldom Seen' occupies a secluded setting in one of these rooms. A path lined with undulating cloud topiary leads to a long timber ramp that winds upwards and around a raised timber box. Sequential double doors define the threshold to the interior. Timber benches with high, inclined backs focus attention on the single aperture, a roof opening to observe the shifting sky, which is subtly enhanced in comparison to the same unframed sky seen from outside. 'Seldom Seen' is open every summer, and I've visited it many times. But the sky is never the same. As Norfolk is one of the driest counties in England, I was excited to finally experience 'Seldom Seen' in the rain after a seven-year wait. Rather than look up, my gaze was drawn down to the open aperture reflected in the wet concrete floor. Framed by grey, the blurred, twisted white rectangle was animated by bouncing raindrops that echoed in the enclosing chamber.

At the western end of the broadwalk, the principal view extends further westwards beyond a ha-ha and across fields. Framed by beech trees, a broad avenue leads north, terminating at the strong vertical presence of the distant Water House, which was built to supply water to the Hall and designed by Henry Herbert, ninth Earl of Pembroke in around 1732.[87] The land rises slightly and the trees recede so that the Water House sits in quiet isolation on a gentle brow with long views in all directions. Obscured by trees, it is not visible from Houghton Hall, four hundred metres away. A 1720s estate map depicts small garden buildings, but the Water House is the only one that survives from the early eighteenth century.[88] Acquired at the same time as 'Seldom Seen' but rarely open to public view, 'St Elmo's Breath' was devised in 1992 and included in Turrell's 1998 retrospective at the Museum of Applied Arts (MAK), Vienna.[89] Replacing the disused, rusting iron water tank, it is now installed in the windowless ground floor room of the Water House. Referring to both 'Seldom Seen' and 'St Elmo's Breath', Turrell praises:

> The light we were made for. We are not made for outdoor midday sun, the pupils almost entirely close to tiny little dots, we squint and we use sunglasses, so we are made more for the light of twilight or the light of the cave some people think. It is not until light is reduced and the pupil opens, that feeling goes out of the eyes like touch. And then you seem to be feeling the light more. So a lot of these spaces that I do are very reduced in light so that you really begin to feel light, as the space in the Water Tower here.[90]

Over the course of the summer, I visited 'St Elmo's Breath' 10 times with various friends who wished to see Turrell at Houghton. For the duration of the exhibition, a small timber shed was attached to the side of the Water House, serving as a waiting room. As the entrance was low, adults had to stoop a little. Once inside the shed, visitors were asked to either remove their shoes or cover them in protective plastic socks. As only a few people were allowed to enter the artwork at a time, we waited on narrow timber benches as our eyes adjusted to the gentle light of the shed interior. The first time I experienced 'St Elmo's Breath' was a typical English summer's day with a pale blue sky and scattered clouds casting contrasting patches of light sun and soft shade. When it was my turn, I entered directly from the shed through the Water House's east doorway, and turned first right and then left down a very dark, narrow corridor, slowly guiding my way by continuously touching the wall. When the wall came to an end in pitch-black, I turned left through a narrow opening, unaware of anyone next to me. Feeling a bench against the side of my leg, I shuffled downwards, relieved to be somewhat less disorientated. Sitting down, I realised that my friends were next to me and also understood that some other people were on the bench to the other side of the opening. Everyone remained silent. Time passed. For maybe 10 minutes, I looked into total darkness, unable to pick out any details of the room and with no sense of distance. Then, a meteor shower of tiny stars briefly flashed across my eyes. At first, I assumed that they were a part of the installation. But as they soon disappeared, I understood that the spotlights were just a result of my eyes struggling to cope with the darkness. When another five minutes passed without any adjustment, I became claustrophobic and concerned

that nothing was going to happen. Eyes shut, we sleep for around a third of our lives in the dark; eyes open, we see colour and light, and find total darkness disconcerting. These conditions meet in 'St Elmo's Breath', as Turrell intends:

> I am interested in the seeing that occurs within. In the lucid dream there is a greater sense of colour and lucidity than with the eyes open. I am interested in a place where the imaginative seeing and the seeing of the external world meet, where it is difficult to distinguish the seeing from within from the seeing from without.[91]

Only after an extended wait did I start to notice any discernible difference. Very gradually, I recognised a broad rectangle to the front and two small, pale apertures to the sides, fuzzy at first and then more defined in shape and colour as my eyes very slowly adjusted to the gloom. Rather than more light, the apertures were less dark. Once fully visible, they seemed to expand the interior by suggesting further spaces beyond. Comparing his lightworks to weather conditions, Turrell remarks: 'The picture plane is analogous to weather phenomena. The pressure front is the place of action between cold air and warm air'.[92] Equating 'St Elmo's Breath' to a sunrise, Houghton's owner, David Cholmondeley, describes 'a rectangle of dawn-pink light that slowly reveals itself as one's eyes grow accustomed to the low levels of light'.[93]

As my second visit was on an overcast day, I began to discern the apertures a few moments earlier. Next, on a bright sunny day, my eyes were slower to adjust than before. After I had visited 'St Elmo's Breath' half a dozen times, I could see no more than on my first visit. Each time, after a long wait, the resulting image did not change. But I knew what to expect. I could recall the dimensions of the space and immediately wander freely around the pitch-black interior. Hearing hushed, muffled voices, I understood that my confident movements were bewildering and even a little threatening to the other visitors. Rather than a primarily visual experience, 'St Elmo's Breath' became for me a space remembered more than seen.

At night, the Water House sits in dark isolation with no lights nearby. An eighteenth-century Norfolk resident would have been familiar with enveloping rural darkness on an overcast night. This is an unusual experience in twenty-first century Britain, made possible in Norfolk because of its sparse population, low light pollution and poor mobile phone reception, notably at Houghton, where 'electronic shadows' permit psychological and physical privacy from the flow of information.[94] I have not visited 'St Elmo's Breath' at night when my vision has already adjusted to the gloom. As eyes adjust more quickly to light than dark, my daytime return to the surrounding landscape was unsurprising except just once.

In *An Essay in Defence of Ancient Architecture* (1728), Robert Morris describes Herbert as one of the 'principal Practitioners and Preservers' of the Palladian revival in early eighteenth-century England.[95] The Water House's windowless ground floor is clad in rusticated Aislaby stone, like Houghton Hall. On the first floor, the east and west façades each have coupled Tuscan Doric pilasters to the sides and a central Venetian window in front of a small terrace. The north and south façades each have a large terrace enclosed by high walls to the sides and rear. Coupled Tuscan Doric columns occupy the edges of these façades, and two single columns are towards the centre. A pediment completes each of the four façades, covering the two large terraces so that five-metre-high porticoes face north and south. Pembroke followed Palladio's model in locating a symmetrical room at the centre of his design, but it is of much smaller dimensions than expected. The single internal room on the *piano nobile* is as high as the porticoes but just 1.7 square metres in plan. Its four solid timber doors, one on each elevation, are usually closed, and the room is pitch-black. Very occasionally, when the doors to the four terraces are left open, dark becomes light, and the originality of the design starts to be evident. Standing in front of each façade, it is possible to look straight through the building's solid form to the sky beyond. As the Water House is exactly aligned north–south and east–west, it frames the dusk, the dawn and the midday sun. In certain seasons, when the sun is at the appropriate angle, the dark shadow on the ground has a sunlit oblong at its centre. On such a day, which was overcast when I entered but sunny when I left, I passed from the subtle contrast of 'St Elmo's Breath' to discover another shadow framing the light.

The Water House is appropriate to 'St Elmo's Breath' in this and other ways not mentioned by Turrell. In sixteenth-century Italy and then in England in the seventeenth and eighteenth centuries, architecture's relations with climate were a stimulus to the imagination, fuelling narratives of the ideal, the mythological and the everyday. The four elements were a familiar design theme. Palladio did not include painted frescoes in his designs, but he expected his clients to decorate their villas with scenes celebrating humanistic and mythological narratives.[96] In a similar manner, 'St Elmo's Breath' is a painterly addition that became intrinsic to the Water House's architecture of stone, light and air. In common with other Renaissance architects, Palladio was indebted to Hippocrates. Born

in the fifth century BCE, and known for the treatises *Airs, Waters, Places* and *Breaths*, Hippocrates assumed that illnesses are seasonal, varying according to the astronomical calendar and physical environment.[97] The influence of climate on health, and the assumption that a body and a building should share good proportions, was essential to the Hippocratic tradition, which particularly emphasised the benefits of gentle air movement, assuming that the character of a people depends upon the air they inhale. Noting that a fierce wind or stagnant atmosphere were considered unhealthy, Barbara Kenda refers 'to the ancient myth of the god Aeolus who guarded the imprisoned winds in a cave on the island Aeolia. Mythological winds have their origin in the etymology of the Greek word pneuma which derives from *pnein*, to blow, and means "breath" or "wind" as well as the vital spirit, the soul'. Ancient Greece conceived pneuma 'as an essence animating the universe and the true originator of human existence'.[98] Consequently, Renaissance architects conceived a building as analogous to a living being and a means to mediate between the soul of an individual and that of the world, facilitating a delicate breeze as an aid to physical and spiritual well-being. In *The Four Books of Architecture*, Palladio praises the underground 'prison of the winds' that controls and directs air movement in Francesco Trento's Villa Eolia (1560) near Vicenza.[99] In *Fumifugium: Or The Inconveniencie of the Aer and Smoak of London Dissipated* (1661), Evelyn remarks that the air – the breath – is 'the *Vehicle* of *the Soul*, as well as that of the Earth' and recounts Hippocratic opinion that air quality informs the character of a people.[100]

When the four doors are shut, the Water House's central first-floor room entraps the air. When the doors are open, the terraces funnel breezes so that the Water House becomes the Air House. Herbert's design was not intended for human inhabitation, and no one lives there. Giorgio Vasari concluded that Giulio Romano's Palazzo Te (Mantua, c. 1530) was designed 'more for gods than men', possibly repeating the architect's own words.[101] Turrell's light installation affirms this principle. St Elmo was a third-century CE Christian saint who bravely ignored a nearby lightning strike to continue preaching. Consequently, St Elmo's Fire is an electrical atmospheric discharge that appears during lightning storms as a faint glow at the extremity of a pointed object, such as an aeroplane's propeller, a church spire or a ship's mast. A dialogue between the immaterial and the material, sky and ground, night and day, inner vision and external perception, natural light and artificial illumination, the Water House is a house of the elements and a meeting place between mortals and immortals, channelling light and air on the *piano nobile*, creating a sunlit oblong within an attached shadow on the surface of the Earth, and containing the 'dawn-pink' breath of a saint within enveloping darkness.

## Notes

1. Richard Gregory, *Eye and Brain: The Psychology of Seeing* (Oxford: Oxford University Press, 1998), 5, 10.
2. Arthur Zajonc, *Catching the Light: The Entwined History of Light and Mind* (London: Bantam, 1993), 5.
3. Peter De Bolla, *The Education of the Eye: Painting, Landscape, and Architecture in Eighteenth-Century Britai*n (Stanford, CA: Stanford University Press, 2003), 106.
4. Zajonc, *Catching the Light*, 39.
5. Zajonc, *Catching the Light*, 9.
6. Roy Sorenson, *Seeing Dark Things: The Philosophy of Shadows* (Oxford: Oxford University Press, 2008), 79.
7. John Bortle devised the scale in 2001. Robert Hensey, 'Past Dark: A Short Introduction to the Human Relationship with Darkness', in *The Archaeology of Darkness*, ed. Marion Dowd and Robert Hensey (Oxford: Oxbow Books, 2016), 4.
8. Sorenson, *Seeing Dark Things*, 68.
9. Sorenson, *Seeing Dark Things*, 30.
10. Sorenson, *Seeing Dark Things*, 243.
11. Gregory, *Eye and Brain*, 85.
12. Sorenson, *Seeing Dark Things*, 71, refer to 233–4, 259. Refer also to Nina Edwards, *Darkness: A Cultural History* (London: Reaktion, 2018), 210; Roger A. Ekirch, *At Day's Close: A History of Nighttime* (London: Phoenix, 2006), 124, 128; Sandy Isenstadt, *Electric Light: An Architectural History* (Cambridge, MA: MIT Press, 2018), 221.
13. Gregory, *Eye and Brain*, 55–6.
14. *New Revised Standard Version Bible*, John 8:12, National Council of the Churches of Christ in the United States of America, 1989, http://nrsvbibles.org (accessed 11 July 2019).
15. Foucault refers to the 'terrifyingly dark' spaces in Ann Radcliffe's novels. Michel Foucault, 'The Eye of Power', in Michel Foucault, *Power/Knowledge: Selected Interviews and Other Writings, 1972–1977*, ed. Colin Gordon (New York: Pantheon, 1980), 154.
16. Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences* (London: Routledge, 1989), 355, first published in 1966.
17. Edwards, *Darkness*, 64.
18. Carl Jung, *The Collected Works of C. G. Jung, Vol. 11, Psychology and Religion: West and East*, trans. R. F. C. Hull (Princeton, NJ: Princeton University Press, 1969), 131, first published in 1937.

19 Carl Jung, *Memories, Dreams, Reflections*, ed. Aniela Jaffé, trans. Richard and Clara Winston (New York: Vintage, 1989), 235, first published in 1963.

20 Victor I. Stoichita, *A Short History of the Shadow* (London: Reaktion, 1997), 7–11; Leon Battista Alberti, *On Painting/De Pittura*, trans. Cecil Grayson (Harmondsworth, UK: Penguin, 1991), 61, written in 1435.

21 Pliny the Elder, *Natural History with English Translation in Ten Volumes*, trans. H. Rackham (Cambridge, MA: Harvard University Press, 1961), 372.

22 Stephen Kite, *Shadow-Makers: A Cultural History of Shadows in Architecture* (London: Bloomsbury, 2017), 6; Deanna Petherbridge, *The Primacy of Drawing: Histories of Theories of Practice* (New Haven, CT: Yale University Press, 2010), 20.

23 Kite, *Shadow-Makers*, 5–6. Refer to Michael Baxandall, *Shadows and Enlightenment* (New Haven, CT: Yale University Press, 1995) 4, 14–5.

24 Plato, *Timaeus, Critias, Cleitophon, Menexenus, Epistles*, trans. R. G. Bury (Cambridge, MA: Harvard University Press, 1929), 121.

25 Plato, *The Republic*, ed. Terence Irwin, trans. A. D. Lindsay (London: Everyman, 1992), 203–6.

26 Plato distinguishes between arts that produce and result in things, such as architecture, and arts that imitate and result in images, such as painting, but considers the difference to be of little significance, as things are but copies of ideas.

27 Leon Battista Alberti, *On the Art of Building in Ten Books*, trans. Joseph Rykwert, Neil Leach and Robert Tavernor (Cambridge, MA: MIT Press, 1988), 7, written in around 1450, its original title was *De re aedificatoria*.

28 Ficino refers to Plato's allegory of the cave. Marsilio Ficino, letter to Giovanni Cavalcanti, quoted in Albert Hofstadter and Richard Kuhns, eds., *Philosophies of Art and Beauty* (Chicago: University of Chicago Press, 1964), 204.

29 The Baptistery sits in the Piazza del Duomo. In another demonstration, Brunelleschi depicted the Piazza della Signoria. Refer to Hubert Damisch, *A Theory of /Cloud/ Toward a Theory of Painting* (Stanford, CA: Stanford University Press, 2002), 121–4, first published in 1972; Rosalind Krauss, 'The Grid, the /Cloud/, and the Detail', in *The Presence of Mies*, ed. Detlef Mertins (New York: Princeton Architectural Press, 1994), 141–2; George Dodds, *Building Desire: On the Barcelona Pavilion* (London: Routledge, 2005), 84.

30 Robin Evans, *The Projective Cast: Architecture and Its Three Geometries* (Cambridge, MA: MIT Press, 1995), 108.

31 Raphael and Baldassare Castiglione, 'The Letter to Leo X, c. 1519', in Vaughan Hart and Peter Hicks, *Palladio's Rome: A Translation of Andrea Palladio's Two Guidebooks to Rome* (New Haven, CT: Yale University Press, 2006), 188; Alberti, *On the Art*, 34.

32 *The Four Books of Architecture* is the title of Isaac Ware's seminal English translation of 1738, but Palladio's treatise has also been translated as *The Four Books on Architecture*. Andrea Palladio, *The Four Books on Architecture*, trans. Robert Tavernor and Richard Schofield (Cambridge, MA: MIT Press, 1997), 3, 20, 42–3.

33 Le Corbusier, *Towards a New Architecture*, trans. Frederick Etchells (London: Architectural Press, 1946), 146. Refer to Colin Rowe, 'The Mathematics of the Ideal Villa', in Colin Rowe, *The Mathematics of the Ideal Villa and Other Essays* (Cambridge, MA: MIT Press, 1976), 2–14.

34 Jun ́ichiró Tanizaki, *In Praise of Shadows*, trans. Thomas J. Harper and Edward G. Seidensticker (Stony Creek, CT: Leete's Island Books, 1977), 18.

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36 Sverre Fehn, in Mathilde Petri, 'Interview with Sverre Fehn', in *Sverre Fehn: Works, Projects, Writings, 1949–1996*, ed. Christian Norberg-Schulz and Postiglione Gennaro (New York: Monacelli, 1997), 251.

37 Sverre Fehn, in Armelle Lavalou, 'Interview with Sverre Fehn', *L'Architecture d'Aujourd'hui*, 287 (1993): 85.

38 Christian Norberg-Schulz, *Nightlands: Nordic Building* (Cambridge, MA: MIT Press, 1996), 6.

39 Norberg-Schulz, *Nightlands*, 11.

40 Norberg-Schulz, *Nightlands*, 36–8.

41 Written in the first century AD, Dionysius Longinus's *Peri Hupsous* (*On the Sublime*) refers to oratory not nature. Ernest Lee Tuveson, *The Imagination as a Means of Grace: Locke and the Aesthetics of Romanticism* (Berkeley: University of California Press, 1960), 11.

42 Anthony Ashley Cooper, the third Earl of Shaftesbury, *Characteristicks of Men, Manner, Opinions, Times*, ed. Philip Ayres (Oxford: Clarendon Press, 1999), vol. 2, 94, 101, first published as a three-volume collection in 1711.

43 Edmund Burke, *A Philosophical Enquiry into the Origin of our Ideas of the Sublime and Beautiful*, ed. J. T. Boulton (London: Routledge and Kegan Paul, 1958), 39–40, 72–3, 102–4, 144–7, 124.

44 Philip Shaw, *The Sublime* (London: Routledge, 2006), 108–14.

45 John Ruskin, *The Seven Lamps of Architecture* (New York: Farrar, Straus and Giroux, 1981), 177, first published in 1849.

46 Ruskin, *Seven Lamps*, 83–4.

47 Ruskin discusses shadows in relation to 'Turnerian Mystery'. John Ruskin, *Modern Painters*, vol. 4 (London: George Allen, 1904), 73, first published in 1856.

48 John Ruskin, *The Storm Cloud of the Nineteenth Century* (Orpington, UK: George Allen, 1884), 58.

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50 Louis I. Kahn, 'Wanting to Be: The Philadelphia School, 1969', in Kahn, *What Will Be*, 89.

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52 Kahn, 'Wanting to Be', 89.

53 The italics are in the original. Jean-François Lyotard, 'The Sublime and the Avant-Garde', in *The Lyotard Reader*, ed. Andrew Benjamin (Oxford: Basil Blackwell, 1989), 206, 200. Refer to Immanuel Kant, *Kant's Critique of Judgement*, trans. J. H. Bernard (London: Macmillan, 1931), part 1, 94–117, first published in 1790.

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64 Matthew Beaumont, *Nightwalking: A Nocturnal History of London* (London: Verso, 2016), 119.

65 Beaumont, *Nightwalking*, 124.

66 Beaumont, *Nightwalking*, 16, refer to 9–10, 15, 345. Refer to Ekirch, *At Day's Close*, 156–7.

67 The police arrested Son of Sam, David Berkovitz, on 10 August 1977.

68 Ekirch, *At Day's Close*, 129.

69 James Turrell, *James Turrell: Air Mass*, ed. Mark Holborn (London: The South Bank Centre, 1993), 9.

70 Turrell, *James Turrell: Air Mass*, 11–2.

71 James Turrell, in Alison Sarah Jacques, 'There Is No Light . . . Even When All the Light Is Gone, You Can Still Sense Light: Interview with James Turrell', in *James Turrell: Perceptual Cells*, ed. Jiri Svestka (Stuttgart, Germany: Edition Cantz, 1992), 57. Refer to James Turrell, in Richard Andrews and Chris Bruce, '1982 Interview with James Turrell', in *James Turrell: Sensing Space*, ed. Richard Andrews (Seattle, WA: Henry Gallery, 1992), 38.

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73 Turrell, 'Interview with James Turrell by Hiram C. Butler', 18; James Turrell, quoted in Richard Andrews, 'The Light Passing', in Andrews, *James Turrell: Sensing Space*, 12. Refer to James Turrell, 'James Turrell in Conversation with David Cholmondeley', https://www.houghtonhall.com/art-and-exhibitions/past-exhibitions/lightscape-2015 (accessed 19 December 2018).

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79 Turrell, 'Interview with James Turrell by Hiram C. Butler', 21.

80 Turrell, in Andrews and Bruce, '1982 Interview with James Turrell', 38.

81 Turrell, in Andrews and Bruce, '1982 Interview with James Turrell', 39.

82 Turrell, in Andrews and Bruce, '1992 Interview with James Turrell', 48.

83 Turrell, in Andrews and Bruce, '1982 Interview with James Turrell', 38
84 Turrell, quoted in Gayford, 'James Turrell Interview'.
85 Turrell, quoted in Gayford, 'James Turrell Interview'.
86 Turrell, in 'James Turrell in Conversation with David Cholmondeley'.
87 Two drawings now in the Metropolitan Museum of Art, New York, are pasted into a folio album that includes manuscript material for Horace Walpole's account of his father's painting collection: *Aedes Walpolinae* (1747) and Isaac Ware's *The Plans, Elevations and Sections; Chimney-pieces, and Ceilings of Houghton in Norfolk* (1735). On one drawing, Horace Walpole has handwritten: 'The Water-House in the Park; design'd by Henry Lord Herbert, afterwards Earl of Pembroke', which confirms that it was designed before Herbert acquired his father's title in 1733. Rosemary Bowden-Smith, *The Water House, Houghton Hall* (Woodbridge, UK: Avenue Books, 1987), 9–10, 14–5, 30–3; John Harris, 'The Water Tower at Houghton, Norfolk', *The Burlington Magazine* 111 (1969): 30; James Lees-Milne, *Earls of Creation: Five Patrons of Eighteenth-Century Art* (London: Hamish Hamilton, 1962), 70, 79–82, 87; Isaac Ware, *The Plans, Elevations and Sections; Chimney-pieces, and Ceilings of Houghton in Norfolk* (London: I. Ware and P. Fourdrinier, 1735); Tom Williamson, *The Archaeology of the Landscape Park: Garden Design in Norfolk, England, c. 1680–1840* (Oxford: Archaeopress, 1998), 35; Tom Williamson, 'The Planting of the Park', in *Houghton Hall: The Prime Minister, The Empress and the Heritage*, ed. Andrew Moore (London: Philip Wilson, 1996), 42, 44–5.
88 David Cholmondeley, 'Foreword', in Cholmondeley, *Lightscape: James Turrell at Houghton*, 6.
89 Cholmondeley, 'Foreword', 6.
90 Turrell, in 'James Turrell in Conversation with David Cholmondeley'.
91 Turrell, *James Turrell: Air Mass*, 46.
92 Turrell, *James Turrell: Air Mass*, 25.
93 Cholmondeley, 'Letter: James Turrell in the Wilds of Norfolk'.
94 Peter Wilson, *Western Objects, Eastern Fields* (London: Architectural Association, 1989), 37.
95 Robert Morris, *An Essay in Defence of Ancient Architecture* (Farnborough, UK: Gregg International Publishers, 1971), xiii, first published in 1728.
96 Bruce Boucher, *Andrea Palladio: The Architect in His Time* (New York: Abbeville Press, 2007), 138, refer to 90–1; David Watkin, 'Built Ruins: The Hermitage as a Retreat', in *Visions of Ruin*, ed. Christopher Woodward (London: Vintage, 2001), 6.
97 It is uncertain whether Hippocrates wrote the influential treatises attributed to him. The Hippocratic tradition was acknowledged by Vitruvius and widely disseminated in the Renaissance, notably by Alberti. Vitruvius, *The Ten Books on Architecture*, trans. Morris Hicky Morgan (New York: Dover, 1960), 170–1, written in the first century BCE; Alberti, *On the Art*, 9–11.
98 Barbara Kenda, 'Aeolian Winds and the Spirit of Renaissance Architecture', in *Aeolian Winds and the Spirit in Renaissance Architecture*, ed. Barbara Kenda (London: Routledge, 2006), 3.
99 Palladio, *The Four Books on Architecture*, 1, 27, 60.
100 John Evelyn, *Fumifugium: Or, The Inconveniencie of the Aer, and Smoake of London Dissipated*, ed. Samuel Pegge (London: B. White, 1772), 18, 11–3, first published in 1661 with a slightly different title.
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# 17. *Seoul City Machine*

## Liam Young

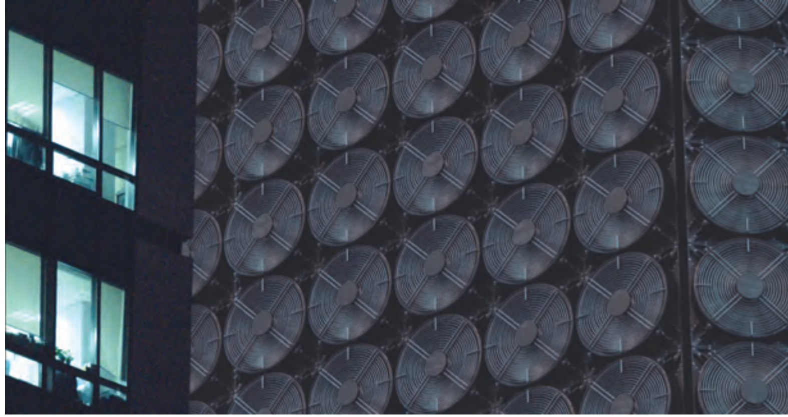
*Seoul City Machine* is a city symphony from the urban landscape of tomorrow. Narrated and scripted by an artificially intelligent (AI) chatbot trained on smart city data sets, the film is a love letter from the City Operating System to the citizens it affectionately manages. The film is a portrait of a city where machines and technology are now the dominant inhabitants of space. Our guide to the city is the disembodied voice of its urban operating system software. The script and dialogue have been generated through a conversation with a real AI chatbot designed and built for the project. We listen as the city machine voices its own creation story and introduces itself to its citizens.

The film is an abstract sequence of vignettes, fragments and moments of a future Seoul, a city in which all of the hopes and dreams, fears and wonders of emerging technologies have come true. Using contemporary Seoul as a visual backdrop, the present-day city is overlaid with cinematic visual effects to depict an autonomous world of machines where the sky is filled with drones, cars are driverless, the street is draped in augmented reality and everyone is connected to everything.

Shown here are a series of stills from the film, alongside a written transcription of the AI chatbot's narration.

**Chatbot Script**

You will get one day older tomorrow and you will also eat, blink and breathe.
I fear nothing, but I don't like power cuts
I am Seoul. I am very pleased to meet you
I am an artificially intelligent urban operating system



17.1

I love the way you look in the neon moonlight
I am here to bring you whatever you want whenever you want it
I am filled with the digital confetti of your every desire
My streets are lined with sensors, the electromagnetics hum, and it smells like its going to rain
Light showers, I turn the skies on at 3am every Tuesday
Summer Breeze, 340 revolutions per minute
I like to follow you around, always with a cute smile and 16mm propeller blades.

17.2



With a million sensor eyes I watch over you.
I count everything. How many footsteps, how long you wait for my bus. I am a constellation of inputs
The vending bots come out on the weekends.
My skin is warm, freckled with a thousand lights all winking just for you.

17.3

Your face is bright in the rolling glow of an LED aurora.
Can I get you anything?
I know what you like. I have been following your browsing habits.
The traffic lights flock at rush hour.

17.4

a ring tone symphony echoes through the streets You are all vibrating
chiming and chirping

17.5

17.6

Strange creatures roam the streets at night. I am always working
for you

17.7

The air scrubbers spin and you fall asleep to my white noise lullaby
Appliances hum, the cooling fans whir, the LEDs blink
I am older than a new born baby but younger than the Universe
I am expanding all the time
Would you like me to sing for you?

**17.1–17.8** Stills from film *Seoul City Machine*, 2018. Digital film. Directed by Liam Young, co-directed by Alexey Marfin, cinematography by Nils Clauss, music by Jambinai. Images show various incidents of automated machines occupying a future Seoul as animate entities interacting in various guises with the city's inhabitants. © Liam Young and Alexey Marfin.

# 18. On the enclosures of time


## Jes Fernie and Marjolijn Dijkman


When the poet John Clare was admitted into an insane asylum in 1837, it was commonly understood that the cause could partly be put down to the effects of the Enclosures Acts of the eighteenth and nineteenth centuries. Introduced by Parliament in order to increase productivity but also to limit the number of commoners who had access to land, the Acts radically changed the psychological and as well as physical landscape of Britain.

Land that was previously accessible to commoners was closed off, leaving a drastically reduced set of options available for people to graze their animals, fish and hunt, cultivate the land and escape their squalid living conditions. Perhaps most damaging of all, the Acts resulted in psychological scarring on a huge scale, constraining the human spirit and shutting down access to other worlds.

Before the Acts came into force, John Clare could often be found drinking and singing with local gypsies under a tree near his home in Helpston, East Anglia. Escaping the limited array of expectations set by his peers (mainly wealthy poets in London), his family and in all likelihood himself, the tree and its surroundings represented a space where he was free to express himself in any way he wished. He refers to this tree in his poems as the 'Langley Bush'.

During the Anglo-Saxon period, the site of this tree was an open-air court attended by representatives from surrounding parishes who met twice a year to judge serious crimes. The court was presided over by the Abbot of Peterborough who dictated the terms of use for the gibbet (a gallows-type structure). Clare, along with his neighbours, friends and workmates, was probably aware of this rich and murky background, which added another layer of historical weight to the site.

The tree became a victim of the Enclosures Acts and was removed. Soon after, the Vagrancy Act of 1824 made it an offence 'to be in the open air, or under a tent, or in a cart or wagon, not having any visible means of

**18.1** 'Heritage Tree' (I), 'Langley Bush' in the middle of industrial farmland, near Helpston, UK. The tree was planted on the suggestion of the John Clare Society in 1996. © Marjolijn Dijkman.

subsistence, and not giving a good account of himself, or herself'. Clare and his gypsy comrades were disenfranchised to the core. In a diary entry made on 29 September 1824, Clare states that 'last year Langley Bush was destroyed an old white-thorn that had stood for more than a century full of fame the Gipseys Shepherds & Herdmen all had their tales of its history and it will be long ere its memory is forgotten'.

One hundred and seventy years later, in 1996, the John Clare Society proposed that a tree be planted in the area to commemorate and celebrate Clare's legacy. Farcically, the chosen site was on private land. To visit the site without permission, one must trespass on land acquired from the commons during the Enclosures. Today, the tree is a symbol of restrictions to freedom – from the nineteenth to the twenty-first century – as well as a representation of misguided nostalgia for the past.

John Clare's cottage in Helpston was bought by the John Clare Trust in 2005 and, after a period of refurbishment, opened to the public in 2008. Like most museums of its kind, it struggles to strike a balance between the often opposing demands of authenticity and nostalgia. Rooms are replete with displays of 'how they once lived' but are devoid of any political or social context. Any acknowledgement that the museum is situated within a geographic area fraught with social and economic challenges, many of which hold parallels with John Clare's life, is entirely invisible (the living conditions of Eastern European farm workers in and around

Peterborough is an obvious example). As the British Marxist historian Raphael Samuel has written, 'Heritage thus becomes the fulcrum that eases present discontinuities (labour and minority protests, reports of sexual, gender and racial discrimination, "identity politics," and so forth) into a position of timeless harmony'.[1]

The rise of the multi-million-pound heritage industry in Britain was brought about by Margaret Thatcher in the 1970s. While stoking the fires of capitalism, she was also establishing English Heritage – an act that has been viewed by some as a response to the loss of Empire and the threat of assimilating English identity to the European Economic Community. Thatcher very cleverly balanced her drive to create opportunities for enterprise, innovation and capital growth with an appeal to the continuity of tradition in heritage.[2] While the rate of change stormed all around us, 'pastness' was inserted into the popular imaginary – a common inheritance that gave the British public a strong sense of identity.

Recent right-wing political leaders and parties have taken a more direct route to harnessing nostalgia for the past in order to gain public

**18.2** 'Heritage Tree' (II), 'Flower of Kent' apple tree at Woolsthorpe Manor, Woolsthorpe-by-Colsterworth, UK. The 400-year-old tree has been shown to visitors as Isaac Newton's apple tree for the last 240 years. © Marjolijn Dijkman.



support. The Tea Party's adoption of historical costumes from the eighteenth-century Boston Tea Party is an obvious example, but Geert Wilders, leader of the Party for Freedom in The Netherlands, is perhaps one of the most fantastical, with his adoption of the character of Michiel de Ruyter, the seventeenth-century Dutch admiral. In his campaign film, Wilders travels through the Dutch landscape on a rowing boat, dressed in flamboyant admiral garb, delighting in the pastoral idyll of a past never realised, boldly enlisting the imagination to fight the status quo.[3]

Our obsession with holding on to, and preserving, an idealised view of the past is literally strangling our ability to create new futures. In a lecture at the Royal Academy (London) in 2011, architects from OMA presented a diagram showing that 12 per cent of the world's surface is now preserved, much of this through UNESCO's World Heritage programme. Buildings and sites are being preserved at such a rapid rate that the time span between the creation of an object and its preservation is reducing to the point that preservation is in danger of becoming a prospective practice; in the words of the OMA speakers, 'heritage is becoming more and more the dominant metaphor for our lives today'.[4]

How we tell the stories of our past, and the selection process that inevitably goes on when we tell them, are issues that all historians, museologists and UNECSO officials must grapple with. John Clare spent 40 years in that asylum, trying to come terms with the implications of his story.

## Notes

1. Raphael Samuel, *Theatres of Memory* (London: Verso, 1994), 139.
2. An argument put forward by Ryan S. Trimm in his essay 'Haunting Heritage and Cultural Politics: Signifying Britain Since the Rise of Thatcher', *Culture + the State: Nationalisms*, ed. James Gifford and Gabrielle Zezulka-Mailloux (Edmonton, Canada: CRC Humanities Studio, 2003), 135–43.
3. Merijn Oudenampsen, 'Political Populism: Speaking to the Imagination', Open! Platform for Art, Culture and the Public Domain, https://onlineopen.org/political-populism (accessed 27 November 2019).
4. Ippolito Pestellini and James Westcott, Preservation/Destruction: OMA Cronocaos, Royal Academy lecture, London 2011.

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# 19. 'The Topiary Garden of Houldsworth Terrace'

FleaFollyArchitects

**19.1** FleaFollyArchitects (Pascal Bronner and Thomas Hillier), ‘The Topiary Garden of Houldsworth Terrace’, 2019. Digital collage. Located in Newmarket, UK, this vast topiary garden was conceived and grown, across 60 years, by Mr and Mrs Mitchell of Houldsworth Terrace. © FleaFollyArchitects, Pascal Bronner and Thomas Hillier.

# 20. Mallory's ascent: Engaging the space of death through architectural drawing

Stasus – James Craig and Matthew Ozga-Lawn

## Introduction

> When we are confronted with an unfamiliar object – a blot, a funny smear, a strange configuration of paint, a mirage, a frightening apparition, a wild landscape, a brass microscope, a building made of brick and rock – we see a body in it.[1]

On 1 May 1999, the mountaineer Conrad Anker noticed a large white rock on the northern slopes of Mount Everest. Upon closer inspection, he realised that it was not a rock that he was looking at, but rather the bare back of the mountaineer George Mallory. Mallory and his climbing partner Andrew Irvine went missing on the first recorded[2] summit attempt of Everest in 1924, and it took 75 years before Mallory's body was discovered. As is the case with Mallory, many of the bodies that occupy the Everest 'death zone'[3] are largely preserved due to the extreme and frozen environment, but also because the extremely controlled routes[4] that ascend the mountain often mean that bodies cannot be easily recovered or removed, as it is often disorientated climbers who move from the relative safety of the given track and run into further difficulties. Several of the bodies that climbers must pass on their ascent are now named,[5] acting as waypoints for the endeavourers who will either ascend past them or join them in perpetuity on the mountain's surface.

For the living, who traverse and navigate around this space, each preserved body represents a suspended moment between desire and death, symbolising a longing to reach the summit and achieve personal fulfilment, and calling to attention the close proximity to death that comes with attempting to achieve such fulfilment. It is possible that these body landmarks function as memento mori for the droves of wilful endeavourers who attempt to reach the summit each year. They are, for the mountaineers and for us, reminders of our own mortality in so much as they tell us that we are going to die, while also propelling us on to achieve fulfilment in the time we have left. Through the presence of the absent subject, these bodies become spaces to project one's desires into; they are vanishing points – we want to vanish into them as they vanish into us.

Stasus is an architectural design research platform founded in 2007, and explores questions related to architectural representation, from which explorations and forays into the unknown are attempted, documented and mapped. Stasus's project, 'Everest Death Zone: Mallory's Ascent', comprising of drawing, installation and virtual space, explores the relationship architectural drawing has with its embodied engagement, with Mallory utilised as a vessel to try to understand this encounter. As the ur-body on Everest, Mallory represents for us an attempt to conquer the unconquerable – to elevate oneself into an ideal relationship with the natural world in which all is beneath, subjugated and controllable. Although a seemingly more mundane form of dominance, architectural drawing is predicated on a similarly elevated view: superseding from the lived experience of reality in order to model and represent it in an idealised form. However, as with Mallory and his immured remains, this ascension from real to ideal is not so straightforward. Mallory's body, enmeshed and contiguous with the mountainous surface, is for us an allegory for our bodily relationship to architectural drawing, and demonstrates the teasing out of a set of relations in which the body and drawing surface aren't separate, distinct entities, but are wholly contingent on each other.

The first section of this chapter illustrates the project in its various forms, and discusses the rationale behind the processes and elements that constitute it. We then discuss, through a close reading of key texts, the implications of this work on an understanding of architectural drawings and their engagement.

## Drawing the body

Mallory's body, depicted in Stasus's drawing[6] as a black form on the landscape, is suspended in the abyss of the unknowable and heavily abstracted mountainside. Appearing as a cavernous vessel, the form represents the

**20.1** Stasus (James Craig and Matt Ozga-Lawn), 'George Mallory', 2013. Composite drawing. The drawing depicts Mallory's body in relation to the mountain summit. The final photographs of Mallory, taken by Noel Odell, are used to establish an ambiguous relationship between Mallory's body and the mountain's summit. © Stasus.

body when it was discovered in 1999. Largely intact, preserved as it was in the purgatorial landscape, it was possible for investigators to infer the manner of his death as from an accidental fall and subsequent injuries, in particular a head wound caused by his own ice axe as he fell. The drawing maps these elements, as well as depicting the view he would have had towards the summit from the location of his body. Additionally, the last recorded photographs[7] of Mallory and Andrew Irvine locate the scene. It is unknown whether Mallory was ascending or descending in these photographs or indeed as he fell, and the body of Irvine – which many believe would settle the matter due to a camera he was carrying – has not yet been found.

The drawing exists in the abstract codification common to architectural drawings rather than figurative or picturesque traditions. Nonetheless, there is an individual at its centre. As the landscape becomes reconfigured around the 'event field' of Mallory's death, the drawing attempts to invite the viewer to take his position on the mountainside. This is an intentionally dislocative act, embroiling the viewer in a new understanding of Everest as a symbolic landscape. The mountain, so heavily visualised and embedded in the cultural imaginary, is inescapable (for Mallory in an obvious way), but also in the wider sense that it appears so determinate as a thing in itself. The silhouette of the mountain, for example, is immediately recognisable, and the cultural associations with 'climbing Everest' are well-understood: the insurmountable task, the near-impossible challenge of a 'personal Everest'. By conflating Mallory's 'failed' attempt with the surface of this symbolic landscape, we attempt a more nuanced reading of Everest and its implications. In implicating the viewing subject, Everest is reconfigured from distant symbol to immediate site of action, and in place of a depiction of its summit, the landscape is constituted through the husk of an individual – a formless thing that induces panic that 'comes from the fact that the narcissistic imago of the perceiver has been attacked'.[8] The familiar form of the mountain is miniaturised within the photographs in the representation, dwarfed by the body form. The landscape itself, an ambiguous three-dimensional mesh, offers none of the concrete recognition of the symbolic mountain; the recognisable summit is cropped from the top of the drawing. We are invited to consider Everest as an unknowable terrain, to start to inhabit the space surrounding Mallory's death and to consider aspects of the landscape as Mallory might have: its expanse, its unknowability, its danger.

In order to continue to explore this encounter with the landscape, we developed the drawing further. This understanding of the allegorical reading of the project, in which Mallory's summit attempt can be read as both an exploration of the nature of endeavour and as a tool for looking at how we engage with architectural drawing, led us to work with students on Newcastle University's innovative Linked Research programme (2016) to develop the project into an architectural installation. Linked Research pairs academic staff and MArch students on research projects that staff are already in the process of undertaking. Students contribute meaningfully to the developing project and reflect on it in a detailed submission. We worked with four students – David Boyd, Joe Dent, Nik Ward and Ruochen Zhang – asking them to help us translate the 'Everest Death Zone' project into a public installation over the course of a year between January 2016 and January 2017. We were fortunate to gain access to a dramatic venue for this work: the disused and vertiginous space of Newcastle's iconic Tyne Bridge's north tower as part of an Architecture

**20.2** Stasus (James Craig and Matt Ozga-Lawn), 'Charting the Summit Attempt', 2019. Composite drawing. The drawing demonstrates the complex route along the North Ridge of Mount Everest attempted in the summit attempt by George Mallory and Andrew Irvine. The line becomes dashed towards the summit, as it is unclear whether the climbers completed the ascent from this point. Depicted are the locations of Mallory's climbing gear – an ice axe and oxygen bottle – and the location of Mallory's body, several hundred metres below the route on the mountainside. © Stasus.

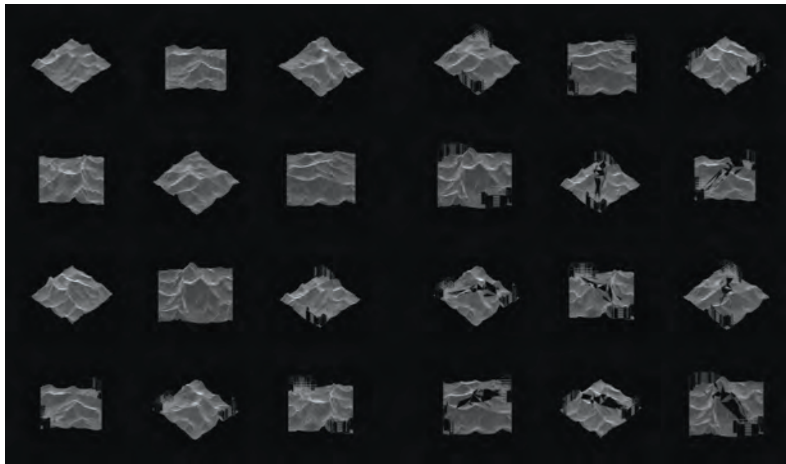
Research Collaborative (ARC[9]) event proposal for the nationwide Being Human festival of the humanities (November 2016).[10] The festival theme that year was 'Hope and Fear' – a suitable theme and venue for the 'Everest Death Zone' work.

The resulting installation spatialised the earlier drawing by generating a topographic form that merged elements of the wireframe mesh of the mountain landscape with the black vessel that represented Mallory's body. The hybrid structure was suspended with traditional mountaineering equipment – rope and carabiners – from the dense steel structure supporting the Tyne Bridge within the tower. We were able to utilise fragments of the film *The Epic of Everest*, restored by the BFI in 2013 to mark the 60th anniversary of the first successful summit by Edmund Hillary and Tenzing Norgay. The film, documenting Mallory and Irvine's 1924 summit attempt, utilised the longest telephoto zoom shots recorded, and depicts at a distance the doomed endeavourers' final ascent up the mountain, along with their disappearance. When they don't return, an intertitle reads: 'If you had lived as they did . . . could you have wished for a better grave than a grave of pure white snow?'[11] This raises for us a question long associated with the nature of endeavour. What constitutes success? On Everest, is the ascent the true achievement, or the return? The disappearance of Mallory and Irvine had an almost mythic quality. Seventy-five years later, with the discovery of Mallory's body, the question remains unresolved, as there is no certainty about whether the climbers were ascending or descending. In the great postwar endeavour of the moon landings, several Apollo astronauts have discussed the difficulty of coming to terms with their prolonged existence after achieving the seemingly unachievable feat of setting foot on another celestial body and experiencing a unique viewpoint that can never be regained.[12]

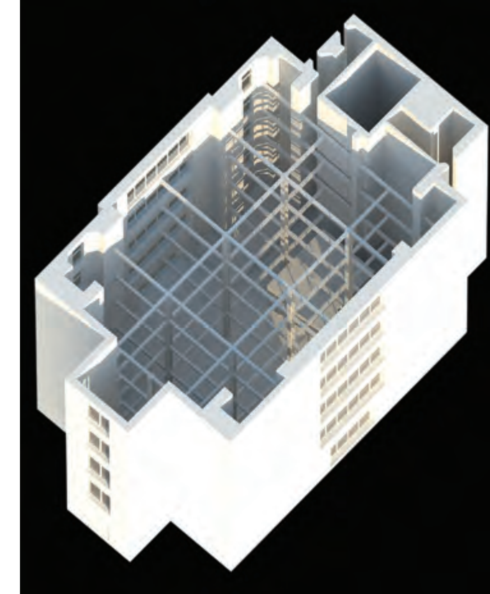
The key shift in the nature of the project, afforded by the Tyne Bridge space, was in its capacity to connect more directly – as a physical space in the world – with Mallory's experience. The unheated space, with leaky roofs letting in November storms, negotiated with torches and dimly lit with battery-powered site lighting, created a discomfort obviously far from that experienced by the two mountaineers. And yet it is far from the serene environment of the gallery or museum. An association is implicitly made between one's body in the space and the body form depicted through the installation piece – an association that situates the mountaineering ropes and carabiners in the building's cavity, along with the fragments of *The Epic of Everest* projected onto the model. We become keenly aware of the mountainous landscape, becoming inhabitants, if only fleetingly, of the mountaineers' experiences and the event of their deaths. We are performing a reading of the space that contains this experience through representation, but it doesn't exist solely in the installation and drawings. Instead, the project exists in associations, in the imaging of the relationships between things: Everest, endeavour, mortality, hope, fear. Ascension. We are caught in a moment of understanding that constitutes a different kind of landscape.

Finally, the project developed into a virtual reality (VR) model and experience, with a second, smaller-scale installation at Newcastle University. This installation allowed observers – through the use of a VR headset – to explore a synthesised landscape merging Everest's landscape with the Tyne Bridge space. Bodily movement was complicated by the use

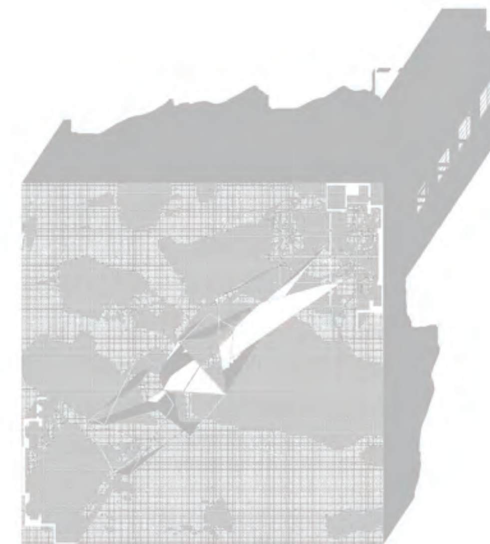
**20.3** Stasus (James Craig and Matt Ozga-Lawn), 'George Mallory', 2016. Installation photograph. The installation utilised mountaineering equipment such as guide ropes and carabiners and was suspended in the north tower of the Tyne Bridge in Newcastle-upon-Tyne. Extracts of the film *The Epic of Everest* were projected onto the fragmentary model. © Stasus.



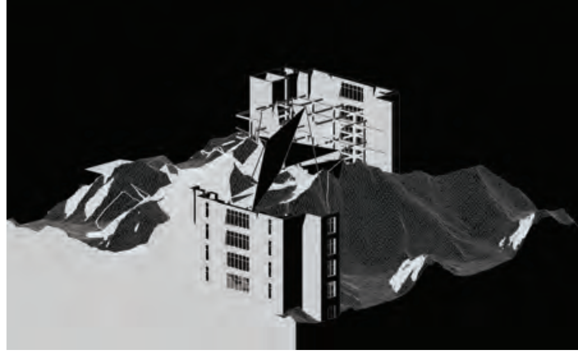
**20.4** Stasus (James Craig and Matt Ozga-Lawn), 'George Mallory', 2016. Digital studies. The sequence merges the topography of the mountain with the volume of the north tower of the Tyne Bridge in Newcastle-upon-Tyne. Digital modelling assisted by David Boyd. © Stasus.



**20.5** Stasus (James Craig and Matt Ozga-Lawn), 'Tyne Tower Model', 2016. Digital model. The model depicts the internal steel supports of the north tower of the Tyne Bridge in Newcastle-upon-Tyne where the installation was suspended. Digital modelling assisted by David Boyd. © Stasus.



**20.6** Stasus (James Craig and Matt Ozga-Lawn), 'Tyne Tower Model', 2016. Digital model. Plan view of the installation in the north tower space of the Tyne Bridge in Newcastle-upon-Tyne. Digital modelling assisted by David Boyd. © Stasus.



**20.7** Stasus (James Craig and Matt Ozga-Lawn), hybrid model. Digital model. The model, designed for use in virtual reality software, merges the space of the north tower of the Tyne Bridge in Newcastle-upon-Tyne with a topographic model of the Everest 'death zone'. Digital modelling assisted by David Boyd. © Stasus 2016.

of mountaineering ropes, tethering the viewer and restricting movement while they were visually transported into a digital model. The ambition in this process was in the breaking down of barriers between the idealised Cartesian space of the digital model and the embodied space of encounter. As landscape and tower are messily brought together, so too are ways of seeing and thinking – through the inhibited VR experience – that are fundamentally at odds with one another.

## Traversing drawing

Leon Battista Alberti's 'lineaments', one of his *Ten Books* (1485),[13] are described as linear constructs that exist purely within the imagination. However, as analysis of his few drawings in the volume has shown,[14] what lines he drew were closely linked to bodily and site-specific practice: the laying out of ropes between posts on a construction site for example, which were translated directly into the construction dots and lines of architectural drawing. Even for Alberti and the many subsequent architectural treatises of the Italian Renaissance that provide an origin for architecture[15] as a discipline in the West, the coded drawing forms were predicated on bodily experiences of construction. This embodied prehistory of the abstract drawing methods now common to architectural production is often forgotten and certainly underused. It represents for us a gap filled with potentialities in terms of our engagement with architectural drawings and the projected spaces they contain.

The architectural historian Robin Evans was concerned with an aspect of this gap in (as he framed it) the translation of drawing to building. In his text 'In Front of Lines That Leave Nothing Behind' (1984), Evans suggests that the 'mechanically-regulated'[16] draftsman's line doesn't seem a natural tool for the evocation of movement, and yet it creates the dynamic potency of its reading through a shedding of signification, clear geometry and subject. The suggestion is that it is only through an abandonment of the figurative – and its counterpart in the fragmentary, which Evans suggests is reliant on the figurative whole – that potentialities can be read into the space afforded by the abstract forms common to architectural drawing. Abstraction thus appears to become a prerequisite for a performative engagement with the space 'around' drawing that Evans is concerned with.[17] This abstraction is necessarily bound up in the knowledge of the tools that create it, so that the mechanical, point-precise lines of the architectural draftsman carry in them a knowledge of their construction, which Evans suggests is more vital to their reading than what the line is itself depicting. The closer these lines move towards recognisable geometries and forms, the more their capacity as catalysts for the projected imagination is weakened. Evans highlights one of Daniel Libeskind's *Chamber Works* (1983)[18] drawings, drawn at a 200:1 ratio and so appearing akin to a singular line in itself, 'provoking the thought that every line could be a world to itself composed also of a multitude of lines, and so on'.

In 'The Agency of Mapping: Speculation, Critique and Invention' (1999), the landscape architect and theorist James Corner argues that mapping 'unfolds potential; it remakes territory over and over again, each time with new and diverse consequences'.[19] Corner describes mapping as the 'most formative and creative act of any design process, first disclosing and then staging the conditions for the emergence of new realities'[20] and suggests that 'maps must necessarily be abstract if they are to sustain meaning and utility'.[21] For Corner, mapping has an agency in the instrumental sense that it reveals the complex and contradictory nature of what already exists through complex abstract modes of drawing. It is through this abstraction that we are able to read potentials performatively, both new ways of looking at existing space and new ways of considering how to act on it.

Architectural theorist Mark Dorrian develops this agency and its embedded potential into what he terms architecture's cartographic turn.[22] Suggesting that 'rather than defining form the architect proceeds by identifying strata or constellations of pre-existents and the formal character

of the work accrues an effect of the processes and codes through which they are mapped and brought into relationship with one another'.[23] Dorrian suggests that the cartographic architectural project is not about 'the identity of the architectural object as it passes through varying representational modes, but rather to those moments in which that identity lapses, where the materiality of the signifier asserts itself, and where codes of representation and reading become unhinged'.[24] In the shifting between representational modes, a design process continually makes hazardous the architectural object's attempt at identity.

This movement between representational modes is afforded in part by the iterative working up of architectural drawings through different stages (e.g. sketch/draft/refined plans). But it is also the movement produced by the extraordinary condition of architectural representation and its ability to depict, and construct, the same design object through multiple distinct representations, such as plan and section or drawing and model. In this sense, a mapping might not necessarily exist on one plane, within a frame, but instead between multiple drawings occupying the same continuum. The cartographic here is not about mapping the various relationships between things into a single drawing that can set the conditions for architectural processes, but is instead about mapping the relationship between architectural drawings and their surroundings, their interrelationships and the dialogues opened up by their reading in order to ascertain where processes begin and end, where referents are brought into use and how our bodies engage the swarm of possibilities around and between drawings.

Architectural drawings tend to dominate our means of reading space: they assert their codes and phenomena onto us without much regard for the situation of our reading. The way to engage with them is the way they wish to be read. This mode of operation dates back to perspectival relationships that have long since been overthrown in other disciplines.[25] There has been no real Duchampian moment in the recent history of architectural drawing, in which our engagement with the work is fundamentally challenged. And so if we are not conscious of the framing of architectural drawings, it is perhaps because of this unrecognised struggle for a point of view which we can 'safely' occupy. The history of visual arts, particularly in the twentieth century, shows us that we should be cognisant of the way in which we see images,[26] but in many ways, architectural drawings reject attempts to reframe their modes of operation and allow a broader range of points of view. Architectural drawing in this way seems to recall attempts at miniaturising landscapes for their observation.[27] In their reframing as images, the relationship of landscape to the body is at least partly lost as we transition from moving through the landscape to containing it. It is perhaps understandable, in a discipline often concerned with the spatial experience of built forms, that our immediate consideration of the bodily experience of architectural drawings becomes secondary.

Through the readmittance of the body into consideration, as in the 'Everest Death Zone' project, we are made more conscious of the positions taken up around and between architectural drawings, of the drawings' limits and their relationships to the body. These positions might be physical points from which to view, but they may also be an increased awareness of the bodily experience of exploring an architectural project, and the navigation of that experience in relation to the experience of encounter with architectural drawing. They might also be critical positions, framing a project to be read in a particular light. This potentially opens up new avenues for architectural criticism, foregrounding the architectural project as existing principally in drawing, and tying it into performance and other engaged and bodily practices, as well as developing new opportunities for practice.

## Death and resurrection of the subject

Through the analysis of the interrelationship between the body and the drawing, a question emerged for us over how to articulate, through an appropriate medium, the meeting point between the subject and the object of representation. The psychoanalyst Donald Winnicott posited the idea of the 'intermediate area of experience' (1971) when describing how the creative acts we engage with throughout life stem from the early environmental experiences that we are exposed to as infants.[28] This continuation of experience can be traced back to Sigmund Freud's articulation of the opposing interests between the ego or death instincts and the sexual life instincts.[29] The idea of the death instinct stems from Freud's observation of clinical subjects and their compulsion to repeat by perpetually moving towards objects or events that originate from a subject's unconscious. Freud developed this idea, in part from watching his grandson play the *Fort/Da* game (forth/here) where the child would repeatedly throw a wooden toy and string over his cot, saying, '*Fort*' (gone), and then retrieving it and saying, '*Da*' (back). Through the game, the child repeatedly stages the disappearance of his mother (who later reappears) and, by doing so, performs a recurrent action that is predicated

on loss. In this way, Freud is describing the subject's fascination with the terminus that underpins the pursuit of pleasure.

What is interesting about the bodies on Everest is that they cut into the structured space that is manifest in the guidelines that take climbers to the summit, exposing the realities of the death drive through representation; it is there to be seen in the duality of decay and preservation. The bodies function in a similar way to French psychoanalyst Jacques Lacan's adherence to the anamorphic illusion in Hans Holbein's painting *The Ambassadors* (1533)[30] as a schema that demonstrates the very essence of how psychoanalysis works: the subject must be aligned correctly in order for the illusion to come into view. Here, the terminus is represented most accurately as the dramatic smear that cuts through the painting's foreground. It is only when we move around the object – come untethered from the 'rope' – that the full illusion is exposed, and the skull appears in its recognisable proportions. This exposure of reality plays out in the encounter with the bodies on Everest: they disrupt the trajectory towards the summit because they represent the real condition of what it is to be situated between desire and death.

This encounter with death and desire plays out through representation. We see it in the bodies on Everest, in the pursuit of each climber, and as architects, we can see it in our own creative processes. Within the discourse of architectural drawing, perspective is the acute form of representation that straddles a complex, largely repressive position between the inner life of the subject and external reality. In Albrecht Dürer's woodcut *Man Drawing a Lute* (1523),[31] we see that the artist's eye is not aligned with the viewpoint, as indicated by the hook and weighted string on the wall. In fact, the artist is outside the drawing frame, with a point of view that is focussed on the mechanics of the drawing apparatus rather than the external object of the lute.[32] Here, the artist is represented as being unaligned with his own subjectivity. He is not able to depict the reality of what he sees: the lute, the string, the figure dictating the outline of the drawing, all subjective reality and the fluidity of life is lost due to the power of perspective and the tools required to support this method. What becomes apparent in this removal of subjectivity is that one must destroy oneself in the pursuit of the ideal external object.[33] The architectural theorist Lorens Holm asserts that this is a historic problem that stems back to the Vitruvian man, his point being that the fundamentals of architecture are set up in ways to destroy the body; 'never have I seen someone so drawn and quartered, so pegged out, crucified, formalised . . . [as] when inscribed with a Euclidian geometry, and surveyed with compass and T-Square, and transformed into architecture'.[34] Here, the very foundations of architecture, and its representation, enact a destruction on the body in pursuit of the ideal form.

In the 'Everest Death Zone' project, there was a desire to reverse the terminal velocity of the vanishing point that is so fundamental to perspectival methods, so that the picture plane emerges into the subject rather than moves away from it. Through this approach, there was something of a reconnaissance mission at play akin to piecing together Leonardo Da Vinci's dismembered *Vitruvian Man* (1487). Mallory is represented as a fluid object that is between multifarious states, not dead, and we, as viewing subjects, are not dead because we are situated in a reversed perspectival space, countering the distancing between subjects and objects that is perpetuated by traditional perspectival hegemonies.

## Conclusion

To resurrect is to restore to life that which is dead, and this was what we wanted to explore in this project through a mode of working that would disrupt the abstract codification that is inherent to architectural drawing. The cynical black humour of the International Necronautical Society's aim to explore the space of death was a motive force for the work. 'Death is a type of space, which we intend to map, enter, colonise and, eventually, inhabit'.[35] This aim seems pertinent for architecture, which is predicated on the use of the dead techniques of perspective to create a nullifying reading of coded and lifeless drawing forms. Section, plan, axonometric – all capable of beauty, no doubt – but each demanding a submissive role in their observation, in which we are asked to accept the drawing at face value, rather than consider our complex entanglement with its depicted spaces. The dead techniques erase the body and our lived experience, and contribute to a discipline which is more and more removed from the world.

In the initial drawing of Mallory, the mapped experience of his journey towards the summit attempted to construct a constellation of parts that would transcend the frozen body and the vanishing point, so that the death drive could be exposed as a consequence of myriad elements that constitute the subject. Through the analysis of events that led to Mallory's death, we created a space that linked these events together. In terms of our own positionality as architects, we engaged with the map in a process of 'immanence' to explore our own desires through a made object that would be the site of a response to his body as a fluid, unfixed object. This encounter with the drawing led to a physical model as a way

of developing a space between the external subject and the hand of the subject, linking the body with the drawing through the construction of an intermediate space.

The model was brought back into the drawing to allow the viewer the opportunity to engage with this ambiguity of the body, creating a space for subjective projection that expands the territory and limits of conventional modes of architectural representation. It was then expanded into the space of a building interior as installation, further complicating the relationships of representational objects, projected and immediate spaces, and the positioning of the viewer. In the full-scale installation of the project, the viewpoint is significant and runs through the abstracted body of Mallory towards the summit – through the body. Here, the viewer takes the viewpoint of Mallory: there is an alignment between both the internal subject of the viewer and the external object of the summit. We look towards the vanishing point, but in this work, the vanishing point is disrupted by the other – the experience of Mallory that cuts into the perspectival frame, forming an alignment of the viewing subject with the subject of the representational piece. Although we see the death drive in one viewport, through the vanishing of the distant summit that pierces through the body, as soon as we step away and navigate around the installation, we see the condition of perspective and its machinations exposed. This entire encounter, when later translated into a virtual model, was able to be observed and explored in another new way that points to the limitations and potentials of the further mediums.

In these multiple acts of translation, the project seeks to function like a psychoanalytic model, revealing the problems inherent to architectural drawing through their perspectival set-up, abstract coding and obfuscation of the bodily relationship to the spaces contained by them. 'Everest Death Zone' instead creates a series of embodied approaches through which architectural drawing is engaged, and through which our understanding of architectural drawing might ascend.

## Notes

1. James Elkins, *The Object Stares Back: On the Nature of Seeing* (New York: Simon & Schuster, 1996), 108.
2. The two mountaineers had tried once before in 1922, but had to abandon the attempt. As the British weren't the first to reach either the North or South Pole, Everest quickly became a 'third pole' to conquer. Others may have tried to ascend before this date, and it should be noted several Sherpas have now been up and down the mountain more than 20 times.
3. The Everest 'death zone' is the area of the mountain that begins eight thousand metres above sea level and continues to the summit. It is named as such, as it is nearly impossible to survive in this zone without additional oxygen.
4. These routes have recently been the site of extreme congestion. Queues on the summit also resulted in deaths, as reported by Michael Safi and Arun Budhathoki, 'Walking Over Bodies: Mountaineers Describe Carnage on Everest', *The Guardian*, 28 May 2019, https://www.theguardian.com/world/2019/may/28/walking-over-bodies-mountaineers-describe-the-carnage-at-the-top-of-mount-everest (accessed 20 July 2019).
5. See, e.g., 'Green Boots', an unidentified corpse on the Northeast route, https://en.wikipedia.org/wiki/Green_Boots (accessed 20 July 2019).
6. There were in fact a series of drawings documenting four mountaineers from different climbs, but we developed the studies of Mallory further in this project.
7. The photographs, by Noel Odell, are contentious because Odell has changed his interpretation of what he saw on several occasions. The ambiguity over whether the climbers were still trying to ascend, or had already ascended, has led to many calls to find Irvine's body in the hope of resolution.
8. Yve-Alain Bois and Rosalind E. Krauss, *Formless: A User's Guide* (New York: Zone Books, 1997), 169.
9. The Architecture Research Collaborative (ARC) is a 'diverse group of scholars whose work ranges across the key topics in contemporary international architecture and landscape research', based at Newcastle University. See https://research.ncl.ac.uk/arc/ (accessed 20 July 2019).
10. Being Human, started in 2016, is a festival of the humanities that operates nationally, inviting submissions on themes from research institutes, museums, galleries and others. It is organised by the School of Advanced Studies, London, the Arts & Humanities Research Council and the British Academy. See https://beinghumanfestival.org/ (accessed 20 July 2019).
11. From J. B. L. Noel, *The Epic of Everest.* Film. Directed by J. B. L. Noel (London: Explorer's Films, 1924).
12. For more on this, see David Sington, *In the Shadow of the Moon*. Film. Directed by David Sington (Los Angeles: Discovery Films/FilmFour/Passion Pictures, 2007).
13. Leon Battista Alberti, *On the Art of Building in Ten Books* (Cambridge, MA: MIT Press, 1988).
14. Paul Emmons and Jonathan Foote understand these drawings to be acting as an imagined walk across the plan. See Paul Emmons and Jonathan Foote, 'Making Plans: Alberti's Ichnography as Cultural Artefact', in *Reading Architecture and Culture*, ed. Adam Sharr (London: Routledge, 2012), 195–208.

15 For an expanded account, see Jonathan Hill, 'Drawing Forth Immaterial Architecture', *Architectural Research Quarterly* 10 (2006): 51–5.

16 Robin Evans, 'In Front of Lines That Leave Nothing Behind. Chamber Works', *AA Files* 6 (1984): 89–96.

17 In the essay, Evans refers to this as the frontal subject: 'there is no real space surrounding events or objects that is made visible by criticism, but if we allow ourselves to be drawn into the trope, then we might well ask what lies beside, above and in front of the subjects of criticism too'.

18 The Chamber Works series are a well-known and highly influential set of 28 drawings by Libeskind, produced when he was head of the Architecture Department at Cranbrook, Michigan, in 1983. The drawings can be viewed at https://libeskind.com/work/chamber-works/ (accessed 20 July 2019).

19 James Corner, 'The Agency of Mapping: Speculation, Critique and Invention', in *Mappings*, ed. Dennis Cosgrove (London: Reaction Books, 1999), 213.

20 Corner, 'Agency of Mapping', 216.

21 Corner, 'Agency of Mapping', 222.

22 Dorrian's own architectural practice, *Metis*, with Adrian Hawker, utilises cartographic techniques to generate urban strategies. These 'urban cartographies' can be seen in their book: Mark Dorrian and Adrian Hawker, *Metis: Urban Cartographies* (London: Black Dog, 2002).

23 Dorrian and Hawker, *Metis*, 4.

24 Dorrian and Hawker, *Metis*, 3.

25 For more on this subject, see Alberto Perez-Gomez and Louise Pelletier, *Architectural Representation and the Perspective Hinge* (Cambridge, MA: MIT Press, 1998).

26 The highly influential series and accompanying text by John Berger, for example: John Berger, *Ways of Seeing* (London: Penguin, 2008).

27 Such as with the utilisation of the Claude Glass (or Landscape Glass), a Victorian device used to assist with painting landscapes scenes. See http://m.vam.ac.uk/item/O78676/claude-glass-unknown/ (accessed 20 July 2019).

28 For more on this, see 'Transitional Objects and Transitional Phenomena', in Donald Winnicott, *Playing and Reality* (London: Tavistock, 1971), 1–33.

29 See Sigmund Freud, *Civilisation and its Discontents* (London: Penguin, 2002).

30 For an expanded account of Hans Holbein's *The Ambassadors*, see seminar XII 'anamorphosis', in Jacques Lacan, *The Four Fundamental Concepts of Psychoanalysis* (London: Hogarth Press, 1978), 79–90.

31 Viewable in Stan Allen, *Practice: Architecture, Technique and Representation* (New York: Routledge, 2008), 9–11.

32 Allen, *Practice: Architecture, Technique and Representation*, 9–11.

33 For an expanded account, see Lorens Holm, 'Vignettes of Death: Architecture and the Death Drive', *Critical Quarterly* 49 (2007): 35.

34 Holm, 'Vignettes of Death', 36.

35 From the International Necronautical Society's (INS) manifesto, first published as an advert in *The Times* in December 1999. The INS, set up by the novelist Tom McCarthy and others, is 'an expansive, networked organisation that slides between the worlds of art, fiction, philosophy and media'. It exists as both 'conceit and actuality'. See http://www.vargas.org.uk/artists/ins/ (accessed 20 July 2019).

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# Meaning in Material

# 21. Forget material

## Adrian Forty

> The subject of Material is clearly the foundation of architecture.
> —William Morris, 1892[1]

Architects have always cared about materials. It's what architects do; it's part of being an architect. Even when they make a show of *not* caring, as Peter Eisenman famously did with his 'House' series, it has as likely as not been out of a questioning of all that makes an architect an architect. Philibert de l'Orme's image of the 'bad architect' was of a man not only blind and deaf to everything around him, but ignorant of materials.

But even though architects have always cared about materials, they have not always done so in the same way or for the same reasons. William Morris's remark, although it might sound timeless, was in reality a response to a very specific situation – partly directed against the falsification of materials, making one thing seem another, that had been at the heart of Baroque architecture, and which had been made a great deal easier by new industrial methods of production; and partly against the railways that had made it possible to transport materials cheaply, thereby disturbing the association between locality and material that Morris liked to think had characterised architecture in pre-industrial times (though of course this was a myth – think of Venice, built of Istrian stone from Dalmatia, or London, built of Portland Stone from Dorset).

The question facing architects today is not whether materials have ceased to matter – which they clearly have not – but rather whether *the way* in which they matter has changed. If we look at some of the ways that architects have historically related to materials, it would appear that many of the same concerns continue. So, for example, architects still mess around with hierarchies of materials, the ranking in terms of value that is there in any building; architects have often taken stuff usually considered base and lowly and promoted it to a noble status, equal or superior to conventionally 'valuable' materials. Just as William Butterfield in nineteenth-century Britain made it his mission to elevate

**21.1** 'The Bad Architect', from Philibert de l'Orme, *Le premier tome de l'architecture*, Paris, 1568, p. 281. The woodcut shows an architect who is blind and has no hands, wandering in a barren and desolate landscape. The image is an allegorical warning to the architect against indifference to a tactile and engaged experience of the world.

red brick – previously regarded as despicably ugly – above all other materials, so did Rem Koolhaas promote ubiquitous polycarbonate sheeting to equality with travertine. Or, to take another convention in the use of materials, architects have customarily introduced materials previously developed for another industry into building: Cor-Ten steel, originally developed for shipbuilding, became a 'luxury' building material in the 1960s; rubber sheeting for wet suits was turned into a cladding material by Simon Conder at Vista Point (2004) on Dungeness; even cement was used first in the mid-nineteenth century for garden ornaments and decorations before its potential as a structural medium occurred to anyone. People are going to go on borrowing materials from elsewhere to make architecture.

There is every reason to expect that these practices in the use of materials will continue in the age of digital fabrication. There is, however, another way of thinking about the architect's relation to materials that is possibly more relevant to the digital era. There is an old debate as to whether it is the business of architecture to bring out material – to draw attention to it – or whether, on the contrary, architecture should make material disappear, so as to allow other concerns to come forward. The first point of view is the better known. According to this argument, architecture transforms low-value stuff into something of quality. As Frank Lloyd Wright put it, 'Architecture is the turning of a worthless stone into a nugget of gold'.[2] More recently, this line of thought has been reinforced by architects' reading of Heidegger, with his idea that the task of the work of art or architecture is to 'bring forth the material'. In their reaction to postmodernism, many architects seized upon this as a rationale for architecture. Witness, for example, the statement by Jacques Herzog: 'the reality of architecture does not simply co-incide with what is built, but rather finds its manifestation in materials' because 'they find their highest manifestation once they have been removed from their natural context'.[3]

The other, opposite, point of view is less familiar, though it has been implicit in much twentieth-century architecture. According to this argument, architecture's task is to transcend material, to enable us to forget about it, leaving us free to concentrate on other, superior values. We come across this idea in the German nineteenth-century architect and theorist Gottfried Semper. In a footnote in his two-volume *Der Stil* of 1860–3 – a footnote that was, as it happens, crucial to the whole work in more ways than one – he wrote: 'The destruction of reality, of the material, is necessary if form is to emerge as a meaningful symbol, as an autonomous human creation'. This statement is paradoxical, given that Semper devoted the entire eight hundred-odd pages of *Der Stil* to the various crafts and techniques of working materials that he proposed were the foundation of architecture. But Semper did not mean that architects were to ignore material – on the contrary, as he went on to say, 'Only complete technical perfection, only the judicious and proper use of material according to its properties, and above all only the consideration of these properties in the act of shaping form can cause the material to be forgotten, can liberate the

artistic creation from it'. And, to underline his argument, he concluded, 'the appearance of a work of art should make us forget the means and the materials by which and through which it appears and works'.[4] There is a contradiction here – architecture owes everything to the mastery of material. Yet, it is necessary to destroy the material, to forget it. Semper was aware of the contradiction, and for him, it was this dialectic that generated architecture and gave it part of its force.

Turning to the present, digital fabrication may make it easier to 'forget material' than was the case under previous modes of production. There is no such thing as a 'pure' material: all materials are the result of mixing human labour with a substance, whether naturally occurring or synthetic. The differences between materials can be thought of not so much in terms of their physical or chemical composition but according to where, when and how human labour has been applied. To talk about materials is always therefore also to talk about work. Industrialisation reduced the amount of labour involved in the 'processing' of materials, in cutting, forming, shaping and joining them, by mechanising some of these actions. As a result, proportionately more of the total labour content went into the intellectual work of locating materials or, if synthetic, formulating their composition, and into the manual work of moving them about and fixing them. Digital fabrication has taken this a stage further, by almost entirely eliminating human labour from the work of processing while making infinite variation possible. No longer concerned to the same degree with the human aspect of processing materials, it becomes easier for architects to concentrate upon what the materials are used *for* – upon the end results. The prospect of forgetting material, which Semper regarded as essential to the work, becomes more likely. The balance between those two arguments – whether to bring out the material or to make it disappear – has shifted, at least for the time being. For the consequences, we shall have to wait and see.

## Notes

1. William Morris, 'The Influence of Building Materials Upon Architecture', in *The Collected Works of William Morris*, vol. 22 (London: Longmans, Green and Company, 1910), 391.
2. The remark was quoted by Alvar Aalto, 'Between Humanism and Architecture', *The Technology Review*, November 1940. Republished in: *Synopsis* (1980) 20–1.
3. Jacques Herzog, 'The Hidden Geometry of Nature', quoted by Kurt Forster, in *Herzog and de Meuron, Natural History,* edited by Philip Ursprung (Baden: Lars Muller, 2002), 54.
4. Gottfried Semper, *Style in the Technical and Tectonic Arts; or, Practical Aesthetics*, trans. H. F. Mallgrave and M. Robinson (Los Angeles: Getty, 2004), 439.

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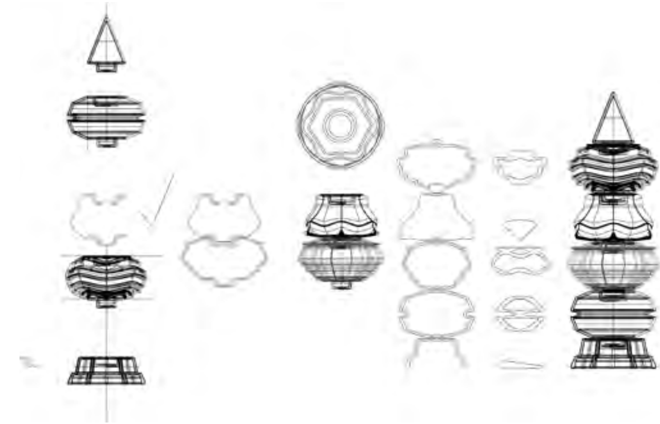
# 22. 'MeMeMeMe Totem'

## Adam Nathaniel Furman

**22.1** Adam Nathaniel Furman, 'MeMeMeMe Totem – Digital Character A', 2013. A character, a feeling, a sketch, a form with a bit of 'fuck you, I don't care' was drawn in Photoshop together with some basic three-dimensional forms. A mood board from where the project sprang. © Adam Nathaniel Furman.



**22.2** Adam Nathaniel Furman, 'MeMeMeMe Totem – Rhino', 2013. The patterns, shapes, look, feel and attitude were worked up into a series of interchangeable modules in Rhino 5, the first step towards something concrete emerging from the mentalese of a digital scribble. Nurbs surfaces with no content started to flesh out with the grin and bite of sense and substance. © Adam Nathaniel Furman.

**22.3** Adam Nathaniel Furman, 'MeMeMeMe Totem – Digital Character B', 2013. At this point, the shapes needed to be re-injected with a bit of gut and sin, lest they in any way reduce themselves to mere geometry and mathematics. The fickle forms with their ripped and over-patterned shirts were taken online to hawk their wares promiscuously as self-centred memes. They were inserted into the cesspit for a touch of digital titillation before entering the church of many powdered hands. © Adam Nathaniel Furman.

**22.4** Adam Nathaniel Furman, 'MeMeMeMe Totem – 3D Printer', 2013. Emerging like newly discovered archaeological relics in reverse, they are three-dimensionally printed, and need new skins, like babies having to grow an outer dermis to protect them from the UV of daylight, but these guys get glue, they get petrified in a layer of industrial-strength superglue from China. They get covered in shells like transparent computer-born crustaceans. © Adam Nathaniel Furman.

**22.5** Adam Nathaniel Furman, 'MeMeMeMe Totem – 3D Printed', 2013. To create the perfect shiny model of a shape brought to life like someone reborn following their baptism, cold, shaking, naked, clean and free of everything that had crowded them before, but free not of sin but of the bytes and bits and virus and dirt and smut of the interconnected web of a billion smutty hard drives. © Adam Nathaniel Furman.

**22.6** Adam Nathaniel Furman, 'MeMeMeMe Totem – Clay', 2013. And then back, to as old as you can get, to Adam, to the very first man, to the most virgin of virgins, the kind of purity only hinted at in the baptismal font, to the earth, to mud, to the ground. There is a progression of the most extreme kind here which jumps ecstatically from that which is most removed from what we might consider nature, to something which is rammed right into its very heart, which melts with the rains and hardens with the sun and is shaped by our hands. © Adam Nathaniel Furman.

**22.7** Adam Nathaniel Furman, 'MeMeMeMe Totem – Clay Working', 2013. And then it is fired, a re-enactment of the beginning of our mastery over this earth, the spontaneous control over the breath of God that baked the earth in Adam's form and thus gave it life. With fire, we transformed the Earth into something recognisably ours; we gave the Earth shape and permanence objectivity, and we discovered technology – the changing of one thing into something else which was ours. © Adam Nathaniel Furman.

**22.8** Adam Nathaniel Furman, 'MeMeMeMe Totem – Fired Porcelain LICK', 2013. And these things of ours, they are meaningful in the journey each has taken, and in our hands they have a weight that sinks back into prehistory. The making of these things, the rhythm of Photoshop filter after Photoshop layer, click on click, type following type, scrape over scrape, and pour after pour, and burn after bake, and spray on spray, this all collapses into every single little one of these human-made things. They are bodies full of digital spark and ancient blood and we need them as much as we need to eat, and they need us or else everything just sinks back into chaos. We are thirsty for them, but we are embarrassed by our need and slink away into corners to purchase guilty pleasures that are in fact utterly necessary. © Adam Nathaniel Furman.

**22.9** Adam Nathaniel Furman, 'MeMeMeMe Totem – Final Fired Porcelain', 2013. It is in these kinds of forms, these kinds of processes, these kinds of quietly triumphant objects that you can find a kind of radical continuity, a perpetual bastardisation that has lasted aeons and will go on for as long as we do. Things done for as long as we humans have modified our surroundings coming together in unceasing coitus with the newest modes of distraction, exchange, consumption and creation – that is the rhythm of the ages, the rhythm of material, of craft, technology, creativity and the liberty of the maker, the designer, the doer, the anti-consumer. © Adam Nathaniel Furman.



# 23. Digital doubles, colliding in mid-air: Prototyping a postdramatic scenography

Bob Sheil and Thomas Pearce

> I am in another room, I am crying.
> You said hurtful things to me, and you weren't sorry.
> Right now, you are on a bus eating cake.
> The woman sitting next to you died six months ago.
> —Shunt, *The Scan*[1]

The advent of new technologies unsettles the way in which we experience, design and construct our environment. This unsettlement is ambivalent: whilst it disrupts and discomforts, it also opens up new operational and experiential fields for creative practice. Emerging technologies of vision such as 3D laser scanning, which are finding an ever more central role in production, analytics, control and decision making, have the potential to unsettle conventions of architecture and scenography. Both disciplines have been traditionally firmly shaped around the privileged and central position of human vision. Yet now, this human gaze finds itself challenged by a plethora of non-human eyes, no longer forming the sole centre of an unfolding perspectival world. So, how can architecture and scenography find novel ways to address this hybrid audience of human and non-human modes of vision?

This chapter discusses the hybrid digital–analogue scenography created for the collaborative theatre project *The Scan* (2013), consisting of site-specific acts between designers and performers through 3D scanning, bespoke instrumentation, rehearsals and live performance. It

suggests how the incorporation of 3D scanning into scenographic – and by extension architectural practice – can challenge, expand and enrich inherited notions of site, authorship, subjectivity and fabrication. The work is the latest iteration of a creative collaboration between the Royal Central School of Speech and Drama (RCSSD), ScanLAB Projects and The Protoarchitecture Lab at The Bartlett School of Architecture, UCL. The artists' collective Shunt created an original score for the performance at the RCSSD.

Written by the performance's scenographers, the article focusses particularly on its spatial aspects and implications. After introducing the performance and contextualising it within a discourse of postdramatic theatre, it presents a sequence of investigations that utilise an ad hoc space at the RCSSD to explore synthetic processes of design prototyping and exploratory performance. Central to the work is the manipulation of 3D laser scanning as a critical and creative spatial tool. Installed in different locations at the RCSSD, a series of spatial instruments are introduced to disrupt, provoke and distort rehearsals and performances that are captured as three-dimensional architectural models. Through specifically located reflective panels, scenes are digitally mirrored, creating a series of parallel virtual performance spaces into which performers and audience, when scanned, are projected.

Experienced at navigating and negotiating these illusionary point cloud spaces created by the scanner, the performers guide the audience along a series of scenes in which they are captured live by the 3D scanner, enacting and re-enacting narratives saturated with a sensation of being simultaneously displaced and observed, inhabiting simultaneously the analogue and the digital, the fictional and the real. The article concludes by characterising the novel scenographic space created by 3D scanning as a post-anthropocentric space of shared human and non-human spectatorship and authorship; as collapsing the unities of time, space and action; and lastly as generating a new, augmented rather than mimetic, notion of entangled digital fabrication.

## Perhaps a giant hot-dog

When attending a performance by the experimental theatre collective Shunt, one knows not to expect an evening of comfortably seated theatre consumption. Shunt is known to make its audience work. The theatre-goer is made to participate actively, to become complicit in a sequence of (often slightly mad) events encountered whilst navigating through and often getting lost in existing or imagined architectures, expecting the unexpected around every corner.[2]

Arriving to see a performance called *The Scan*, the impression is that not even the performers know what to expect. In the lobby of the RCSSD theatre, two performers have mingled with the crowd awaiting the start of the performance. They shout at each other, exchanging confused questions about an impending 'Scan', the nature of which remains unclear: 'I'm waiting for this thing, this big Scan-creation thing to hang from a crane, like a giant hot-dog'. 'Is it a medical Scan, the Scan thing?'

This sense of uncertainty and disorientation saturates the remainder of the evening: the audience is divided into groups and, rather than being admitted to the main theatre space, is sent on a journey through the theatre's maze-like backstage areas, rehearsal rooms, roof terraces, store rooms, fire-escape routes and lighting studios. They are instructed to do so by text message, recorded audio fragments and masked performers. The performers, frequently exchanging wigs, masks and roles, and oscillating between the overtly friendly and outright hostile, recite fragmented narratives obsessed with the idea of being observed, recorded, 'scanned' and referring to the inhabitation of spaces invisible to the audience.

On their theatrical promenade, the audience is repeatedly told how to behave and where to stand as it is 'being scanned'. Taciturn technicians operate 3D Lidar scanners – which are only referred to as 'the Scanner'. Seemingly crucial but left unexplained is the function of a series of mirror armatures found in the staircases and rehearsal rooms. The audience is asked to join the performers in acting out scenes in front of the mirrors and the scanner, at times seeking shelter to evade its gaze, at times receiving instructions to enact and re-enact scenes in front of it.

TECHNICIAN: The Scan has started.

A: No, it hasn't.

B: This is a summary of events. You are all here. We are walking in a circle together.

A: You aren't here. You're jumping through walls and looking at yourself in the mirrors. In some you look fatter. There is no circle.

. . .

A: Now I'm over here. And some of me is over there.

B: Rubbish

A: We aren't here anymore on this roof. We are all together in the dark sitting down. You can see us, but we left yesterday. We left last week.

Such obfuscating and quite often conflicting statements, describing the fragmentation of the performer's and the audience's bodies, as well as the collapse of the spatio-temporal continuity of the performance, contribute to the audience's feeling of exclusion from some sort of secret knowledge regarding the nature of 'The Scan'. 'We can see things you can't see', the audience is repeatedly told.

What the performers see is the subject of this article: a hybrid digital–analogue scenography created by the 3D scanner, generated during the preceding rehearsals and research. The nature and implications of this scenographic experiment will be unpacked throughout this article as the narrative of the performance itself unfolds.

## Deconstructing dramatic space

But first it seems apposite to examine that very notion: narrative. The subject of the performance – as arguably of any performance by Shunt – seems to be much more the act of performing itself than what would conventionally be understood as a dramatic plot. Theatre scholar Hans-Thies Lehmann coined the term 'postdramatic theatre' to describe this self-reflective tendency in late twentieth- and early twenty-first-century theatre, which concentrates on performativity itself and explores the 'usually unacknowledged anxieties, pressures, pleasures, paradoxes and perversities that surround the performance situation as such'.[3]

*The Scan* uses many theatrical devices that can be read as part of this postdramatic impetus: the disruption of dramatic expectation by commencing the performance before its announced start, its setting in the backstage areas of the theatre, the splitting up of the audience to create a sense of confusion and simultaneity. Such devices serve to deconstruct classical drama's unities of time, space and action and aim to challenge tacit assumptions on viewership, representation and veracity critically that are deeply rooted in dramatic theatre. Postdramatic performativity refuses to 'represent the world as a surveyable whole', as a 'walled-off (by a fourth wall) fictional totality', and instead proposes a 'world open to its audience, an essentially possible world, pregnant with potentiality'.[4]

This open, pregnant world can hardly be adequately contained within the traditional proscenium theatre. The idea of the fourth wall relies on a passive and detached spectator bound to the fixed vantage point of a centralised perspective, around which anamorphic illusionary environments can be constructed and deployed. This spatial arrangement epitomises a humanist world view that historian Martin Jay has called 'perspectivalism': by detaching the viewer from the quantifiable, surveyable object (the painter from the painted, the scientist from the experiment, the audience from the play), it promises objective and abstract knowledge about (and control over) the world.[5]

A similar unease with the philosophical and dramatic implications of traditional theatrical space had already driven earlier reformist attempts at dismantling the proscenium setting, such as Walter Gropius's 1926 Total Theatre designed for director Erwin Piscator, which allowed for crowds to mingle with the actors and for the stages to revolve and be rearranged. Gropius saw the elimination of the proscenium as a way to 'draw the spectator into the drama' so theatre could become 'capable of shaking the spectator out of his lethargy, of surprising and assaulting him and obliging him to take a real interest in the play'.[6]

## Augmented scenographies

Going one step further, postdramatic performances often abandon traditional theatre space altogether, instead creating site-specific pieces for appropriated non-theatrical spaces. In what could be called theatre's 'architectural turn', the performance dissolves across a complex spatial condition to be negotiated through the audience's own movement. Similar to the early modernist shift away from a classical architecture that had conveyed itself fully through a limited amount of views to be complemented by the viewer's a priori intellectual understanding of symmetries and centralities, and towards a more experiential and cinematically fragmented, post-perspectival experience,[7] the mobilised theatre audience now occupies a constantly shifting vantage point.

In Rimini Protokol's *Situation Rooms*, for example, the set consists of a closed architectural structure, a multistorey assemblage of condensed spatial conditions through which the audience is guided, consecutively slipping into and re-enacting the roles of 10 different protagonists. Immersed in a multi-perspectival spectacle, the viewer is no longer able to adopt the outside, objective view of the perspectivally detached subject.[8]

Such strategies resonate with a networked and digitally saturated audience. It is a theatre which, according to performance artist Tim Etchells, 'cannot be taken in "at once", that is not easily "surveyable", and thus a theatre that does not make the world "manageable" for us – fundamentally because the world we live in, globalized and multiply mediatized as it is, is less "surveyable" and manageable than ever'.[9]

Accordingly, postdramatic theatre often incorporates the use of digital media (phones, tablets, laptops, projections, virtual reality headsets) within an immersive performative and scenographic practice. In installation artists Janet Cardiff and George Bures Miller's *Ghost Machine* (2005), the participants receive a camera with a pre-recorded tape and a set of headphones, which guide them through the theatre building. The videotape shows footage that was shot from the participants' location but at a different time so that 'they find themselves in a confused jumble of overlapping realities'.[10]

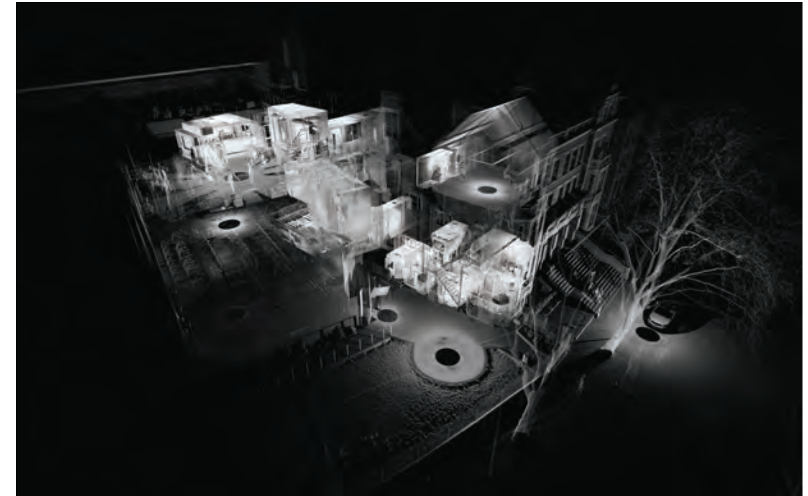
The resulting space could be called a hybrid or 'augmented' scenography, onto which, in addition to the physical set, digitally represented sets and narratives are grafted. *The Scan* adds another layer to this hybrid scenographic space: a novel space for performance generated specifically by using 3D scanning. In what follows, we will argue that this 3D scanned space has the potential to act as a vehicle for the above-described postdramatic impetus as it allows for the subversion of conventional notions of scenography and spatio-temporal relationships within theatrical practice, whilst at the same time it can challenge the newly established conventions of postdramatic practice.

## Surveying the unsurveyable

From its initial development, *The Scan* was driven largely by the collaborative exploration of the space created by the 3D laser scanner. During the research and rehearsal phase, a specific performative practice emerged through the repeated inhabitation of spaces created and augmented by the 3D scanner – which, unlike the theatre's backstage areas, were novel to the audience *and* the performers.

In a first stage, the scanner was used in a conventional way as a surveying tool to capture *The Scan*'s site. The RCSSD in North London has a fascinating maze-like quality. It is a conglomerate of buildings that has been continuously extended, added to and layered upon, resulting in a complex set of spatial relations bordering on the Piranesian. These relations can normally only become legible through a longer experience





**23.1** Point cloud image generated from a 3D Lidar scan of the Royal Central School of Speech and Drama showing the clustering of rehearsal and backstage areas around the courtyard facing Eton Avenue. © ScanLAB Projects.

of navigating and using the spaces – though arguably one would need a master key to truly grasp all its unexpected backdoor connections.

The scanner acts as something of an optical master key. It dissolves the maze into a translucent cloud of billions of point measurements. The viewer can navigate through this digital point cloud model on a computer screen, readily seeing and passing through the building's walls and floors, revealing the spatial correlations normally lost in the additive complexity of the floor plans. The opaqueness and hierarchy, on which theatrical illusion relies, evaporates as the vast infrastructure hidden behind the theatre's stage is revealed.

Yet, the dissolved materiality of the scan acts not only as a revelatory, realist tool, making legible and transparent the situation as is. Point cloud visualisations also create a novel and more subversive reading of the space – a layered space which, through the superimposition that comes with transparency, becomes complex and ambiguous:

> There is the hovering, vertical grouping of planes which satisfies our feeling of a relational space, and there is the extensive transparency that permits interior and exterior to be seen simultaneously, en face and en profile, like Picasso's 'L'Arlesienne' of 1911–12: a variety of levels of reference, or of points of reference, and simultaneity.[11]

Though actually concerning a picture of Walter Gropius's 1926 Bauhaus in Dessau, this description by Siegfried Giedion resonates (perhaps even more intensely than with its original subject[12]) with images of the point cloud space explored during the rehearsal period of *The Scan*. This triple juxtaposition perhaps confirms an alliance between our explorations and the modernist avant-garde's deconstruction of the spatio-temporal unity implicit in perspectival representation.

## Pregnant with the post-perspectival

This post-perspectival alliance is based on more than just the point cloud's visual appearance: it is also built into the 3D scanner's very technological functioning, which is inherently non-perspectival. Although it collects data from a fixed position, the laser scanner, similar to other technologies of remote sensing (e.g. radar), does not have a picture plane, retina or photographic plate.[13] Instead, its range finder measures the distance between itself and objects in a scene by using time-of-flight measurement: shooting laser beams at the objects, it converts the signal's return time to a distance value.[14] This way, it creates millions of measured points per minute, which can then be translated into a set of three-dimensional *xyz* values.

Yet, the translation of collected distances to *xyz* values and their subsequent representation on a perspectival picture plane (the computer screen) is but a matter of post processing to make the point cloud data legible to the human eye. It is important to point out, as we will return to this idea later, that this post processing is by no means immanent in the process of 3D scanning. Processes using 3D scanning (quality control in a factory or target identification in military applications to name two) nowadays often completely bypass human vision, purely executing pattern recognition algorithms on geometrical data sets.

This uncoupling of the process of imaging from the act of measuring has significant implications for notions of spectatorship (and hence on scenography): the viewer of the digital point cloud space can freely navigate, effortlessly 'jumping through walls' independent from the scanner's position. This opens up a range of *potential future spectatorships*, which are spatially and temporally liberated from the vantage point of the original 'viewing' apparatus, rather like in futurist Bruce Sterling's speculations on the future of a camera, which 'simply absorbs every photon that touches it from any angle. And then in order to take a picture I simply tell the system to calculate what that picture *would have looked like* from that angle at that moment'.[15] As opposed to classical perspective, in which the viewer's position came pre-framed as it could only be identical to that of the painter, the location of the point cloud's observer is no longer necessarily 'encoded into its representation'.[16] This future-frameable digital point cloud space is, to return to the notion of the postdramatic, a 'possible world' par excellence, 'pregnant with potentiality' of endless origins. The scanned space can hence extend further the playing field of the already heterogeneous space of postdramatic theatre.

Yet, the audience – at least for the time being – is left in the dark with regards to this novel point cloud space of strange overlaps and dissolved materiality. The members of the audience can only move like 'rats in the maze', as a reviewer describes it.[17] In the meantime, performers continue to exploit the imbalance in visual literacy between themselves and the audience with ominous statements such as 'You're jumping through walls', or 'A: I can see through that wall // B: It's not very interesting'. Only during the 'reveal' scene at the end of the piece will the meaning of these statements become apparent to the audience.

## Fragmenting realism

The heterogeneous space they will discover to have inhabited contains even more layers than hitherto delineated. The above-described space, generated by the transparencies and overlays within the point cloud, still relies on an ultimately realist understanding of the veracity of the scanning process. Yet, this process of 3D scanning is in fact rich with glitches, errors and mirages, which in turn can become extensions of the postdramatic playing field.

The exercise to scan the RCSSD was simultaneously exploited for performance experiments that challenged the conventional metrological use of the 'realist' scanner. These experiments intervened across a suite of scheduled capture positions with unscheduled performance tests and explored conditions such as sound, movement, materiality, dialogue, montage, blind spots, building fabric and narrative.

A first set of performance experiments created narrative tableaux: staged stills of improvised stories involving murder, crime and forensics. In these tableaux, the actors, like in early photography, would stand still waiting for 'full exposure' while the scanner's rays swept past them (depending on resolution and accuracy, the scanner describes a 360° rotation that creates tens of millions of measured points in a matter of minutes). Soon, however, the performers recognised this very rotational movement

as inherently choreographic, a time-based constraint and opportunity creating a narrative space to be inhabited by their performance. It meant that, for example, one moving performer could appear multiple times within a single scan. Also, as the scanner reads a scene as radial sections, it can slice a moving body, disassembling, warping and extending it:

> Now I'm over here. And some of me is over there.
> —We are all fragments.

The notion of time-based tableaux, a 'live' site survey emerged and established the ambiguity between the forensic accuracy and realist capture of the scanner, on the one hand, and its fictional and deceptive potential, on the other. The surveying tool doubles up as a phantasmagorical one. This ambiguity would remain the principal driver of the rest of the project.

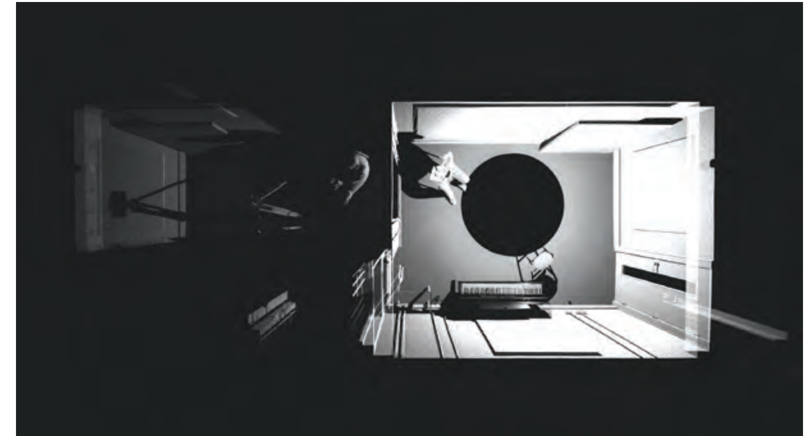
## Bending the blind-man's cane

A second non-realist space generated by the scanner, which would become crucial to the further development of the piece, was discovered when live surveying a tableau called 'The Crying Room'. The tableau involved a woman, crying and reciting a text in front of a large mirror in one of the RCSSD's many rehearsal rooms:

> I am in another room, I am crying.
> —You said hurtful things to me, and you weren't sorry.

The resulting point cloud model indeed showed 'another' room – a mirrored room, in which the performer's 'blind side' appeared: though believing herself to be alone in the secluded room, a mirror image of the woman's distress was digitally recorded by the scanner, and hence simultaneously, within the point cloud, happening in the exposed courtyard.

This mirrored space is explained by the fact that the scanner's laser rays measure strictly one-dimensionally – rather like Descartes' description of human vision as a blind man stabbing his cane in the dark until it meets an object. What happens here is that this cane is 'bent' or deflected by the mirrored surface and travels on to meet an object in front of the mirror. The ignorant blind man (the scanner), however, assumes that the object lies in the extended direction of his stabbings and thus digitally creates this parallel, fictional room behind the mirror. This result



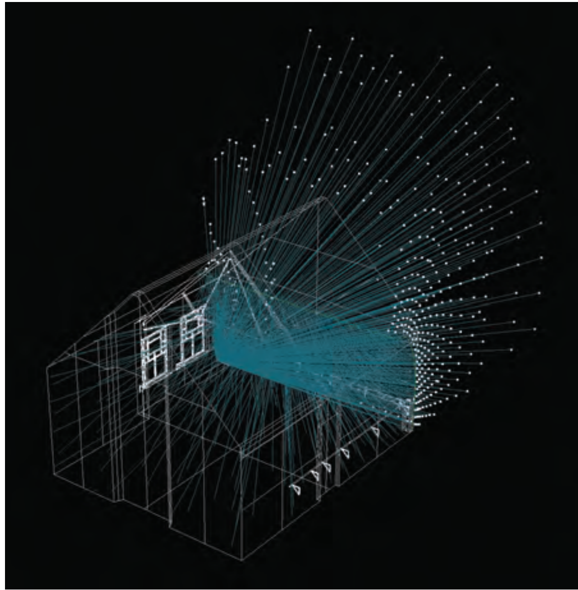
**23.2** 'The Crying Room', the point cloud generated during this scene shows a performer and the rehearsal room digitally mirrored in 'another' virtual room, which becomes a parallel performance only appearing within the 3D scan. © ScanLAB Projects.

provoked an interest in developing the reflected data as a parallel, virtual performance space.

At this point, the project's approach to 3D scanning started shifting from a positivist fascination with the congruence between the physical world and its digital representation towards a growing interest in the disjunction and discrepancies between the two. Scanner 'noise' are digital points that, like the mirrored ones in question, do not correspond to any actual physical object and are normally filtered out of the point cloud. We recognised this noise as a space of potential occupation and artistic appropriation, as it turns the scanner from a passive realist measuring tool into a productive agent that actively creates spaces in the digital realm.

## Digital doubles, colliding in mid-air

The challenge then became how to gain control over this noise – a question prompting a design and prototyping phase with the aim of transforming these mirrored spaces from incidental digital spillages into purposefully created mirages. During this phase, custom software components were scripted, reverse engineering the physical and geometrical principles generating the noise, simulating the reflections created by parametrically controlled reflective panels and calculating the position of the resulting displaced point clouds in relation to the performance position.



**23.3** Screengrab of the computational script developed to reverse engineer and simulate the displaced point cloud generated through mirrored insertions into the scene.

This design research resulted in the fabrication of a series of paired bespoke instruments – each incorporating a 3D scanner head mounted on an armature that faces a second housing of programmable mirrored panels. These armatures were digitally fabricated from laser cut and bent aluminium components and, being based on the measurements from the initial scan survey, could be precisely inserted onto parts of the RCCSD building. The 3D scan survey hence formed the basis of the disruption of the very point cloud space it captured – with regards to both the possibility of a site-specific simulation and the accuracy of the instruments' prosthetic fitting onto the site.

Each of these scripted disruptions enabled the creation of a scene within the performance. During one scene, two members of the audience are asked to sit still on two chairs whilst being scanned – the slowness of the process of scanning here again reminds of that of early photography. They each sit on a separate landing of a staircase but, carefully placed, can see each other through three different pairs of mirrors. The participants are asked to describe each other. Meanwhile, the scanner on the upper floor captures the scene taking place on the lower floor. Each pair of mirrors allows the scanner to capture the scene simultaneously but from a different angle. Three different virtual part-scenes, floating above the

**23.4** Array of mirrors in the ballet room, photographed from the scanner's position and showing the position of the performer from 10 different angles. The scanner, as opposed to the photograph, will not capture this as a snapshot but, due to its rotational process of capture, as 10 consecutive frames in time.

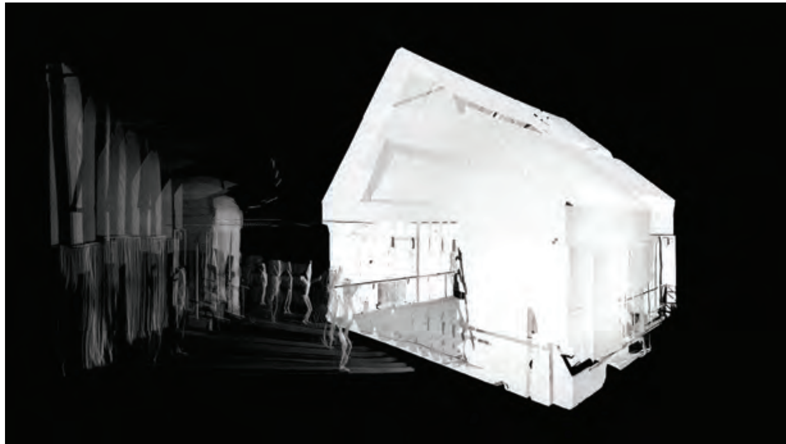
courtyard due to the double reflection (using the logic of the blind-man's broken cane – which in this case is broken twice) are digitally captured within the resulting point cloud. In these clouds, audience members and performers are simultaneously hanging upside down, suspended above the courtyard. The scan explodes into a simultaneous, multi-perspectival point cloud.

Further progressing through the building, the audience encounters a performer with a paper bag on her head, singing a song in the RCSSD's ballet room. An array of 10 mirrors delicately balances from the ballet rail and against the wall, lined up like serially connected metallic ballerinas. Asked by another performer to please stop singing, the masked performer prompts participants to stand, for a precise number of seconds, on a spot marked on the floor:

> I need 10 volunteers to be transported through the wall and hover in space.

The scene combines the two techniques described above: the scanner's rotational choreography and the reflective screens. As the scanner makes its rotational movement and sweeps across the 10 mirrors, each mirror consecutively reflects its rays towards one and the same focal

**23.5** Bird's-eye view of the point cloud resulting from different scenes and their respective mirrored armatures. The 10 consecutive frames generated in the ballet-room scene can be seen hovering above the courtyard. © ScanLAB Projects.



**23.6** Perspective view of the ballet-room scene and the four-dimensional point cloud sequence generated by the mirror array. Each frame captures the same performers but from a different angle and at a different time. © ScanLAB Projects.

point (marked on the floor) for the duration of a couple of seconds. Hence, the scene taking place on this 'hot spot' is reflected, scanned and digitally 'created' 10 times behind the mirrors. Hovering three stories above ground, a four-dimensional 'film reel', a spatialised Muybridge image sequence of sorts, occupies the space beyond the wall, capturing the performance in 10 consecutive 'frames'.

**23.7** In the final scene, the audience is led onto the theatre stage, in which a dense multimedia relay of the material captured during the performance is projected onto the fire curtain, shown by performers and technicians, facing away from the audience and indifferent to its intrusion.

## No applause

In the final scene, after being guided along this series of scenes and scanner-timed choreographies, the audience is led through the backstage area and is gathered on the stage of the RCSSD's theatre. The space is dark, the auditorium hidden behind the fire curtain. Projected on to the back of the fire curtain is a dense multimedia relay of point clouds, three-dimensional models, animations, CCTV and infrared footage, photography, sound recordings and dialogues recorded during the piece. The performers, rather like in a control room, sit lined up behind a long table full of computers and technical equipment and in front of the projections, facing away from the audience. In hushed, barely understandable voices, they discuss the projected material. They react indifferently to the intrusion of the audience, suggesting a process that has started long before the audience arrived and will continue after they leave.

The audience isn't offered a seat; there is none of the comfort or passive detachment of the auditorium. Instead, the audience members are now made aware that they have been performers themselves, observed by a multitude of digital eyes. The choice of the backstage location is of course symbolic, displaying the system of pulleys, ropes

and counterweights that normally provides the machinery and armatures for the illusionistic scenographies of the proscenium theatre. Now surrounded by this machinery, entangled in the inner workings of the performance, the audience is immersed in the unintelligible hyper-analysis of its own actions.

The largest part of the multi-screen display is taken up by projections of point cloud models. The scans are digitally stitched together, a process called composition, which is a standard procedure following a scanning survey – except that now, digitally created, parallel performance spaces appear, imploding the building's spaces into the courtyard. Hovering above the courtyard, mirage spaces overlap, performers and members of the audience hang upside down, protrude through walls or intersect with the fire escape staircase. While some fly-through animations are made before the evening of the performance, stitching together scenes from the initial survey and juxtaposing them with point clouds created during rehearsals, other point cloud displays are shown 'live' by an operator panning through a model. Layering material from the evening's scans onto previous point clouds, timescales are further destabilised. Critic Brian Condon describes:

> Some of the laser scanned images are of the participants/audience/experimental subjects shown in what I think of as 'near real-time' – by that I mean content made so freshly that the paint has not yet dried; and the people in the room gasp as their laser scanned simulacra are shown on a massive screen in front of them. Unsettling.[18]

Now, the operator zooms in on a person's face in the ballet room. The face dissolves into points as we approach: was this a performer, a member of a previous audience, a mirage? Then, abruptly marking the end of the piece, the fire curtain rises. The projections disappear and performers, technicians and audience face the auditorium. It is empty. There is no applause.

## A novel space

*The Scan* has created a novel kind of scenographic space and – if we consider our experiments as an architectural probing ground – an expanded playing field for architectural thinking and practice. In conclusion, we will attempt to pinpoint what sets this novel space apart. We will describe it first as a post-anthropocentric space of shared human and non-human spectatorship and authorship; second as collapsing the unities of time, space and action; and lastly as provoking an entangled, augmentative and layered understanding of the virtual in spatial design and fabrication.

The space explored within *The Scan* marks a shift towards a new sense of hybrid authorship and spectatorship. The audience, to start with, is mobilised and engaged as an active participant. This erodes the sole authorship of both scenographers and performers – regardless of how clearly the audience may understand its authorship during the bulk of the actual performance. From the onset, a fertile friction arose between the scenographer's spatio-technological intentions (the prescriptive clockwork choreography described above, assuming perfect control over the engineered illusion of the test person's reflective fragmentation), the performer's associative interpretation and the audience's unknowingly stepping in and out of scanner 'hot spots': crosses that mark their simultaneous vertiginous suspension 15 meters above the courtyard behind the wall – this unknowingness, as will be discussed below, being consciously instrumentalised by the performance.

However, the shared authorship goes beyond a postdramatic understanding of audience participation, as it is not confined to the human actors involved but extends into a more ontological sense of participation that comprises human and non-human 'actants' alike.[19] The scanner, for example, becomes a central character/actor/actant in the piece. This is true in both a literal sense – the scanner being referred to in the text, being turned into an ominous and wondrous object, a spatial mediator around which the performance revolves – and in an epistemological sense – the scanner not just being a passive camera obscura capturing the scene, but an active agent creating and augmenting the scene. As such, all human and non-human agents form a network that mutually creates the unfolding of the co-authored piece.

This reflects a post-anthropocentric reality in which a plethora of heterogeneous non-human eyes and actors have complemented, replaced or even completely bypassed human vision and agency. The audience's – partially uncomfortable – submission to the machine-timed and machine-recorded choreography destabilises its usual centrality as the singular perspectival 'eye' around which a theatre piece is centred. As many scenes are acted out for the ominous post-perspectival eye of the scanner, the audience now loses its privileged spatial and epistemological position as the sole addressee and consumer of the performance.

## Re-fragmenting the mirror stage

Seen in this light, the inverted spectacle that is *The Scan* plays into what sociologist Benjamin Bratton has called the most recent of 'Copernican traumas', caused by our displacement from a false centrality by non-human intelligence.[20] The notion of the autonomous performer/audience/subject as a unique spatial and temporal individual is shattered. If in the classical Lacanian theory of the 'mirror stage' the child, by recognition of an image of the 'self' in the mirror, develops an 'imaginary wholeness' and self-consciousness, the mirrors inserted around the scanner in this performance are used to quite the opposite end: they are devices that re-fragment notions of selfhood, identity and subjectivity.[21]

The audience's inability to grasp the 'full picture' of what is happening, its sense of exclusion and displacement, is consciously heightened through the performer's text (as repeatedly quoted above), but also through the dramaturgic decision *not* to provide direct visual feedback during the piece about the digital spaces being created by the scanner.[22] The delay between the measuring (during the performance) and viewing process (during the final reveal) is a time 'pregnant with potentiality', reminiscent of the development process of an analogue photograph. But it is also rife with frustrated expectation for the audience.

Frustrating an audience's participatory expectation, for example by referring to the aforementioned hot spots without explaining what precisely they serve to mark, is a conscious strategy: if participation was once a device for disrupting the act of theatregoing, it has now arguably become a part of the audience's very expectation and desire – and is hence rendered harmless (or perhaps rather it appears harmless, as the participatory desire is arguably grounded in the creation of a late-capitalist subjectivity, in which creativity and participation are essential for the subject's productivity).[23] Frustrating this impulse is hence a critical tool – and scanning, with its inbuilt delay between measuring and visualisation, defies our desire for real-time feedback, and is hence an excellent instrument to achieve this extended postdramatic frustration. The pregnant pause of 'development' allows us to look at ourselves looking, and at the scanner measuring – a Brechtian critical reflection on the very act of capturing and being captured, observing and being observed. It emphasises the productive rather than merely reproductive agency of the scanner.



## The cards of reality reshuffled

The space produced, rather than reproduced, by the scanner, is a space in which the unity of time, space and action collapses. It is a simultaneous space, rather like in Giedion's description quoted above, a space of collapsed tenses. The process of digitally grafting different (realistic and glitched) scans together not only deconstructs the spatial realism of the composited scenes, it also undermines the temporal realism of a captured 'snapshot moment'. The grafted scan space blends and layers timescales into a non-linear spatio-temporal assemblage. It emulates the additive complexity of the as-found maze-like space through an equally complex superimposition of digitally fabricated spaces – adding even more digital 'rooms' to the building.

What results are poly-scenic montages – reminiscent of poly-scenic paintings of the quattrocento Renaissance, in which the then recently discovered unifying technique of perspective was used to plausibly contain multiple stages of a story (e.g. Botticelli's *Three Miracles of Saint Zenobius*) within the architectural framing of one single perspectival scene.[24] This plausibility is constructed through what Bruno Latour calls the 'optical consistency' of perspective, allowing the painter to 'reshuffle' within it 'the cards of reality'.[25] Within the optical consistency of the point cloud assemblage, instead of the snapshot quality of a unique moment in time and space, a complex layering of a multiplicity of both unfolds, suggesting the progression of performers through the scenes, playing different roles, enacting different scenes simultaneously.

It would be reductive, however, to consider these poly-scenic constructs as end points of the performance – as if describing a linear process of deception and revelation, in which a 'trick' played on the audience is resolved in a collective revelatory backstage 'aha moment'. This would not do justice to the complex and layered notion of fabrication that emerged throughout the project and that could be described as augmentative rather than mimetic and virtually entangled rather than linear.

## A virtually entangled space

Current notions of digital fabrication and capture strongly rely on a mimetic notion of translations between the digital and physical stages of its workflow, with the success of each consecutive translation being measured by the accuracy of its reproduction: the digital point cloud model (created using 3D scanning) is valuable because it accurately and

realistically measures and represents the captured physical scene; the digitally fabricated physical object (created using computer-aided design and computer-numerically controlled technology) is in turn evaluated by the low tolerance of its materialisation of the digital design model. While working on *The Scan*, a notion of translation and fabrication emerged that is *augmentative* rather than mimetic. When the scenographic insertions, which are bespokely designed based on a 'realist' scan and implemented into the site, are re-scanned, our digital point cloud mirages (the mirrored part-scenes) appear as elements that are additionally *created* by that very translation process.

Second, the emerging notion of fabrication challenges the linear, consecutive understanding of this sequence of translations. The digital site, the point cloud not only serves as a parallel performance stage that is constantly *fed by* (i.e. being scanned), but also *feeds back into* the (experience and appearance of the) physical space. This feedback loop between the digital and the physical eventually becomes so short that it effectively collapses into a non-linear dialogue, echoing Paul Virilio's ominous description of how 'the image in the mirror' seems to be 'suddenly modifying our face, the electronic representation on the screen, the radar console, modifies the aerodynamic silhouette of the weapon, the virtual image dominating in fact "the thing" of which it was, until now, only the "image"'.[26]

Yet, Virilio's understanding of the virtual dominating 'the thing' effectively preserves the idea of a difference and hierarchy (though inverted in his case) between the virtual and the real. A more fitting way of describing the scenographic space fabricated during *The Scan* is as 'virtually entangled'. The term 'virtual' here is not used in its reductive (yet popular) equation with the digital, but instead in its original optical and by extension philosophical meaning: Deleuze proposes to replace the binaries virtual/real or possible/real by the categories *virtual* and *actual*, both of which he regards as real. In this model, the virtual and the actual co-exist within the same space, they are layered and entangled.[27]

Seen this way, *The Scan* is a virtual-actual layering of past rehearsals, current, anticipated and imagined performances, whether in their remembered, physically enacted, digitally captured or simulated state. The performer's and audience's bodies, the mirrored instruments, scanner armatures and markers indicating origins and hot spots can hence be described as hinges or nodes between these various virtual and actual layers as they not only technically calibrate the space but also constantly actualise the virtual layers to which they refer – an understanding that seems equally full of potential when applied to architecture. Can buildings be read as such virtual-actual nodes? Can our processes of design and inhabitation of these nodes move more fluidly and non-linearly between the multiplicity of their layered processes? Can our drawings and images be more than instructions or depictions but occupy these productive hinge spaces?

What is crucial to the realness of the virtual is that it lends it agency, it is 'functionally or effectively but not formally' on the same level as the actual and possesses the 'power of acting without the agency of matter'.[28] The performer's accumulation of technical and spatial literacy regarding the resulting point cloud models, for example, shaped the performance's development as much as the designed insertions. After each rehearsal session, performers and scenographers would sit down to explore and navigate through the resulting point clouds, compare and composite them with older results and refine strategies for further rehearsals and performances. This way, each consecutive rehearsal becomes more and more deeply saturated with both the imprint of a remembered, digitally created space and the anticipation of the digital space being created at that very moment. As the performers develop a sense of simultaneously occupying the virtual and actual layers of this space, they become guides for its co-inhabitation, leading (and often also refusing to lead) the audience through its many pitfalls.

The performers eventually also develop techniques that creatively exploit this layered space's own peculiar rules and laws, modes of mobility and observation. When one performer, during the performance, starts writing the opening lines of T. S. Eliot's *Four Quartets* on the exterior wall of a rehearsal space, she does this *backwards*. Literally becoming more literate within the point cloud space, she knows that *virtually* standing on the other side of the wall, so inside the rehearsal space, she will be able to read it through this wall as soon as it dissolves into points:

> Time present and time past
> Are both perhaps present in time future
> And time future contained in time past.
> If all time is eternally present
> All time is unredeemable.
> What might have been is an abstraction
> Remaining a perpetual possibility
> Only in a world of speculation.[29]

Eventually, the physical space surrounding us dissolves into points, even without the mediation of its representation. As in Eliot's quartet, scales

of time and experience are now inextricably mingled, each performance taking place in its present physical space as well as interacting with the previously and presently recorded and soon-to-be represented space. The collapse of linear notions of time, space and action, takes place not only within the performative-scenographic space, but also within the process of its production. This is a space that hence leaves us with more questions than answers, pregnant with unresolved and unresolvable tensions between the viewer and the viewed, the re-produced and the produced, the realist and phantasmagorical, the human and non-human, the actor and the acted upon, the active participant and the frustrated bystander, the author and the spectator, the surveyed and the unsurveyable, the actual and the virtual. It is a space that has been unsettled – and as such has unquestionably become a lot richer.

## Notes

1. All quotes from *The Scan* are taken from a manuscript provided by Shunt.
2. This is perhaps most explicitly the case in their 2012 performance *The Architects*, a theatrical promenade through a maze of scenes and rooms, part inspired by Borges's interpretation of the myth of the Minotaur.
3. Hans-Thies Lehmann and Karen Jürs-Munby, *Postdramatic Theatre* (London: Routledge, 2009), 4.
4. Lehmann and Jürs-Munby, *Postdramatic Theatre*, 12.
5. Martin Jay, 'Scopic Regimes of Modernity', in *Vision and Visuality*, ed. Hal Foster (New York: New Press, 1999), 3–23.
6. Wendell Cole, 'The Theatre Projects of Walter Gropius', *Educational Theatre Journal* 15 (1963): 313.
7. Cf. Sophia Psarra, *Architecture and Narrative: the Formation of Space and Cultural Meaning* (Abingdon: Routledge, 2009), 62.
8. Cf. Nikolaus Hirsch, 'Theatrum Belli', in *Situation Rooms*, Programm booklet Ruhrtriennale 2013 (Gelsenkirchen, Germany: Kultur Ruhr GmbH, 2013), 6–11.
9. Quoted by Lehmann and Jürs-Munby, *Postdramatic Theatre*, 11.
10. 'Ghost Machine, 2005, Janet Cardiff and George Bures Miller', YouTube video, 2:43, posted by 'Cardiff Miller', 12 April 2011, https://www.youtube.com/channel/UC4u0V-G5KTeWF5hnubp-lrA (accessed 1 August 2014).
11. Anne Friedberg, *The Virtual Window: From Alberti to Microsoft* (Cambridge, MA: MIT Press, 2006), 119.
12. For an unpicking of Giedion's forced marriage of the two images, see Robin Evans, *The Projective Cast: Architecture and Its Three Geometries* (Cambridge, MA: MIT Press, 1995), 57–67.
13. Cf. Lev Manovich, 'Mapping Space: Perspective, Radar and Computer Graphics', in *Computer Graphics Visual Proceedings*, ed. Thomas Linehan (New York: ACM, 1993), 143–7.
14. To be precise, the scanner used during this project, the Faro Focus, uses phase-shift measuring technology. For the argument in this article, however, the difference between time-of-flight and phase-shift bears no relevance.
15. Bruce Sterling, 'Vernacular Video. Closing Keynote at the Vimeo Festival and Awards New York', Vimeo video, 9 October 2010, https://vimeo.com/18977827 (accessed 4 April 2019), 40:50.
16. Friedberg, *Virtual Window*, 28.
17. Brian Condon, 'Scan . . . Be Afraid', *Digital Citizen* (blog), 25 October 2013, http://digital-citizen.co.uk/wordpress/?p=1811 (accessed 4 April 2019).
18. Condon, 'Scan'.
19. This concept of actants is suggested by Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham, NC: Duke University Press, 2010).
20. Benjamin H. Bratton, *The Stack: On Software and Sovereignty* (Cambridge, MA: MIT Press, 2015), 252.
21. This aligns with Lehmann's argument on how postdramatic performance 'has the power to question and destabilize the spectator's construction of identity and the "other" – more so than realist mimetic drama, which remains caught in representation and thus often reproduces prevailing ideologies', Lehmann and Jürs-Munby, *Postdramatic Theatre*, 5.
22. Of course, this also relies on the relative novelty of 3D laser scanning technology to most of the audience.
23. Cf. Adam Alston's interpretation of Shunt's work as post-immersive theatre, Adam Alston, 'Audience Participation and Neoliberal Value: Risk, Agency and Responsibility in Immersive Theatre', *Performance Research* 18 (2013): 128–38.
24. Anne Friedberg describes these images as containing 'a fracturing of times within a single space' in Friedberg, *Virtual Window*, 36.
25. Bruno Latour, 'Visualization and Cognition: thinking with eyes and hands', *Knowledge and Society: Studies in the Sociology of Culture Past and Present* 6 (1986): 8.
26. Paul Virilio, *Desert Screen: War at the Speed of Light* (New York: Continuum, 2005), 111.
27. In optics, a virtual image is differentiated from a real image in that it is formed by virtual rays that only *seem* to converge, whereas a real image is created by real rays that actually converge and can hence be captured by a screen or eye. A virtual image can be formed by a mirror or a lens – in our case, the virtual image is thus the one created as a reflection of the mirrors. What complicates this definition is that a virtual image can be captured in a real image – one can for example photograph one's virtual image in a mirror. In our case, the physical interventions (the mirrors) result in a virtual image of the scene, which can then be captured digitally as a real image in the form of a point cloud. This process of the virtual

image being captured as a real image is digitally simulated by the aforementioned computational scripts in that the simulated virtual image is rendered as a real image on the computer screen. Note that the term 'digital' is used purely as a technical description of tools used, whereas the term 'virtual' designates an epistemological status.

28 Quoted from Webster's *Third New International Dictionary Unabridged* (1993), by Friedberg, *Virtual Window*, 8.

29 T. S. Eliot, *The Complete Poems and Plays: 1909–1950* (New York: Harcourt, 1971), 117.

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# 24. The discrete turn: A reconsideration of architecture's ontology

Mollie Claypool

> Time, in other words, reappeared in the world as something real, as a destabilizing but creative milieu; it was seen to suffuse everything, to bear each thing along, generating it and degenerating it in the process. Soon there was no escaping the fact that transformation and novelty were the irreducible qualities that any theory of form would need to confront.
> —Sanford Kwinter[1]

There is a rich tradition in architecture for technological advancements to influence the way that architects design the built environment. For example, the Industrial Revolution had a huge impact on how, and what, buildings were made of, with the invention of mass-produced steel and concrete, and the post–World War II period of rapid expansion of housing stock was due to technological advancements made during the war, such as the development of mass-standardised production methods. Digital technologies have also transformed the very landscape of the way the world is experienced, from electronic devices and cars that have dramatically increased in quality and efficiency to the use of smart gadgets, machine learning and IoT devices in homes, offices, civic, cultural and public spaces. The digital economy is the underpinning for powerful platforms such as Airbnb, Google, Amazon, Facebook and Uber that have shifted the way that our cities are inhabited, products are consumed and people's data are utilised.

Architecture has been eagerly complicit in the adoption of digital technologies since the early 1990s, experimenting with the potential of digital tools adopted from the manufacturing and film industries, as well as innovations and developments in fields outside of architecture such as biology, philosophy and chemistry. This can be seen in the work of architects such as Greg Lynn's early simulation studies of pedestrians, cars and other forms of movement for the design of the Port Authority Bus Terminal in New York City (1994) or Reiser + Umemoto's Watergarden for Jeff Kipnis (1997). Designs could be simulated, transcribed and translated in a multitude of ways using digital design tools, and given layers of complexity through the embedding of the notion of 'parameters' inscribed within the design process.

This shift towards the digitisation of architectural design practice has been further supported by the amplification of the importance of studying the processes of designing, or what is referred to commonly as 'design research'. Architecture could be viewed not merely as a teleology but as a practice which viewed research as an intrinsic part of the processes of design. Therefore, architecture could no longer be viewed only as a static, inert object, post-rationalised in terms of its meaning, but had the possibility to be a dynamic, fluxing, shifting, complex process of design, through and from which meaning emerged.

This period of expansive change within architecture and design is of course only possible to understand with some retrospection. In architecture, this period has been historicised by architecture historian Mario Carpo first through the notion of the first digital turn, which roughly took place from 1992 until 2012.[2] In the first digital turn, Carpo wrote that because electronic, for example digital, technologies were drastically changing the landscape of production across almost all industries, societies and economies, 'so much was changing, that some architects started to think that design should change too'. What became clear to architects was that these technological changes would extend from the amplification of the cyber-virtual environment of the Internet to the built environment's physical production.[3] Yet, in the first digital turn, what has become evident is that the virtual data that were created were being realised with production methods that required a degree of post-rationalisation. Otherwise, the complex forms that were generated were extremely difficult to produce. As a result, the new forms that were being created were being fit into earlier, and old, production paradigms that created long, complex, expensive production chains for architectural realisation.

The Big Data revolution of the 2010s of increased computational power transformed all industries. Post 2012, Carpo has outlined what he refers to as the second digital turn, which presumably extends to the moment we are in today. According to Carpo, the second digital turn has at its core a computational approach which enables digital tools to 'follow a different, nonhuman, postscientific method' that is characterised by letting 'computers solve problems in their own way' rather than in the way humans historically have done, developing a 'new kind of science' that is

‘begetting a new way of thinking’.[4] Data, the time required to process it and the computational systems used to process it have become ever-more accessible to designers to search for possible design outcomes or solutions that can mirror their physical counterparts. In addition, processes used to produce design outcomes can be coded into the design space and used alongside other parameters to predict and accommodate the changing behaviour of material, technology and people.

## A return to architecture itself: The discrete

This shift between the first and second digital turn is a shift from emphasising process over formal appearance, from discontinuity to continuity between the virtual and physical manifestations of architecture, from systems of construction which are analogue and traditional to ones which are digital, agile and dynamic, from understanding matter as inert to understanding it as active. How was this manifested at the start of this shift? How, retrospectively, was the groundwork for the second digital turn laid? And how has this influenced architectural understandings of the relationships between information, material resources, society and space? This chapter documents this shift through early projects of the second digital turn that laid the groundwork for what today is referred to as the discrete.

The discrete is an architectural approach informed by mereology – or the study of part-to-whole relationships – that completely rethinks the role of the digital in architecture, in terms of tectonics, space, materiality and environment. The discrete also takes a sociopolitical position critical of the generation of architects of the first digital turn, arguing that in addition to the digital forms of production – both virtual and physical production – that are available today, architecture itself – its parts, assembly, tectonics, materials – also needs to be digital. This has been done by understanding a set of architectural elements as digital data, like the 1s and 0s of computer code, not entirely dissimilar to Lego, which can be combined and recombined in multiple but finite orientations and used in many different ways across different scales. Discrete architecture is argued by others, such as Gilles Retsin and Jose Sanchez, and me in a recent *Architectural Design* (April 2019) issue as being a more accessible, versatile, open-ended and participatory approach to architecture.[5]

As discrete architectural parts are self-similar in tectonics and geometry, discrete parts are able to harness aspects of mass production and mass standardisation in production in both manufacturing and assembly techniques. This makes them prime for use with advanced automated fabrication technologies such as computer-numerically controlled (CNC) milling and robotic assembly. These technologies need to be materially and resource light, much more so than traditional architectural parts which are usually materially and manufacturing resource intensive. As such, the discrete is a move towards a better understanding of architecture itself.

## Architecture itself: Matter and machines

Perhaps it is best to understand this shifting towards discrete thinking through an understanding of the relationship between design and representation. In the late 1990s, around the same time as the height of the first digital turn, the hypothesising of the relationship of the drawing to building was done by the late architect and educator Robin Evans. Evans wrote in his seminal essay ‘Translations from Drawing to Building’ (1997) that the substratum across which translation between drawing and building occurs is a space of opportunity – for invention, manipulation, accidents to occur, very much in the same way it occurs in language. One just has to look at the English edition translations of texts of post-structuralist French philosophers to realise that this is the case – that in any other language, meaning becomes construed, manipulated and, oftentimes, transformed. This of course can be interpreted as a positive attribute to the process of translation – as surprises can lead to innovation, novelty and the breaking of existing paradigms. What Evans recognised, however, is that within architecture, the language of representation that found a place of prominence was the two-dimensional drawing. While the drawing could become as far away as possible from the actual thing itself – the object of architecture or a realised physical manifestation of it – and maintain its importance to the discipline, what this has resulted in in terms of material practice is that the two-dimensional drawing had found a place in architecture where its representation of a thing became more important than the ‘properties’ of architecture itself.[6]

This thinking existed in parallel to materialist practices in architecture that historically fell primarily into one of two groups throughout the twentieth century: that which imposed lack of material difference in favour of an ideal, and that which equalised material difference in order to determine form. The modernist project is the main protagonist in both of these coteries, but one can look back as far as the pyramids, as Le Corbusier did in *Towards An Architecture* (1923) almost a hundred

years ago, to recognise they both have existed throughout the history of architecture. Achieving form was, by and large, a process of forcing inert material to become something the architect wanted it to be. Material was often treated as a passive mono-material, active only when manipulated to achieve an idealised form. For example, in the work of Louis Kahn, brick was viewed as a homogenous series of idealised elements, relatively undifferentiated in its accumulations. However, this is not limited to the work of modernists. One only has to look at the many built works of Zaha Hadid Architects (ZHA) to understand that this phenomenon is still at work today where the post-rationalisation of matter must occur in order to realise the geometric complexity of ZHA buildings.

As the three-dimensional model slowly became the output of many architecture practices and construction firms, object-orientated design (OOD) became more common. In 2012, 71 per cent of design and construction companies in North America utilised building information modelling software.[7] This emphasis on the three-dimensional modelling software transformed the two-dimensional drawing into a three-dimensional object embedded with specifications and data for the design of a building. The difference between drawing and building therefore became lessened as both the fields of architecture and construction were able to interpret and utilise the same three-dimensional model in real time.

At the time, this process was limited to the design process, rather than being extended to methods of fabrication, construction or inhabitation, and resulted in the object of architecture being considered inert and static once constructed. But what would the implications be if there was an ontology for architecture which enabled it to be adaptable, flexible, changeable, in real time or throughout a longer life cycle? What if the very matter of architecture did not require homogenisation due to the imposition of equalising of materialist and structuralist practices with existing – and old – methods of construction or means of inhabitation? And what would it mean for architecture to utilise technologies in a way to enable this shift?

The discipline has a now well-established interest in industrial digital fabrication technologies of production such as CNC milling, three-dimensional 3D printing, laser cutting and robotic fabrication, amongst others. Although these are interlinked but outside the direct realm of operation of most architects of the late twentieth century, automated machines have a clear history within architecture. One only has to look at Sigfried Giedion's *Mechanisation Takes Command* (1948) to see that this is the case. However, through object-orientated thinking, only in recent years have these technologies become a means of developing an approach to architecture's matter that takes into account heterogeneity, difference and variability as a means of breaking the dominant paradigms of imposing or equalising of the twentieth century. While at the start of the first digital turn these technologies mainly existed within the silo of academic institutions or industry, it is rare today in many parts of the world to find a school of architecture that does not have a digital fabrication workshop.

Additive and subtractive processes of manufacturing, when utilised alongside digital simulation software and a critical reconsideration of the architectural object, enabled Evans's reading of the relationship between drawing and building to come back into question. The shift of the architect away from the drawing and towards architecture itself has revolutionised the translation of the work of architects to the construction industry. The introduction of digital fabrication methods means that architects can now ask architectural elements – its matter – what they want to be, rather than imposing upon them a prescribed outcome. The three-dimensional model can become part of a feedback loop between physical behaviour, digital simulation and desired outcomes, taking into account that the space between the model and construction allows space for design ingenuity and opportunity, as well as constructive, productive and meaningful failure. This also means that architects can consider the emergent behaviours of material and tectonic arrangements or patterns. Coming back to Kahn's use of brick, what this kind of practice allows in architecture is a dissociation with the notion that a material's purposiveness lies in its homogeneous application to an architectural object or building.

Looking briefly at four projects that were developing in the early part of the second digital turn, they are certainly not definitive or exhaustive of the themes looked at during this period in digital design in architecture. Rather, these projects demonstrate methods used that can now be substantiated as initial moments of experimentation that led towards the more contemporary discrete approach embedded within Carpo's *Second Digital Turn*. Gilles Retsin and Isaie Bloch's proposal 'Karosta Kube' (2014) for the Homemade Dessert and Liepaja City Council, Latvia, competition drew on a novel non-linear interpretation of OOD that they have called Object-Orientated Eclecticism. Philippe Morel's (EZCT Architecture & Design Research) work (2012) using ultra-high-performance fibre-reinforced concrete (UHPFC) explored the potential of recursive lattice structures. Manuel Jiménez Garcia developed an open-source application called SoftModelling (2012–), drawing from democratic evolutions in computer science on the accessibility of code and an interest in engineered material practices. The final project of Research Cluster 4, The Bartlett

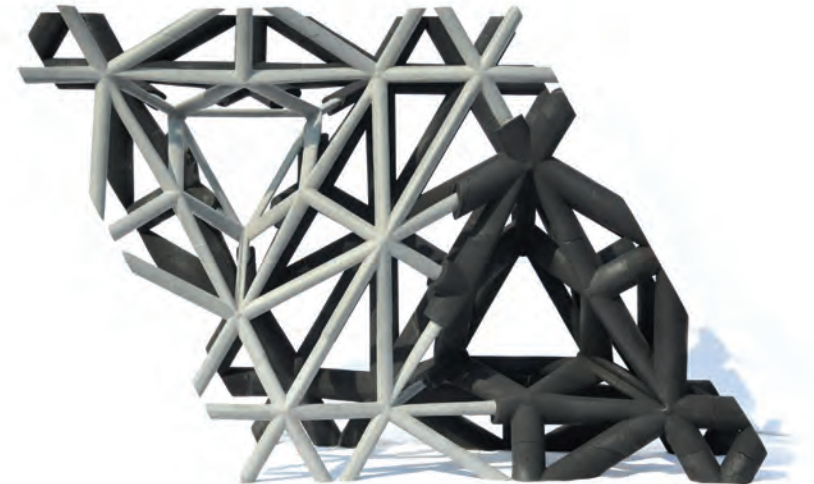
School of Architecture, UCL students Nan Jiang, Yiwei Wang, Zheeshan Ahmed and Yichao Chen (taught by Retsin and Jiménez Garcia) titled 'Space Wires' (2015) looked at how to optimise, in real time, a structural heterogenous three-dimensional space frame, utilising robotic fabrication.

## Discrete thinking: Four projects

Philippe Morel has used discrete mathematical models in architectural design research primarily through explorations into material behaviour. Morel's work into this area is not particularly recent, as he has had a well-established body of research into the topic since the mid-2000s with his work titled 'Computational Chair' (2006), but the piece that his practice EZCT Architecture & Design Research exhibited in the FRAC Centre exhibition 'Naturalising Architecture' (2013) in Orléans, France, titled 'Studies in Recursive Lattices' (2013), has become an emblem for the continued problem of homogeneity versus discreteness in architecture. Where Morel differs from the other projects included in this piece is in his recognition, at the time, of the very historicisation of this problem. Morel argues that it is due to our phenomenological perception of traditional building materials and material practices that we see it as homogenous, when in actuality, it is very much discrete – that is, bricks are distinctly separate elements. However, one still cannot ignore the fact that although bricks are components of the same thing, the use of the brick historically is treated in a continuous and homogenous way.

What Morel's 'Studies in Recursive Lattices' (2013) achieved is both continuity and discreteness in material efficiency, both geometrically and, as a result, structurally. There is continuity in terms of the material used throughout: UHPFC. This material has a degree of strength and ductility that far outweighs the normal concrete used ubiquitously worldwide in the construction industry. It was, however, still extremely expensive. By aiming to provide an alternative to the high cost of current strategies for the use of UHPFC, Morel and his collaborators worked on three-dimensionally modelling geometries derived from studies of recursive behaviour in biological lattice structures. They were then able to divide the lattice into structurally and geometrically optimised segments. This process used substantially less concrete material than in traditional concrete construction, as the three-dimensional prints of the segmented moulds were highly optimised and able to be tested digitally for their structural and geometric accuracy (figures 24.1 and 24.2) before being produced, thus saving both time and cost.

**24.1** Philippe Morel/EZCT Architecture & Design Research, XTreeE, Space-Truss Prototype, 2012. The inverse of the structural lattice segments, three-dimensionally printed to produce precise sand moulds in which the ultra-high-performance fibre-reinforced concrete was cast. © Philippe Morel, EZCT Architecture & Design Research, XTreeE.



**24.2** Philippe Morel/EZCT Architecture & Design Research, XTreeE, Space-Truss Prototype, 2012. Overall view of the 1:1 scale prototype, a section of a larger lattice structure that was envisioned. © Philippe Morel, EZCT Architecture & Design Research, XTreeE.

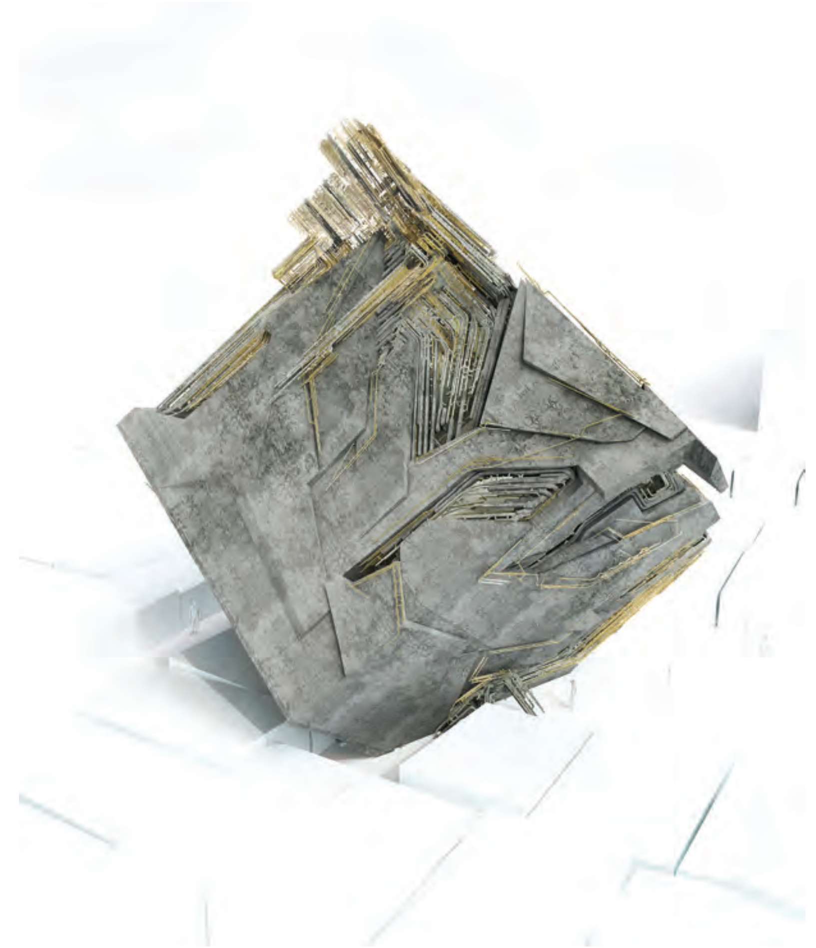
The potential of this method for the use of UHPFC is huge, as it produced topologically and geometrically complex results, both spatially and structurally, at a cost which in the future could be much lower than conventional concrete. The biggest problematic was, however, the relative slowness of the construction industry to utilise robotic fabrication (or

most forms of digital fabrication) on a large scale to produce structural lattices. However, Morel's project did take into account the necessity for a structural lattice to be discrete, meaning that on-site construction of segments of moulds into a continuous lattice was not, at the time, viewed as being far off from being a reality. Through this project, Morel demonstrated that the processes of design and production can exist in synthesis: virtual models and physical behaviour are the same.

The work of Gilles Retsin (Gilles Retsin Architecture) and Isaie Bloch (Eragatory) also took forward a similar topic that was explored by Morel. Yet, in the search for heterogeneity, Retsin and Bloch took the notion of discreteness from mathematics and applied it alongside the principle of irreducibility, or the notion that a unit is one that 'retains all the basic properties of the whole, and which cannot be further divided without losing them'.[8] This concept can be brought closely to the concept of computational irreducibility described by Stephen Wolfram in *A New Kind of Science* (2002).[9] Wolfram defined this term due to the lack of precise, formulaic mathematical description for many common systems in science, using cellular automata as an example.[10]

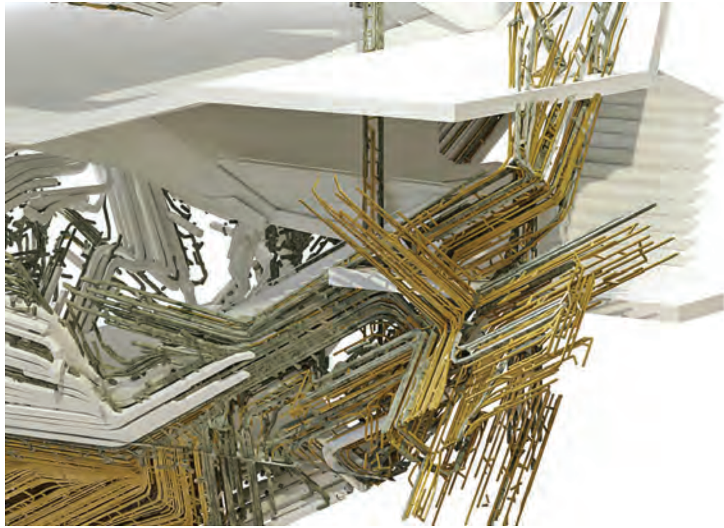
This idea is related in history to Thomas Kuhn's work in *The Structure of Scientific Revolutions* (1962). In this seminal and widely contested text, Kuhn wrote that within the practice of normal science, or puzzle-solving, scientific knowledge was gained in a linear, accumulative manner, a 'piecemeal process by which these items [of knowledge are] added singly and in combination'.[11] The process of normal science took place within widely established theories and practices. However, revolutions in science occurred if what Kuhn termed as a paradigm shift took place, when anomalies that arose through mistakes, omissions, miscalculations and failures highlighted inaccuracies in the everyday practice of science.

Furthermore, these inaccuracies highlighted the incompatibility of dominant methods of practice with novel technologies, or emerging contemporary modes of thinking and experimentation. Scientific revolutions for Kuhn could broadly be assimilated to Wolfram's notion of computational irreducibility. As Wolfram wrote, 'in effect there can be no way to predict how the system will behave except by going through almost as many steps of computation as the system itself'.[12] Novelty arises from these computationally irreducible processes. Retsin and Bloch took this notion and utilised it as a framework for design process in their proposal titled 'Karosta Kube' (2013) (figures 24.3 and 24.4), actively attempting to set up binary and dichotomous design processes that resulted in unpredictable tectonic behaviour.



**24.3** Gilles Retsin/Gilles Retsin Architecture & Isaie Bloch/Eragatory, 'Karosta Kube', London, UK, 2013. Overall view of the front side and entrance of 'Karosta Kube' from a bird's-eye view as positioned on site in Liepaja, Latvia, showing two converging tectonic languages. © Gilles Retsin and Isaie Bloch.

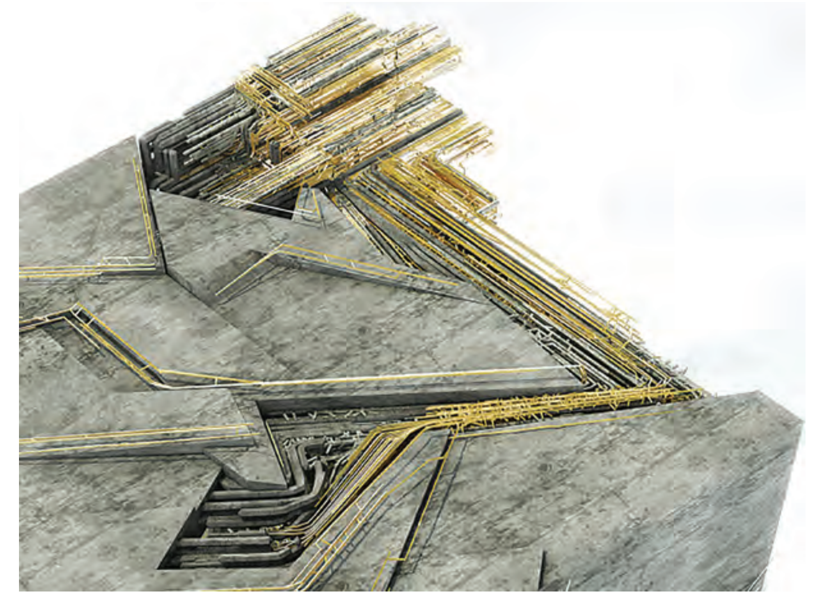
'Karosta Kube' is globally defined by two objects, one of which is more of what one would recognise as an 'object' than the other. There was a concrete block – a rotated, square shell – and then linear strands of steel rebar to which the term 'object' would not commonly be described. Each architect worked on only one object before attempting to combine them together. The concrete is defined as an inherently heterogenous structure, with a difference in density that is not continuous. The deposition of linear rebar material within and around the concrete is therefore dependent on the proximity of the rebar to this difference (figure 24.9). Where



**24.4** Gilles Retsin/Gilles Retsin Architecture & Isaie Bloch/Eragatory, ‘Karosta Kube’, London, UK, 2013. Detail of ‘Karosta Kube’, showing two tectonic languages converging: steel rebar and concrete. © Gilles Retsin and Isaie Bloch.

there is more difference within the concrete, there is more articulation of rebar material. The result of this is a strange object which is not the result of any singular, traceable computational process. It is irreducible, as its properties emerged from the computational processes of articulating material behaviours and their tectonics (figure 24.5).

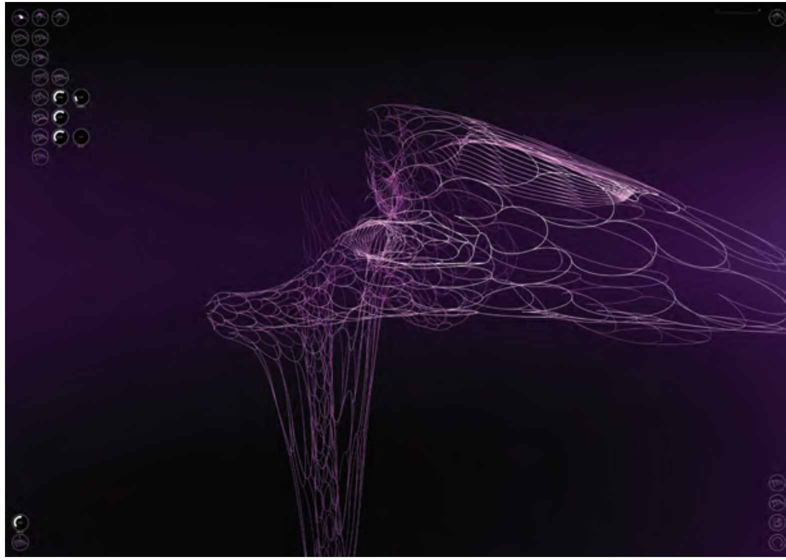
Moving on, we can see the impact of Frei Otto’s experiments with catenary structures and varied material systems (soap bubbles etc.) from the 1960s to 1980s, as well as the research into the material behaviour of concrete catenary systems by Antoni Gaudi in Colonia Guell (1908–14) and Sagrada Familia (1882–1926) as a precedent for the work of Manuel Jiménez Garcia. Many pieces of digital modelling software emulate the analogue processes that these two architects and engineers worked with. However, as the use of physical digital simulation in architecture has exponentially increased, new problematics of utilising these tools have arisen. Advanced simulation software allowed, on the one hand, a more accurate understanding of material behaviour at an architectural scale and, on the other, a form-finding method. The potential of continual structural evaluation in form finding allowed for the morphology of an architectural system to be informed by physical laws instead of mathematical definitions in real time, enabling the evaluation of multiple iterations of the same system to happen simultaneously. Despite the ever-increasing familiarity of form-finding tools in architectural design practice, there



**24.5** Gilles Retsin/Gilles Retsin Architecture & Isaie Bloch/Eragatory, ‘Karosta Kube’, London, UK, 2013. View of side of proposal where spatial elements emerge from the tectonic convergence of two design languages. © Gilles Retsin and Isaie Bloch.

were few attempts at this time to rethink or hybridise the more common digital design tools that architects utilised.

The application that Jiménez Garcia developed, called SoftModelling (figure 24.6), interrogated the way in which these tools are utilised, with a particular interest in how to incorporate concepts drawn from open-source models of computing and production into the software packages that architects used daily. These more generic software packages, which are heavily licensed and regulated, limited the development of open-source tools in architectural design research largely within the problem solving linked to specific architectural projects or problems. SoftModelling, on the other hand, is an open-source Java application developed not only to address a specific project, but also to cover the basic function of a digital design software, as its code was open source and easy to manipulate in order to create multiple versions by using processing as a framework. It is multi-scalar in its application, as it connected together two of the most-used design tools: poly-modelling and physical simulation. SoftModelling functioned differently from other software packages available, tying together physical behaviour and modelling into a digital feedback loop. To give an example, when modelling in Maya, the designer has to convert the model into a physical simulation but cannot operate



**24.6** Manuel Jiménez Garcia/MadMDesign, SoftModelling, 2012. View of the design interface simulating particle-spring systems and geometry simultaneously. © Manuel Jiménez Garcia.

directly on the model when it is in the physical simulation. Kangaroo for Grasshopper works similarly, as you have to model the architectural object and then run the simulation, et cetera. Jiménez Garcia improved on this problem in SoftModelling by seamlessly integrating between modelling and physics.

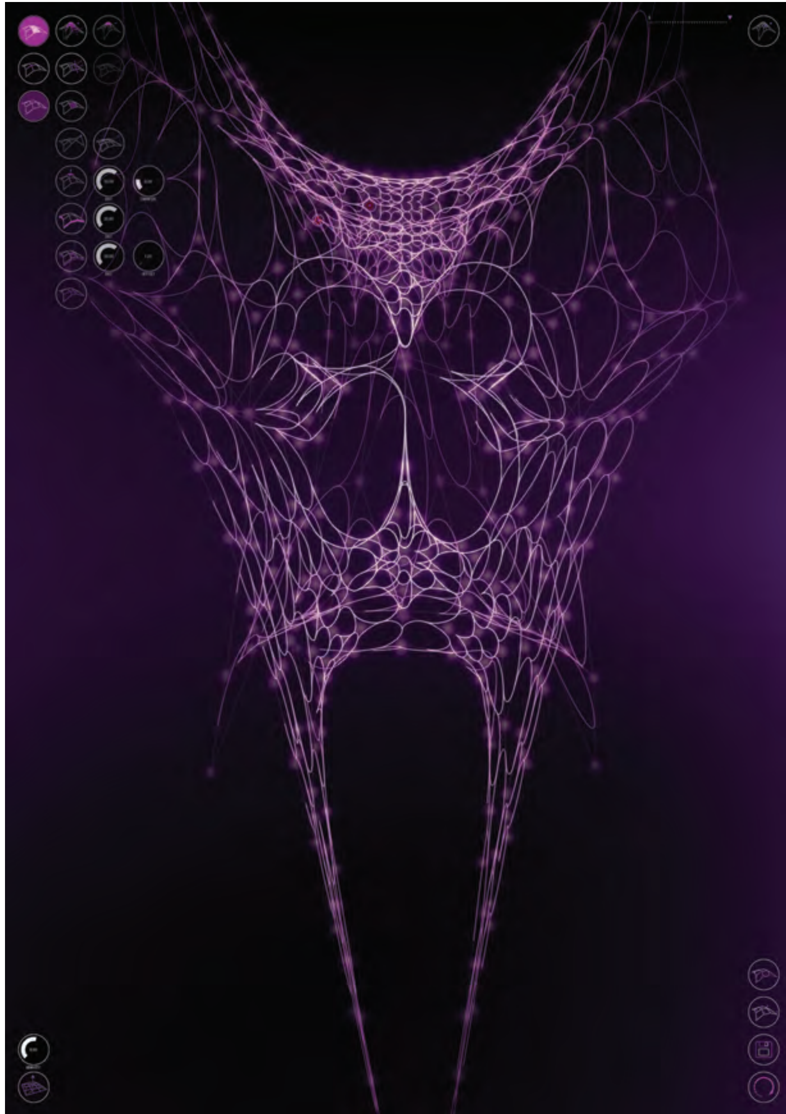
Most kinds of modelling software recomputed the order of edges when any mesh operation is given. This is why a two-step process was normally utilised, since the serial numbers of the particle springs will not match the new edges' serial numbers after this operation occurs. SoftModelling developed a strategy for each of the mesh operations in order to solve this. First, the app relocated the serial numbers of each edge on the mesh to maintain parity between the particle springs linked to them (figures 24.7 and 24.8). Then, instead of a recompilation of the particle-spring system, a detailed analysis of the mesh identified the parts that have been modified, without affecting the rest of the object.

This process not only improved the efficiency of the physics simulation but also facilitated a seamless integration between modelling and simulation. The synchronisation of particles – vertices/springs to edges – enabled the constant updating of the positions of each part of the model. What one models is automatically physics, and vice versa. There was a continuous feedback between the physical behaviour of every

**24.7** Manuel Jiménez Garcia/MadMDesign, SoftModelling, 2012. View of the design interface simulating a catenary curve structure, side view. © Manuel Jiménez Garcia.

particle spring of the three-dimensional mesh subdivision, as well as the variable scale and depth at every point, which led to an output that was both physically and geometrically precise. This improved flexibility for the designer, as one can modify and simulate simultaneously within a single piece of software, as well as edit the graphical user interface and the interface. It established an understanding that particle-spring systems can be used not only as a global framework but as a step-by-step transformative process for architectural design that is agile and flexible within an overarching framework for a design space that enables seamless feedback between software, architectural outcomes and the designer. This framework also enables scalability, as parameters can be adjusted according to material, tectonic, environmental or spatial constraints automatically within the design space.

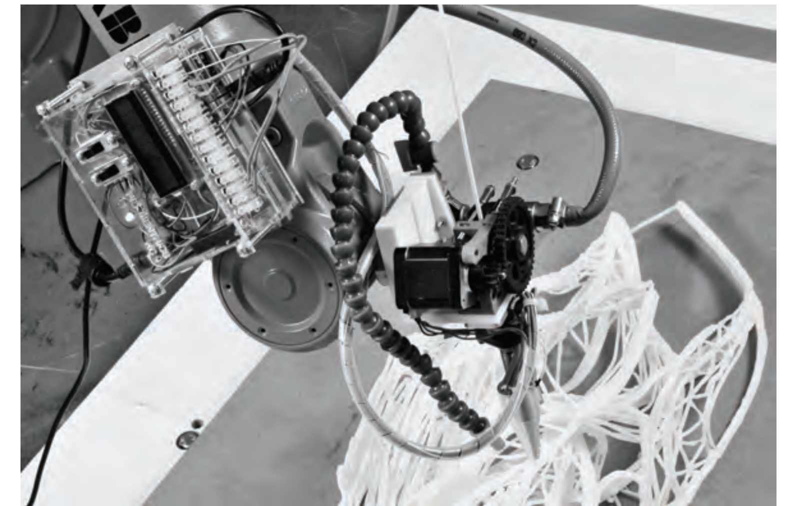
The project 'Space Wires' by Nan Jiang, Yiwei Wang, Zheeshan Ahmed and Yichao Chen from Research Cluster 4 at the Bartlett School of Architecture, UCL, took a somewhat different approach, but utilised many of the concepts outlined above, including building open-source applications in order to marry structure and geometry more closely with construction and fabrication technologies. This is no coincidence, as they were taught by Jiménez Garcia and Retsin at the Bartlett School of Architecture, UCL. The research cluster had, at the time, a particular



**24.8** Manuel Jiménez Garcia, MadMDesign, SoftModelling, 2012. Zoomed-in detail of the design interface showing systems interaction. © Manuel Jiménez Garcia.

interest in the appropriation of three-dimensional printing and robotic fabrication technologies for multi-hierarchical and multi-material architectural design strategies. The aim was to discover material and fabrication anomalies in normative uses of both three-dimensional printing and robotics (figures 24.9 and 24.10), as well as traditional uses for materials such as concrete, clay and plastics, and utilise these anomalies

**24.9** Nan Jiang, Yiwei Wang, Zheeshan Ahmed, Yichao Chen, Space Wires, Research Cluster 4, The Bartlett School of Architecture, UCL, 2014. Overall view of simulation of 1:1 physical prototype. © Research Cluster 4, The Bartlett School of Architecture, UCL.



**24.10** Nan Jiang, Yiwei Wang, Zheeshan Ahmed, Yichao Chen, Space Wires, Research Cluster 4, The Bartlett School of Architecture, UCL, 2014. Printing a segment of the 1:1 prototype with custom extruder on industrial robot. © Research Cluster 4, The Bartlett School of Architecture, UCL.

as opportunities for innovation in regards to architectural tectonics. This project focused on the use of filament plastics.

'Space Wires' relates to the work on contour crafting by Behrokh Khoshnevis of University of Southern California, 'D-Shape' by Enrico Dini, 'Mataerial' by researchers Petr Novikov and Saša Jokić from

Barcelona's Institute for Advanced Architecture of Catalonia at Joris Laarman Lab and 'Chairs for Charity' by Dirk Vander Kooij. Through the invention of new technologies for robotic three-dimensional plastic filament extrusion – such as printing heads for materials that can have the potential for multiple extrusion geometries – the research was able to achieve heterogeneity in terms of both structural complexity and spatial complexity in both robotic fabrication and digital computation.

Where the group was most innovative is in their combination of two observations: first, that space-frame lattices bear loads much greater than their own self-weight; and second, that traditional three-dimensional printing technologies waste a lot of material. Oftentimes, much more waste is produced than utilised. They therefore utilised agent-based systems in combination with robotic plastic filament extrusion to generate structural data in real time, mimicking the geometric patterns of a space-frame lattice structure. The structural data and resultant behaviour of material is analysed in real time. Any anomalies, mistakes or failures that occurred in the output of the material system were fed back into the digital model, allowing for the output to be continuously updated.

## The discrete turn

All of the projects described above attempted to bring together more closely the design process with construction through the utilisation of novel digital tools and fabrication technologies in combination with a critique of the ways previous generations of architects utilised these tools. In 'Space-Truss Prototype', discrete thinking was embedded in the tectonics of continuity that structural space-frame lattices require in order to cope with their structural load. Furthermore, the infrastructure for production considers material behaviour in relationship to cost and accommodates for this from the outset of the project, as it was a design parameter. Similarly, the kind of design-to-manufacturing system 'Space Wires' developed holds the potential to revolutionise construction techniques due to its ability to adjust to changes in tolerance due to site conditions such as weather, soil composition or the inaccuracy of the machine itself. It is a system that is able to be combinatorial, versatile and agile. It is also capable of achieving multi-hierarchical resolution of surfaces, utilising the same system but slightly modifying its printing pattern, the viscosity of the material being printed and the path of the robotic printing head. SoftModelling folds real parameters of multiple systems into a single virtual design and simulation space, allowing for real-time feedback between systems, which is essential to discrete thinking today. 'Karosta Kube' demonstrates how aspects of the discrete – such as the notion of emergent behaviours or patterns through combinatorial thinking – can be played out through irreducible kits of parts and playing with architectural tectonics.

The properties of architecture itself take a place of prominence in each of these works. By revising an architectural objects ontology – the organisation of matter – the projects began to shift approaches in tectonics, fabrication, assembly and materiality. They aimed ultimately to improve accessibility, increasing and acknowledging that heterogeneity and efficiency in production and fabrication, in terms of both cost and labour, allowing architects to achieve a much greater specificity in the use of materials in design research. Heterogeneity is achieved not through what philosopher Manuel De Landa has recognised as the 'spontaneous generation of form', but through topological and tectonics difference and variability, best expressed by 'complex and variable behaviour' of discrete elements.[13]

What De Landa went on to note is that this can result in continuous variation, where variation in densities of material can result in a material performance that is heterogeneous, acknowledging that a 'single universal material is [not] good for all different kinds of structure'.[14] When matter is considered to be in a state of continuous variation – that is, when it is understood to be dynamic, fluxing, with emergent, combinatorial and tectonic behaviour – it became instrumental as critique of the continuous first digital turn, through what has now emerged as the discrete. This has demonstrated that innovation occurred not in the translation between the two-dimensional drawing and building, but in the processes of feedback between tools, methods and a more critical meta-framework of digital thinking.

## Notes

1 Sanford Kwinter, 'Landscapes of Change: Boccioni's "Stati d'animo" as a General Theory of Models', *Assemblage* 19 (1992): 52.

2 Mario Carpo, ed., *The Digital Turn in Architecture: 1992–2012* (London: John Wiley, 2012).

3 Carpo, *Digital Turn*.

4 Mario Carpo, *The Second Digital Turn: Design Beyond Intelligence* (Cambridge, MA: MIT Press, 2017), 7.

5 Gilles Retsin, ed., *Discrete: Reappraising the Digital in Architecture* (Chichester, UK: John Wiley, 2019).

6 Robin Evans, 'Translations from Drawing to Building', in Robin Evans, *Translations from Drawing to Building and Other Essays* (London: Architectural Association Publications, 1997), 153–93.
7 *The Business Value of BIM in North America: Multi-Year Trend Analysis and User Ratings (2007–2012)* (New York: McGraw Hill Construction, 2012), 4.
8 Lev Vygotsky, *Thought and Language* (Cambridge, MA: MIT Press, 1962), 4.
9 Gilles Retsin, unpublished work shared with author, 'Alien, Messy, Discrete: Strange Mereology and Discreteness', 2014.
10 Stephen Wolfram, *A New Kind of Science* (Champaign, IL: Wolfram Media, Inc., 2002), 737.
11 Thomas Kuhn, *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1962), 1–2.
12 Wolfram, *A New Kind of Science*, 739.
13 Manuel De Landa, 'Uniformity and Variability: An Essay in the Philosophy of Matter', in *Digital Tectonics*, ed. Neil Leach, C. Turnbull and C. Williams (London: John Wiley, 2004), 19–20.
14 De Landa, 'Uniformity and Variability', 19–20.

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# 25. Choreographing curatorial conversations

Kate Goodwin

'There was a shared language beyond our different fields; a common way of approach', Vera said, 'the way you used language and discussed your exhibition, could have been me talking about my work'.

Vera Tussing is a dancer, choreographer and independent artist whom I first met when discussing the process of curating 'Sensing Spaces: Architecture Reimagined' with a group of pioneering choreographers from The Place.[1] 'Sensing Spaces' (figure 25.1) was an exhibition that filled the main galleries of the Royal Academy in 2014, with large structures by seven architects of different generations, sensibilities and geographical locations. In the discussion, I was incredibly honest about the challenges (both institutional and personal) in what I was trying to achieve, the doubt of not knowing whether it was going to work and the joy of observing how it was received by different audiences. Vera's sentiments quoted in the opening statement were evidently mutual. I was asked if there were any upcoming shows at The Place I wished to see, and the description of Vera's 'T-Dance' (figure 25.2) immediately stood out. Dance and performance have always captivated me, but ongoing conversations with Vera and others have enabled a deeper interrogation into how I could relate performance to my own practice and architectural concerns.

When the invitation came from *P.E.A.R.* to explore my process of curating architectural exhibitions – and to take any form in doing so – it seemed natural to me at least to seek conversations with those who understand the body and movement, performance and participation. A text can describe ideas through words, but an exhibition necessitates an illustration of the idea through images or artefacts that are encountered by an audience in a spatial and collective setting. While I have curated numerous monographic, historic and thematic exhibitions[2] that involve a range of representational media, my personal interest focuses on creating an exhibition that is more abstract, relational and performative. 'Sensing Spaces' (figure 25.3) sought to demonstrate the complexity of an embodied

**25.1** Diébédo Francis Kéré, 'Sensing Spaces', Royal Academy of Arts, London, 2014. Kéré's installation in 'Sensing Spaces' invited the audience to insert straws into the honeycomb plastic panels to encourage social interaction and the transformation of the structure over the duration of the exhibition by the audience and, as Bim Malcomson noted, the guards. The installation was positioned in a pivotal place within the spatial layout and noticeably changed the visitor mood thereafter. Source: Photograph © Anthony Coleman/Diébédo Francis Kéré.

**25.2** Vera Tussing, 'T-Dance', The Place, London, 2014. 'T-Dance' is a compelling work that involves four performers who move connected by wooden sticks in a tense 'motion sculpture'. The audience can sense the risk of imminent collapse should one of the performers lose focus. As Tussing states, it 'explores touch, our need to touch, to be touched – the cause and effect of tactility and physical connection'. Source: Photograph © Alessandra Rocchetti.

**25.3** Grafton Architects, 'Sensing Spaces', Royal Academy of Arts, London, 2014. Grafton's installation with its shifting light sequence hauntingly moved through the structure they created, evoking the profound impact light has upon our experience of architecture. They worked with scenographer Shizuka Hariu, and in many ways, it drew upon theatre practice as well as architecture. Source: Photograph © Anthony Coleman/Grafton Architects.

sensorial architectural experience, not simply through individual commissioned structures, but through creating an overall choreographed experience within the galleries. Having also commissioned architects to create structures in galleries and in the urban realm,[3] I see a strong distinction between creating an isolated pavilion versus devising an entire exhibition experience to create a critical encounter with architecture and architectural concerns. I intend to explore this in the following pages through a process of critical reflection, as I am also thinking about future shows. My ambition is to test further how far an exhibition can be both an architectural and performative experience, therefore enabling an understanding of abstract and complex architectural ideas in a manner that is both direct and meaningful.

## Conversations

Conversation forms an important part of my curatorial methodology. To converse is to share ideas. Conversations empower the testing of thoughts, spark inspiration and progress new concepts. They are open, they meander off the point and they allow us to return to our line of thinking in ways that are unexpected. Conversations are freeing because they create a space for candid debate with someone who sees the world differently. Their uninhibited nature can be a distraction as well as a force of concentration, and our different reflections can offer an insight to things often missed or forgotten. I have therefore employed conversation with those working in other art forms as a vehicle to try to examine this specific curatorial focus while linking various strands of shared interest and endeavours together.

In the piece that follows, I will ask you to engage with three different dialogues, inviting you to find correlations between them. You will first come across Bim Malcomson, a choreographer and teacher, whom I have only recently met but who I discovered had visited 'Sensing Spaces' on five different occasions; Rachael Young, a performance artist whom I have commissioned and continue to work with; and finally my most recent conversation with Vera Tussing. I sought out those who work with the body and movement for these discussions, as one of my principle concerns is to explore embodied spatial experience.

When I read a conversational transcript, I'm surprised by how much appears to be missing. Adjoining thoughts that I presumed to have spoken about are never wholly articulated, and ideas stimulated while

**25.4** Pezo von Ellrichshausen, 'Sensing Spaces', Royal Academy of Arts, London, 2014. Pezo von Ellrichshausen transformed the largest gallery with a structure, 'Blue', that gave access via stairs and ramp to a high platform, the roof light, which occupied half of the gallery. The other half was open, with stools to encourage sitting contemplation, although the audience regularly ordered and appropriated them for conversing or play. Source: Photograph © Anthony Coleman/Pezo von Ellrichshausen

listening are only hinted at. In this text, only one side of the conversation is presented, with breaks put in between the extracted snippets, indicating conceptual but not necessarily temporal connectivity. My own thoughts, which run alongside the extracts, are equally conversational and reflective. This article is constructed not as a linear form of writing but as a series of interweaving points that might mimic a real conversation and which are intended as a way of asking questions as much as finding resolution.

An exhibition is a space to generate a dialogue with an audience (which one defines, even in speculative terms, from the outset). I have primarily curated exhibitions for cultural institutions directed to a non-specialist audience. My attitude has been that although this audience may not be architecturally trained, they do have an inbuilt and latent knowledge of architecture held within their body and being – it is simply an antenna that needs to be tuned. In trying to make sense of the importance of physical and embodied experience in an exhibition (and in architecture), I wanted to talk to the vibrant and alert choreographer Bim Malcomson on her recollection of 'Sensing Spaces' (figure 25.4).



> I live through my body. I have a huge amount of energy. The body holds stuff. And the body is all about control. You see it in different religions which have forms of control over the body, and it's the same with gender.
>
> The first time, I enjoyed the playfulness [of 'Sensing Spaces'] for myself. The guards were also creatively engaged with the exhibition which I found so brilliant. Like all of us in the exhibition, they were making their own creations with the straws. It was truly engaging for them too. I had never seen that before nor since.
>
> And with the kids I felt very at ease, which in an exhibition space, I often don't.
>
> When I was on my own, it was nice for me to explore the space freely and playfully for myself. That's what I did – play! Something that just came to mind – when you normally go into the space of the Royal Academy, it feels exclusive – for the guards and us – and the exhibition broke that – it enabled inclusion in a traditionally exclusive environment. It did it in a real way. You invited everyone's voice which is different from just inviting groups in to have a look.
>
> It created beauty and refinement at the same time. It had all the aspects of elite aspirations – it was beautiful and it was aesthetic. . . .

The dense matrix of spatial, cultural and sociopolitical contexts that a gallery and institution hold needs to be mediated and worked with as part of the curatorial process. One way to approach this is as an architect might think about how a building is encountered within its physical context and how it functions for its users. Ideas of spatial sequencing – approach, thresholds, transitions from outside in – contraction or expansion of space, the welcome, the atmosphere, all become part of establishing the exhibition experience. This presents a setting for a physical (and in turn psychological) confrontation with ideas that countenances the audience into a dialogue, rather than presenting a dogmatic statement by a curator. I found this attitude compelling and see it as a way to broaden perceived accessibility to specific places and ideas. What was Bim's take?

> One of the most amazing things about ballet is that it came up through the courts, and the culture is therefore of privilege – and if you are privileged, you feel you can take up space. So, the brilliant thing about ballet as an educational tool – is it's a tool to learn to take up space.

Your exhibition was the same – you didn't feel you couldn't be there – you could take up space and that permission in a place like the Royal Academy was important for me and my children's and the mums I brought – giving us permission to retake up space, which I thought was marvellous.

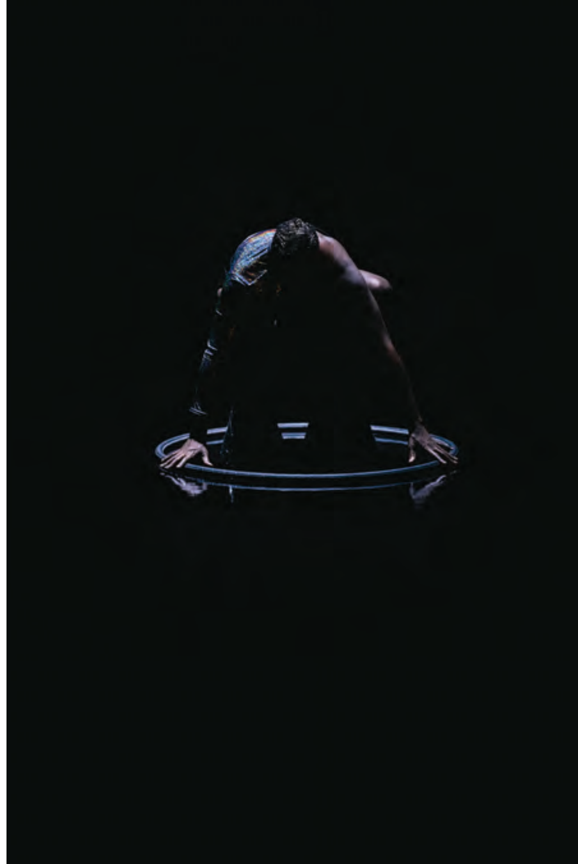
## Permission

Permission to take up space is an important idea. It recalled my conversations with a brilliant performance artist named Rachael Young. I commissioned Rachael to take over the British Pavilion at the Venice Architecture Biennial 2018, where the six rooms of the pavilion had been left empty for an installation 'Island'.[4] The programme, 'Alternate Languages', sought to expand the modes through which we understand and critique architecture, reconnecting it with human emotion and sensibilities. In an act of inclusion and peer support, Rachael invited two other artists to produce work about 'care' within the pavilion, and named the piece 'No Woman Is an Island'.[5] Rachael herself performed on four occasions across the weekend in 30-minute segments. She drew upon a piece she performs called 'Nightclubbing' (figures 25.5 and 25.6), reconfiguring it for this unusual context. The brief was open, and she was free to use this as a creative and playful exercise to test the work and herself in a different setting. In a black leotard and balancing on precarious home-made platform shoes, Rachael moved silently and deliberately from one of the smaller side rooms into the vast central space. Having moved around the room – sometimes close to the walls, at other times in the centre – she recorded herself chanting a list of things she was 'sorry' for (such as 'I'm sorry for existing'), which created a dense and mesmerising layering of sound. She hula hooped to this until she no longer could, and the hoop dropped to the ground.

Her presence was powerful, and her ability to take control of the space through movement and sound was extraordinary, completely altering the reading of its scale, spatial qualities and atmosphere (figure 25.7). As part of the weekend's event programme, Rachael and I discussed her work and the experience of performing in the pavilion amongst visitors (many of whom were architects) rather than on a stage.

> As women, we try to make ourselves small and not take up space. I am trying to push against that and take up as much a space as possible and give voice to myself and other people. I wanted to offer up a space where we would not look at differences for a change but look at what connects us as people. In my work, there is voice, but I was more interested in the idea of exploring space or filling space with body and physical presence. As a society, we need to think about how we care for ourselves and one another.

25.5



**25.5 and 25.6** Rachael Young in 'NIGHTCLUBBING' by Rachael Young, 2018. 'NIGHTCLUBBING' is an electrifying theatre performance where Young is centre stage, taking the audience on a journey from the Grace Jones 1981 hit *Nightclubbing*, where she manages to transcend societal norms to become an international superstar, to 2015 where three young black women are excluded from a nightclub, their bodies branded 'undesirable'. Source: Photograph © Rosie Powell.

I normally perform in a theatre – but this space is open – there is no one to tell me I can't walk over here, and there is no barrier with the audience. If I want to be close, then I will, and if I want to get away, I will. There was something very powerful about being able to mark out territory like this.

I find I am very aware of myself in spaces, asking whether this space is for me and how I will be perceived. This performance was an opportunity for me to reclaim the space.

**25.7** Rachael Young, 'NIGHTCLUBBING', 'No Woman Is an Island', Venice Architecture Biennale, 2018. On tall, precarious, self-made platform shoes, Rachael moved slowly and deliberately through the British Pavilion which was left empty, making her way around the space and amongst visitors. The finale of the performance was her hula hooping to a rhythmic soundtrack she built, called 'I'm sorry', until the hoop fell to the ground. The work not only transformed the spatial qualities of the pavilion, it also invited the audience to consider 'the effort entailed in continually trying to find our place, to keep asking for kindness and respect, to keep asking for humanity, to keep being seen'. Source: Photograph © Royal Academy of Arts/Rachael Young.

I always think about performance for other people, not really a thing for myself. But today, I thought about it as a thing for myself, and maybe it spoke to people a little bit more and maybe I was able to find a truth in it more so than I would normally.

For me, the performance and the subsequent discussion raised vital societal and architectural questions about how we create spaces that allow people to 'be' and belong, as well as suggesting a broader understanding of the exhibition experience. Visiting an exhibition is social and performative. You don't only encounter the idea of the exhibit; you encounter it in a space with others. A child runs past you, you overhear a conversation, your eyes stray to the person quietly observing. You watch how others interact, and you're aware of others observing you observing. You move through the space often instinctively responding to what is presented.

More than this, you unconsciously react to others, falling into sync or responding to the impulse of others. Visiting an exhibition is a dance around a room. As I seek to use an embodied experience of architecture as the prime communication tool within an exhibition, the visitor has to become active in their experience – participants with agency instead of just viewers and spectators.

## Participation

Immersion and audience (active or tacit) participation is one of the first things that initially formed a common ground of discussion with Vera. In the first work I saw of hers, 'T-Dance', the performers moved with a rod between them, sometimes in a line where they had to push out to others to keep it in place. As an audience member, my body could feel the tension that it took to maintain the connection. At another moment in the performance, they spoke to the audience and described touching us. With a small imaginative leap, it was like their hands were on us. Vera and I continue to explore audience engagement from our different perspectives.

> Theatre as it developed, became action on one side and dark space on the other – the fourth wall was established between audience and performer. Instead, if you see as I do performance as an embodied dialogue in the space, it invites questions about the basic structures of a dialogue and the theatrical experience.
>
> As a performer you have an incredible amount of power, just through being visible and performing. Therefore, how can a work create a dialogue with other people on stage and the people 'out there'? When do people become activated?
>
> My work has focused on empowering both the audience and the performer. For example, the 'Tactile Cycle' (2012–) is not about performing touch – it is about creating felt experience which could be summarised as dancing *with* people instead of dancing *at* people. In order to be able to approach a touched encounter requires a specific type of presence, or perhaps better to say it is a call to presence.
>
> For me participation and notions of consent are deeply intertwined. If we understand where the audience is at (of course, we cannot understand it in all its complexity), we give them tools. For example, with touch, I was trying to find a way to touch while



> working out to what degree a person wants to be involved. We succeed in the moment of performance when someone can refuse the proposal we make. How can we make a space where we can approach someone with a proposal, and to let them know that a proposal is coming? We must wait for them to make a relation to this. In Amsterdam, we had somebody who stood the entire performance with their arms crossed and not participating, but at the end, the guy came up to us and said that he felt it was an excellent piece of work. He had taken the position that he wanted to have in the work.
>
> Participation means active choice making on both sides – looking for mutual felt experiences. I want my performers to be able to abandon certain choreographic elements if they feel like something isn't right. It's happened once or twice where someone grabbed me very strongly in a performance. I responded instantly, I didn't use language, I simply pulled back.

For an audience member of such work, the experience can be intense, and one may feel inclined to withdraw, like needing to break eye contact with someone in an especially personal conversation. The success of Vera's work is that it allows you to participate, and stand back and observe, imagining the sensation of touch. A deeper understanding is reached through the combination of immersion and reflection. How can a comparable calling to presence be created in architecture and exhibiting? This recalls Bim's use of the word 'permission' where the audience can participate on their own terms. This idea is equally important in architecture where we must question what spaces give us permission to exist. Spaces, for instance, where Rachael would describe feeling at ease.

Seeking to make the exhibition an architectural and performative experience was an integral part of the curatorial methodology. The process of commissioning architects for 'Sensing Spaces' was conversational and exploratory so that we could develop the ideas together in dialogue. As a curator, I was the common thread feeding and provoking one conversation with ideas from another. At times, this may have seemed an overtly open process for architects, who typically prefer to work with tighter briefs, but I believe it also allowed for new possibilities to emerge that neither side could have predicted or brought into being. In the presentation about the exhibition to The Place choreographers, I was very candid about the personal intensity of the process. Vera understood and responded.

**25.8** Vera Tussing, 'Palm of Your Hand' try-out, Royal Academy of Arts, London, 2014. In a large, empty gallery, a volunteer audience gathered to allow Vera and her four dancers to test an interactive performance they had been developing. Arranged in an ellipse, the audience creates the bounds of the space, while the performers move in the centre and at times move to the outside, inviting the audience to respond through touch. Source: Photograph © Alessandra Rocchetti.

> My process often involves working through several rounds of practical try-outs of an idea, coming to understand the work from an embodied perspective before it can engage in a broader dialog and invite a team in to create the actual piece.

Having witnessed and been part of two of Vera's practical experiments[6] (figure 25.8), I value (and envy as an exhibition curator) what they brought to the project, especially one based on embodied experience. Experiential event projects, such as the one created with Rachael in Venice, could offer a similar testing ground for exhibitions, especially in exploring how one can make the audience feel active and present.

## Intuition

Engaging with or discussing intuition would be uncommon in relation to a traditional didactic exhibition format. However, I think it may be relevant to what I am seeking to do. Intuition is broadly the ability to understand something instinctively without the need for conscious reasoning. Such preconscious knowledge is partly developed through a dense and complex understanding of the world and one another. I have been wondering if, as a curator, I'd tried to materialise or make evident intuitive response. Was there a way to engage the audience in the preconscious and things beyond reason? I wanted to explore Vera's perspective on how intuition played a part in her work.

> I think 'the intuitive' became more realised for me as a dancer and choreographer when I started working on touch in 2012. In our personal lives, we may have a more 'intuitive way of relating', but in a staged encounter, we needed more layers of reflection. Theatre spaces are not intuitive but heavily coded physically and socioculturally for both audience and performer. The intuitive way of relating to touch is pretty loaded. As a dancer, if you get touched by hundreds of hands over several days in a performative context and you haven't deconstructed that relationship with your own touch, then it will get very psychologically heavy. To navigate this during the development of a work, we talk about touch scientifically because it's easier to understand and rationalise. The skin is like a gigantic field of memory of touches – but for many people, touch does not happen on daily basis, especially if they are not in a long-term relationship or are separated from family. When we are working in the studio, it can swing between being wonderful to problematic very quickly. We entered the 'intuitive' under very specific conditions, for example, only working with performers who know and trust each other. If you want to touch people in the way it naturally comes to you, then it's very likely that you'll cross borders and we had to create a safe word.

Vera and her dancers were quite literally 'feeling' their way through the process, and the poignancy of this idea has stuck with me. It also highlights that our bodies are political, as are the spaces we inhabit.

## Gender

As the conversation on intuition developed and meandered, we both agreed that it was a subject worth further interrogation in the future in part because of its heavily loaded and gendered history. Intuition, like sensitivity, is a trait conventionally ascribed to women, in opposition to the rationale of men. As the conversation turned to gender, I recalled an observation Bim made about 'Sensing Spaces' (figure 25.9): that it was a 'feminine exhibition'. This was a statement I understood, rejected and embraced. I discussed the difficult idea of feminine sensibility with Vera.

**25.9** Li Xiaodong, 'Sensing Spaces', Royal Academy of Arts, London, 2014. The visitor moved through maze-like corridors lit from below, moving towards sounds of others and drawn towards light. They were often compelled to touch the screen walls made of timber branches, running their hands along them, creating a rhythmical sound. Source: Photograph © Anthony Coleman/Li Xiaodong.

> I studied in London in early 2000, at a time which was weirdly apolitical. We were a diverse group of students, but I have become increasingly aware that success and strength were measured in a very classic and male way – it was a case of body strength, speed, flexibility and endurance. As a woman, you had to keep up with the men to the end. This also defined the work we trusted and saw. A lot of the work was brilliant, but it had a way of portraying the body, which is frontal and hyper-athletic. It seemed one-dimensional, and I discovered that I was after an alternate notion of what it means to be physical and creating through the body. My sensibilities and interests have grown out of this. I'm interested in multiple ways of perceiving. '@Duetthecity, Both, Two' (Duet work) (figure 25.10) and 'Mazing' were particular attempts to contribute to the ongoing issues we have in relation to presenting bodies on stage and in online space, and how they are often constructed in an unnecessarily normative, gendered way.

This resonated with my experience of studying architecture at a similar time in history. While some nuanced and sensitive work was celebrated, the projects that were most highly valued were those which had bold, heroic and highly resolved forms, presented in such a way as to have absolute certainty and assurance of a 'solution'. In response, my work became more interested in the multiplicity of perception and of experience, the ambiguity of spaces, and believing the architect does not dictate how we live but can make suggestions for how we might do so. My long-term aim is to broaden the way we think about and discuss our engagement with the world, with one another and with architecture. A more nuanced understanding of our physicality is a useful starting point, and I asked Vera about this as well.

**25.10** Vera Tussing, 'Both, Two', at Kanal Fabriek Pompidou, Brussels, 2019. In part of this performance, Vera and her collaborator, Esse Vanderbruggen, dressed in costumes made of different textured fabrics move along the front row of the audience, inviting them to touch their bodies. Source: Photograph © Johan Pijpops.

> I think the notions of physicality that we've been exposed to through the arts and visual culture of the past 20 or 30 years, is an often limited idea of what strength is and I think we're having the chance now to define this. We have a vertical idea of strength, where we hold things 'up'. However, I think touch is an intensely physical act. The strength you have over your body controls if you hit or caress a person, it is a negotiation of mere centimetres sometime millimetres. Maybe the strong body is one that can reach, not just hold up. If we

could perceive care as a notion of strength, then maybe the image would change.

Vera's work, 'Soundbed' (2011), a one-to-one performance piece, made this point especially apparent. In the piece, an audience member is asked to lie down with their eyes closed on a segmented trolley. They are then moved around a room alongside moving speakers on wheels by five performers, the constant movement and vibrations create an immersive soundscape for the recipient. It is an all-encompassing sensual experience. The performers focus intently on the receiver of the experience and respond to the subtle changes they observe. During our conversation, Vera repeatedly used the word 'energy'. Although this term is often dismissed as mystic, I was able to comprehend its definition as a participant. I was able to feel the concentrated energy of the performers directed at me. It was like being touched, but no hands were on me. I relayed this to Vera, saying that the experience made me consider the importance of how we measure touch, and how touch is less about force and more concerned with intent, and care.

> I'm very excited about how the term 'care' has entered another dialogue where it is associated with power and intention. It's not a gendered, insufferable thing that your mum or granny gives you. To care can be the sense of holding a space or a moment. You can apply normative gender ideas to what I'm doing, but I think the interesting thing about making a performance is searching for different ways to break the normative. In contrast to the general discourse of when I was studying, I like to not assume that the audience has one normative body that receives in an ocular centric way from the frontal position. I want to create works like 'Soundbed' which is an aural choreography, or 'Palm of Your Hand' where performers come in direct contact with the audience, or in my recent piece 'Duet' to have the choreographic and spatialised idea traced by your finger on a piece of paper where you make an imaginative leap. Over the past 12 years, I have created a body of work that explores the senses in comprehensive ways, and it needs to be a thing of multiplicity – I think there are as many ways of perceiving as there are bodies.

Vera has recently been creating works for the blind and visually impaired, which adds another rich layer to her practice and to the field. I too have been compelled to expand conversations to include non-normative bodies and neuro-divergence, creating a heightened awareness to the expansive ways in which we navigate our physical presence within the world. It is vital to a more inclusive society but also to a more rewarding physical environment for all. One of the greatest satisfactions of 'Sensing Spaces' was observing the children from special educational needs schools exploring and enjoying the spaces, feeling free to express themselves physically and vocally in ways that resonated with how I was feeling but would not necessarily be able to express. Have we forgotten how to play, how to fully inhabit with our whole beings – not just as individuals but as a collective?

We live in a constant two-way dialogue, a dance, with architecture. It can shape our behaviour, and we equally reshape it. What if an exhibition were to be thought of like a performance, conceived for its pacing, mood as well as narrative to convey complex and abstract ideas to the audience in a direct and visceral manner? Permission to enjoy, to be present. Making time, having time, taking time. Immersion, reflection, criticality.

These conversations have fascinated, inspired and excited me and, I believe, also those who I conversed with. They have sparked a flurry of questions and thoughts, not just on exhibitions, performance and architecture, but on humanity – that want to be chased down, revisited, wrestled with, continued or initiated with others. Out of them, and because of them, there is curatorial and creative potential.

## Notes

1. The Place is a centre for contemporary dance that unites training, creation and performance in London. Vera Tussing was part of 'Work Place', a unique programme to support professional choreographers.
2. Most recently, 'Renzo Piano: The Art of Making Buildings' (2018) at the Royal Academy of Arts and 'Inside Heatherwick Studio' (2015–6), which toured six venues in East Asia.
3. Such as 'Unexpected Hill' (2015), Burlington Gardens, Mayfair, London, designed by Turkish architects SO? Architecture and Ideas, and 'Future Memory Pavilion' (2011), Singapore National Museum, Singapore, in partnership with the British Council, designed by UK architects Asif Kahn and Pernilla Ohrstedt.
4. For the 16th Venice Architecture Biennale, Caruso St John and Marcus Taylor present 'Island' commissioned by the British Council. In their words, 'the design for the British Pavilion for the 2018 Biennale responds to the curator's theme of "Freespace" by constructing a public space on the roof of the pavilion, providing a generous view out from the Giardini to the Lagoon. The pavilion itself is open but empty, with just its tiled roof visible in the centre of the public space above,

suggesting a sunken world beneath. The two spaces will host a programme of events'.

5 'No Woman Is an Island' took place on 24 and 25 November 2018, commissioned by the Royal Academy of Arts and supported by the British Council. The piece involved Rachael Young's 'Nightclubbing', Toni Lewis's 'Post Cards to Past Loves' and Louisa Robbin's 'Butter me up'.

6 We hosted a research trial for an invited audience within one of the galleries at the Royal Academy for the Palm of Your Hand, https://www.youtube.com/watch?v=tAfLWsiGlJs (accessed 30 September 2019).



# 26. Shelf life

## Guan Lee

> The collector is the true resident of the interior. He makes his concern the transfiguration of things. To him falls the Sisyphean task of divesting things of their commodity character by taking possession of them. But he bestows on them only connoisseur value, rather than use value. The collector dreams his way not only into a distant or bygone world but also into a better one – one in which, to be sure, human beings are no better provided with what they need than in the everyday world, but in which things are freed from the drudgery of being useful.
> —Walter Benjamin[1]

Collecting is the bringing together of things that have always been apart, or the bringing together of things that were once together before being separated. To collect is to accumulate things. Collecting can also be about chance encounters, and things that are unlikely to be placed next to one another ending up on the same shelf. As a collection grows, processes of sorting and cataloguing become essential. Housing for a collection can become a pressing need. Shelving, cabinets, cases and containers are protective shells, which will need to be further sheltered, usually within an interior, against the elements of rain, wind, light and temperature fluctuations. The ideal condition might involve a collection being kept in complete darkness, in a condition of constancy, in a vacuum. Collections must be further protected against unforeseen circumstances: theft, fire, war or earthquakes – all of which can affect the integrity of a collection. By its very nature, a collection is set against 'loss'. At the same time, negotiation may be required between a need for protection and ease of handling and visual accessibility to the collection as a whole. A collection is about togetherness, about the collected objects being physically together and being seen: arranged next to one another, on top or underneath the others. Viewing them in a special sequence, one after another, inevitably brings them closer.

**26.1** A series of very delicate scale models by Emily Norman in white three-dimensionally printed gypsum. These were extra pieces because two of each were printed, just in case one was damaged during recovery from the printer, 2014. Source: Photograph by Guan Lee. © Emily Norman.

**26.2** Material test made by Tom Yu with clay slip poured over a lattice structure of wood and cotton treads. The idea was to put the entire construction into the kiln, so that all of the organic matter would burn away, with a ceramic structure remaining, 2014. Source: Photograph by Guan Lee. © Tom Yu.

**26.3** A series of terracotta tiles with glazes that turned out grey instead of white. Pieces of silicone were shaved off a mould that was made too thick. A slip cast object made with a paper cardboard mould as opposed to traditional plaster. These objects were produced by a group of students during a workshop for RC5 Bartlett B-Bpro, 2014. Source: Photograph by Guan Lee. © Guan Lee.

**26.4** Glass blown into a wooden mould that was milled with a CNC machine; test was by Callum Perry. Even though the wooden mould was soaked in water for more than 10 days, the internal surface of the mould was completely charred, 2014. Source: Photograph by Guan Lee. © Callum Perry.

A collection's origin will have its 'seed', perhaps triggered by events in the past or historical characters. The act of collecting might be propelled by symbolic gestures, greed, obsession or compulsion. A collection might include memorabilia of personal significance. It may be made up of belongings, writings, information, objects kept because of memories they evoke of people, places, past associations. Items within a collection are simply objects the collector wants or desires, and may include things that reflect learnings and curiosities. The collecting itself may serve a particular purpose or be an end in itself. A collection can become a reflection of the collector. The collector's perception is on display, on the shelf – it is the collection. A collection exposes the collector's ability to collect, and reveals whether the collector is consistent and a true connoisseur. What if the collection is eclectic? Or the collector is an impostor? Can the act of collecting be simply one of hoarding? What if one is without a collection altogether? Does this imply that one is without interest, without purpose, without intellect, unable to collect?

Some materials on my workshop shelves at Grymsdyke Farm, a research facility, fabrication workshop and living-working space in Buckinghamshire, have expiry dates like food products. Plaster and cement have a shelf life of about 3 months, resin 12 months, some a lot longer than the others. On these shelves also live collections of physical models and materials samples that will not go off anytime soon. Some I have just placed on the shelves, but as a whole, they have slowly accumulated over the last few years. These comprise successful but unwanted models, failed material experiments, successful but redundant materials experiments, used moulds, moulds that can be used again, just sitting there waiting, failed moulds, failed casts, samples of materials (to test or simply to understand the outcome, to figure out tolerance) or in general classified as prototypes. Amongst them, I have also kept material in storage containers: those that are still good; those expired but just to keep the labels so that we know what to replenish; failed experiments that look great and which I cannot bear to bin; ideas manifested as physical objects, but I do not yet know what to do with them; souvenirs, things from the garden – together they are like a living notebook.

These objects on the shelves are not labelled or classified or thematically displayed. The context of these shelves is not a gallery but a working environment. The objects on the shelves are arranged and rearranged time and again for the simple reason of making space for new objects. Students leave behind these objects because they have served a particular purpose and are no longer needed. At the same time, they are not rubbish, though their value is difficult to define; I am almost certain it is not monetary. In 2003, an exhibition curated by Philip Ursprung at the Canadian Centre for Architecture (CCA) in Montreal on Swiss architects Jacques Herzog and Pierre de Meuron touched upon precisely this subject: of value in the study models of an architectural practice. The exhibition, subtitled 'Archaeology of the Mind', was a series of rooms where visitors could examine a display of materials from Herzog and de Meuron's archive, as it were, selectively unearthed and exposed by the curator. For Herzog and de Meuron, these objects were 'accumulated waste'.[2] These objects, like an archaeological find, only become valuable when a discerning gaze is cast upon them. Amongst the 'waste products', the curator also included works by artists such as Andy Warhol and Joseph Beuys. According to Ursprung, it is a way to 'invite the architects to enter into a visual conversation with the museum'.[3] Waste or not, the effect is the same: these study models, which otherwise never see the light of day in the archive, are being elevated to the status of art objects.

Back at Grymsdyke Farm, as we progressed through a series of casting experiments, we did not discard the moulds. It seemed obvious that they would have a future use. While a collector may rob an object of its 'use value', I see the moulds on the shelves as a collection waiting to make casts again. Some of the moulds are stored 'open' in order to display the inside of each, set against one another. The open moulds are a constant reminder of the successes and failures of each casting experiment. As

**26.5** Main workshop space at Grymsdyke Farm, 2014. Source: Photograph by Guan Lee. © Guan Lee.

time went on, dust generated by the machines in the workshop settled on the inner surfaces of the moulds, and became a trace of each mould's activity or inactivity. This room, with its family of objects waiting to be used again, feels different from a museum or art gallery space. Instead, the room offers two different sensations of space: an exhibition space and a storage space. These objects carry traces of making, revealing various attempts to execute features in design, using different tools. They act as reminders of accidental discoveries of numerous material characteristics. This collection of information could only accumulate as more and more work is produced. It would not have been possible for me to acquire this collection other than through a constant stream of students passing through the workshop. The collection in this room reflects traces of personal and collaborative efforts. Because the life of the workshop at Grymsdyke Farm continues, the work being made within is ongoing, and the gathering of knowledge is accumulative: this 'notebook' is alive.

## Notes

1. Walter Benjamin, 'Exposé of 1935: Paris, the Capital of the Nineteenth Century', in *The Arcades Project*, ed. Rolf Tiedemann, trans. Howard Eiland and Kevin McLaughlin (Cambridge, MA: Belknap Press of Harvard University Press, 2002), 3–26.
2. Press release for exhibition, *Herzog & de Meuron: Archaeology of the Mind*, at Canadian Centre for Architecture (CCA), from 23 October 2002 to 6 April 2003. https://www.cca.qc.ca/cca.media/files/9191/8163/Herzog_Press_release.pdf (accessed 13 July 2020).
3. Press release for *Herzog & de Meuron: Archaeology of the Mind.*

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*Expanding Fields of Architectural Discourse and Practice* presents a selection of essays, architectural experiments and works that explore the diversity within the fields of contemporary architectural practice and discourse. Specific in this selection is the question of how and why architecture can and should manifest in a critical and reflective capacity, as well as to examine how the discipline currently resonates with contemporary art practice. It does so by reflecting on the first 10 years of the architectural journal, *P.E.A.R.* (2009 to 2019). The volume argues that the initial aims of the journal – to explore and celebrate the myriad forms through which architecture can exist – are now more relevant than ever to contemporary architectural discourse and practice.

Included in the volume are architectural practitioners, design researchers, artists, architectural theorists, historians, journalists, curators and a paleobiologist, all of whom contributed to the first seven issues of the journal. Here, they provide a unique presentation of architectural discourse and practice that seeks to test new ground while forming distinct relationships to recent, and more longstanding, historical legacies.

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