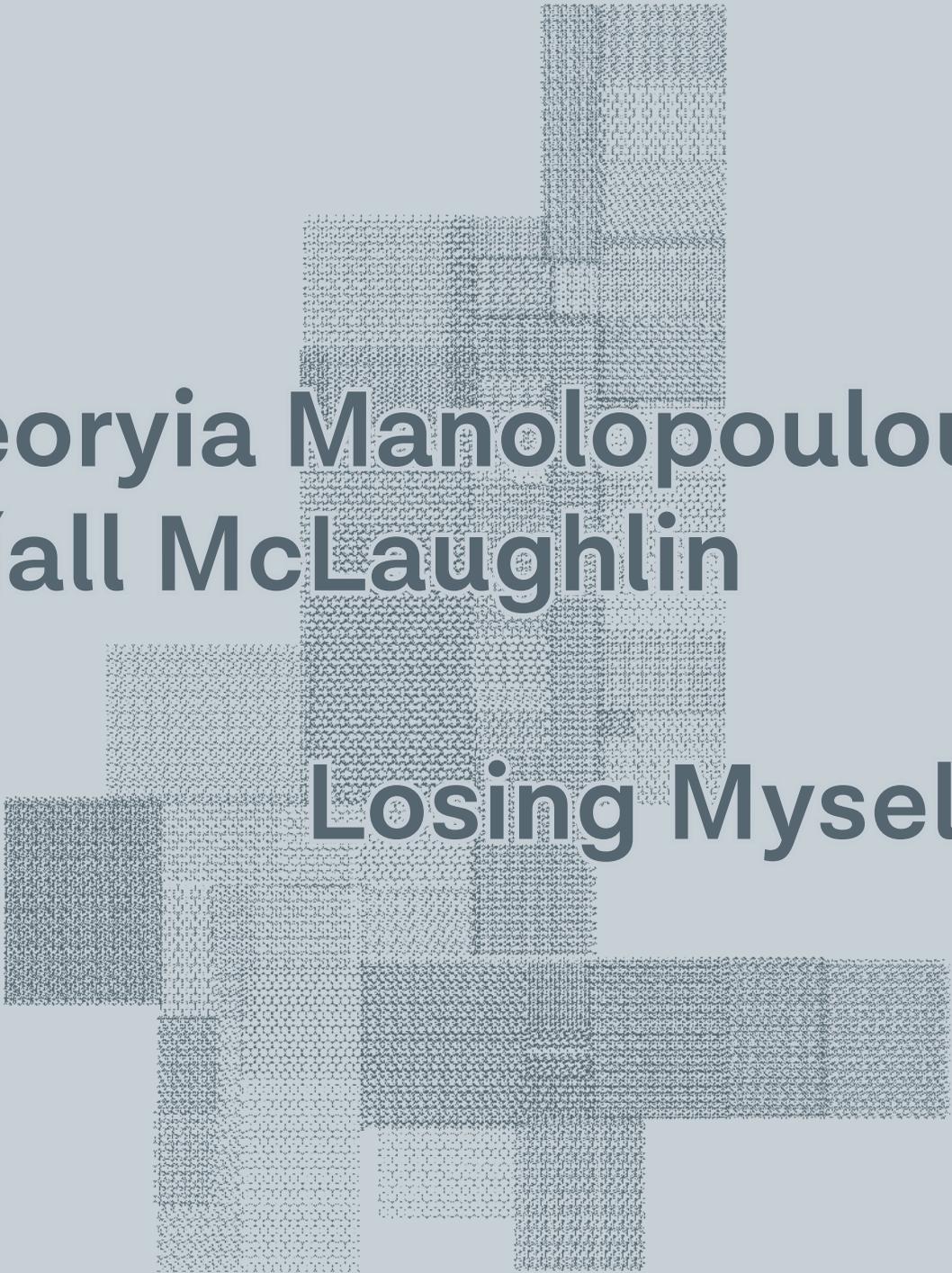


**Yeoryia Manolopoulou
Níall McLaughlin**

Losing Myself

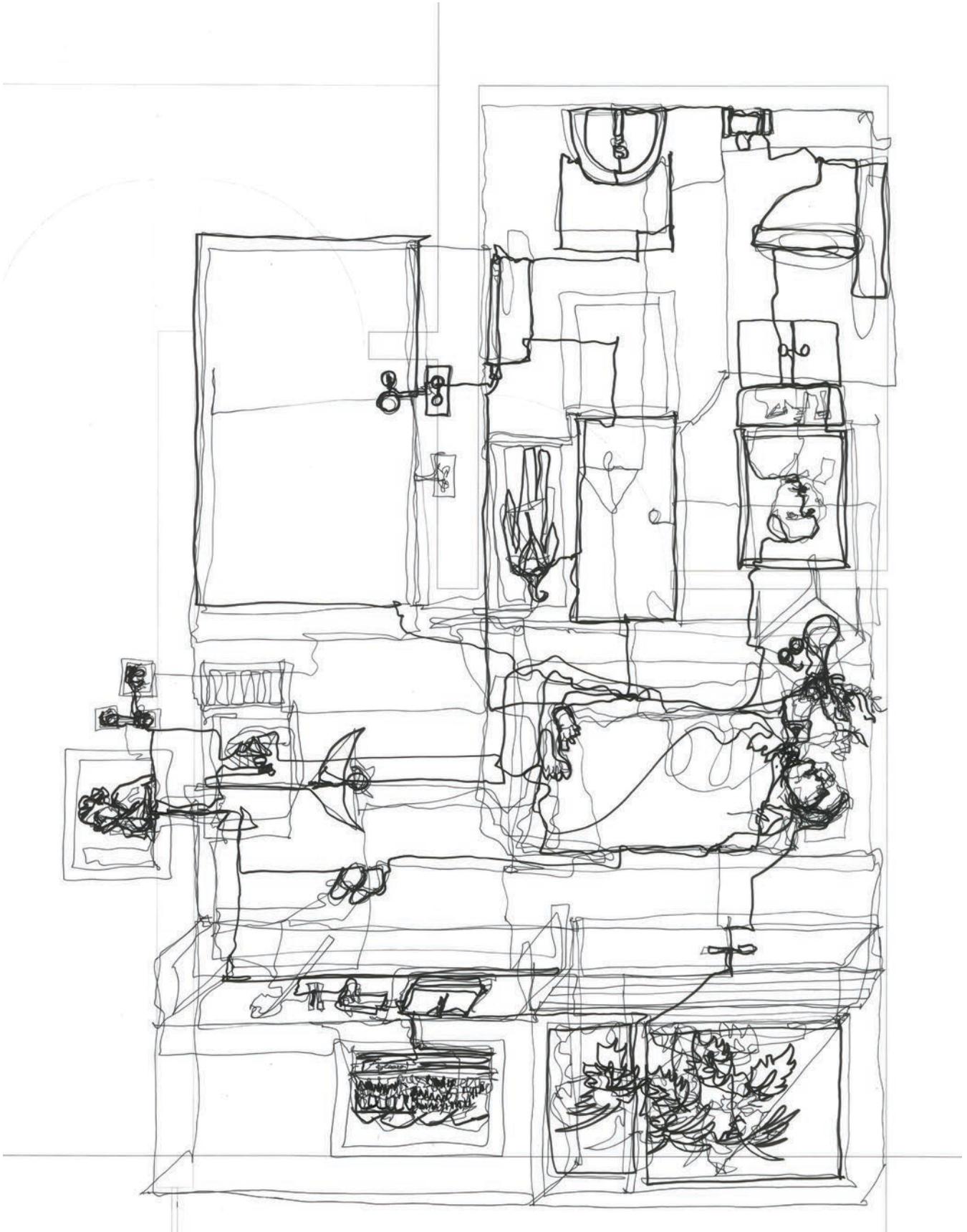


Yeoryia Manolopoulou
Níall McLaughlin

**Losing Myself:
Architecture and Dementia**







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1 (previous) The Irish Pavilion, 15th International Architecture Exhibition, La Biennale di Venezia, 2016.

2 Single-line drawing of an inhabitant's bedroom by Michiko Sumi. One of the hundreds of drawings made and filmed for *Losing Myself*.

Project Details

Authors	Yeoryia Manolopoulou and Níall McLaughlin
Title	Losing Myself: Architecture and Dementia
Output Type	Architectural installation and website
Installation	The Irish Pavilion, 15th International Architecture Exhibition, La Biennale di Venezia
Project Dates	2015, ongoing
Website	www.losingmyself.ie
Initiative	Ireland at Venice (by Culture Ireland in partnership with the Arts Council)
Commissioner and Curator	Níall McLaughlin and Yeoryia Manolopoulou
Chief Curator of the 15th International Exhibition	Alejandro Aravena
Exhibition Dates	28 May to 27 November 2016
Architecture Team	Claire McMenamin (project architect), Benni Allan, Eimear Arthur, Joanna Karatzas at Níall McLaughlin Architects (NMLA)
Text	Eimear Arthur, Níall McLaughlin, Yeoryia Manolopoulou

PROJECT DETAILS

Dialogue Participants	June Andrews (Director of Dementia Services, Dementia Services Development Centre, University of Stirling); Sabina Brennan (Co-director, Neuro-Enhancement for Independent Lives Research Programme and Director, NEIL Memory Research Unit, Trinity College Dublin); Sebastian Crutch (Neuropsychologist, Dementia Research Centre, UCL); Kay Doherty, Desmond Donnelly, Aisling Guckian (The Orchard Alzheimer's Respite Centre, Dublin); Sophie Handler (urban researcher, The University of Manchester and Age-friendly Manchester); Tim Ingold (Chair, Social Anthropology, University of Aberdeen); Kate Jeffery (cognitive and behavioural neuroscientist, Institute of Behavioural Neuroscience and Department of Psychology, UCL); Sandra Keogh (Person in Charge, The Orchard Alzheimer's Respite Centre, Dublin); Lesley Palmer (chief architect, Dementia Services Development Centre, University of Stirling); Helen Rochford-Brennan (Chair of the Irish Dementia Working Group and Vice-chair of the European Working Group of People with Dementia); Hugo Spiers (cognitive and behavioural neuroscientist, Spatial Cognition Research Group, UCL)
Drawing Team	Benni Allan, Sandra Coppin, Hannah Corlett, James Daykin, Bev Dockray, Anne Marie Galmstrup, Emma Guy, Lee Halligan, Katherine Hegab, Joanna Karatzas, Yeoryia Manolopoulou, Níall McLaughlin, Claire McMenamin, Ben Nicholls, Anne Schroell, Michiko Sumi, Simon Tonks
Digital Drawing	Katherine Hegab
Quadpod Production	Millimetre
Drawing Table Fabrication	Commissioned by You
Animation	Liam Davis (main project), Emir Tigrel (additional animation)
Composer	Kevin Pollard
Audiovisual Production and Installation	ArtAV

Project Support	Katie Burrell, Tamsin Hanke, Alicia Lafita, St John Walsh, Bryony Jones, Ruth Ryan, James Wickham, David Stronge, Know How Production
Graphic and Website Design	Objectif
Communications	Caro Communications
Total Funding	€336,645
Funding	€210,000 Culture Ireland; €70,000 Arts Council of Ireland; €40,000 Department of Culture, Heritage and the Gaeltacht; €10,000 The Royal Institute of the Architects of Ireland (RIAI); £6,000 The Bartlett Architecture Research Fund (ARF)
Thanks to	Alzheimer Society of Ireland; the clients and staff of The Orchard Alzheimer's Respite Centre, Blackrock; Culture Ireland; Arts Council of Ireland; The Royal Institute of the Architects of Ireland (RIAI); Department of Culture, Heritage and the Gaeltacht; The Bartlett, UCL; Neuro-Enhancement for Independent Lives at Trinity College Dublin; Dementia Research Centre, UCL; Jeffery Lab, UCL; Dementia Services Development Centre, University of Stirling; National Gallery of Ireland; London Irish Centre; Online Reprographics; RTÉ Archives

3 Partial view of the installation of Losing Myself in the Arsenale, La Biennale di Venezia, 2016.

PROJECT DETAILS



3

Statement about the Research Content and Process

Description

This project examines, through an architectural lens, the experiences of people living with Alzheimer's disease and associated challenges and opportunities affecting the design, maintenance and management of buildings and communities. It aims to encourage thought and debate around dementia design, critiquing current reductive design guidelines while proposing an original mode of drawing centred on human experience.

Questions

1. How does the human mind create an understanding of space?
2. What findings from neuroscience, art, anthropology, healthcare and policy can help architects design for people living with dementia and, more broadly, for all of us?
3. In what ways can we advance architectural representation to reflect these findings?
4. How can specialist design knowledge support all stages of building or redesign?
5. How can we build dementia-friendly cities from the outset?

Methodology

1. Dialogues: critical conversations across disciplines from health policy to neuropsychology and with people and carers affected by dementia in the UK and Ireland;

2. Stories: a collection of accounts by friends and relatives of people with Alzheimer's disease;
3. Drawing: investigating a new method of architectural representation to describe space from the perspective of occupants, culminating into an immersive installation with informed and emotional content;
4. Collaboration: working closely with a collective of architects, graphic designers, installation and sound artists;
5. Communication: developing a website that effectively shares our research with non-specialist audiences.

Dissemination

The Irish Pavilion was one of the highlights of the 2016 Venice Biennale, which in six months attracted 260,000 visitors. It was globally reviewed in diverse publications like *The Lancet*, *WIRED*, *The Irish Times* and *Il Sole 24 Ore*. Its website is a dementia-friendly repository of findings on open access. The authors have discussed their research in publications like *Arts and Dementia: Interdisciplinary Perspectives* (Mateus-Berr and Gruber 2020) and in public presentations for the Wellcome Collection, University of Quebec, Indian Institute of Management, RIAI, RIBA and the House of Lords Select Committee, among many institutions.

Project Highlights

Losing Myself formed the sole representation of Ireland at the 15th International Architecture Exhibition, La Biennale di Venezia in 2016, and was shortlisted for the RIBA President's Awards for Research in the Design & Technical category in 2017. It is the first architecture project to examine dementia by bringing together perspectives from neuroscience, anthropology, health, art and design. It introduces and explores the neurobiological function of allocentric and egocentric spatial referencing in architectural drawing for the first time.

The authors have created an open-access report on dementia design recommendations, called '16 Lessons: What we have learned', advocating for a holistic approach to creating and sustaining design-friendly buildings and communities for all, available at www.losingmyself.ie.

Statement of Inclusion of Earlier Work

Losing Myself started from revisiting The Orchard Alzheimer's Respite Centre to examine it as a building in use six years after its completion. It is on this basis that this folio refers to it briefly.

4 (overleaf) The Irish Pavilion, 15th International Architecture Exhibition, La Biennale di Venezia, 2016.





Introduction

Losing Myself argues for an imaginative engagement with dementia on behalf of the architect. Focusing on the social function of architecture, architects increasingly try to work with others to design age- and dementia-friendly buildings and neighbourhoods that improve the lives of all. But to have lasting success, architects need, first of all, to better understand dementia.

While most literature produced on the subject for architects focuses on ‘best practice’ guidance, we seek to better understand and empathise with the lived experiences of people with Alzheimer’s disease. Our work pays particular attention to the frictions that exist between health and safety management on the one hand and the individual’s right to autonomy on the other.

Alzheimer’s disease, the most common form of dementia, is a degenerative brain disease that erodes the ability to plan and to remember. As the condition progresses it affects navigation and the individual’s sense of place, two spatial capacities that concern us because they are vital in the experience of architecture. We concentrate on the heart of this challenge: What spatial capacities do we have that we might lose because of dementia? How does the brain comprehend space? How is embodied cognition formed and linked to architecture?

As architects, we simply do not know enough about dementia. Our project is a commitment to acquiring and effectively communicating new knowledge on the condition. By engaging with people who have direct experiences of dementia and with experts in the cognitive and behavioural sciences, we have gained a deeper understanding of dementia and spatial cognition more broadly.

By working as part of a collective with other architects, designers and artists, we have built a collaborative mode of practice and a drawing methodology informed by neuroscience and art that embodies the social reality of buildings. This mode of drawing and its presentation in an orchestrated assemblage acknowledges that dementia affects individuals differently and that we all perceive the world in different ways. Our decision to use many elements in a mixed-media installation, combining drawing, film and sound, was significant to the representation of the experience of dementia itself.

The work is a collaboration between McLaughlin and Manolopoulou who started working on this project in 2015 in response to the theme for the 15th International Architecture Exhibition. ‘Reporting from the Front’ asked architects to reflect on their own experiences while working to improve the lives of people ‘under tough circumstances, facing pressing challenges’ (La Biennale di Venezia 2016). Alzheimer’s disease was chosen by the authors as a topical and significant challenge, given the pressing nature of the disease and its evolution: ‘globally nearly 9.9 million people develop dementia each year; this figure translates into one new case every three seconds’ (WHO 2017).

The research was made public through an immersive installation for the Irish Pavilion and extends in an online resource that compiles a detailed description of Losing Myself and the authors’ ongoing investigations on the subject.

5 Study of the brain
by Niall McLaughlin, 2016.

Aims and Objectives

Our broadest aim is that this research will encourage thought and debate around design for dementia and ageing amongst architects, and across disciplines, expanding our capacity as built environment professionals to deal creatively and empathetically with these diseases. Beyond this, we hope that our research into spatial cognition will be significant for architectural thought because it will equip us with a deeper comprehension of how mind, body and environment interact as a whole, thus benefitting and making more inclusive the design of many types of building and urban projects. Specific objectives include:

1. To investigate how the mind acquires spatial knowledge and the implications of this for architecture;
2. To examine current research and practice on different forms of dementia and spatial cognition, produced by neuroscientists, health professionals, psychologists, anthropologists and artists, mainly based in the UK and Ireland;
3. To draw conclusions from specifically designed and lived-in environments, particularly through revisiting The Orchard Alzheimer's Respite Centre in Dublin, designed by Níall McLaughlin Architects, and through studying how it is being used since its completion;
4. To critically reflect on the latest national and international health care and built environment policies that influence the design and management of buildings for people with dementia;
5. To learn from directly engaging with people living with dementia, their families, carers and friends, and to participate in relevant support groups;
6. To question architectural drawing conventions that represent buildings as sole-authored, fixed and total images and investigate new methods of representation that manifest the building as a collective and temporal reality;
7. To evaluate the home versus other models of professional care environment (day care, respite, long-term care, village care);
8. To understand how the urban realm can be designed and maintained to support and enhance the quality of life of an ageing population and people living with dementia;
9. To create the Irish Pavilion and a report of findings, responding to the theme of the 15th International Architecture Exhibition 'Reporting from the Front' set by Alejandro Aravena;
10. To commit to an extension of this project, beyond the limits of the Biennale, through the architects' ongoing practice and research.

6 Exterior view of The Orchard Alzheimer's Respite Centre, Dublin.

7 Interior view of The Orchard Alzheimer's Respite Centre, Dublin.

AIMS AND OBJECTIVES



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Questions

1. How does the human mind create an understanding of space?

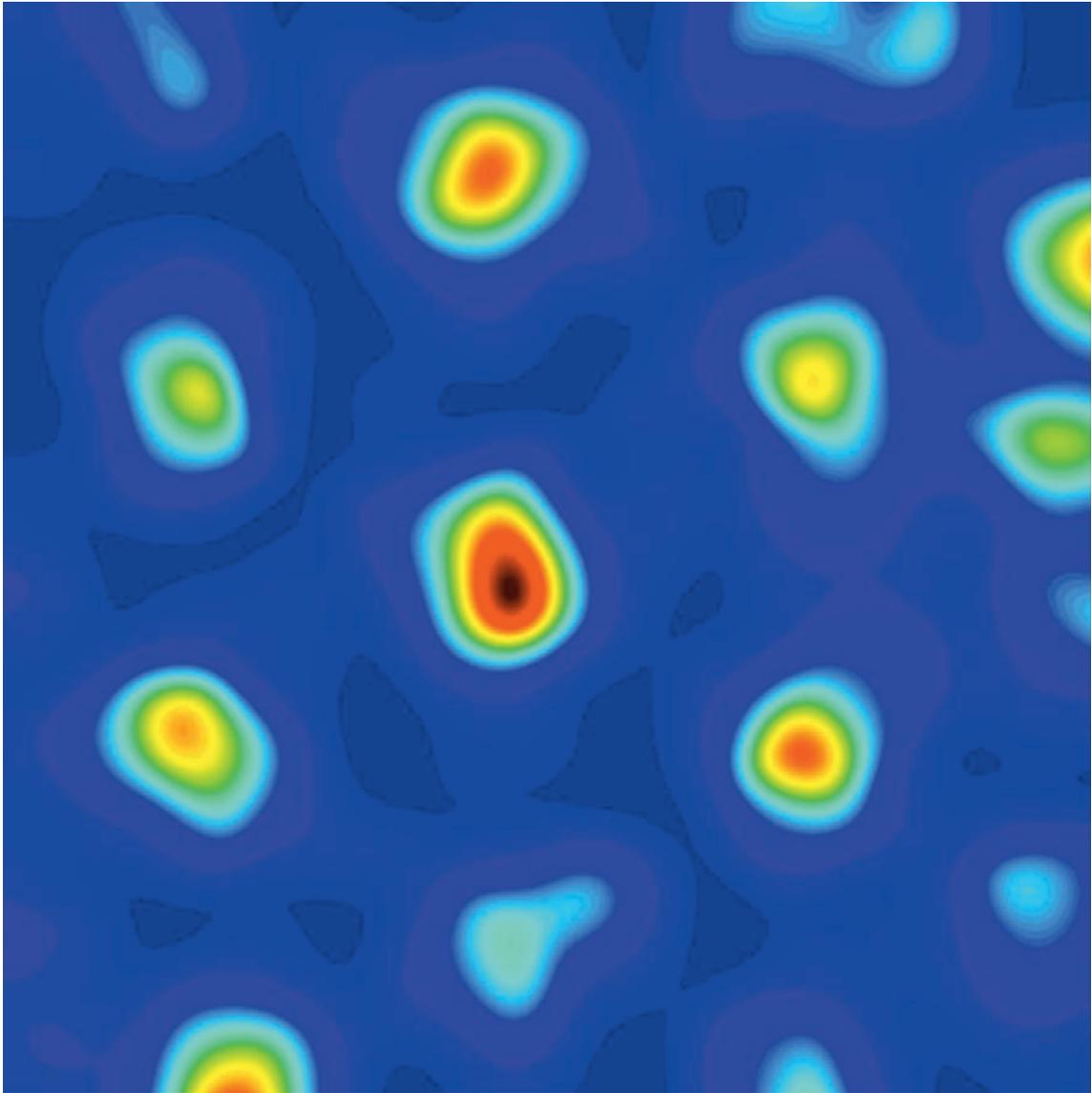
Our hypothesis is that, if architects learn more about the cognitive processes at play in dementia, this knowledge may then be used to advance dementia design. Moreover, a more scientifically informed and nuanced understanding of how the brain comprehends space should prove invaluable to all aspects of architectural design.

There is a profound link between place and memory as evidenced by research on the hippocampal structure and function of the brain. Within the hippocampus, and its neighbouring structures, neurons exist that lay down memories in their connections while allowing us to map space and navigate it. This internal representation of space is essentially a 'cognitive map': we have 'grid cells' that create lasting matrices with the longitude and latitude of the spaces we experience; 'place cells' that highlight our position in these matrices, helping us to understand where we are; and 'head-direction cells' that work like compasses to signal the direction we are facing (Moser 2014).

Alzheimer's disease is caused by the build-up of plaques and tangles disrupting synaptic connections in the brain. This has a disproportionate impact on the higher synthetic functions of human cognition, including but not limited to, the suite of faculties that deal with navigation in time. When neural activity in the regions around the hippocampus weakens, memory retention declines. Tragically, one of the things we can then forget is where we are. Becoming lost and having no sense of place is common in Alzheimer's disease and is an immense challenge for architecture generally and in producing buildings for the care of these patients specifically.

8 Monitored activity of the hippocampal neurons, showing place cells and grid cells. Image from the Jeffery Lab, UCL.

QUESTIONS

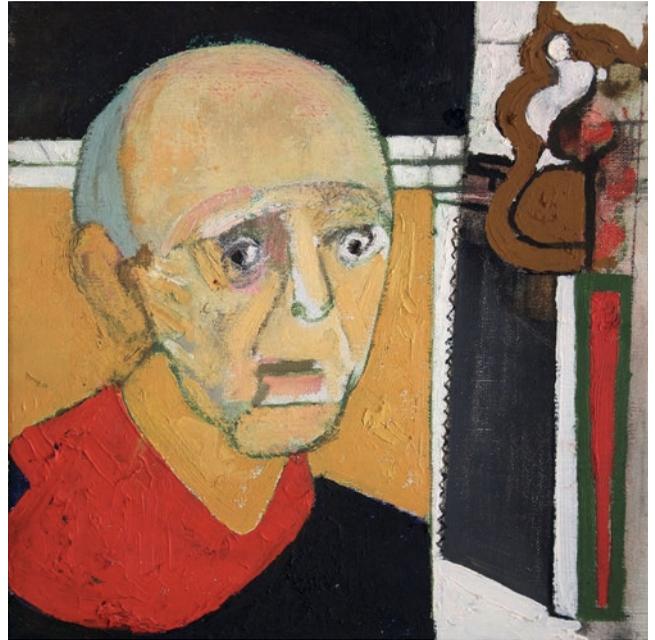


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2. What findings from neuroscience, anthropology, art and healthcare can help architects design for people living with dementia and, more broadly, for all of us?

It is important to note that there is not a single consensus on how places are perceived, on an individual and collective level, and that sometimes our experts did not agree on the conceptualisation of how memory works. In terms of understanding the specific challenges architects face in designing for people with dementia, the findings of Sebastian Crutch of the Dementia Research Centre, UCL, were helpful in elucidating both the difficulties of the task and the ways we might overcome these. Crutch noted that human experience is fundamentally personal and affected by ‘a huge number of distinct, and individually damageable, processes’ that transform over time (Crutch 2016). The difficulty for designing for dementia is precisely that the effects of the condition are so inherently individual and constantly changing. We put it to Crutch that designing a ‘daisy chain’ of spatial conditions can help people interlink situations in their minds in order to recall them as remembered experiences later on, a strategy that Crutch agreed seemed promising. The metaphor of a ‘daisy chain’ seemed suitable for describing an interconnected set of memorable scenes that allow people to thread together longer navigational sequences.

In addition to defining space through an understanding of personal history, we were interested in how a place can be comprehended communally. Here we found our engagement with social anthropologist Tim Ingold particularly insightful. In our dialogue with Ingold, we recalled geographer Doreen Massey’s social definition of space ‘as the simultaneity of stories so far’ (Massey 2005), that is, our way of situating ourselves in the world, and of remembering it, is greatly



9



10

9 William Utermohlen,
Self Portrait with Saw, 1997.

10 William Utermohlen,
Self Portrait - Head 1, 2000.

influenced by both personal and shared history. In this conception, mind, body and environment are a shared continuum: a complete system in which perception is the achievement of a whole organism rather than only the mind in a body or the body in an environment. This holistic or ecological view stands in contrast to the views of neuroscientists, and Ingold, for one, rejects their idea that the brain is 'a central control system'. Ingold sees the brain as a part of a broader 'circuit' processed by human action: 'one is continually creating and re-creating one's knowledge through the process of going about in it [our knowledge], rather than having it stored away somewhere' (Ingold 2016). What contributes to this process is the human capacity for story-making. Dementia, according to Ingold, disrupts and confuses a narrative. This was a notable remark that we took from this dialogue as we agreed with Ingold's position on the significance of story-making.

The ecological view is significant to architecture because one of its main tasks is to nurture this interconnected reality between environment and embodied construction, but architects do not yet know how to capture it. The work of artists who live with dementia, however, shows us ways in which this might be represented. The paintings of the artist William Utermohlen, who was diagnosed with Alzheimer's disease and continued to paint as the condition took effect until his death, give us unique insights (Crutch 2001). As time progressed and Utermohlen's cognitive abilities gradually declined, his self-portraits showed spaces that increasingly collided, fragmented and multiplied (9-12). 'Profiles in Paint', a more recent project conducted at the UCL Dementia Research Centre, asked artists with and without dementia to paint the exact same group of objects (13-6). It showed that the artists with dementia created profound distortions in their representations,

one of which was an inability to represent accurate relations between objects (Harrison 2017). We saw these paintings as works of art in their own right manifesting the artists' world views rather than as mere diagnostic tools showing evidence of loss. We also took into account healthcare research that highlights the emotional benefits of the experience of music, dance and touch for people living with Alzheimer's disease. Notably, key areas of the brain linked to musical memory are relatively unaffected by dementia.

These dialogues and explorations persuaded us that a main aim of *Losing Myself* should be to redefine architectural representation based on such findings that centre on experience. Human experience is not picture-like.



11

11 William Utermohlen,
Blue Skies, 1995.

QUESTIONS

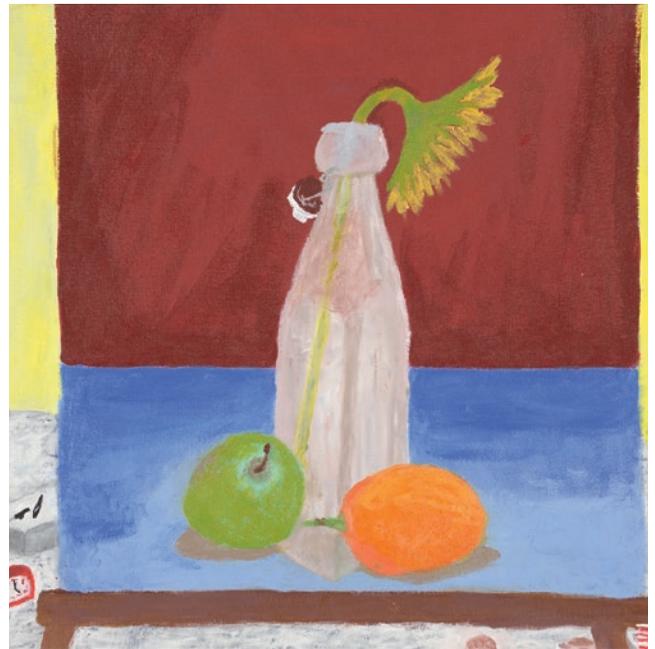


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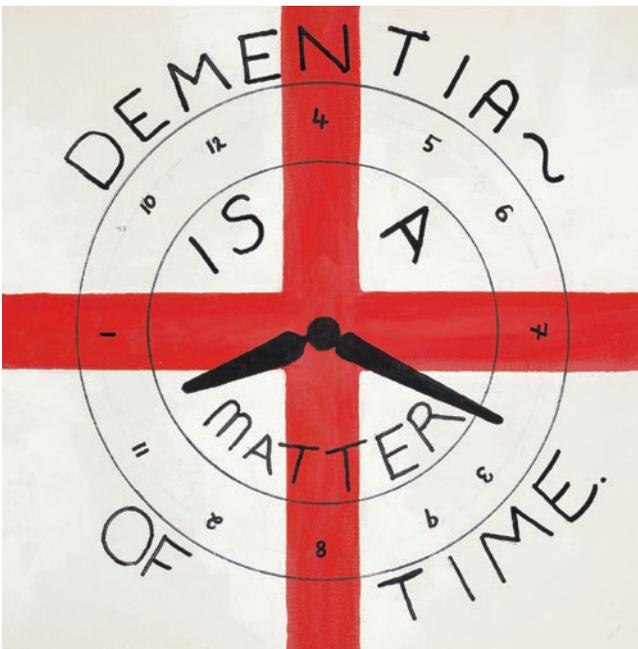
12 William Utermohlen,
*Conversation Pieces –
Snow*, 1990.



13



14



15



16

QUESTIONS

13-6 Profiles in Paint, 2015. These paintings were made by people with posterior cortical atrophy and other rare forms of dementia. The project was a collaboration between artist Charlie Harrison and Professor Sebastian Crutch at UCL Dementia Research Centre, with research assistants Amelia Carton, Emilie Brotherhood and Chris Hardy.

3. In what ways can we advance architectural representation to reflect these findings?

A common limitation of the architectural plan is that it represents the building as a static and whole object, neutrally and equally demarcated, from the all-seeing and singular position of the architect. Questioning this position, we investigated a novel method of architectural representation originating from the multiple and overlapping perspectives of occupants.

In discussion with Crutch, we identified the ‘egocentric’ and ‘allocentric’ functions occurring in the human brain (Crutch 2016) and realised that these had not been considered by architects before in the process of drawing. Allocentric spatial referencing in humans requires a sophisticated form of mental manipulation whereby the world is understood by assessing and imagining relationships between objects. It is characterised by an advanced ability to retain a mental image of the whole. In egocentric spatial referencing, however, the brain makes simpler self-to-object connections rather than the more complex and relational object-to-object correlations of allocentric functioning. Architects constantly ferry between plans and perspective drawings that can be loosely associated with aspects of allocentric and egocentric processing respectively, but it is unclear how these forms of drawing enable them to consider fully the degraded allocentric capacities of people with dementia when they design for them.

In our interdisciplinary dialogues, we came to realise that the problem for us, as architects, is that the architectural plan, as a primary tool of our discipline, is mainly allocentric: ‘based on a totalizing map-like view, disconnected from the circumstantial self-dependent ways in which we live in the world’ (Manolopoulou 2020). In response to this challenge, *Losing Myself* invents

a method of drawing that combines and reveals allocentric and egocentric spatial referencing introducing this neurobiological concept in architectural drawing for the first time. Eventually, *Losing Myself* demonstrates that the architectural plan, although certainly allocentric, embodies a mode of spatial thinking that includes egocentric aspects.

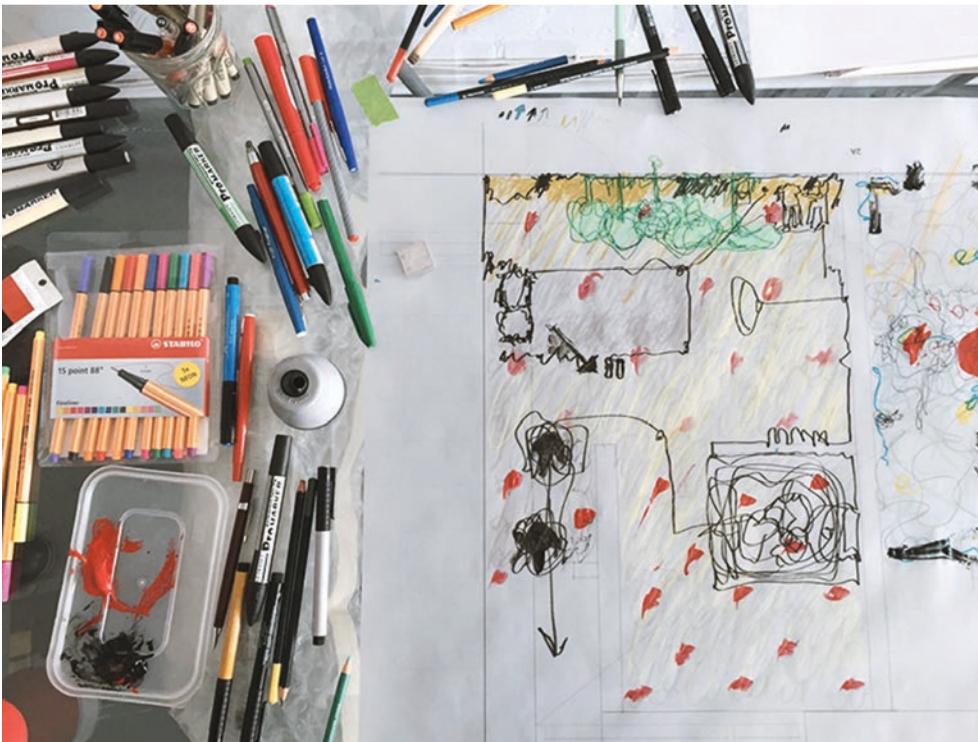
17 The first set-up for drawing experimentation. A glass surface is set on trestle legs while a video camera is placed underneath the glass in order to capture the process of drawing on tracing paper.

18 The first sketch that captured the idea of a single flowing line (seen in black) in an attempt to represent the inhabitant’s mind ‘wandering’ to form spatial perceptions. Drawing by Yeoryia Manolopoulou.

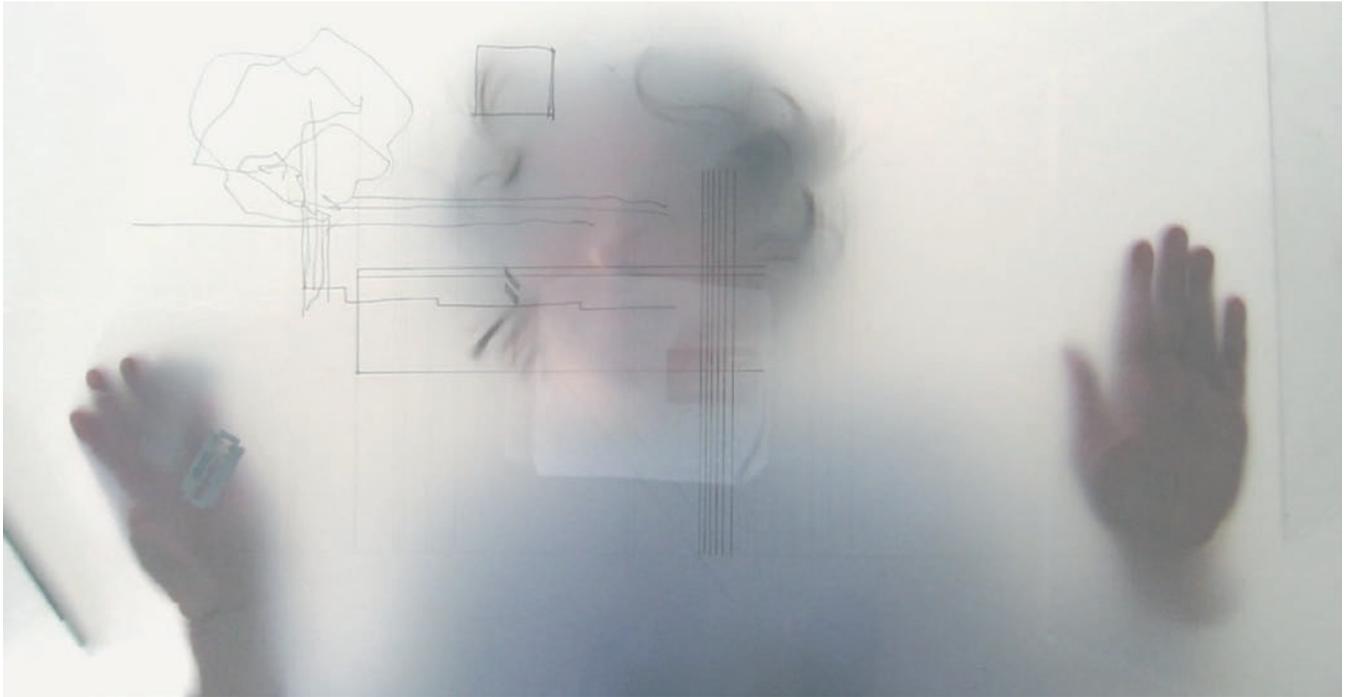
QUESTIONS



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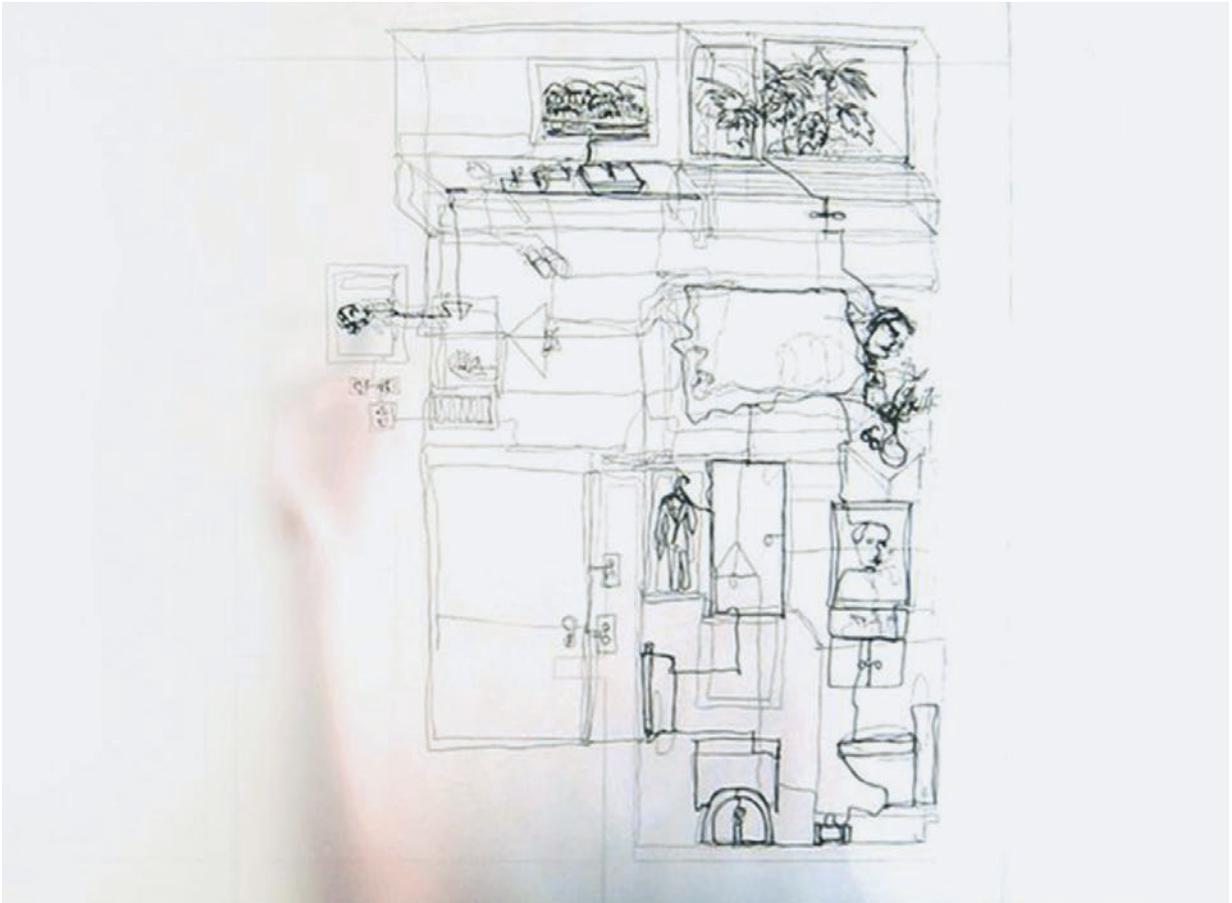
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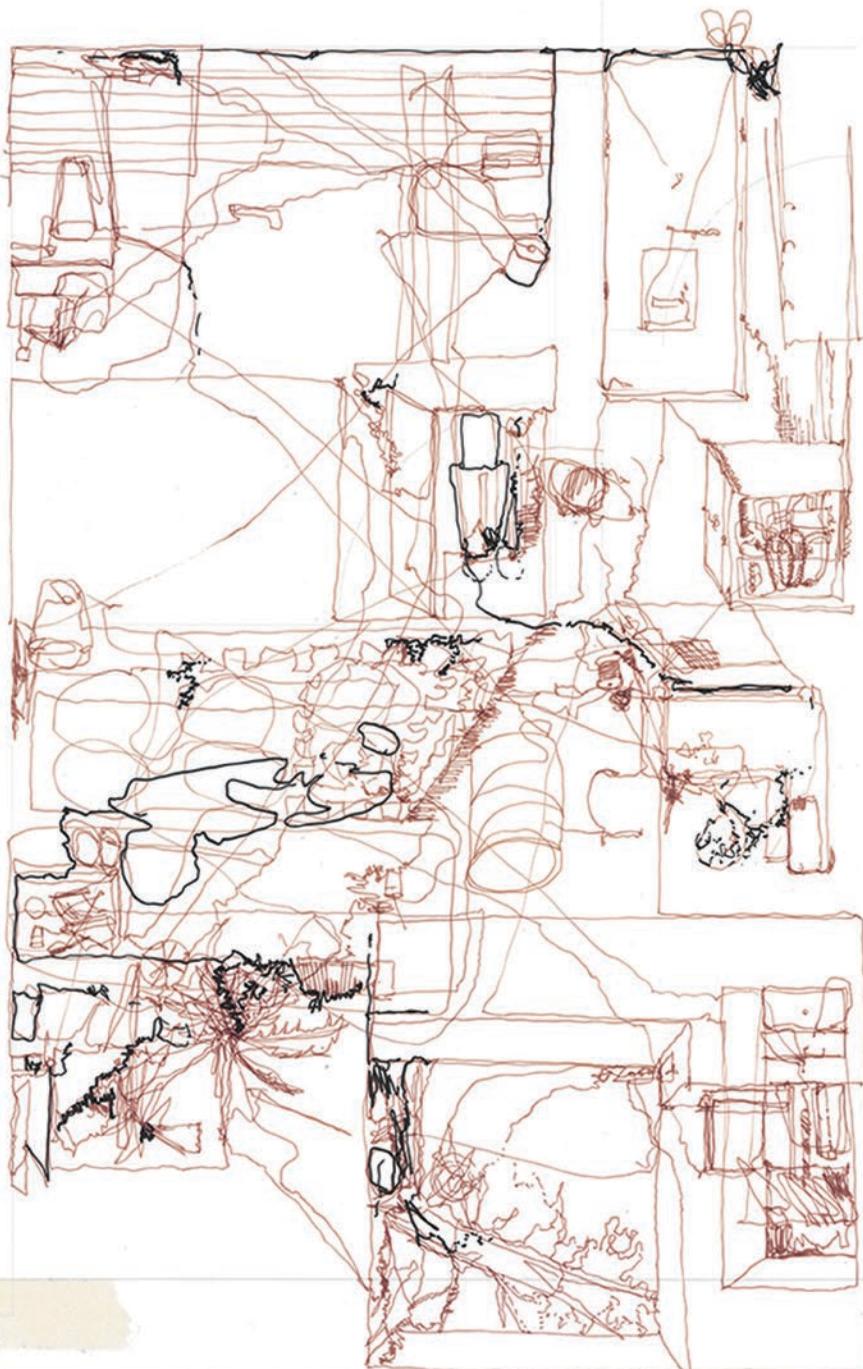
19 Video still of an early drawing filmed from below the glass top. It captures both drafter and drawing 'inhabiting' the surface simultaneously. Drawing by Yeoryia Manolopoulou.

QUESTIONS

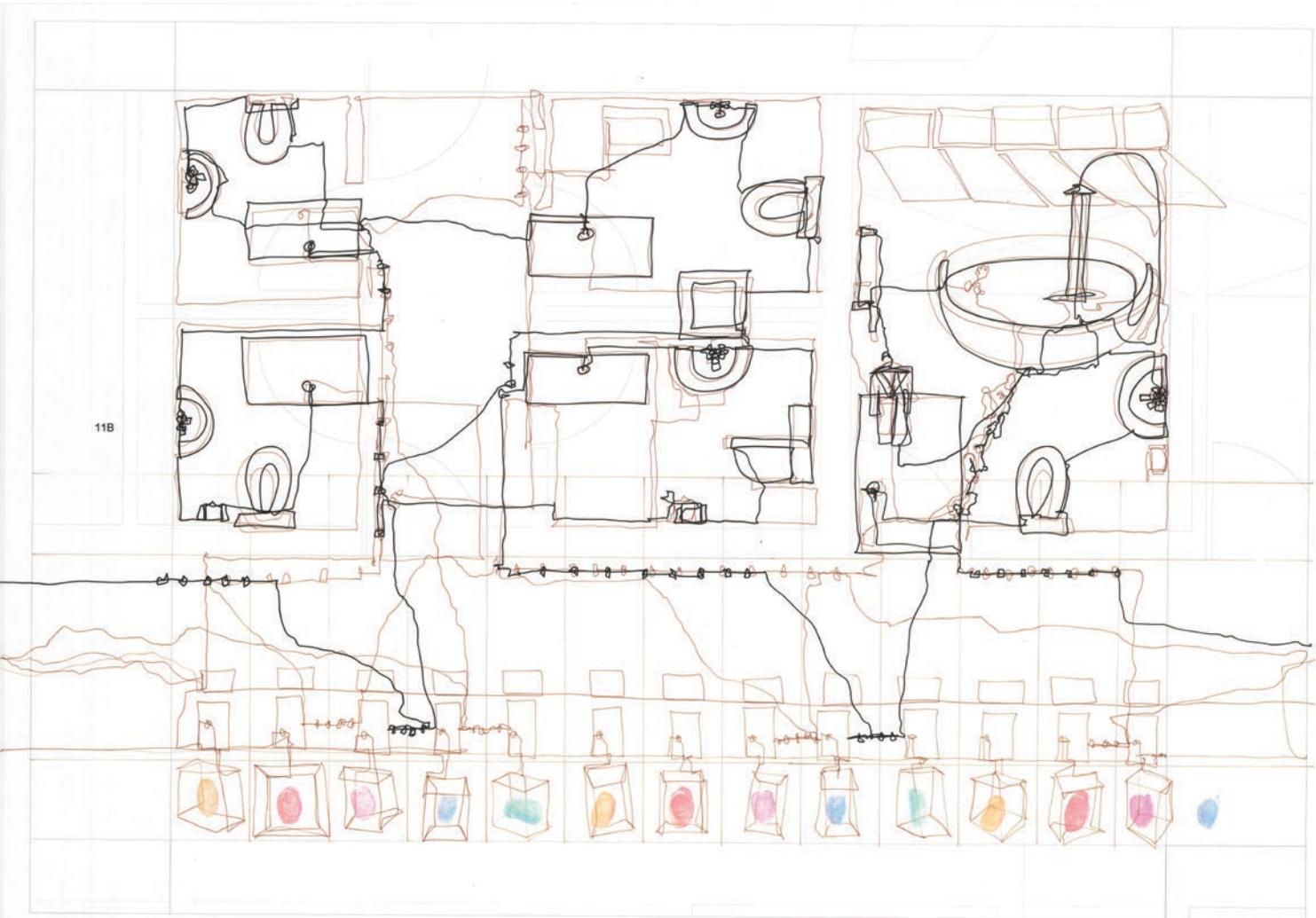


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20 Drawing from above, filming from below, one of the bedrooms from the perspective of its occupant. The method of the single flowing line is used to describe self-to-object visual connections in a continuum. The completed drawing can be seen on p. 4. Drawing by Michiko Sumi.



QUESTIONS



21 Drawing of a bedroom to describe another occupant's perspective. The process was performed and recorded multiple times by different drafters. Drawing by Emma Guy.

22 Drawing of one of the shared spaces in The Orchard Centre, focusing on the corridor and bathrooms. Drawing by Michiko Sumi.

4. How can specialist design knowledge support all stages of building or redesign?

Research on dementia design is relatively new, and as the body of knowledge on human cognition grows, inevitably older studies are quickly superseded. For example, whilst the benefits of abundant daylight with minimum confusion of glare and shadows are unquestionable, new research on improving navigation calls for replacing previous guidance on colour-coding interiors, as this has been found to be reductive. We now know that visual landmarks play an important role in guiding spatial navigation: they act as visual beacons, offer orientation and associative cues, and create reference frames for navigation (Chan et al. 2012). A spatial sequence of meaningful objects and vivid situations can act as a thread of navigational markers to prompt a person's memory and assist their movement more effectively and enjoyably. This evolving nature of design guidance suggests that it is more important for architects to seek to understand the cognitive processes and perceptual implications of dementia, and reflect on this when designing, than to draft and abide by a didactic list of reductive instructions.

Learning from existing dementia care facilities by examining how they are experienced in the everyday is also crucial. *Losing Myself* took as a starting point The Orchard Centre, a model respite facility designed by McLaughlin, completed in 2009. The Orchard Centre was a test case for future developments for the Alzheimer's Society of Ireland, 'both in its successes and its failures' (McLaughlin 2013). Conceived as a walled garden building, it was designed to create a sense of ease and freedom amongst the occupants who could safely wander within a network of linked rooms, courtyards and pathways. Routes were created through gardens and social spaces

to avoid corridors and cul-de-sacs; clerestory windows were designed to provide abundant natural light.

We revisited this building seven years after it was built to understand how it is used and the changes that might have had happened in it over time. Through our visits and conversations with carers and families of the people being cared for in the centre, we realised disparities between the architects' intentions and the building as a lived reality.

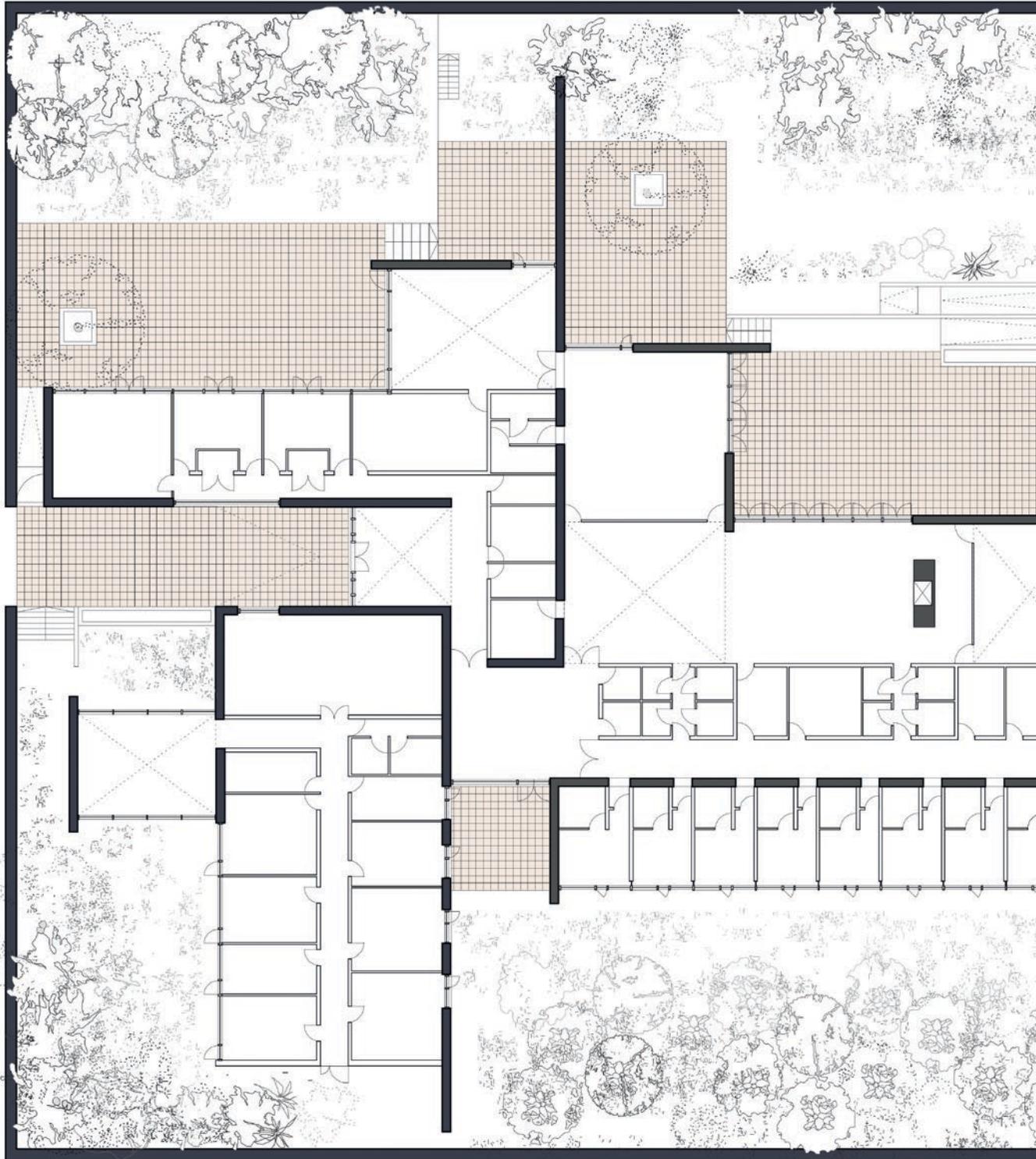
Our research shows that in dementia care settings tensions frequently emerge between the management of health, hygiene and safety, intended to protect the individual, and the building's own affordances that enable greater degrees of freedom and personalisation to users. A continuous and empathetic relationship between architect and client at all stages of the building, before and during occupation, is essential and can help users – from managers and carers to patients – to overcome such difficulties. This is important for all projects but particularly acute for dementia care facilities that care for occupants with unique environmental sensitivities and need to adapt themselves as research on dementia evolves.

5. How can we build dementia-friendly cities from the outset?

Cities and landscapes should be designed or adapted with a full understanding of the spatial difficulties that people with dementia face in their lives. Given that research has repeatedly shown that the home environment is best for ageing and living with dementia, the entire cityscape should be designed to allow people to continue to stay at home and in their communities for as long as possible. We need to provide engaging and accessible connections between the home, the neighbourhood and the broader city.

Taken as a whole, all public buildings and the urban realm in its totality need to be conceived as dementia-friendly from the outset. Design clarity, signage, accessibility and the reduction of physical barriers as well as minimising noise and air pollution are crucial. Landmarks can play a meaningful role in easing navigation and green spaces can enhance the wellbeing of all dwellers.

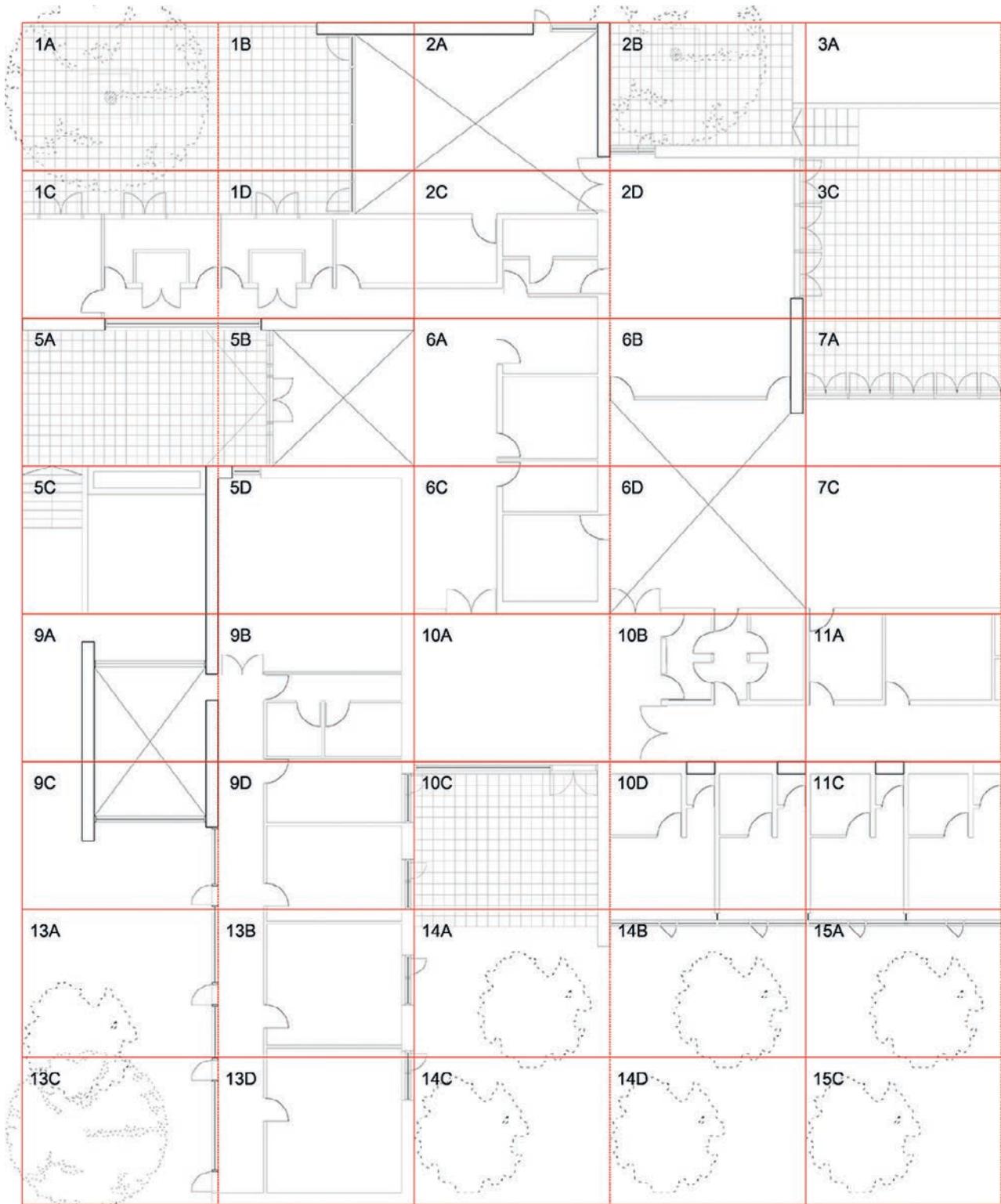
Beyond the physical attributes of the urban environment, attention must be paid to cultural change through cultivating a compassionate and informed community. Broadening a strong awareness of the condition amongst the public can contribute positively to forming and maintaining inclusive and age-friendly communities.



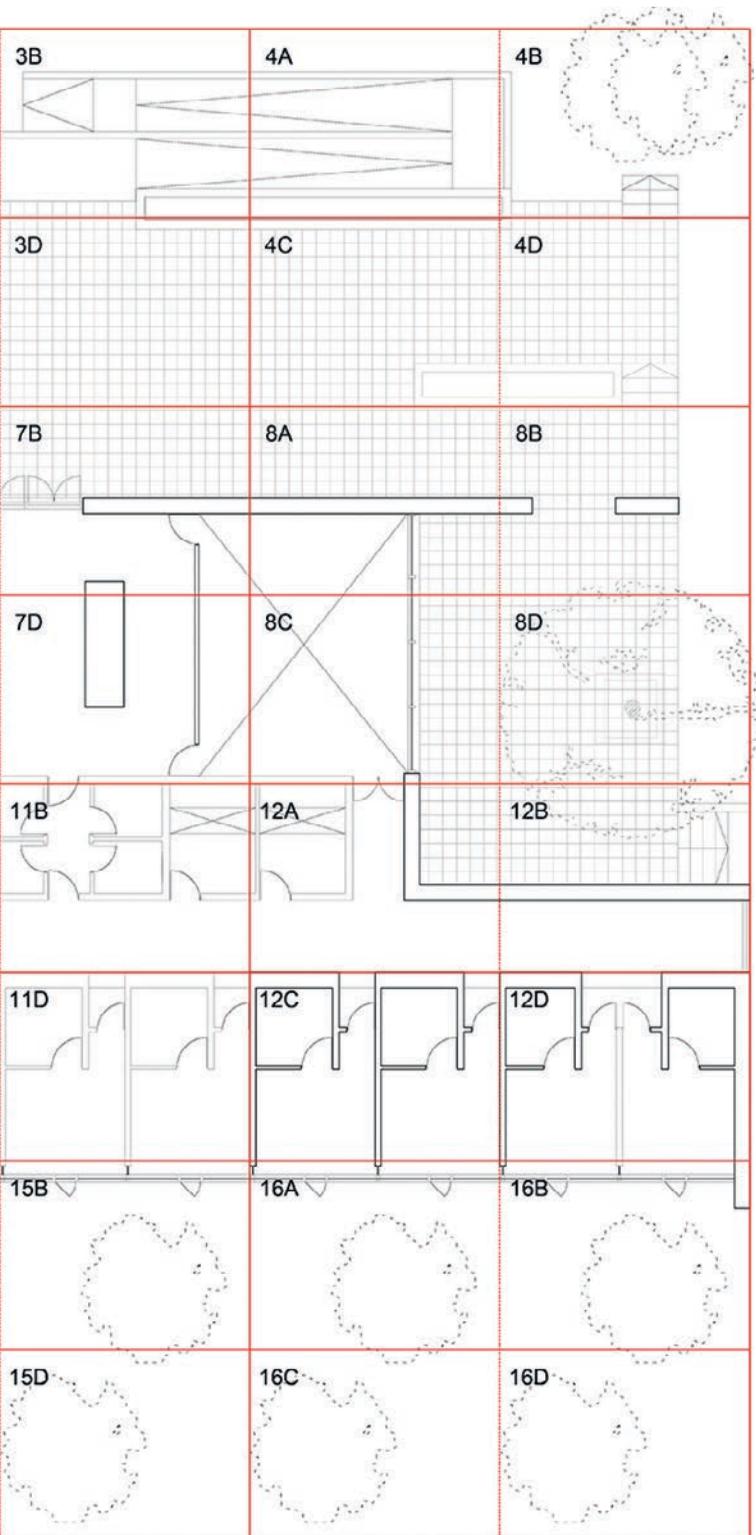


23

23 The Orchard
Alzheimer's Respite
Centre, architectural plan
by Níall McLaughlin
Architects.

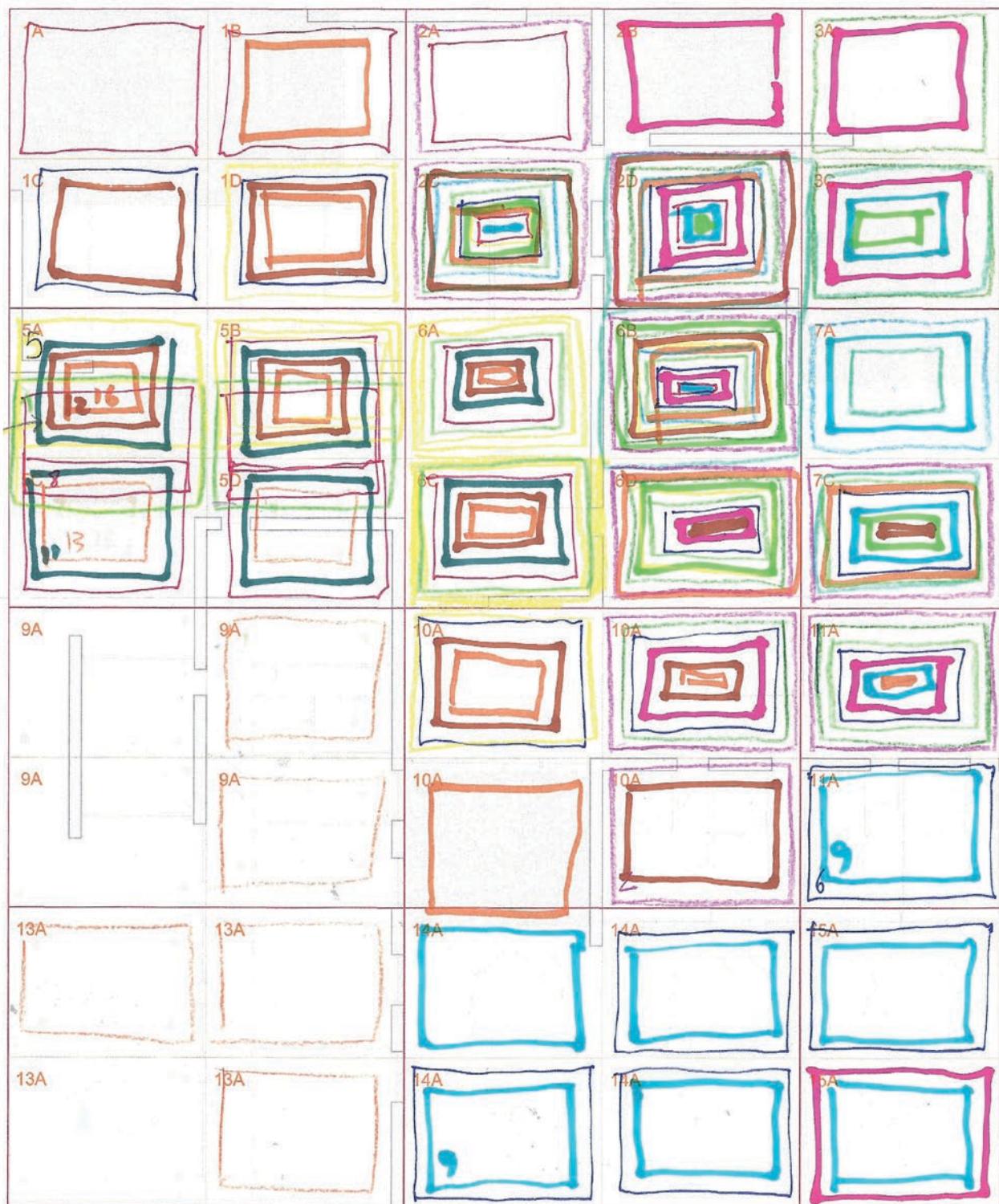


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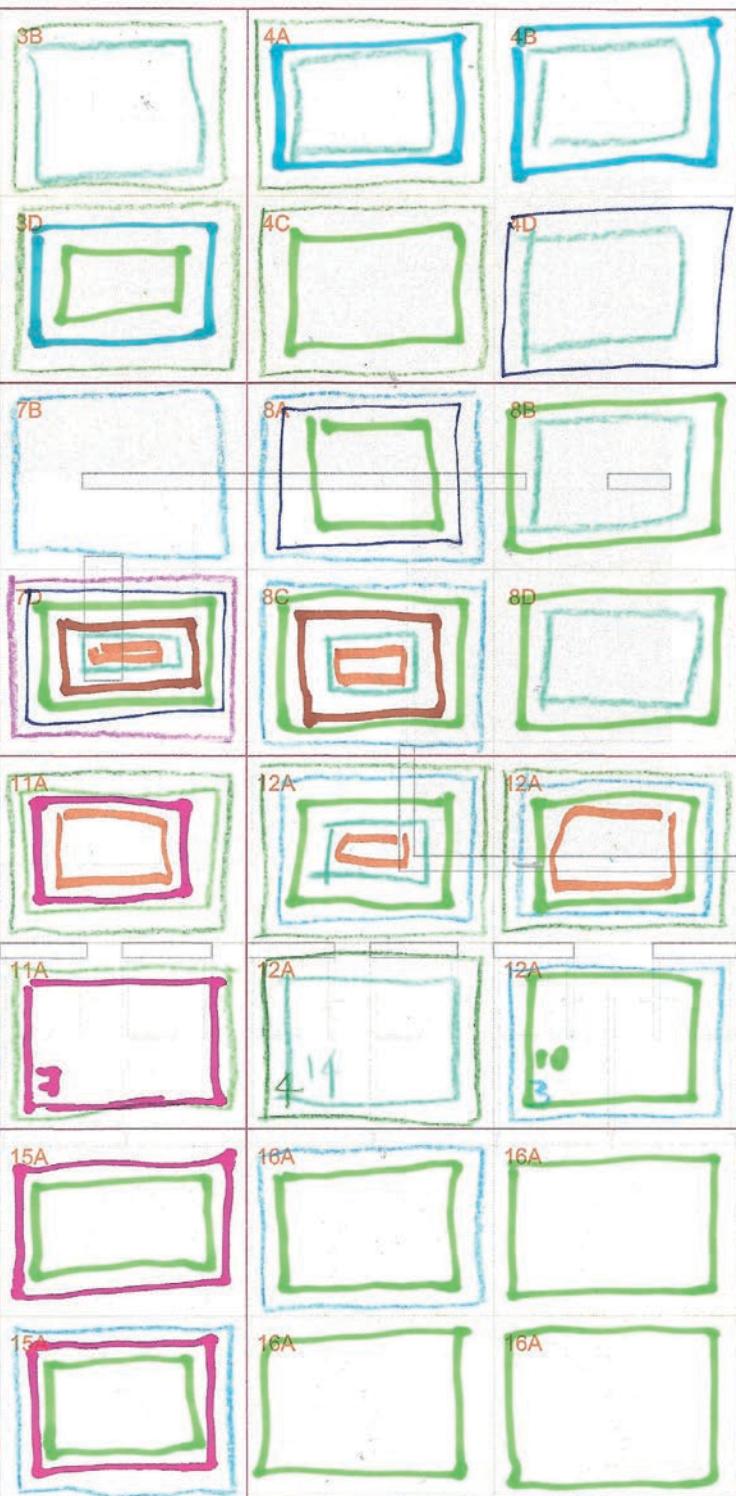


24

24 Adjusting the plan of The Orchard Centre, after revisiting it in 2016, in order to make the base for redrawing the building from the imagined perspectives of 16 inhabitants.



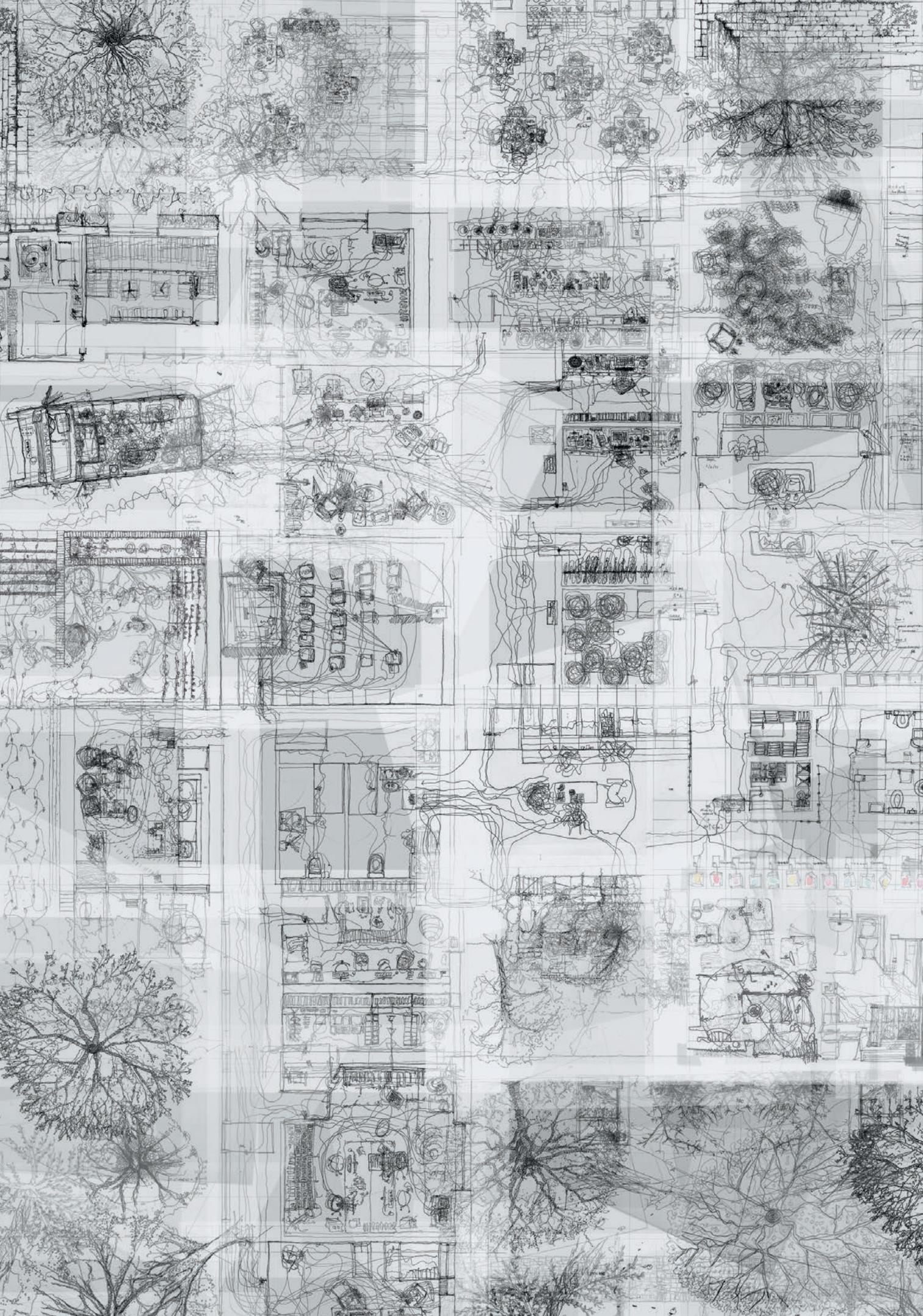
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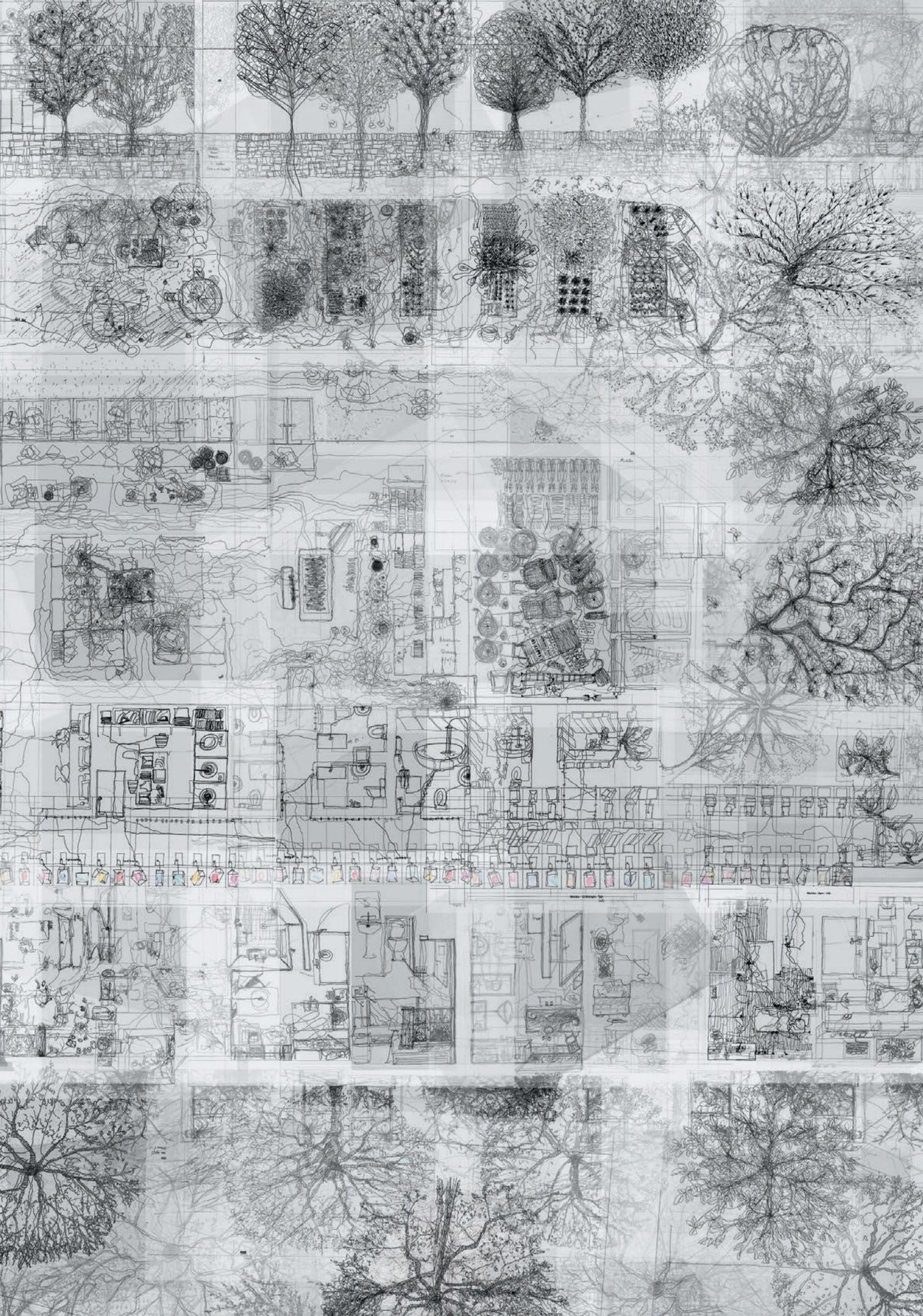


25

25 Structuring the plan of The Orchard Centre according to its patterns of inhabitation. Different colour frame sequences stand for representations of the experiences of different inhabitants as they would move from place to place in the building. Overlapped frames indicate areas of social interaction where occupants meet. Score by Yeoryia Manolopoulou.

26 (overleaf) Still view of the new animated plan of the building, composed of hundreds of filmed drawings, stitched together to make an animated composite of allocentric and egocentric line structures.





Context

This research is based on drawing, scholarly study and dialogues with people who have first-hand experiences of dementia or expert knowledge in relevant areas in neuroscience, public health, art and anthropology. The following section reproduces 11 extracts from our '16 Lessons' (Manolopoulou and McLaughlin 2016) – with slight modification and the addition of external sources – to demonstrate the interdisciplinary nature of the context we have engaged with:

–1–

All architects need to understand dementia

The tragedy of dementia is that the brain is hidden: we cannot see the physical degeneration caused by the condition. This lack of visible physical symptoms may allow an individual to hide a diagnosis from friends and family for a long period of time, or prevent support networks from forming around them.

Chair of the Irish Dementia Working Group and vice-chair of the European Working Group of People, Helen Rochford-Brennan, has dementia. She finds that people often misunderstand what that means. When she books airport services to assist with her navigational difficulties, she is invariably presented with a wheelchair despite her lack of physical disability. 'It's my brain that's slow, not my feet,' she tells us (Rochford-Brennan 2016).

—2—

Home truth

The best place for someone with dementia is at home. Allowing people to stay at home and in their communities reduces the risk of loneliness and isolation and gives a sense of belonging. Support at home can be enhanced by engagement with day-care centres, which provide daily stimulation and socialisation and give carers much-needed respite.

Some adjustments may be required to allow people to stay at home, but we should remember the very intimate level at which we are bound into our houses. Our understanding of our homes extends past what we see to a precise physical familiarity, assisted by proprioceptive memory (Britannica 2015), which allows us to move around without knocking anything over. This is deeply inscribed in the mind.

—3—

Risk and autonomy

There is a tension between the need to keep people safe and the need to preserve their quality of life. We are preoccupied with health and safety, the reduction of risk and controlled institutional environments that can eventually devastate the individual. For example, Lesley Palmer, chief architect at the Dementia Services Development Centre at the University of Stirling, challenges the notion of the balcony as a risky building element for older people: 'We're depriving everybody of daylight, for fear of someone jumping' (Palmer 2016).

Jacqui Carson, the manager of an assisted living centre says: 'People [should] still get to make poor choices for themselves if they choose' (Gawande 2014). When we remove opportunities for exploration and decision-making, we dehumanise people. It is easy to identify the physical damage of a broken arm, but it is difficult to quantify the mental damage inflicted by the loss of autonomy due to excessively restrictive policies.

–4–

My personal daisy chain

Each person with dementia is unique. For this reason, the care environment and assistance for people with dementia should draw a lot on a person's biography. As Tom Kitwood argues, the prime task of dementia care is 'to maintain personhood in the face of failing of mental powers' (Kitwood 1997).

'Best practice' guidance and management policies that restrict personalisation can lead to an institutional, clinical and uninviting environment. It is common for dementia care facilities to prohibit users from decorating their rooms for fear of theft or damage to their possessions by others. But provision for personal object placement in the building is vital for the individual's emotional wellbeing, their sense of personhood and ease of navigation.

–5–

Sometimes I need help

Andreas Kruse argues that care for people with dementia should have three components – professional care, care within the family and care from the community – all guided by 'the principle of shared responsibility' (Kruse 2014).

Helen carries a card that says: 'I have dementia. I like to be independent, but sometimes I need help.' We can all provide this help. In smaller towns, neighbours may assist neighbours with dementia by noticing if they have wandered far from home or by responding sensibly to agitated behaviour. In cities, if the person behind the till in the supermarket or the ticket inspector on the bus could be trained to recognise signs of confusion and to react accordingly, the individual with dementia could be empowered to continue to participate as an active member of society.

—6—

We need connections

Isolation is endemic among people with dementia. This is an important emotional issue but also a significant risk factor for health. Helen laments: 'The general public do not see us ... we want to be part of normal society' (Rochford-Brennan 2016).

Care environments should proactively engage with volunteers, neighbours and people of all ages in their local communities. For example, there is much anecdotal evidence to suggest that interaction with babies and children enriches the lives of people with dementia – a hypothesis supported by a number of studies into intergenerational engagement. Sabina Brennan, director of the Memory Research Unit of the Neuro-Enhancement for Independent Lives Research Programme at Trinity College, says: 'We should care for our older adults in the same places that we care for our young children' (Brennan 2016). Successful models for this exist in Japan and Holland.

In a care centre we visited in Tufnell Park, London, the sitting room and activity room were empty but there was a large crowd gathered around a small window at the end of a corridor. It was the one place from which you could see teenagers who had crept out at the back of the school for a cigarette and some flirting.

—7—

Liberty is limited

Atul Gawande outlines the changes that have occurred to the contemporary family unit and the effect that this has had on care for older people (Gawande 2014). Previously, 'the elderly were not left to cope with the infirmities of old age on their own. It was understood that parents would just keep living in their home, assisted by one or more of the children they'd raised.' Global economic prosperity now rewards those young people who are prepared to 'follow their own path – to seek out jobs wherever they might be'.

Describing what he calls the 'veneration of independence', Gawande shows that both children and parents seek out this separation after the intense period of child-rearing. This principle of independence works in a fashion until the final period of high dependency, when people are often obliged to commit themselves to institutionalised environments. For Gawande, modernisation does not demote older people; it demotes the whole family in favour of individual liberty and control, including the liberty to be less beholden to other generations.

—8—

Embrace technology

Assistive technologies can promote independence, autonomy and confidence for a person with dementia and limit their exposure to risk. Movement and energy-consumption sensors within the house or wearable location devices are very common and allow a degree of independence to be retained. Crucially, tools like these may reassure and empower carers. As June Andrews says: 'I don't put him in a home in case he gets lost, because I know I'll always be able to find him' (Andrews 2016).

—9—

Simple design interventions can prolong independence

Design for neurological impairment should be as integral to architecture as design for mobility. Helen explains the challenges posed by public buildings with 'bathrooms tucked away at the back' for someone who experiences navigational difficulties.

In her own house, she has made simple changes to enable her to continue to enjoy cooking. Instead of storing items throughout her kitchen, where she might misplace them, she has a unit containing all the basics she needs to cook that she moves around the kitchen with her.

We should accept that people with dementia are likely to be older adults and so should provide bathing facilities and furniture that reflect this. Good design empowers people to care for themselves for as long as possible.

—10—

Minimise visual and physical barriers

Routes should be composed to allow people to move through a building independently without getting lost. Where possible, the number of doors should be reduced. Clear visual connections between spaces facilitate passive surveillance, and the removal of physical barriers, such as locked gates, reduces the potential for frustration.

‘Wandering’ is a characteristic behaviour of many forms of dementia. Instead of trying to prevent wandering, we must strive to create an environment in which it is safe to wander.

Spatial sequences and visual links should be logical. For example, if I wake up in the middle of the night, it is likely to be because I need to go to the toilet. If I can see the toilet from my bed, this acts both as a visual memory prompt and a navigational tool. If I can see where I want to go, I can work out how to get there.

—11—

Live with purpose

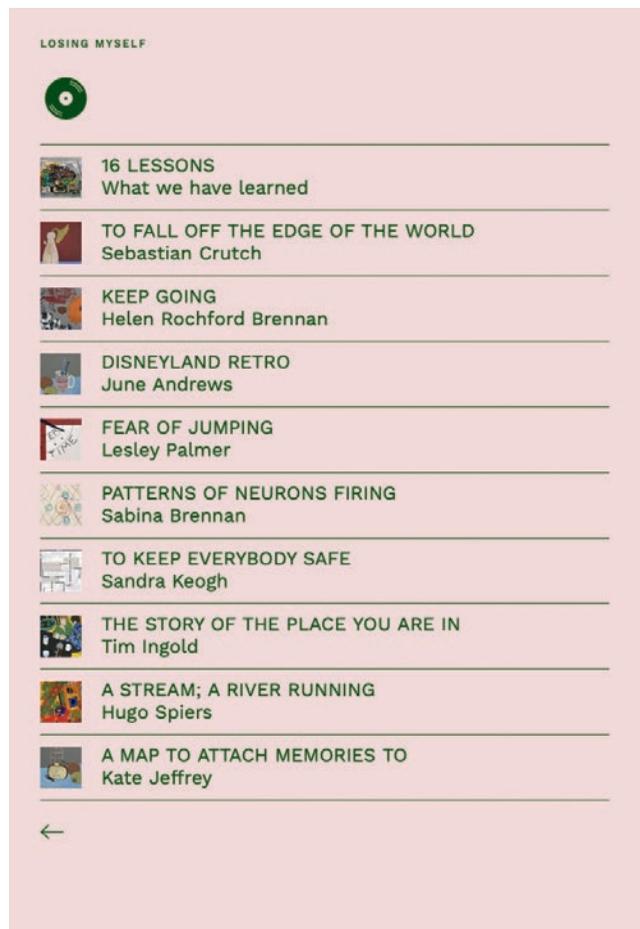
Care and respite buildings for people with dementia must accommodate and facilitate meaningful activity, fulfilment and creativity: for example, through singing, painting, dancing, gardening or cooking. In Hammond Care facilities in Australia, people spend time cooking; if the care staff believe there is a food hygiene issue, they simply serve a different meal (Andrews 2016).

Gawande stresses the value of giving older people a living thing to care for. When we came to meet the community of the respite centre in Dublin, the staff had persuaded everybody there that they had a role as volunteer carers. Therefore, everyone was part of an active caring community with no passive recipients. A life with meaning can continue following a diagnosis of dementia, and architecture should support this.

Methodology

1. Dialogues

The value of consultation and collaboration in dementia care design is critical. We travelled in the UK and Ireland to carry out conversations with a wide range of thinkers and practitioners across disciplines – from health policy to neuropsychology – and with people affected by dementia directly. Our Dialogues were recorded and published as podcasts on our website, shared on open access. These recordings are accompanied by abstracts, written by Eimear Arthur, which contextualise the content of our discussions for non-specialised audiences.



27 The list of podcasts uploaded on www.losingmyself.ie.

2. Stories

A collection of real-life accounts by friends and relatives of people living with Alzheimer's disease gave us a more intimate lens to ordinary personal stories. This ongoing collection is presented as a series of short texts on the Losing Myself website. We hope that it provides an engaging description of the uniqueness that characterises the emotional lives of individuals and families who are affected by the condition.

LOSING MYSELF



FOR THOSE IN PERIL ON THE SEA
Joseph

By the time my grandad died, my gran's Alzheimer's was significantly progressed. This was made painfully evident by the fact that she continually had to be reminded that he had passed away.

As the family planned his funeral she sat among us silently, seemingly oblivious, while we chatted about arrangements: the church, the readings, the hymns...

My grandad had been in the Navy, so we were trying to remember the Navy hymn ['Eternal Father, Strong to Save'], which is often associated with seafarers, and at the time we were unable to recall it.

Taking us all by surprise, my gran started singing the most famous line of the hymn, 'For those in peril on the sea'. Even at such a poignant moment, we could not escape the irony that memory had failed all of us, except Gran.



←

28

28 An extract from our collection of stories uploaded on www.losingmyself.ie.

3. Drawing

A dedicated drawing room with relevant books on our research and visual references facilitated the design process. Four bespoke glass-topped drawing boards were made, each one holding a video camera below it in a fixed position. This is where we invited other architects to draw with us (29–30). We asked them to join us in a process of drawing that imagines the potential experiences of people living and working in The Orchard Centre while reflecting on personal biography and encounters of similar buildings (31). We offered a single recommendation: to draw freely by hand, as much as possible in a continuous line. The cameras underneath the glass tops would record these lines as they would flow on tracing paper.

In our project, the line stood for the occupant's threads of consciousness, their physical and mental movement in the building rather than what they saw pictorially. Each of the 16 drafters would take a trace, mentally locate themselves in a particular part of the building and draw for a maximum of 29 minutes (until the video camera would automatically stop recording). James Daykin recalls:

By the time I entered the room, other drawers had made many tests and finished, recorded drawings were in production: the methodology was being refined. Yet there were still many questions and a kind of energetic tension in imagining the outcome. This manifested itself in the room as a kind of organised uncertainty: we know the process, but not fully where we'll arrive. These conditions were perhaps just part of how we might try to understand [a person with dementia's] condition. The not-knowing and the unlearning of established process. With a carpet of used tracing paper lining the floor, shoeless I walked the room and explored the work (Daykin 2016).

29 The drawing room with four bespoke made drawing desks in the foreground. Four small video cameras are set within the lower part of the wooden frames, placed at the same angle as their corresponding glass tops.

30 The drawing room with four drafters drawing while the cameras below film the process. Relevant research images and in-progress drawings and scores gradually filled the walls of our working environment.

31 Michiko Sumi drawing a bedroom in the company of family photographs.

32 Yeoryia Manolopoulou, Níall McLaughlin, Michiko Sumi and Simon Tonks drawing together a gathering in the breakfast room.

33 View of the collaborative drawing process. Hands and lines move across the page as protagonists, enacting bodies and minds in the breakfast room.

34 Social drawing of the breakfast room, completed and scanned. Drawing by Yeoryia Manolopoulou, Níall McLaughlin, Michiko Sumi and Simon Tonks.

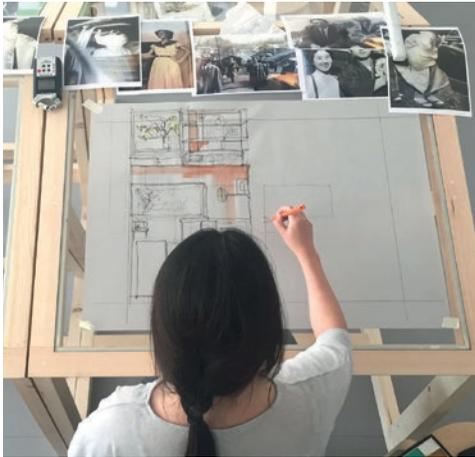
METHODOLOGY



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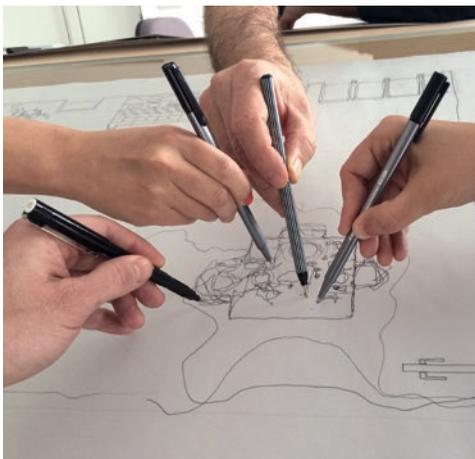
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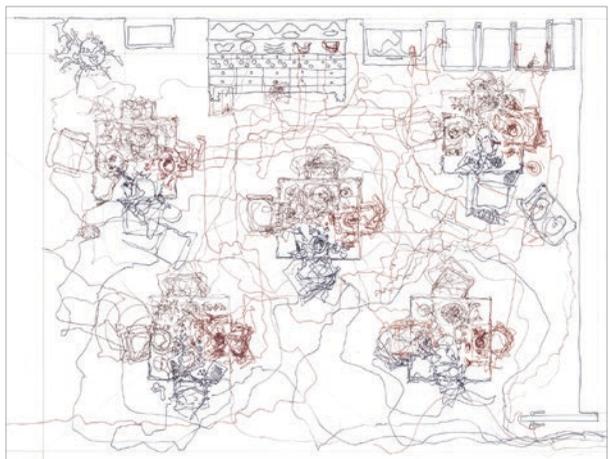
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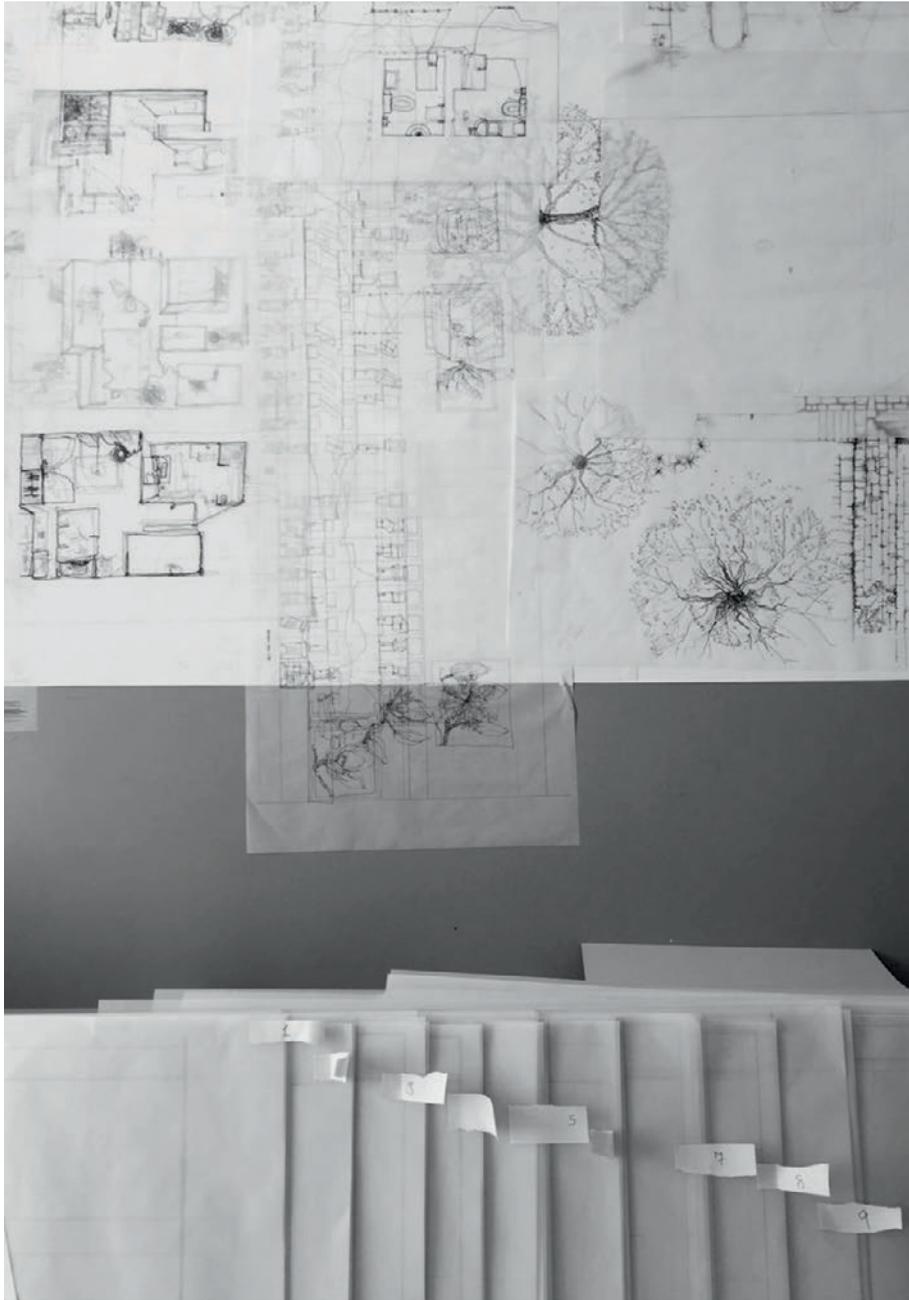
We drew in fragments to manifest egocentric circumstance and the inherent uncertainty in a person's ability to project or remember fully and consistently the experience of the total building at once. Unlike the architect, who is trained to abstract away from subjective experience in order to construct relatively unified and whole architectural representations, we knew that our occupants could not use allocentric processing to the same extent to hold the totality of the building in their minds. This led us to create fluid ways of drawing that used a mixture of allocentric and egocentric processes. To describe the multiple and overlapping experiences of common rooms in The Orchard Centre, we decided to also draw collaboratively: up to five drafters would draw on the same sheet simultaneously to perform and represent through their flowing lines moving bodies and thinking minds dancing, eating or gardening together **(32-4)**.

We created architectural scores that worked as scripts to determine the temporal and spatial interrelations between individual and social drawings **(24-5, 40-1)**. Through assembling, overlapping and sequencing films of drawings, we wanted to create the sense of the building as being a lived experience.

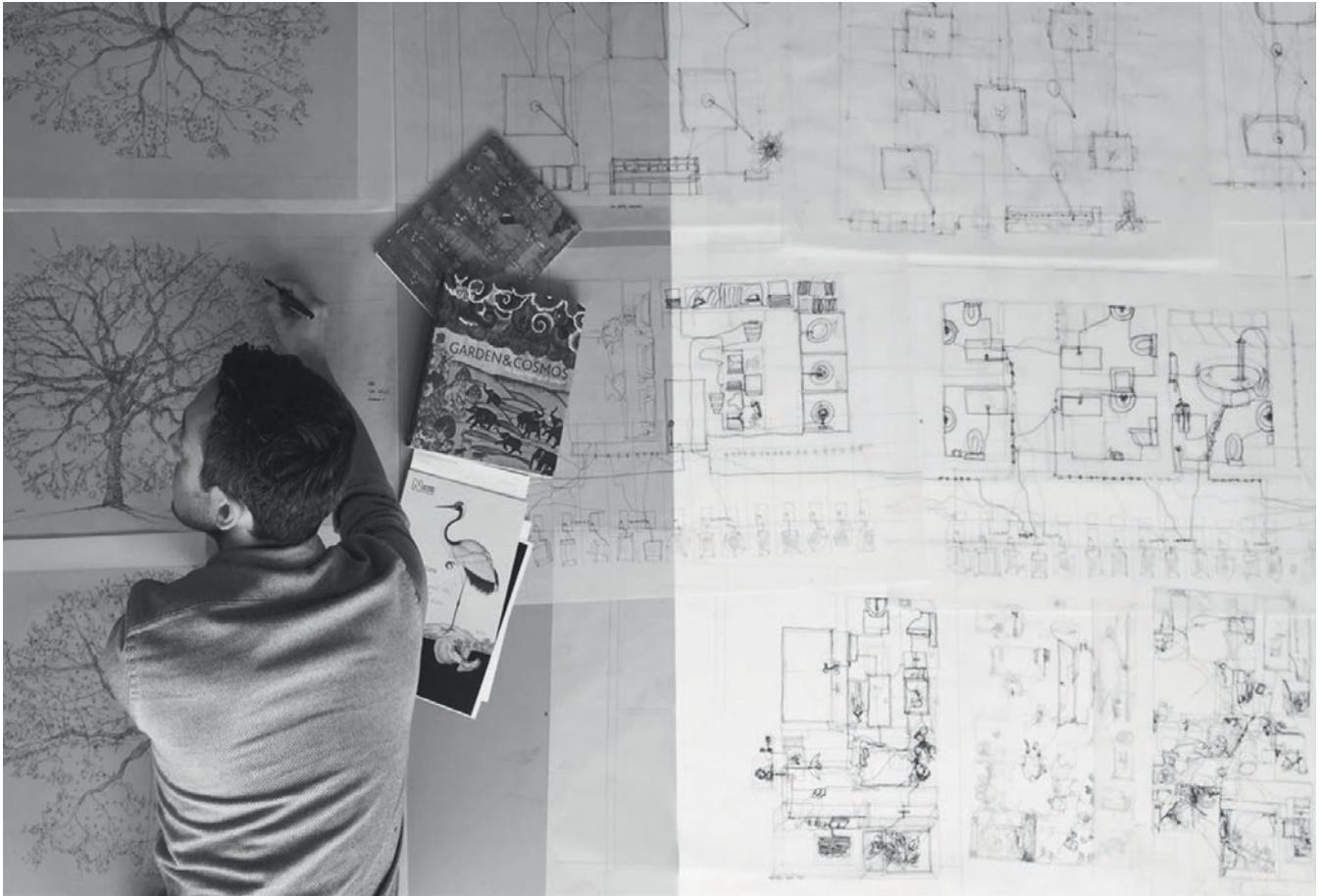
35 Supper with the architects we invited to draw with us.

36 Clear sheets of tracing paper ready for drawing, each one with pre-marked place and time to indicate where and when the drafters would imagine to be when drawing. Already drawn sheets are arranged on the floor.

METHODOLOGY



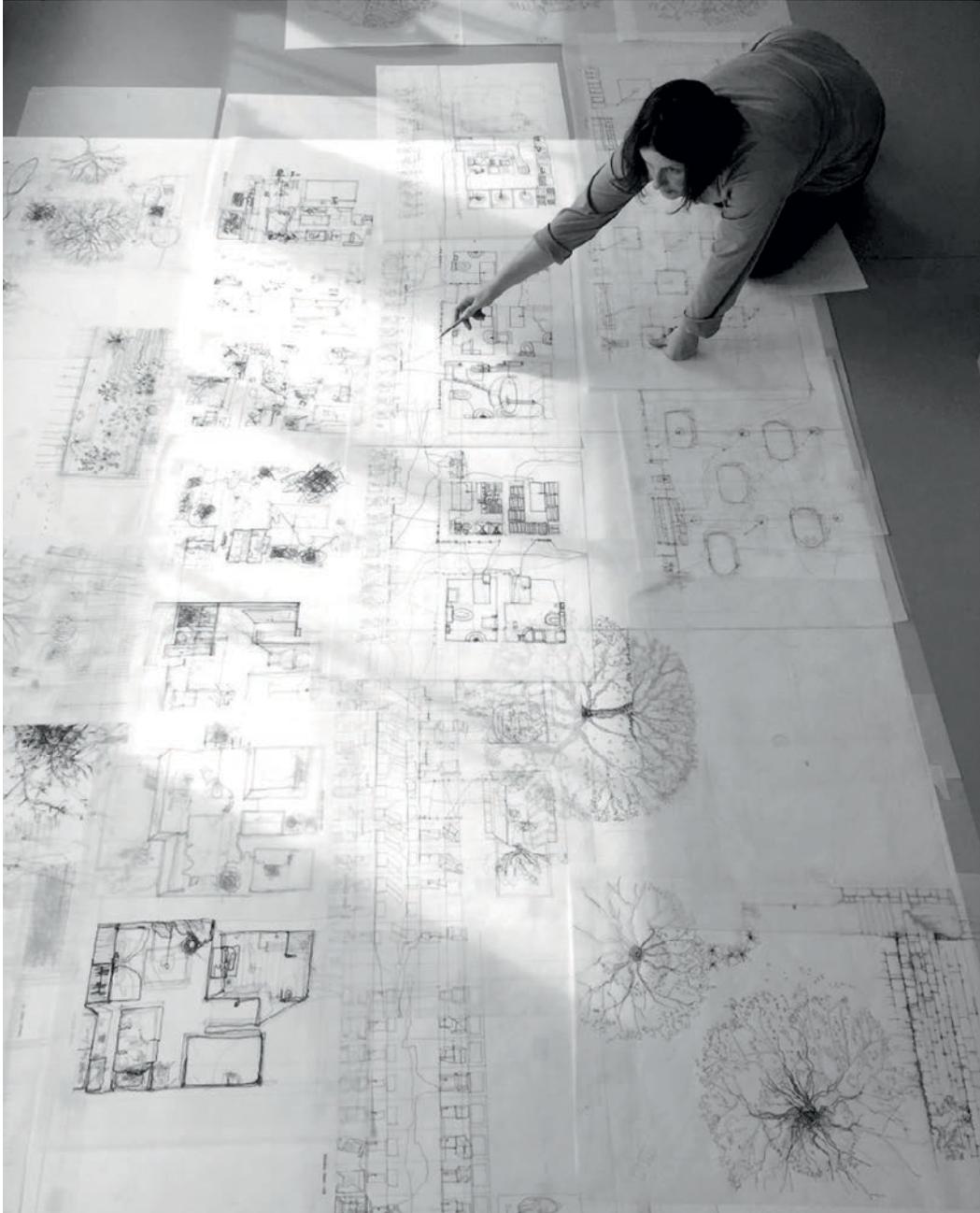
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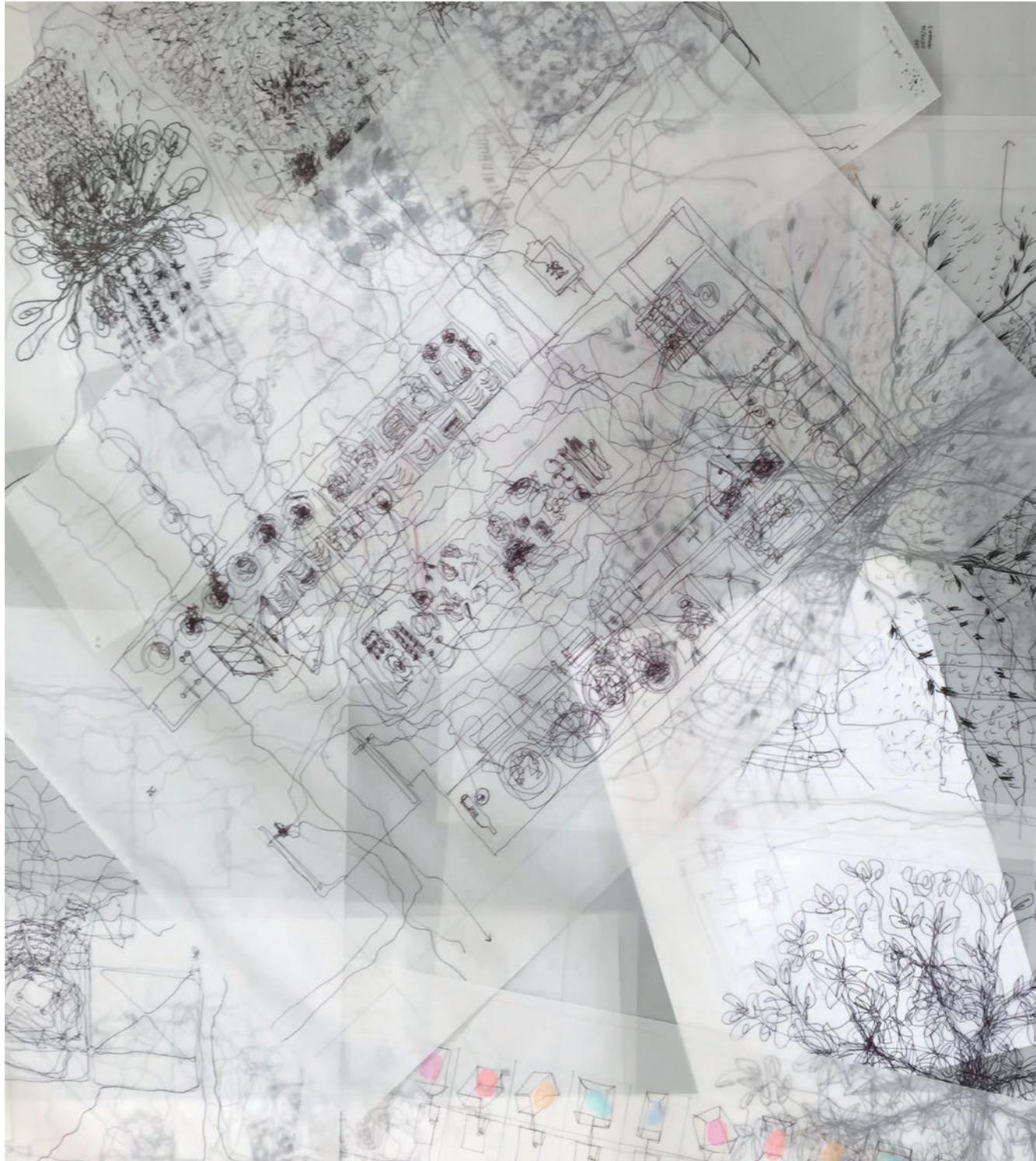


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37 Lee Halligan drawing trees on the floor of the drawing room.

38 View of several finished drawings laid on the floor.

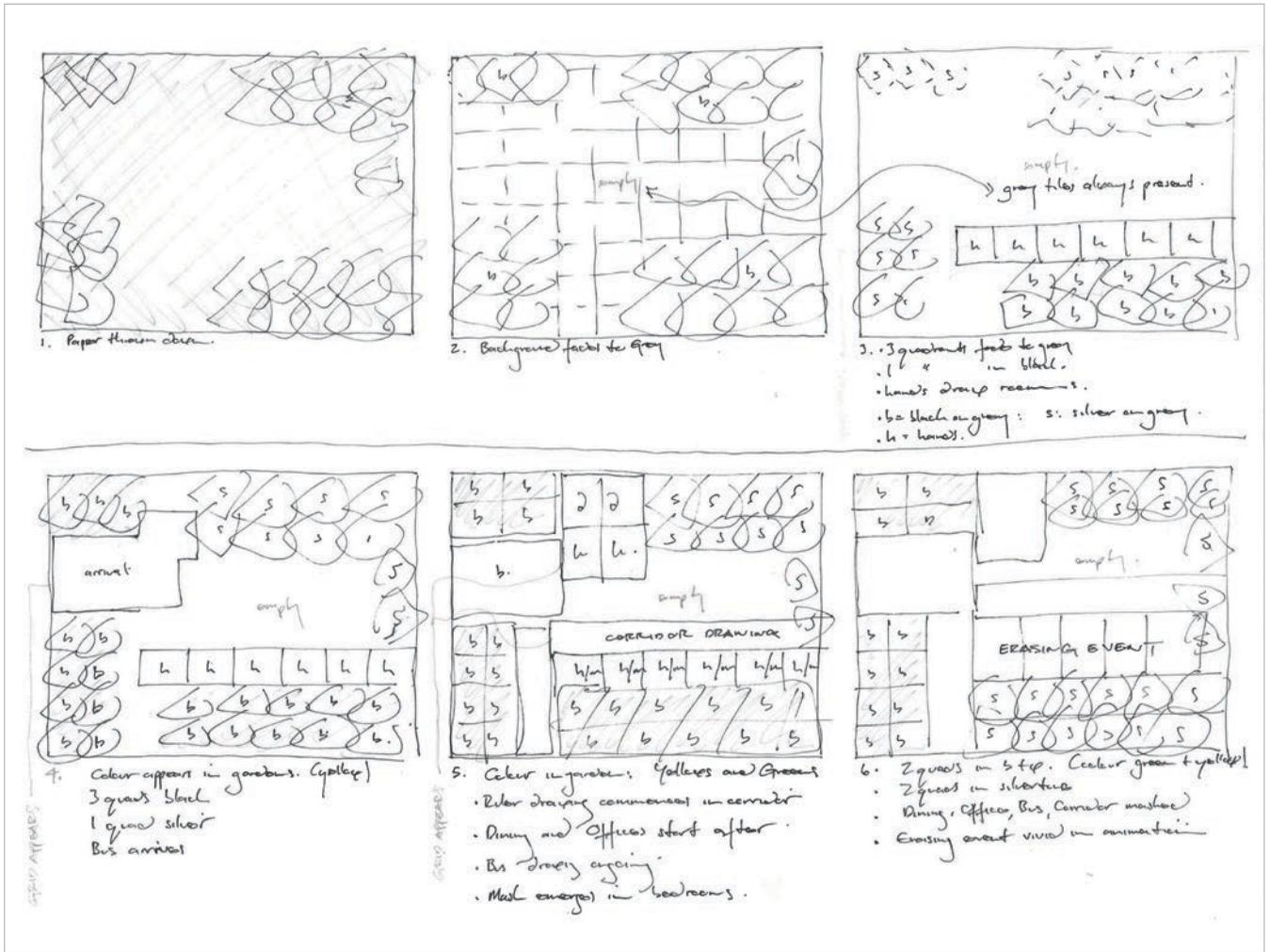






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39 Social drawings of the cooking area and flower beds overlapping with individual drawings of trees and bedrooms. The 'milky' translucent quality of the trace was maintained in the digital projection of the assembled drawing.

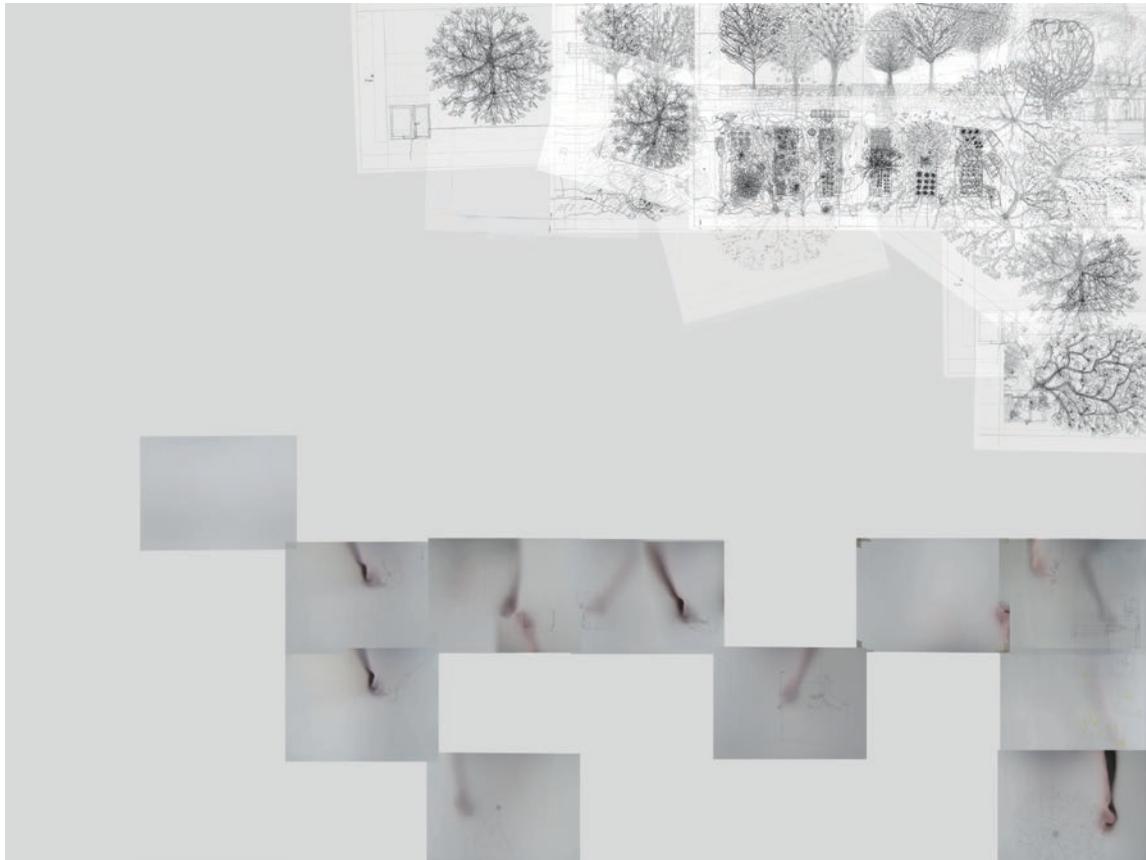


40 A storyboard for composing the filmic sequence of redrawing the entire building based on daily and seasonal cycles. Drawing by Niall McLaughlin.



41

41 Exploring the temporal and spatial relations of different drawing processes on printed screenshots.



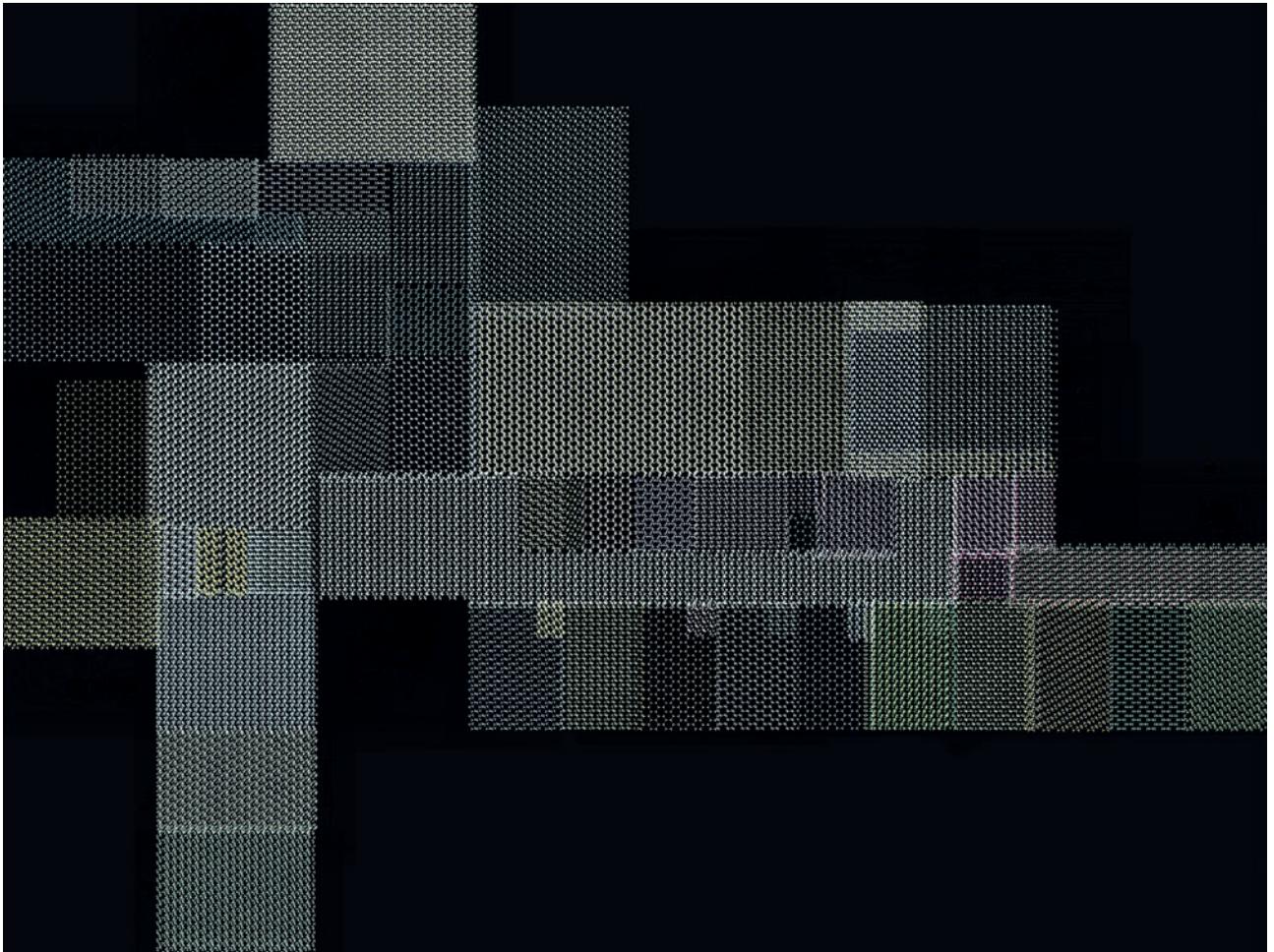
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42 Digital drawing in progress. The new drawing composition involved the interconnection of hundreds of individually produced scanned and filmed hand drawings.



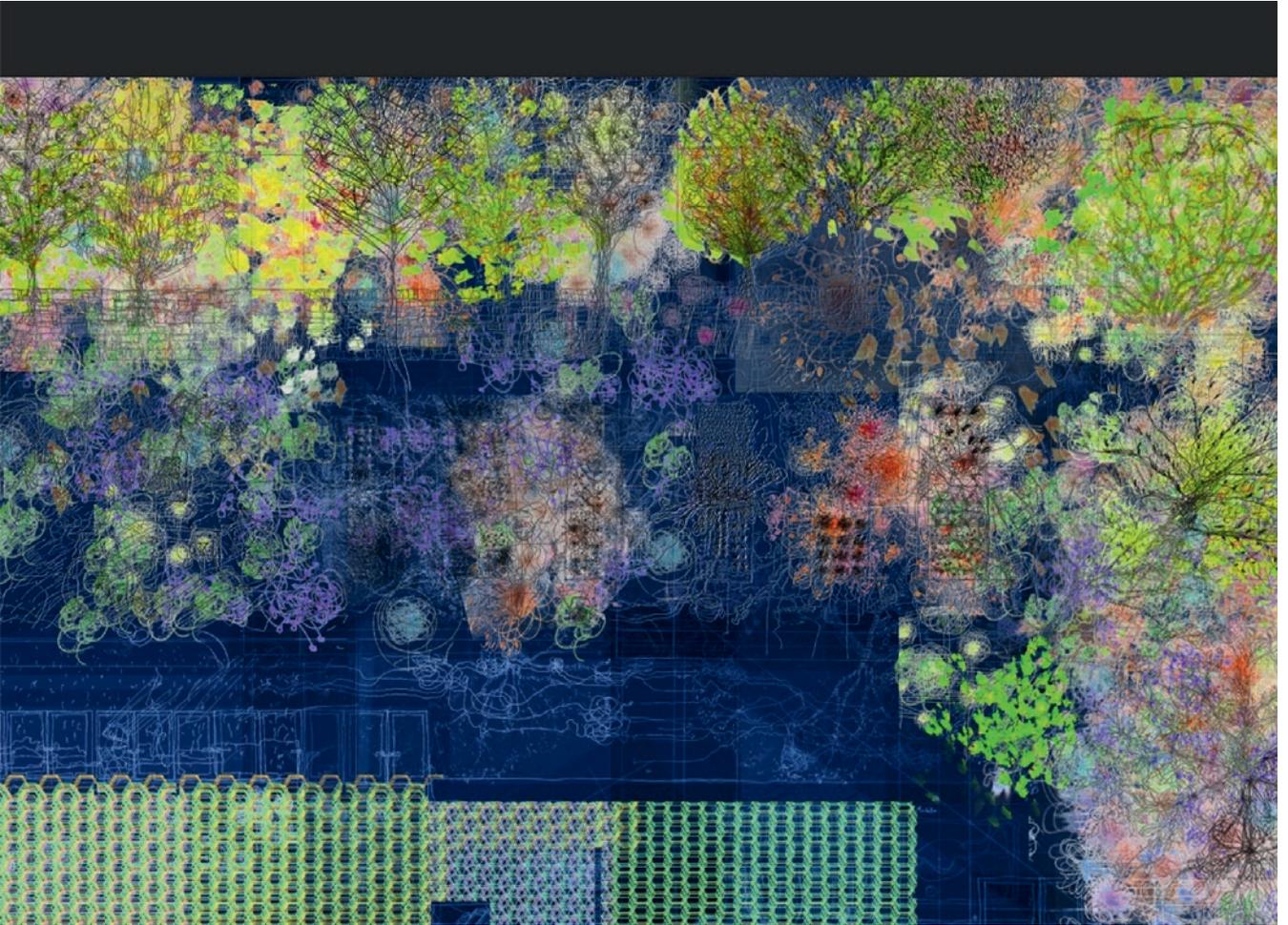
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43 Test for layering multiple drawings digitally while maintaining their definition as individual sheets.



44

44 To indicate the activation of neurons in the brain when occupants would enter different rooms of the building (see pp. 18–9), digital mats of colourful hexagonal grid cells were introduced in the drawing.



45

45 Digital drawing in progress, showing a detail of the blossoming gardens at night.

4. Collaboration

The project is essentially a design and research collaboration between two architects who further invited 14 other architects to draw with them while working closely with a larger team of architecture practitioners, graphic designers, specialist installation artists and a composer.

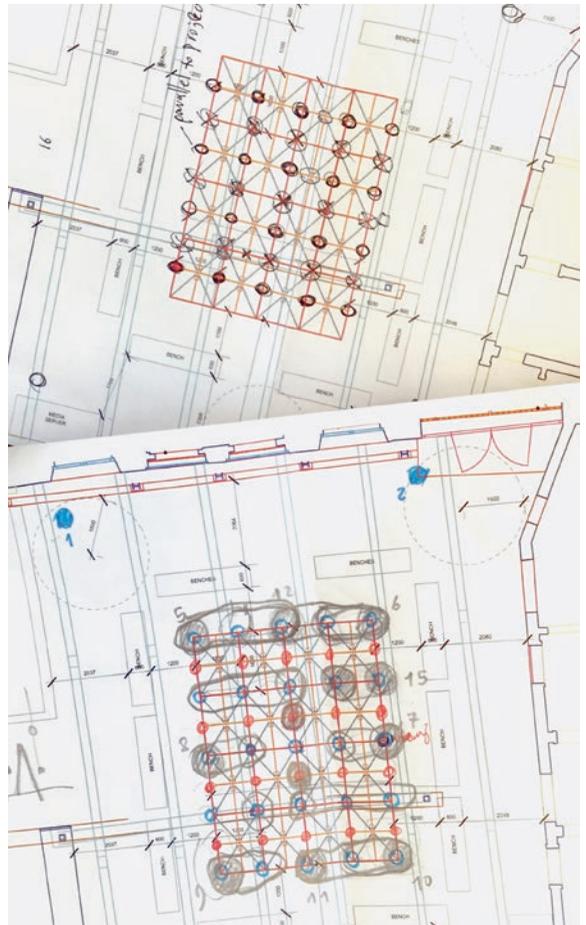
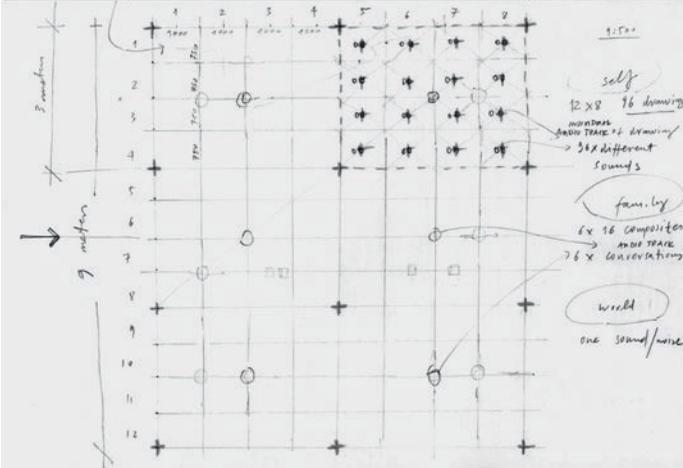
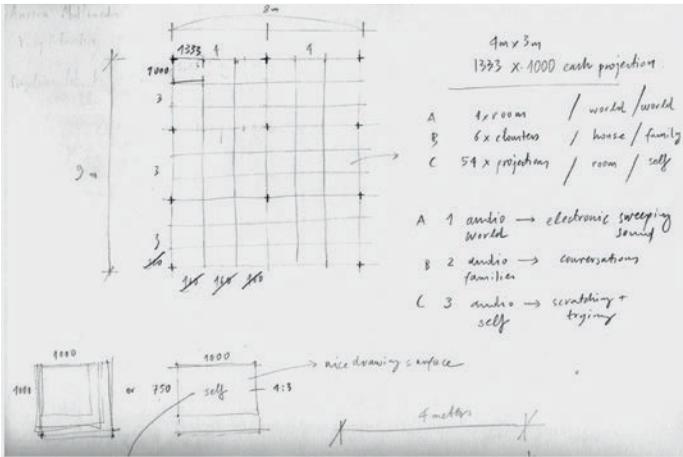
While each participant had creative autonomy in their own individual task, Manolopoulou and McLaughlin saw the role of the architect in this project as one of determining and making visible the interdependent relationships between outputs. This led them to create innovative architectural scripts **(46–7)** for the purpose of describing the performative and pluralistic nature of inhabiting buildings. They defined the sequencing of drawings, films and sonic compositions, and specified their spatial distribution and interaction in an assemblage.

46 Sketches defining relations between the physical, visual and audial elements of the installation. Drawing by Yeoryia Manolopoulou.

47 Draft scores for the distribution of sound amongst the 64 speakers, developed in collaboration with composer Kevin Pollard.

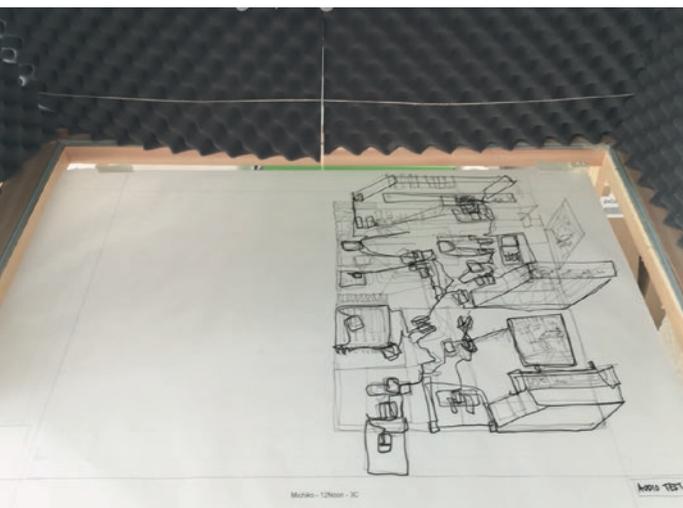
48 One of the drawing desks prepared for recording sounds of drawing and erasing.

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48

Ultimately, their drawing and sound installation in Venice contained elements of neurobiological research alongside content that was specific to the Alzheimer's Centre in Dublin. The Irish Pavilion incorporated 16 synchronized projectors, held by specifically designed quadpods, projecting a composite animated drawing spreading across a floor area of 6.2×4.6 m. The projection was a performative redrawing of the plan of The Orchard Centre, containing multiple stories of human occupation: all nested in the same building, all forming together a new and pluralistic representation of the building.

Activities occurring in a day and night cycle were combined with an annual seasonal cycle, and both were collapsed into a short timeframe of 16 minutes. A soundscape of 64 speakers, installed as a matrix on three different heights above the projection (62-4), played interior, regional and global sounds reflecting our research on the local, geographical and cultural context of the building.

The result was an immersive multimedia installation that sets the architect's intentions for the building in the context of its inhabited reality, revealing vivid and empathetic representations of the potential wanderings of its users, internalised and reimagined by 16 architects. It demonstrated an original method of collaborative architectural representation that challenges the conventions of the sole-authored architectural plan attempting to lessen the gap between architect and occupant.



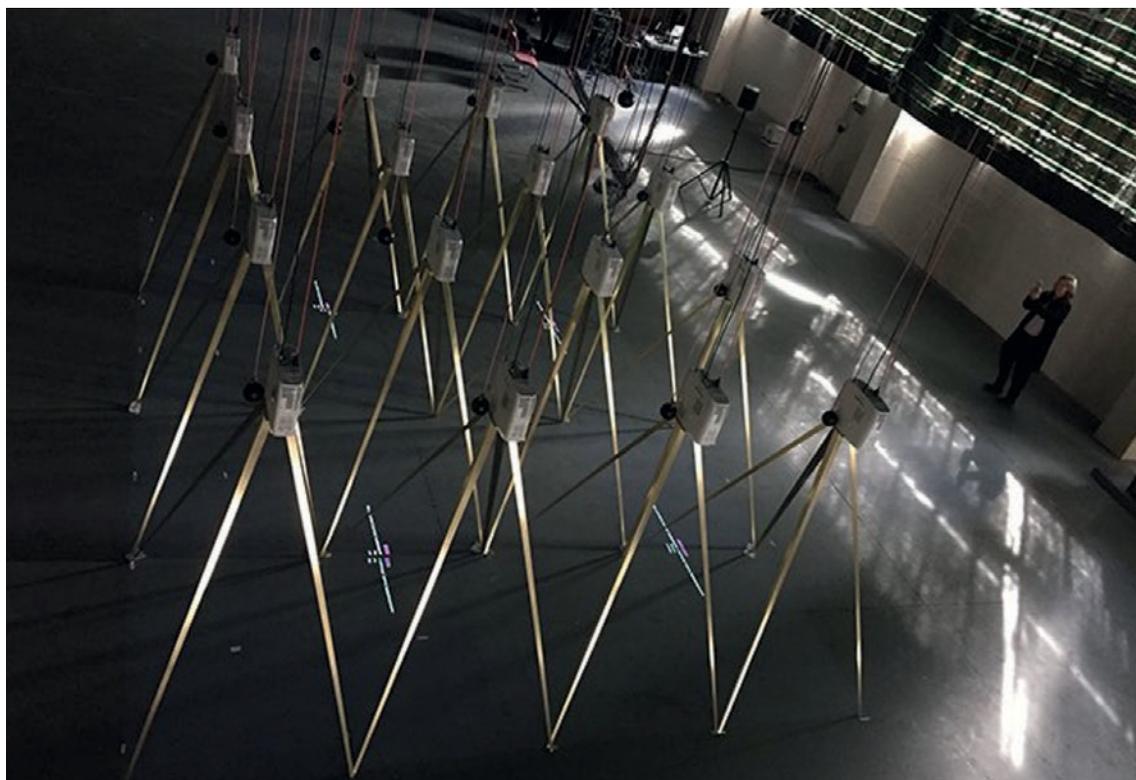
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49 Every projector was held by individual 'quadpods'. Each 1.92-m-high stand had four legs. View of a prototype stand under construction by Millimetre.



50

50 The quadpods built from laser-cut brass.

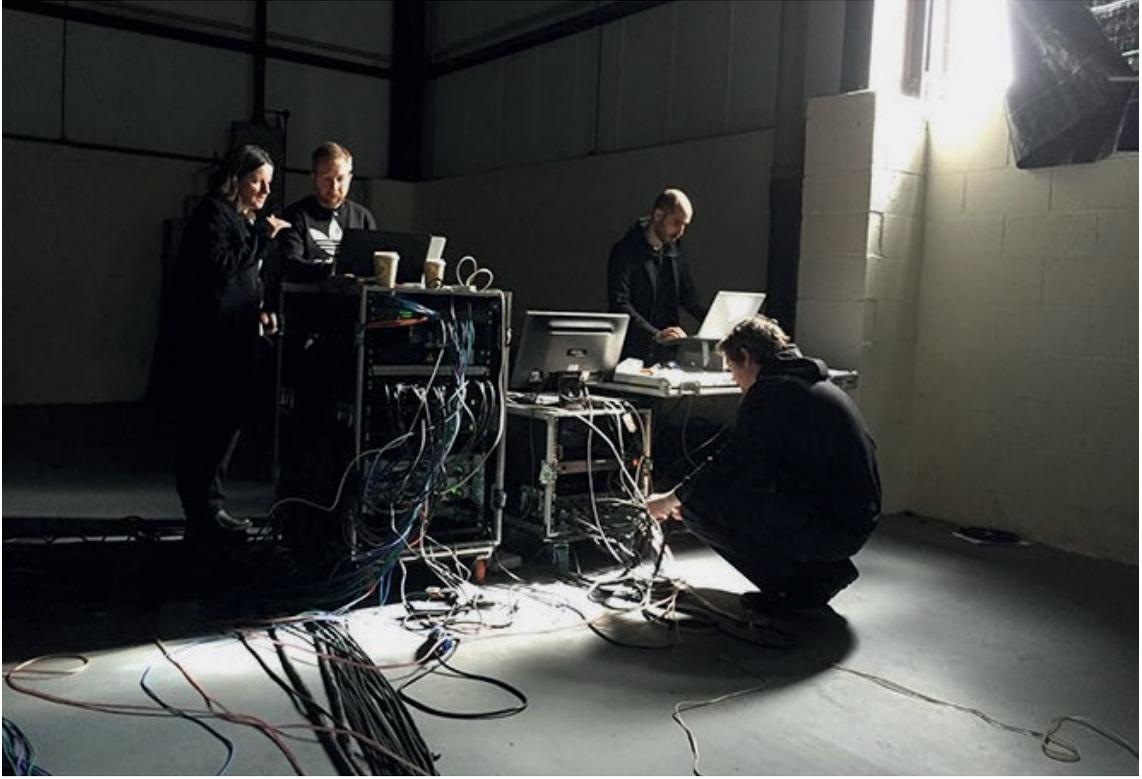


51

51 To test the physical and audiovisual aspects of the work, a full-scale mock-up of the entire installation was necessary. It was prepared by ArtAV in a 12,000 ft² unit in Teesside, where Nick Joyce's team reproduced the wooden roof trusses of the Arsénale with aluminium beams, to a height of 5 m, from which all complicated cabling and speakers were suspended.

52 Working with ArtAV and composer Kevin Pollard while testing the server and audiovisual system of the installation.

53 Inspecting the mock-up installation in full operation.

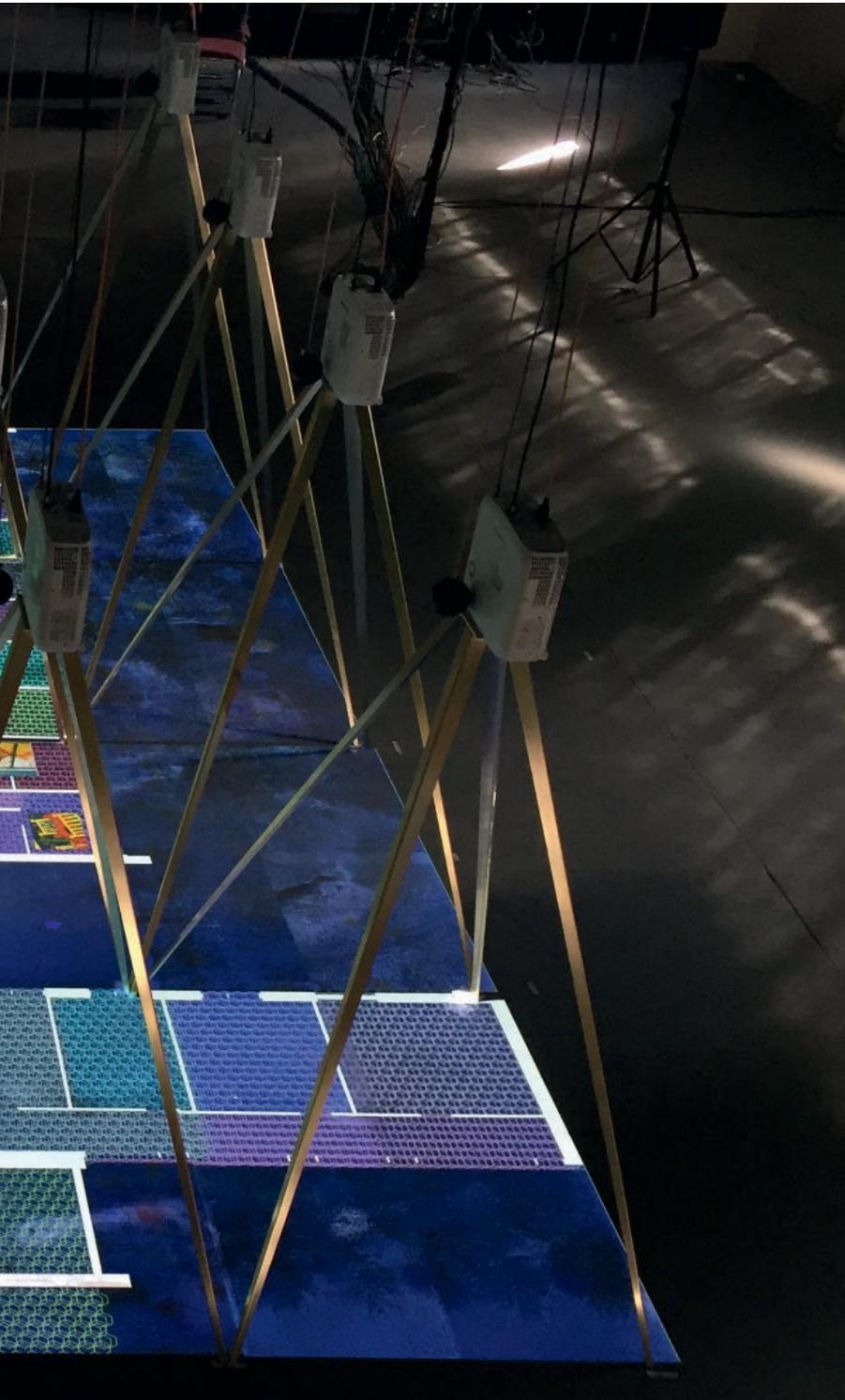


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53





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54 View of the mock-up installation in full operation, April 2016.

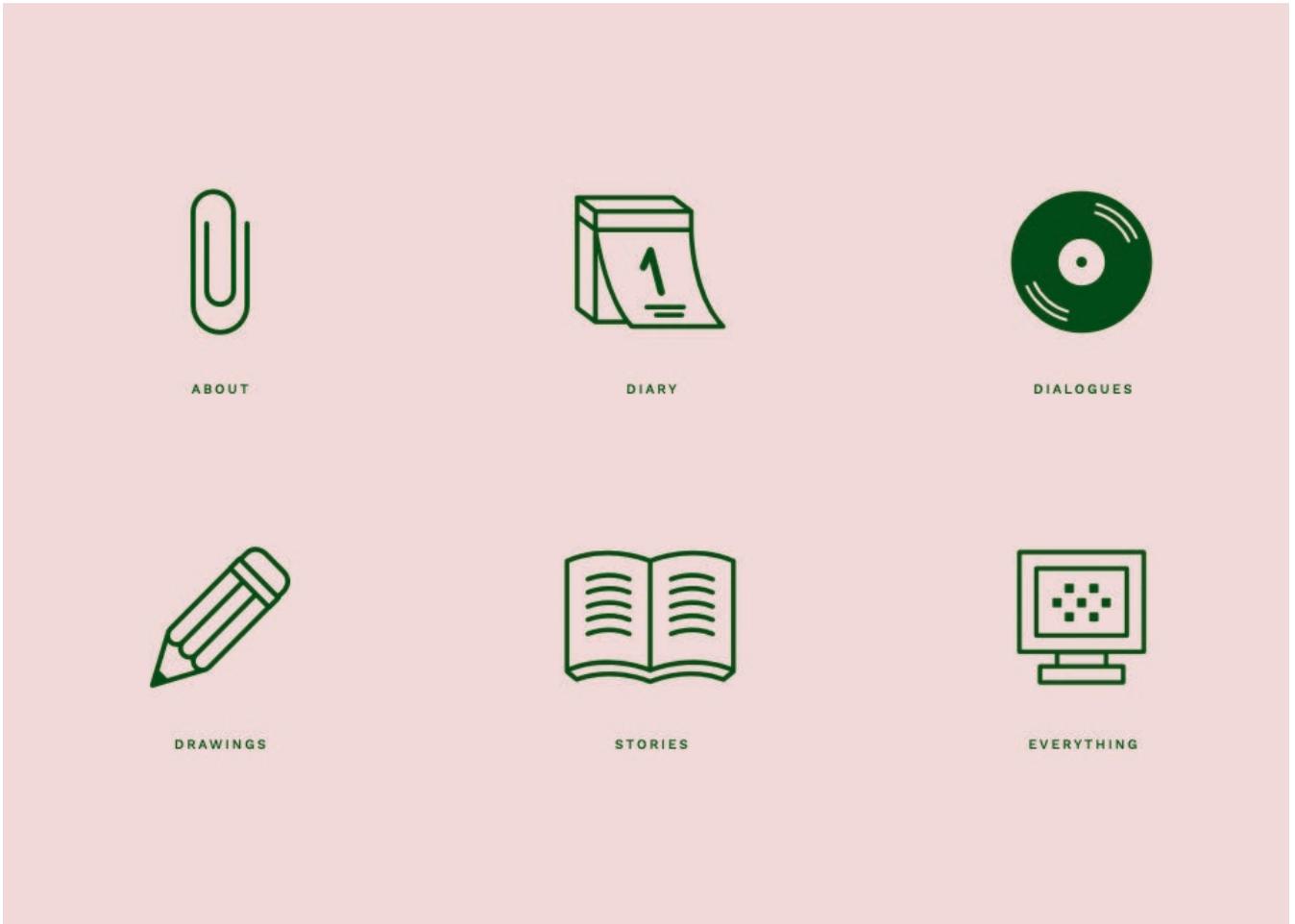
5. Sharing

With the support of graphic designers Objectif, we developed a website to effectively share our design and research findings on a publicly accessible platform. The design of the website involved attending a workshop with a group of people with Posterior Cortical Atrophy (a form of dementia) at University College London with whom we had the opportunity to test a graphic language and a navigation system that would be inherently dementia-friendly.

The website compiles the different forms of our investigation, including a diary of the research process, the podcasts of our conversations, a collection of real-life stories, and a step-by-step guide to our drawing methodology. It shares publicly an informative report on architecture and dementia highlighting a set of ‘lessons’ that we consider significant for design. This lasting open-access record has been essential to ensuring that architects, designers, medical scientists, policy makers and care providers will benefit from a useful resource when designing for the future. Since its launch on 1 April 2016, the website has been accessed more than 15,000 times (as of 24 November 2020, 9,596 users had engaged with 183,739 page views).

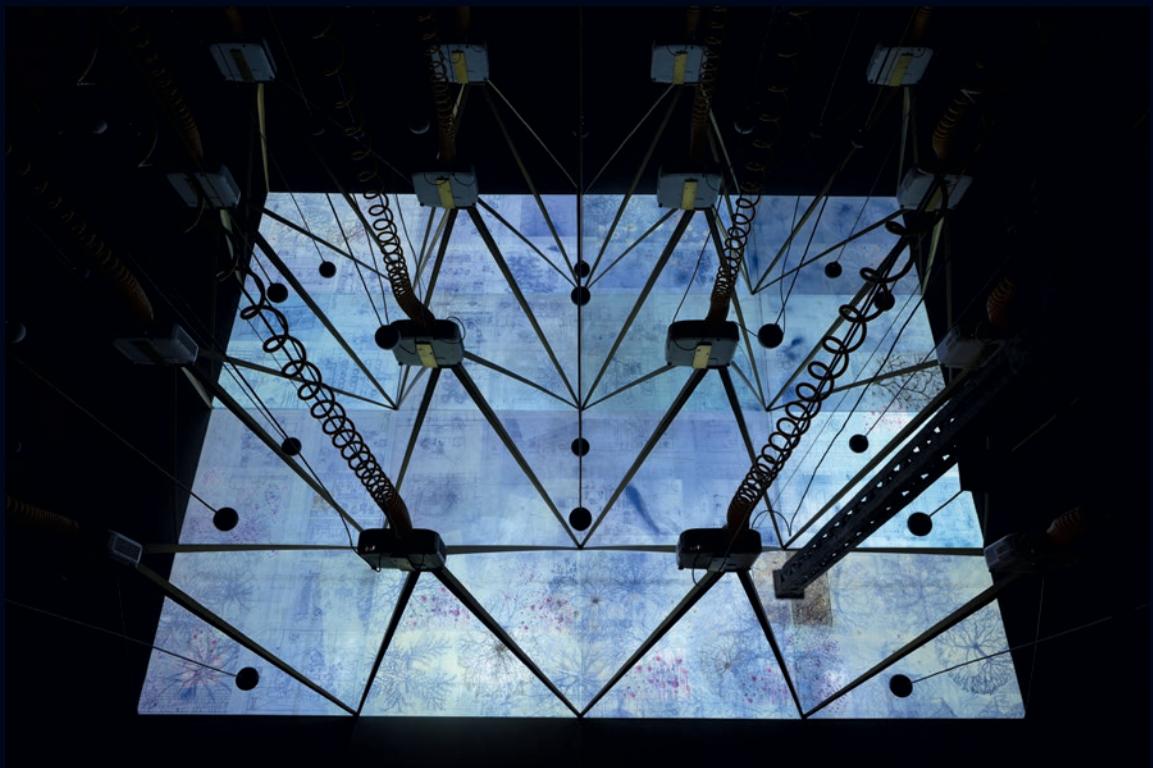
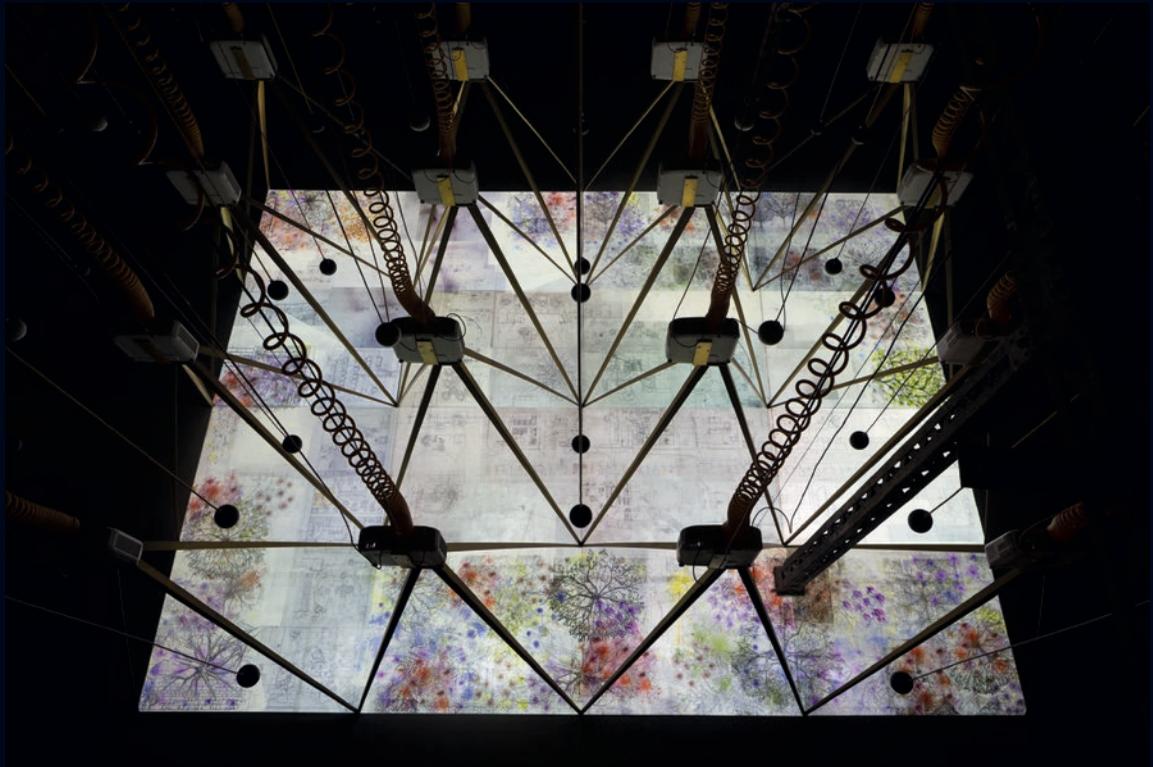
55 Exploration of a dementia-friendly graphic language by Objectif. These pictograms were presented at a UCL Dementia Research Centre Support Group event where people living with Posterior Cortical Atrophy and their carers gave us and our graphic designers direct feedback.

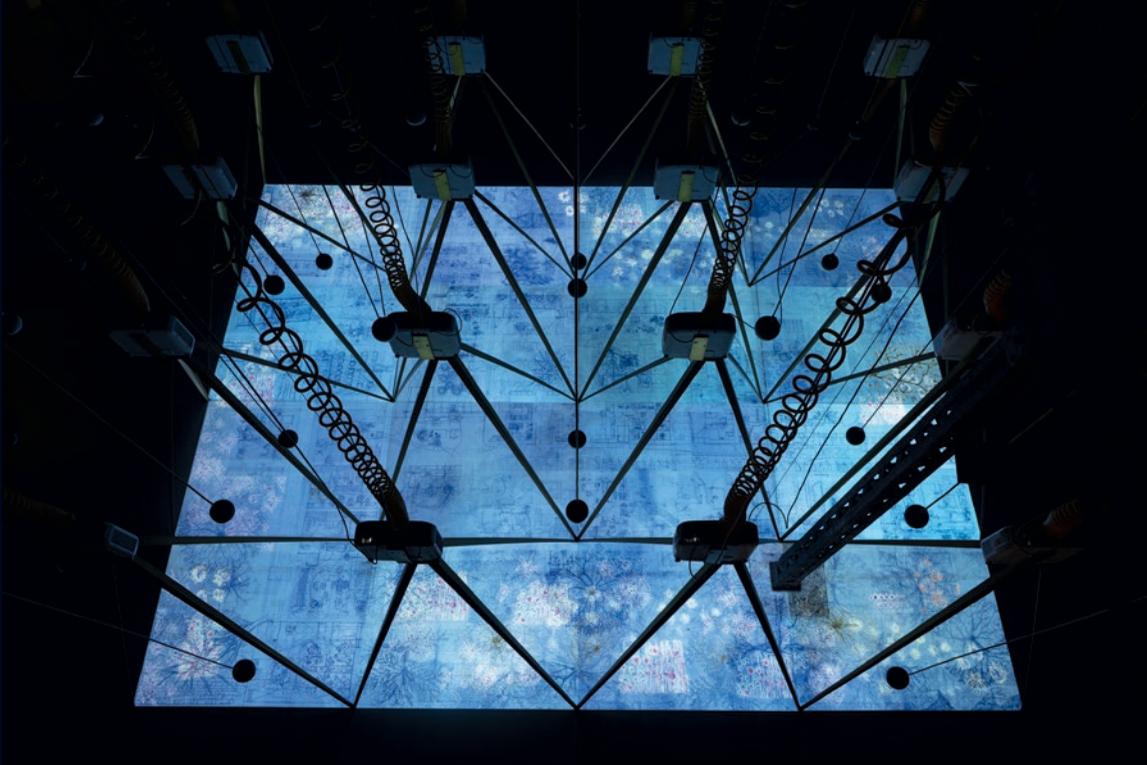


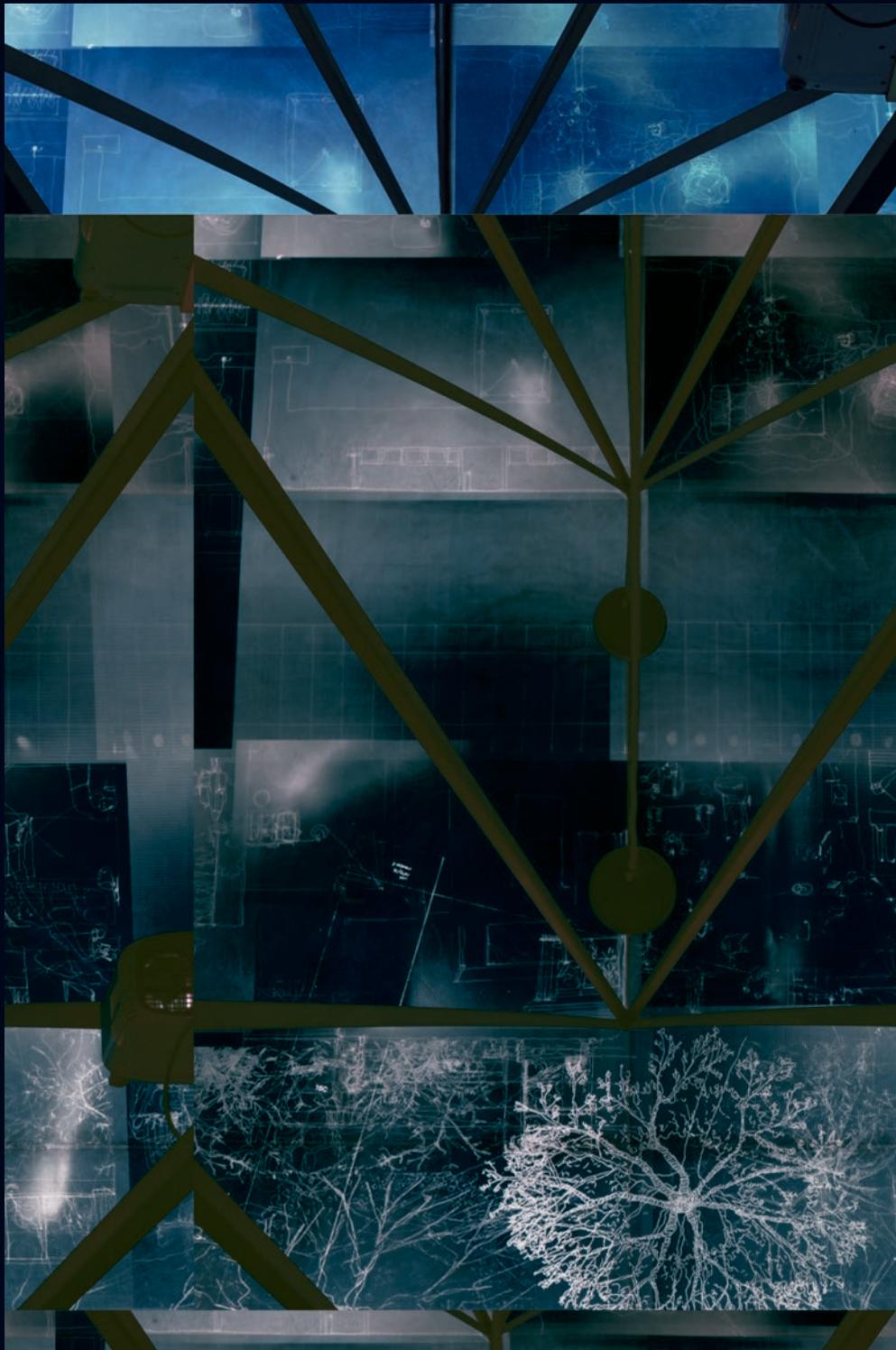


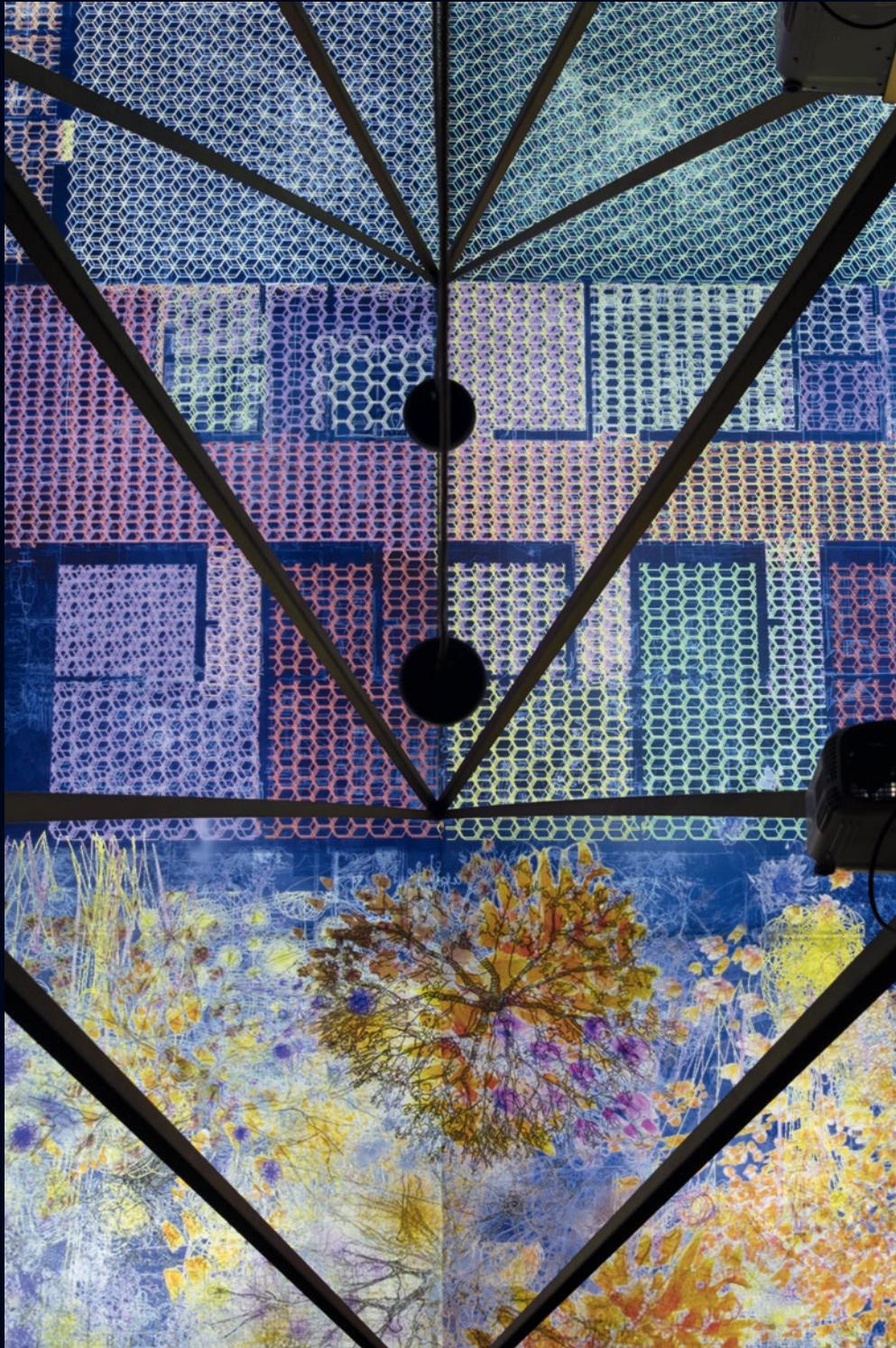
56 Losing Myself website, opening page. Designed by Objectif.

57-9 (overleaf) The Irish Pavilion, 15th International Architecture Exhibition, La Biennale di Venezia, 2016. Sequential views of the drawing projection in the Arsenale exhibition space.

















Dissemination

Installation

The Irish Pavilion, 15th International Architecture Exhibition, La Biennale di Venezia, May to November 2016

Website and Media

- *Losing Myself*. [Viewed 7 December 2020]. www.losingmyself.ie
- *Losing Myself* (2016). Directed by Yeoryia Manolopoulou and Níall McLaughlin. [Viewed 7 December 2020]. <https://vimeo.com/322313926>

Presentations by Manolopoulou

- Gesture/Pause/Proximity, funded by Arts Council England and the Wellcome Collection, London (2020)
- Architectural Association of Ireland, Trinity College Dublin (2018)
- Cyprus Association of Architects, Nicosia (2018)
- Portsmouth School of Architecture: Research by Design Symposium (2018)
- University of the West of England: Annual Design Research Symposium, Bristol (2018)
- Roma Tre University: Speculative Architectural Materialisms, Rome (2018)
- Wellcome Collection Reading Room: Living with Buildings, London (2018)
- Keynote Speaker: University of Lincoln, Research and Architecture (2017)
- Keynote Speaker: University of Quebec, International Design Week, Montreal (2017)
- The Royal Danish Academy, School of Architecture, Copenhagen (2016)

Presentations by McLaughlin

- Architecture Foundation, 100 Day Studio: Drawing Together, London (2020)
- Walmer Yard, London (2019)
- Royal Academy, London (2018)
- Keynote Speaker: AJ100, London (2018)
- Indian Institute of Management, Bangalore (2018)
- Round Table with Kate Jeffery, UCL, London (2018)
- AIA Colorado Practice and Design Conference, Denver (2017)
- Munich University of Applied Sciences (2017)
- Bank University Open Lecture, London (2017)
- Société Française des Architectes, Paris (2017)
- Keynote Speaker: Ozetecture, Diversity and Community Conference, Melbourne (2017)
- Winner's Presentation, Charles Jencks Award Ceremony, RIBA, London (2016)
- University of Reading (2016)
- World Architecture Festival: Designing for the Consequences of Ageing, Singapore (2015)
- RIAI Annual Conference: Strength, Utility, Grace, Dublin (2015)
- RIBA Symposium: Designing for Age, London (2014)
- House of Lords: Housing & Care for Older People, London (2014)
- Bournemouth University Dementia Institute (2014)

Joined Lectures

- Wellcome Collection, London (2017)
- UCL Bartlett Research Exchange: Health, Wellbeing and the Built Environment, London (2017)
- UCL Dementia Research Centre Support Group: Invited talk and workshop, London (2016)

Other Contributions

- Manolopoulou and McLaughlin have discussed this research in articles and chapters for publishers like De Gruyter, *Architectural Design* and the RIBA (please see pp. 94–166);
- McLaughlin’s practice has dedicated more than a decade exploring this subject and creating buildings and research guides related to dementia. The research described in this folio has partly informed the practice’s intergenerational approach for Univ North, a new University College Oxford project that represents the largest addition to the College in over three centuries, and is an inclusive environment to be shared across the full age spectrum (amongst nursery children, students, elderly residents and people with dementia);
- Drawings from *Losing Myself* were featured in McLaughlin’s participation in the exhibition, symposium and publication *Opening Lines: Sketchbooks of Ten Modern Architects*, associated with Drawing Matter’s collection, curated by Tina di Carlo, Olivia Horsfall Turner and Niall Hobhouse, and organised by the Tchoban Foundation, Museum for Architectural Drawing, Berlin (2018);
- The authors contributed to the report ‘Bartlett Research Exchange: Health and Wellbeing in the Built Environment’, UCL, London (2017);
- Manolopoulou was a named collaborator in the successful bid for the £1 million funded residency ‘Created out of Mind’

at The Hub at Wellcome Collection, a two-year exploration of dementia by a large interdisciplinary team led by PI Sebastian Crutch. After completing our drawings for *Losing Myself*, our bespoke drawing desks were relocated to The Hub for further research through drawing by the ‘Created Out of Mind’ team, London, 2016 to 2018.

60 (before previous)

The installation *Losing Myself* in the Arsenale, La Biennale di Venezia, 2016.

61 (previous) Detail of the first ‘falling’ sheets on the floor of the Arsenale as they marked the start and end of the 16-minute cycle of the drawing performance. *Losing Myself*, 15th International Architecture Exhibition, La Biennale di Venezia, 2016.

Project Highlights

Losing Myself was the sole representation of Ireland at the 15th International Architecture Exhibition in 2016. The Irish Pavilion was one of the highlights of the Venice Biennale, which attracted 260,000 visitors in six months. It was globally reviewed in diverse publications like *The Lancet*, *WIRED*, *The Irish Times* and *Il Sole 24 Ore*.

This is the first architecture project to examine dementia by bringing together research views from neuroscience, anthropology, health, art and design. It also introduces and explores the neurobiological perspective of allocentric and egocentric spatial referencing in architectural drawing for the first time. The work was shortlisted for the RIBA President's Awards for Research in the Design & Technical category in 2017.

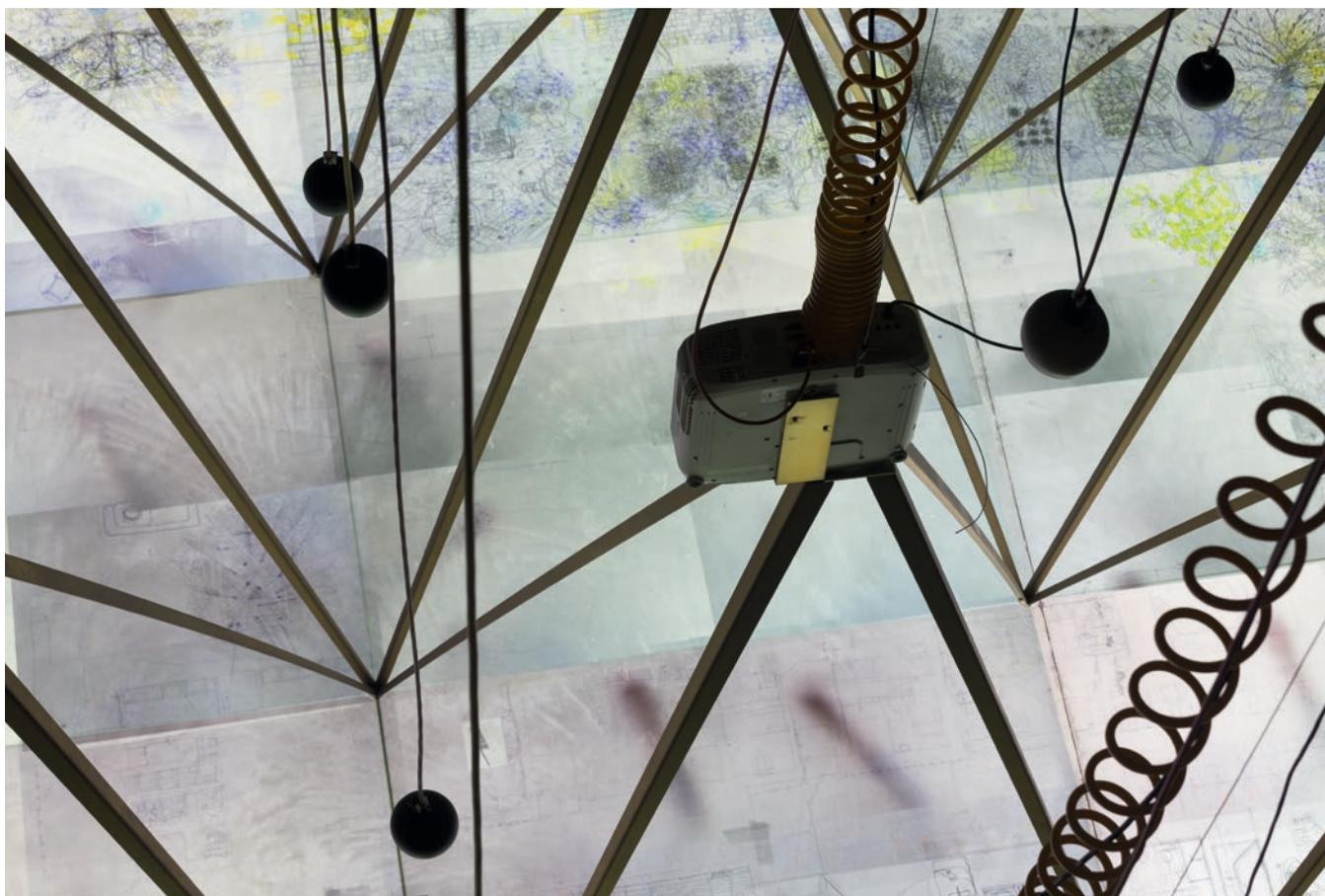
The authors have created a set of dementia design recommendations, called '16 Lessons', advocating for a holistic approach to creating and sustaining design-friendly buildings and communities for all, available at www.losingmyself.ie

The impact of McLaughlin's long-term research about architecture and dementia can be gauged by his lectures on the subject to institutions like the House of Lords and the RIBA and by his buildings and masterplans with intergenerational programmes such as his recent project Univ North, the largest modern addition to University College Oxford.

Since 2015, Manolopoulou has extended the research into an exploration of the role of open scores in collaborative architectural design (Montreal 2017, UCL Press 2020) and has contributed to the interdisciplinary handbook *Arts and Dementia: Interdisciplinary Perspectives* (Mateus-Berr and Gruber 2020).

Bibliography

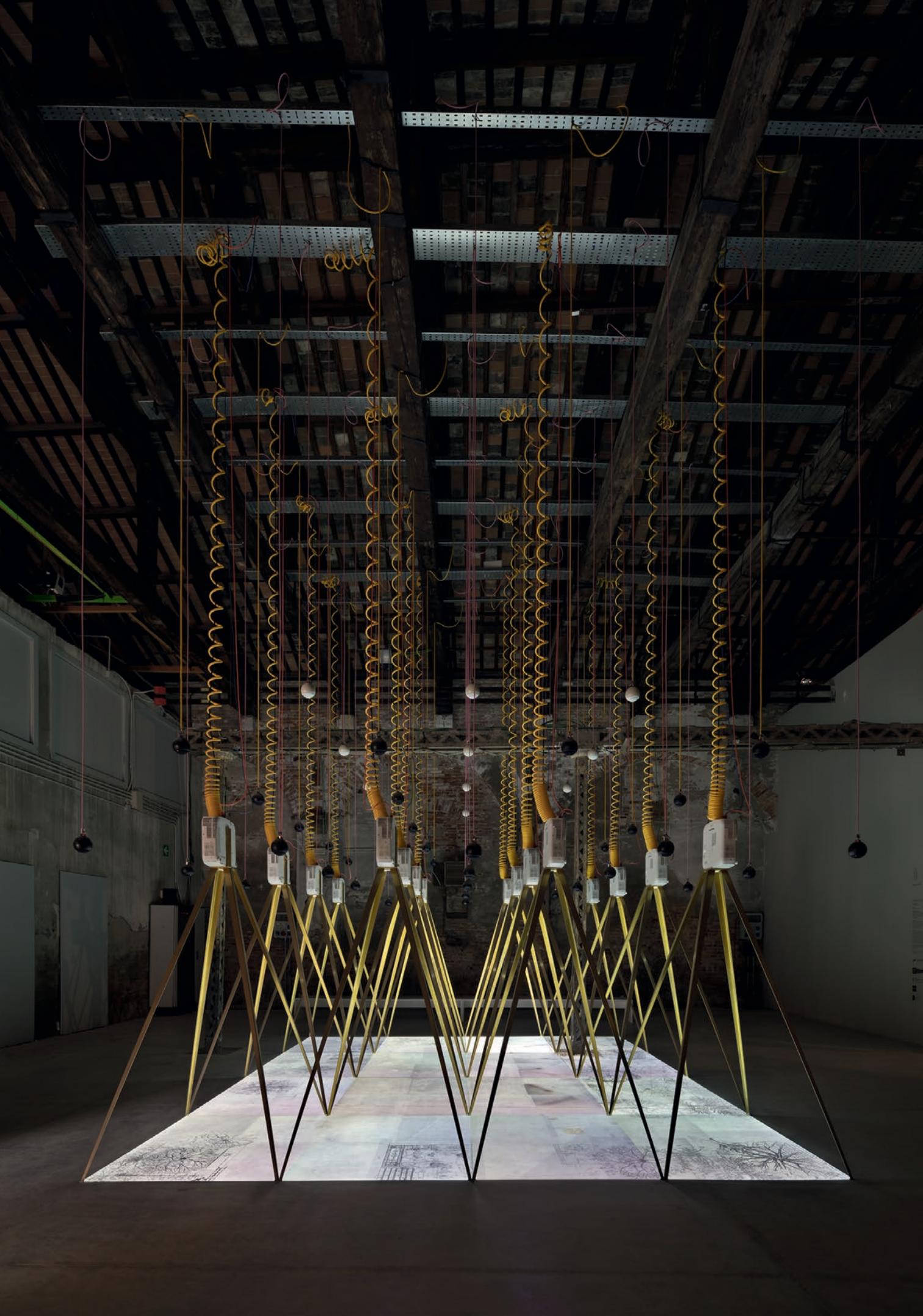
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62 Partial view of the drawing projection photographed from above. Losing Myself, 15th International Architecture Exhibition, La Biennale di Venezia, 2016.

63 The Irish Pavilion, 15th International Architecture Exhibition, La Biennale di Venezia, 2016.





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64 Detail view of the final installation of cables, speakers, quadpods and projectors in the Arsenale. The black and white

speakers played different categories of sound. Losing Myself, 15th International Architecture Exhibition, La Biennale di Venezia, 2016.

Related Publications by the Researchers

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