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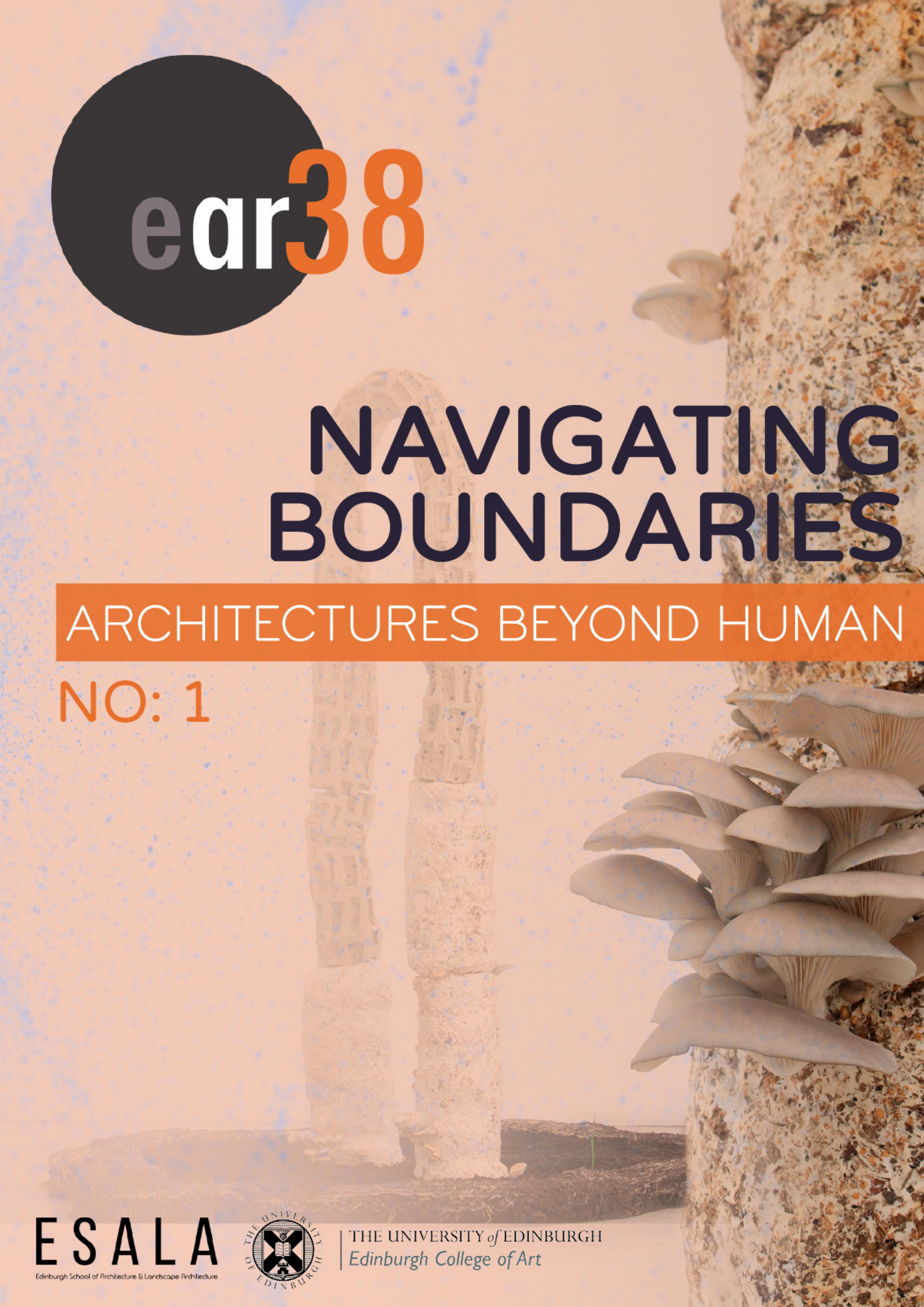
NAVIGATING BOUNDARIES

ARCHITECTURES BEYOND HUMAN

NO: 1



ESALA
Edinburgh School of Architecture & Landscape Architecture

THE UNIVERSITY of EDINBURGH
Edinburgh College of Art

EDINBURGH ARCHITECTURE RESEARCH

NAVIGATING BOUNDARIES

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ISSUE 38 No1
2023

A peer-reviewed journal published by the research students of The Edinburgh School of Architecture and Landscape Architecture, Edinburgh College of Art, The University of Edinburgh.

edinburgh architecture research

ISSN-2752-3845

THE UNIVERSITY of EDINBURGH
Edinburgh College of Art

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EDITORIAL

Continuing our enthusiasm for exploring new perspectives within the field of architecture and the built environment, *EAR 38* questions anthropocentric approaches to architecture, emphasising the need to re-evaluate human dominance in the face of environmental concerns and the aftermath of the pandemic. These include investigations that examine human impacts on ecosystems, and exploration of the intersection of the human and the artificial through technological advancements. Following from *EAR37: Moving onwards: Methodological explorations*, we continue our quest to explore new ways of looking at architecture and the built environment. In *EAR38: Navigating boundaries: Architectures beyond human*, we acknowledge the interdisciplinary nature of the field and the necessity to adapt to contemporary issues and envision alternative futures.

In response to the call of *EAR 38*, we received a variety of inter-, multi- and trans-disciplinary proposals with links to spatial practice/architecture where topics such as posthuman architecture, the Anthropocene, plant–human relationships, more-than-human architecture, ecological approaches, and alternative forms of knowledge production were addressed. We were delighted to receive a significant number of intriguing responses, examining various aspects of '*architectures beyond human*,' which we have been keen to present to our readers. We have, therefore, decided to split the contributions across two issues.

EAR38: Navigating boundaries: Architectures beyond human No. 1 compiles contributions which revolve around a transformative exploration of the relationship between the built environment and the plant life of our surroundings. It also gathers research centred on the transformative aspects of artistic practices within the built environment, redefining the relationship between art, space and perception. Each paper delves into innovative perspectives that challenge traditional human-centred notions and boundaries, seeking to redefine how we perceive and engage with the world around us.

Charikleia (Haris) Makedonopoulou's paper "Palmscaping Athens: Towards a new reading of the Greek landscape;" Ariel Handel, Ganit Mayslits Kassif, Yael Chen Agmon and Omri Levy's paper "More-than-Human Jerusalem: Rethinking the urban landscape with post-anthropocentric imagination;" and Irene Aldazabal's paper "Assemblages as Ecologies: Sculptural Collaborations with Subterranean Bodies" inquire into the world of plants and ecologies beyond human. Makedonopoulou's paper focuses on the role of plants, particularly palms, and discusses how plants influence not only the physical environment but also cultural and social identities. The paper emphasises the transformative impact of plants as they travel, introducing new species and creating hybrid ecosystems that redefine the idea of urban landscapes. Similarly, Handel, Kassif, Agmon and Levy present a unique perspective on the urban by researching the city of Jerusalem through its more-than-human components. The study explores the intertwining of water, vegetation and soil in the urban space and proposes nature-based solutions for urban resilience, justice and inclusion.

Aldazabal then introduces us to another realm in which more-than-human interactions can be explored—the creation of art—emphasising the collaborative and cooperative nature of fungi and wheatgrass. The paper's focus on subterranean bodies, temporalities and interspecies cooperation reframes the concept of 'assemblages' as ecologies.

Following this, Subham Mukherjee and Arunima Ghosh's paper "Reconfiguring art and architectural meaning, matter, and space with Cornelia Parker's *Cold Dark Matter* (1991)" advocates for a reimagining of artistic practices within the built environment, emphasising the transformative and dynamic nature of art, whether expressed through collaborative assemblages or through the deconstruction of traditional exhibition practices. Both papers highlight the potential for art to redefine our understanding of space, perception and the built environment. Mukherjee and Gosh's work present Cornelia Parker's art as a speculative space that disrupts conventional exhibition practices, offering a non-totalising approach to spatiality and perception. It emphasises the transformative potential of art to produce events and become something more, challenging architectural rigidities in exhibitions. Finally, Emma Van Daal's paper "Entanglement of 'trauma' spaces: how people, place, and objects co-produce the mental, therapeutic, and physical space(s) in trauma-informed design" explores architecture as a therapeutic intervention. Emma problematises the concept of Trauma Informed Design (TID)—an emerging interdisciplinary approach combining architecture and psychology—and argues for a New Materialist turn, challenging anthropocentric assumptions in TID and emphasising its capacity for offering "a dynamic process of 'becoming' trauma-informed that simultaneously drives the 'unbecoming' of trauma."

Our exploration of architectures beyond human, particularly in the realms of plants and art, underscores the limitations of traditional approaches and emphasises the necessity to reassess human dominance, particularly in response to current environmental concerns. The articles in this issue highlight the significance of adopting a posthuman approach, through investigating the impact of human activities on ecosystems and examining the interplay between plants and culture. The articles included in this issue step away from the notion of the environment as conceptually neutral. By questioning/reassessing humanity's agency on the environment, they demonstrate how a posthuman approach can add complexity to various concepts, and they make the case for a more comprehensive and interconnected approach to the built environment.

The subjects covered range from the transformative influence of plants on urban landscapes to the collaborative dynamics between fungi and wheatgrass in the creation of art. By promoting a deeper comprehension of the relationship between human and non-human elements, these studies open new avenues for research, offering fresh insights. This is especially important when dealing with challenges such as urban resilience, mental health interventions, and the redefinition of spatial perceptions. The articles that bring *EAR38: Navigating boundaries: Architectures beyond human No.1* to life, enable a deeper and more comprehensive understanding of the complex relationships that shape our built environment.

Charikleia (Haris) MAKEDONOPOULOU

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Palmscaping Athens

Towards a new reading of the Greek landscape

Abstract

The main aim of this paper is to investigate the role of plants in the formation of urban landscapes. With the conviction that 'Nature,' or more specifically plant elements, participate substantially in the shape of urban landscapes and social identities, a new reading of the contemporary Greek landscape is proposed, seeking the tools of this reading in the Palm tree.

Palms, in their majority, are considered as tropical trees, in the sense that they originate from tropical and subtropical regions. However, today palms are found all around the world, which proves that they are great travellers.

The perpetual journeys of plants have deeply reformed alimentary and agricultural practices all over the world. The introduction of plants to new ecosystems changes their evolution and inflorescence and sometimes produces new species, thus resulting in the creation of hybrid ecosystems. At the same time, new balances are also found at a social level. Transplantation of plants to different cultural environments changes their content and social significance, and they are called upon to fulfil different functions in their new habitats.

Since antiquity, palms have been returning to the Greek territory, either as a seed, a fruit, a tree or a myth. The Palm tree has long been seen as a characteristic feature of the Greek landscape, especially since its re-introduction during the era of Palingenesis, when the modern Greek state was established. Palms have been (re)introduced to Greece at several points in history, each time in a different way, under different cultural and socio-economic conditions. As an active element in the Greek landscape, they seem to have a particular capacity for taking on renewed or enriched conceptual content. In some cases, they dominate the city, becoming not only part of the cityscape, but also part of its social identity and history.

Introduction

The main aim of this paper is to investigate the role of plants in the formation of urban landscapes.

With the conviction that 'Nature,' or more specifically plant elements, participate substantially in the shape of urban landscapes and social identities, a new reading of the contemporary Greek landscape is proposed, seeking the tools of this reading in the Palm tree.

The term 'Palmscaping' is a new term, invented within the frame of a wider on-going research project.[1] It is used in the title to indicate that palm trees have been introduced in the Greek territory several times, each time in a different way, under different cultural conditions and in a different socio-economic frame. As an active element in the Greek landscape, they seem to have a particular capacity for taking on renewed or enriched conceptual content.

This paper will focus on Athens, the capital of the modern Greek state since 1834, and its landscape. We will investigate the continuous and persistent presence of palms that seems to have characterised the Attic landscape, from the era of Palingenesis,[2] the era when the modern Greek state was established, up to today.

Meeting with the 'other': Palms and transplantation of plants

Palms, in their majority, are considered as tropical trees, in the sense that they originate from tropical and subtropical regions of America, Asia and Africa. Their most northerly natural localities lie in southern France (Lack and Martius 2022, 9). However, today palms are found all around the world, a fact that proves that they are great travellers.

The action of travel is the action of going to somewhere else, and it is the prerequisite for the meeting with the 'other' (other people, other civilisations), which results at the same time in the meeting with 'other' ecosystems, 'other' landscapes, *exotic ones.* The word *exotic,* etymologically, comes from the Greek 'exotikos' (foreign), literally meaning 'from the outside' (in Greek 'exo' means 'outside'). It is used to describe something that comes from an 'other' land and therefore something we do not know, something unknown. The unknown or the unusual never leaves someone neutral or without emotions. Something that is *exotic (n. Exoticism),* as it incorporates the notion of the unknown, can either charm or horrify.

When the first western explorers travelled towards the East[3] seeking new territories, they wereattracted by the 'other' ecosystems they encountered in the lands they discovered, including theirexotic plants and animals. They immediately showed great interest in uncovering their uses and roles in indigenous societies. Therefore, they drew them, described them, wrote about them, and eventually transported them to the West, according to their agricultural importance, their medical applications or their decorative value (Mendes Ferrao 2016, 9). Westerners gradually developed a great interest in exotic plants, whether for their potential medical uses or their richness in nutrient fruits, which offered great economic advantage (Rhizopoulou 2007, 35–6). This is why, despite the numerous difficulties involved in the act of transplantation, not only during long sea journeys that may have lasted for months,

1 This paper is part of a wider on-going PhD research project, entitled Towards a new methodology of reading the Greek landscape: The Palm tree, that focuses on three different Greek cities: Nafplio (the first capital of Greece, 1829–1833), Mesolonghi (a city that played a very crucial role during the War of Independence), and Athens (capital of the modern Greek state from 1834 to the present day). This PhD research project has been granted the ELKE / NTUA scholarship since 2021.

2 Palingenesis is considered as the era of the establishment of the modern Greek state during the nineteenth century, following the end of the Independence War and the creation of its new capital, Athens. This was an era marked by the construction of a national identity. It was during Palingenesis that the neoclassical style was gradually established as the official architectural style. This together with Queen Amalie's re-introduction of palms in the Royal, came to characterise the Attic landscape.

3 The 'East' is used here to describe those parts of the non-western world that later on became colonies of the West. 'East' may in this paper, therefore, refer to continents to the west or to the south of Europe, like America or Africa.

but also during the process of acclimatisation to the much colder climates of western European countries, many exotic plants were successfully introduced to Europe. During the eighteenth and nineteenth centuries[4] various private expeditions were organised for the collecting of exotic plants to enrich western plant collections, with the ultimate aim of increasing the economic influence and prestige of the collectors (Harris 2011, 30–32).

The interest of the first western explorers was quickly captured by the Palm's characteristic form, and they very early on attempted to transport it to the West. According to Joseph Paxton's *Botanical Pocket Dictionary,* the species Phoenix dactylifera L., the well-known Date Palm, arrived from the 'Levant' (Arabia, Upper Egypt, etc.) in England for the first time in 1597 (Paxton 1840, 242). The commerce of its fruits, the dates,[5] had been very popular during the Middle Agesthanks to the extended implantations of palm groves that were gradually established across Africa (Braudel 1972, 169).

Despite its early popularity, the Palm tree was studied quite late. By the late nineteenth century, very few species of palms had been systematically analysed. In fact, the palm tree figures proudly in many western royal gardens, sometimes in special constructions made out of steel and glass, the Palmhouses, many years before it finds its place in the taxonomical tables of the science of Botany.

Palms and the science of Botany

According to the *Genera Palmarum*, the latest study focused on the classification of palms (Dransfield 2008), it is estimated that there are 183 different genus and more than 2400 different species (Lack and Martius 2022, 9). Despite their diversity in form and in size,[6] their recognisable, rather simple growth form and structure ensured that early European naturalists visiting the tropics would marvel at them as plants.

One of the first naturalists to focus on the classification of palms was the Bavarian Carl Friedrich Philipp von Martius (1794-1868), who together with Johann Baptist Spix (1781-1826) was sent from Munich to Brazil in 1817 by Maximiliam I Joseph, the King of Bavaria, as part of a wider scientific expedition that focused on the up-to-that-point largely unknown flora of Brazil. This three-year-long expedition in Brazil resulted in the *Historia naturalis palmarum,*[7] which was one of the first, if not the first, attempt to focus on the impressive — and rather extensive as is now known — family of Palms. Martius was one of the few westerners able to see palms in their natural habitat. In his travelogue, *Travels in Brazil, published* in 1824, Martius/ refers to palms as *majestic* and talks about their *superiority.*[8]

4 It was mainly during the nineteenth century, which witnessed technological advances in the transportation of plants, such as the 'Wardian cases,' as well as advances in the acclimatisation of plants, that the commerce in exotic plants became generalised.

5 According to H. Baillot, the dates, fruits of Phœnix dactylifera, are "un des plus riches présents faits à l'homme" (one of the richest presents given to humans) (H. Baillot 1895, 283).

6 Palms are evergreen trees whose leaves differ markedly in size (from 15cm up to 25m long) and shape throughout their stages of evolution. The height of different palm species varies from 12–25cm to over 50–60m.

7 Between 1824 and 1853, von Martius completed, together with H. Mohl and F. Unger, the volumes of *Historia naturalis Palmarum*.

8 "The towering stems of the palms, with their waving crowns, [palms] are an incomparable ornament of the forests, the beauty and majesty of which no language can describe" (Spix and Martius 1824, 240).

Linnaeus,[9] who knew of only nine different palm species, called this rather unusual botanical family *Principes*, meaning *Princes,* distinguishing them from all the other plants (Baumann 1993, 58–9). Indeed, palms are members of one of the few monocotyledon families and are seldom mistaken for members of any other plant family. A cross-section of a palm stem does not follow the typical wood section of a tree of a dicotyledon family. The wood of dicotyledons consists of secondary tissues formed by a meristematic layer, the cambium, which usually produces yearly increments throughout the life of a tree. By contrast, the 'wood' of palms is primary in origin. A typical palm stem attains a maximum diameter, and subsequently shows relatively little increase in girth. The mechanical properties of palm stems, however, change with age (the stiffness of palm stems increases with height, for example). Their central vascular cylinders explain their flexibility and high resistance to strong wind. Concerning the roots, contrary to those of dicotyledons, most of the palm roots emerge directly from the stem. Large masses of relatively short roots are formed at ground level or slightly below, which can allow them to be relatively easily transported and transplanted.

However, once transplanted in the most temperate climes, palms become strictly ornamental. Transplanted to the West, the Palm tree does not play the same role as in the East, where it plays a key part in the local economy and alimentation[10] of indigenous societies. Removed from their natural habitat, they become a strictly ornamental tree in the West. Even when transplanted into structures specially designed to house exotic plants, the glasshouses, or better the *Palmhouses*, which were glasshouses big enough to host and acclimatise Palm species, palms do not manage to reach the same maturity levels. On the contrary, they always remain undersized versions of their true selves (Lack and Martius 2022, 9). Gradually, palms, inside or outside the Palmhouse, become an icon of the East itself, living proof and evidence that the East exists...

The Palm tree in Greece and the Attic landscape

In the West, palms, with their distinctive nature and exotic origin, are considered as the embodiment of exoticism. But what happens when palms arrive in Greece?

Given the multiple journeys of different palm species to Greece, that country seems to have shown a keener interest in palms than any other western country, and this has not been a result only of Greece's warmer climate. Palms have been travelling to Greece since antiquity, and an interesting and multilayered relationship has formed throughout the centuries between the tree, the landscape, the local society and its history. Even though the Palm was not the only tree to be imported in large numbers, it is a unique case. While other species, such as Eucalyptus (from

9 Carl von Linnaeus (1722–1778) was a Swedish botanist who formalised the binomial nomenclature, the modern system for naming plants.

10 Paxton's *Botanical Pocket Dictionary* notes that palms of the genus of *Phoenix* (the Date Palm is one of these) are, among many other uses, used by local communities for food (not only their fruits, that are rich in nutrients, but also a juice sometimes extracted from the tree, that is used to make wine, or in certain cases, a kind of farina is made from the heart of the stem), their leaves are used for bags and baskets, and their trunk is used in construction, or in order to create ropes (Paxton 1840, 242).

Australia) or Schinus Molle (from northern South America), have similarly been imported into the Greek landscape at different times, none of these trees became associated with images of the Greek landscape to the same extent as did certain species of palms.

Palms have been present in the Mediterranean basin since antiquity. According to the latest classification of palms, only two are indigenous to European lands (Dransfield 2008, 106). The first is the Phoenix theophrastii,[11] or the Cretan Palm. It originates from the island of Crete and is named after *Theophrastus*, who, together with Aristotle, first attempted a systematic classification of plants. The second is the much smaller Chamaeropes humilis, known also as the European Dwarf Palm, indigenous to the south of France. However, neither of these are among the most popular species still thriving today, and neither are among those dominating the contemporary Greek landscape.

Greece appears to be a favourite destination for many palm species that are foreign to the indigenous Greek flora. Phoenix dactylifera, or the Date Palm, from Arabia, the two Washingtonian species, filifera and W. robusta, from California, and Phoenix canariensis, or the Canarian Palm, from the Canary Islands, are some of the many different Palm species that have been introduced to the Greek landscape several times.

The following paragraphs will trace some of the many journeys of different palm species to Greece, and more specifically to the Attic landscape.

The first journey: Forming a precedent

In ancient Greece, the Palm tree was known both as a fruit and a tree, and was usually placed (alone or in groups) next to a sacred place, such as a temple. Based on archaeological evidence, such as representations of palm trees in frescos,[12] as well as on ancient coins[13] and vessels discovered in Santorini, Crete, Mycenae and Tiryns, palms were certainly present in the landscape (Tranta–Nikoli 2003, 80–85).

Other than the 'local' Phoenix theophrastii, known as the Cretan Palm, that may have been transplanted from the island of Crete to other Greek city-ports during antiquity, there was another Palm that was very common in the ancient Greek landscape: Phoenix dactylifera, or the Date Palm (Baumann 1993, 58, 213). Pausanias' ancient scripts describe the Date Palm as a foreign tree from Arabia whose fruits are not edible.[14] This is an accurate description, as the fruits of the Date Palm in Greece do not mature sufficiently to eat in the way they do in their natural environment.

We do not know when or how the first Date Palm travelled to

11 Theophrastus, after his teacher Aristotle, was the first to set the foundations of the science of Botany. His works *'Historia Plantarum' and 'De causis plantarum'* are major.

12 A characteristic example is the fresco at the East frieze of Room 5, West House, part of the Akrotiri archaeological site on the island of Santorini (Akrotiri settlement of Thira), depicting different palm trees along a river.

13 See the collection of coins preserved at the Nomismatiko Museum of Athens (Museum of Coin in Athens).

14 This is also mentioned by Theophrastus in his *History of Plants*, vol. III, 5.

Greece. According to Baumann, during the military expeditions of Alexander the Great, there were many plants that were collected and transported back to Athens, at the requests of Theophrastus and his teacher, Aristotle (Baumann 1993, 58–59). What we know for certain is that when the Date Palm arrives in Greece, it loses its economic value and becomes an ornamental and symbolic plant.

Above all, the Palm tree is a symbol. In Greek mythology, it is connected with the births of Apollo and Leto. It is also related to the cycle of life, suggesting that the mythical bird known as the Phoenix[15] does not share its name with the palm genus of Phoenix[16] purely by coincidence. 'Phoenix' derives from the Greek word 'Phoenikas,' or 'Foenikas' which means Palm tree, while at the same time, it can also mean 'someone whose origins are in ancient Phoenicia,' indicating perhaps palms' eastern origins. Furthermore, the Palm tree is mentioned as being one of the symbolic plants of the Olympic Games. Palm leaves have been symbols of power and victory ever since (Rhizopoulou and Rizou 2004) (Rhizopoulou 2004, 1602–1603).

Byzantine period

The symbolic use of plants, and in particular of palms, was not unknown during the Byzantine period. There is a very interesting thirteenth-century manuscript that presents 14 different plants of the wider Mediterranean region and links them to 14 different virtues. The author is unknown, but the manuscript is known as the 'Symbolic Garden', or the 'Theoretikon Paradisseion.'[17] The very precise and detailed description of plants the manuscript offers proves that the author was very familiar with his subject matter. Among those represented is the Date Palm. Following the typical Palm tree structure, the Date Palm has no branches. On the contrary, its evergreen leaves all sprout directly from its trunk [f. 18V, 14–15]. So, in the garden of virtues that the manuscript describes, the Date Palm becomes the symbol of Justice and good governance[18] (Sophia Rhizopoulou 2012, 34, 62–63). Often, Byzantine emperors, saints and military leaders were depicted holding a palm leaf (Georgiadis 2019, 136).

Byzantine literature is replete with metaphorical uses of plants and gardens. The Garden of Eden is an interesting example, employed as a synonym of Paradise.19 There are many descriptions and representations of Paradise as a safe natural environment, with warm climate, sufficiency of water and abundance and variety of fruits (Rhizopoulou 2012, 16–17). And palms are inevitably part of this scene. But this story is explored further below.

Ottoman Athens

During the Byzantine and until the later Ottoman period, palms

15 According to Herodotus, the mythical bird 'Phoenix' is able to be reborn from its own ashes. It is therefore immortal. He says it lives in ancient Egypt but originated in Arabia.

16 There are 14 known species belonging to the genus of *Phoenix*, including Phoenix dactylifera, Phoenix theophrastii and Phoenix canariensis (Dransfield 2008, 242). Some of them, such as Phoenix dactylifera or the Date Palm, and Phoenix theophrastii, have been present in the Mediterranean basin since antiquity.

17 This manuscript was first published by Margaret Thompson (1907–1993) in French, with the title *Le Jardin symbolique*. The English version followed in 1989, with the title *Symbolic Garden: Reflections drawn from a Garden of Virtues, A XIIth century Greek Manuscript* (Sophia Rhizopoulou 2012, 10–11).

18 According to the manuscript [f. 19R, 7–9], the Date Palm takes its time maturing its fruits. In the same way, justice requires a lot of effort to shine (free translation from the author).

19 The word 'Paradise' comes form the Persian word *pairi-daeza*, which means 'garden of pleasure.' It is a synthesis of the two words *pairi* (around/surroundings) and *daeza* (wall). Paradise, therefore, is an open space, surrounded and protected by walls, and so distinguished from the spaces beyond (Rhizopoulou, 2012, 16–17).

were sporadically present in Athens. According to William St Clair, Athens in 1800 was a very small oriental town, 'with its Palms, its camels, and its mosques,' that probably contained no more than 1300 houses in all (Merryman and Elsen 2002, 14). While their numbers were nowhere near to what they are today, in the early 1800s, single impressive palms would appear sporadically near a sacred place, such as a Byzantine church, or a mosque, near an ancient temple, such as the temple of Hephaestus or the Parthenon, or as part of a private garden of an important merchant.

Based on different panoramic representations and descriptions of Athens at the beginning of the nineteenth century, four to five standing palms have been recorded (Figure 1). It has not been possible to discover who put them there or when. But based on their representation, they must have all belonged to the genus of Phoenix (possibly either Phoenix dactylifera or Phoenix theophrastii). One of them was an impressive and tall date palm (Phoenix dactylifera), that was transplanted in the mid 1800s to decorate the gardens of the new Palace (Tambakis 2016, 393).

Figure 1. Some of the palm trees that were still standing in Athens in 1835. Extracts from the Panorama of Athens in 1835, drawn by Ferdinand Stademann, counsellor to the Regency of King Otto.

The second journey: Era of Palingenesis

When the isolated and remote village of Athens, ruined by the War of Independence and centuries of neglect, was chosen to become the capital of the modern Greek state, the Attic landscape was dry and deserted. The first King of Greece, Otto Friedrich Ludwig von Wittelsbach, arrived in Greece in the 1830s, together with his own architects and engineers. All were carriers of the tradition of the Grand Tour, cognisant of the work of Stuart and Revett, Winckelmann and Sir William Gell, as well as that of Linnaeus and Martius. And Otto, moreover, was the grandson of the King of Bavaria, Maximilian I Josef, who himself had sent the two Bavarian botanists, Martius and Spix, to Brazil. Otto was very young back then, but he certainty became acquainted with the expedition in Brazil, as well as with Martius' published work on palms. It is interesting to see that the new King and Queen of Greece were linked to the image of the Palm tree from the beginning. The painting below, the *Official entrance of King Otto and Queen*

Amalie in Athens, by Franz Wolff, represents the arrival of the royal couple against the backdrop of the Attic landscape of 1837. The newly-wed couple have just arrived on the outskirts of Athens in a carriage, surrounded by a large crowd. In the background is Athens, an oriental Ottoman village, with its mosques and palms, and the rock of the Acropolis on the right-hand side. To the left, we can see part of a small Byzantine church, on top of which sit a group of people greeting the royal couple. One holds a palm leaf (Figure 2).

Figure 2. The Official entrance of *King Otto and Queen Amalie in Athens* by Franz Wolff (1837) represents the arrival of the royal couple against the backdrop of the Attic landscape of 1837. Image source: www.hellenica.de.

Greece welcomes its new King and Queen as its 'saviours' and according to its Christian tradition.[20] But the Palm for the royal couple is not just an ornamental tree that happens to sporadically mark the Attic landscape. When the master plan for the new Greek capital is first presented in 1834 by the Bavarian architects Kleanthis and Schaubert the discussion around both the location and the architectural plans for the Palace is very animated.[21] While there are many different proposals and plans,[22] there are two points on which everybody can agree: the architectural style should be Neoclassical, and palms should form an important part of the surrounding landscape.

The Palace was constructed between 1836 and 1843,[23] and in order to complete its rigid neoclassical facade, groups of impressive palms were added. Gradually, thousands of other palms would have to travel from different parts of the world to form its Garden.

20 Palm leaves have been, and still are, part of the Orthodox Christian tradition and practices.

21 Ludwic I, Otto's father, played an important part in discussions on what should be the official architecture for the newly established Greek state.

22 Some interesting proposals for the Palace were made by various important architects, such as Klenze, Lange and Schinkel.

23 The Palace together with the University, another important neoclassical building, designed by the Danish architect Christian Hansen, were the new capital's first two important buildings, whose architecture would soon come to characterise the Attic cityscape.

The Royal Garden was created by the architect-sculptor Edward Riedel and two gardeners: Louis François Louis Bareaud and Friedrich von Schmidt. Right from the beginning, Queen Amalie played an important role in the Garden's creation, and she made it very clear that one of its essential elements would be the Palm tree.

Different palms were imported from various parts of the world, including from Italy, Egypt, Sudan and Brazil (Buchet 2011, vol. I: 876, vol. II: 43, 71, 741). At the same time, Queen Amalie tried to identify different palms from across the Kingdom of Greece (Buchet 2011, vol. I: 859). Some of these were located in the country's more inaccessible regions, and the organising of their transportation and transplantation to the Garden was never easy.[24] Many would not make it due to quarantine restrictions or other delays (Buchet 2011, vol. II: 336-7).

But, why was Queen Amalie so interested in the Garden and in palms? Reading through her letters to her father, it is quickly noticable how she repeatedly refers to the Greeks as 'Easterners' (Buchet 2011, vol. II: 139). For Queen Amalie, Greece is the 'East,' and it is not just the milder weather that makes her think that. Everything is different, from the costumes to the language and manners.

But, first and foremost, palms are exotic for her. She finds them poetic and enjoys their shadow. She admires their distinctive and impressive nature, which makes them stand out from surrounding plants. For her, the Palm tree represents Power and Beauty. She names her most beautiful and powerful horse 'Phoenix,' after the Greek word for palm (Buchet 2011, vol. II: 226, 461). She places gigantic date trees near the Palace to make it 'more beautiful' (Buchet 2011, vol. II: 47, 493). She characteristically writes that the Palm tree is royal and the noblest of all plants (Buchet 2011, vol. II: 48), which is not far from the view of Martius and Linnaeus.

In the letters addressed to her father and other members of her family, she states her desire to create an "oasis of Palms" and says she wants to be remembered as the "Queen of Palms" (Buchet 2011, vol. II: 39, 43, 169, 177). The utility of palms in the East is vital, especially in the desert, where an oasis of palms is all you need. To the deserted Athens, Amalie brings as many palms as possible to create her own oasis of palms, but also she places them at important places, either in small groups of three to four or as a single tree, not because of their utility, but because of what they represent.
Among the various species that arrive in the Garden, there is one that has been discovered relatively recently, the Washingtonian filifera. The genus Washingtonian has only two species, the W. filifera and W. robusta. They are both very impressive fan palm trees from California. They were discovered by the German

24 Characteristic is the case of the three Date Palms brought from the island of Ios, whose original rather inaccessible location and large size (Queen Amalie in her letters describes them as "giants") made their transportation a rather long and difficult journey. It was necessary to hire more than 40 sailors to open roads and to build special chariots and bring many horses. It took three months to bring the palms to the port of Piraeus, longer than the time taken to transport a ship-full of plants from Brazil (Buchet 2011, vol. I: 889, vol. II: 39, 41–45).

botanist Herman Wendland, who named them after American president George Washington. Queen Amalie seems to be very proud of these species.[25] In 1845, she characteristically writes to her father that she is planning to "plant two alignments of Palms, which would head towards the Palace" and that this "would be something unique of its kind" (Buchet 2011, vol. I: 865). The only alignment of palms in the Garden consists of Washingtonian Palms, placed at the western entrance and pointing towards the Palace. It is a rather monumental arrangement, quite unique even today, whose central position in the Garden reveals its importance (Figure 3). The Athenian Garden's monumental alignment of Washingtonian Palms, and its large number of other Palm species, show that, when it came to palms, it was ahead of other western royal gardens of the same era.[26]

Figure 3. The double alignment of Washingtonian filifera of Queen Amalie as it is today. Photo taken by the author, June 2022.

Establishing patterns: Palms and neoclassicism

The Royal Garden was not the only garden Queen Amalie created in Athens. The creation of the botanical garden, as well as the so called 'Eptalofos' Estate in the North of Athens, formed precedents in the deserted and dry Attic landscape. In a way, those first gardens set the example for subsequent gardens. Queen Amalie created the Royal Garden not only to decorate the Palace and to impress its western visitors, but also to educate the local aristocracy, to set the rules for both the architecture and the landscape design of the new state. The presence of palms in front of the most important and iconic buildings of the new state would link forever this tree with the new architecture. We can still see traces of this pattern today.

Soon after the Palace and its gardens were created, the Greek aristocracy followed the Queen's example and started building

25 According to N. Tambakis, former president of the Garden, eight of the Garden's W. filifera were planted by seed by Amalie herself in 1842 (Tambakis 2016, 66).

26 Edmond François Valentin About (1828–1885) states in his book *La Grèce contemporaine* (1854) that the Royal Garden of Athens had bigger palms than the Botanical Garden of Paris (About 2018, 85). About's book has been translated in Greek as Otto's Greece.

neoclassical villas, planting at the same time palms in their gardens. The case of Palaio Phaliro, or Phaliro, the seaside region where the ancient port Phaliron existed, is characteristic of this trend. Phaliro early on became a favourite place of retreat and recreation for wealthy Athenians. Gradually, at the dawn of the nineteenth century, its deserted rocky landscape became crowded with neoclassical villas, each with their own set of impressive palms by their main entrances and in their gardens.

A continuous return: Touristic landscape

By the end of the twentieth century, palms had been be re-introduced to the Attic landscape several times and in great numbers. By now, 'palmscaping,' the extensive use of palms in urban design, has become common practice in the mass tourism industry.

From the Royal Garden, palms eventually populated not only the gardens of the neoclassical villas, but also the seaside avenue of Phaliro, Poseidon Avenue, and its beaches. It is the Syggrou Avenue that connects the Royal Garden to the seafront of Phaliro. The initial intention behind the creation of Syggrou Avenue was to create direct access to the sea: a straight line connecting the historic centre of Athens to its seafront, Phaliro. Today, the central alignment of young palms, of the species of Phoenix canariensis,[27] are characteristic of the Attic landscape. They were initially introduced in 1979, when Greece was getting ready to make its entrance to the European Union. For the arrival of the French president, Valéry Giscard d' Estaing, the Attic landscape had to be welcoming and glorious at the same time. The alignment of palms seemed a very promising solution at the time. More palms were added in 2004, when Greece hosted the Olympic Games, for the second time. Palms, as one of the symbolic plants of the Olympic Games in ancient Athens, had to be present in the urban landscape again. Every time Athens hosted or bid to host the Olympic games (revival of the Olympic Games in 1896, Athens 1996, Athens 2004), more palm trees would be added to its urban landscape.

On Poseidon Avenue, the seaside avenue of Phaliro, the combination of sand and alignments of exotic palms (Figure 4) is in accordance with the designs of tourism promoters. As the fantasy land of Tourism continues to expand and to grow, so does the presence of palms. In this case, they are the Canarian Palm, or Phoenix Canariensis, and Washingtonian palms. Canarian Palm trees, originating from the Canary Islands, were exotic by definition, becoming the embodiment of faraway lands and exoticism. On top of that, the tourism industry added further associations, of leisure and fun. The popularisation of California's Palm Drive in Hollywood movies may have encouraged commercially-driven attempts to create an avenue defined by glorious palm trees. Yet even if this was the initial intention of some mayors of Athens, and the main

27 According to the *Genadios Dictionary*, the Canarian Palm was first introduced in Greece in 1882 (Tambakis 2016, 135–6). Until the end of the twentieth century, Canarian Palms were highly commercialised and were popular all over the world.

reference for the Athenian seaside avenues, the realisation has not been entirely successful. The distances of the palms from the sides, their size, density and quantity, and the quality of the soil, reveal a certain lack of experience and expertise. In any case, the palms are in place, ready to welcome visitors, but also accompanying the locals from the city to the sea, a continuous and repetitive presence that makes them almost invisible.

Figure 4. The alignment of Washingtonian Palms along Poseidon avenue as it is today. Photo taken by the author, July 2023.

Along Poseidon Avenue, there are the beaches of 'Mpatis' and 'Eden,' whose name also evoke a garden. The reference to the Garden of Eden is direct. And Eden is a synonym of Paradise. Paradise is a word of Persian origin meaning enclosed meadow, often refering to a place of sublime beauty. The idea of Paradise consists of the image of a beautiful piece of land surrounded by wilderness. Paradise, either an island in the middle of an ocean or a garden anywhere, is safe. In other words, its inhabitants feel protected and at the same time have a direct relationship with nature and live in absolute harmony with it. Beauty, comfort and safety were also the main elements in the imagery developed by the tourism industry during the twentieth century. These elements were deployed by the indstury to create images new landscapes that would later be used to promote almost all tourist destinations around the world. On this paradisiac Attic seafront, Washingtonian species or Canarian ones are planted directly in the sand, forming a kind of oasis and lending a particular character to the urban landscape (Figure 5).

From the Garden, with its clearly defined borders, where solitary and impressive palms or groups of palms mark crucial views to the Acropolis and the Palace, to the repetitive and almost continuous linear arrangement of palms along the different contemporary seafront avenues, palms constitute a characteristic feature in the contemporary Attic landscape.

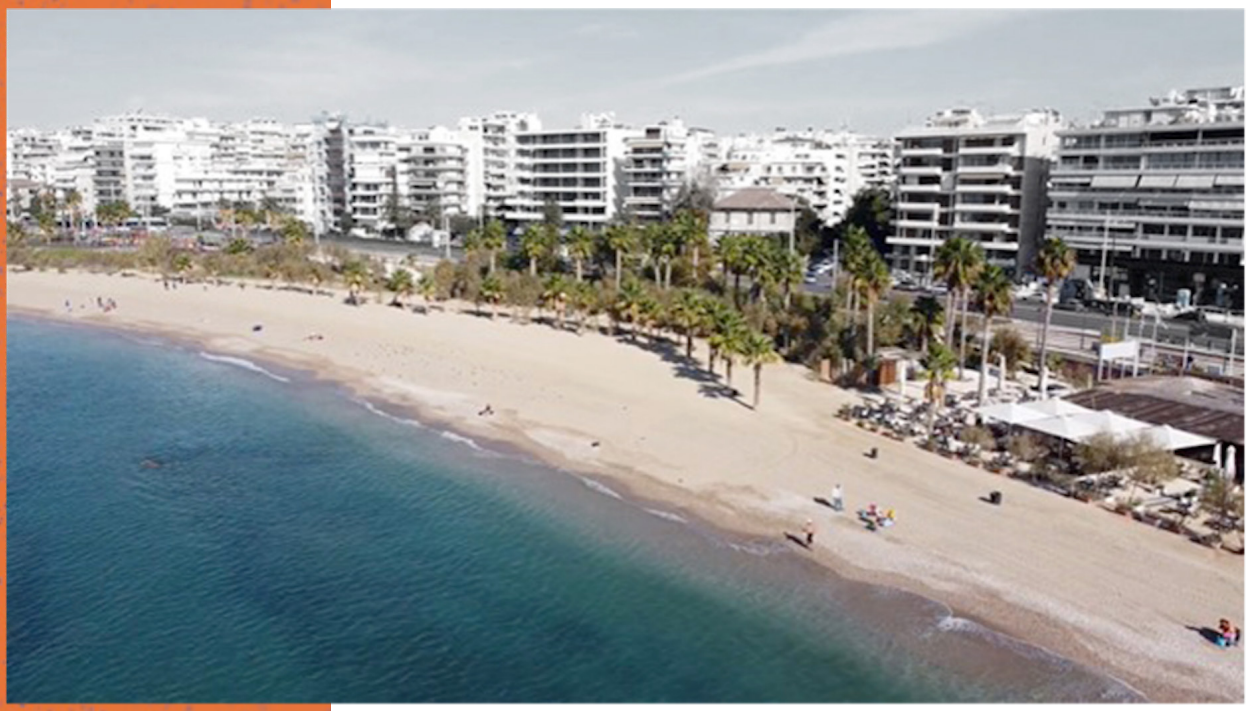

Figure 5. Aerial view of Eden Beach with its Washingtonian palms directly on the sand, in Palaio Phaliro. January 2022.

The presence of palms proved to be important not only during the era of Palingenesis, but even today, 200 years after the creation of the capital of the modern Greek state, it has evolved into a continuous and rather persistent element. Certain Palm species, such as the Washingtonian Palm and the Canarian one, foreign to the local flora, have been successfully imported to Athens several times since Palingenesis, and they have managed to grow strong roots, not only in the Attic landscape, but also in its inhabitants' hearts.

Conclusion

Transplantation of plants to a different cultural environment changes their content and their social role, and they are called to play a new part. Nowadays, palms are everywhere in the Attic landscape. They can be seen in groups ornamenting public squares, hotels or private gardens, in alignments accompanying the driver along seafront avenues, as single palms signifying important places, and by neoclassical buildings, archaeological sites and Byzantine churches. Despite being imported to Greece from other countries, palms have managed to become not only part of the Athens' cityscape, but also part of its social identity and history.

The Palm tree, whether as a symbol of power and victory, a representation of justice and good governance, an embodiment of exoticism, or part of the commercialised touristic landscape, each time is called to frame a different meaning, to form a different landscape, that is designed and defined by different

protagonists. Every time, the image of the Palm tree seems to be the same, despite the fact that different Palm species have different morphology. What changes is the frame from which we look at it; the signifier—the palm tree—is always the same, whereas the signified—the historical, social context—changes according to the different views and way of thinking that each society projects at a specific historical moment. The Palm tree is like a 'ready-made' symbol, always ready to take on new conceptual content.

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More-than-Human Jerusalem:
Rethinking the urban landscape with post-anthropocentric imagination

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Abstract

As a city that is at the same time unified, divided, fragmented, contested, mixed, neoliberal, post- and neo-colonial, Jerusalem / Al-Quds presents a unique combination of urban conditions. It is divided between East (part of the occupied West Bank) and West, and between Palestinian, Jewish-orthodox religious, and Jewish secular neighbourhoods. It is a religious meta-city, in which past and future fantasies and obsessions are part of quotidian life, but also a fascinating place of everyday practices, unexpected encounters and productive frictions, defying top-down categorisations. At the same time, it is a modern, neo-liberal city, in which local and global capital play a major role in new urban developments.

It would be a mistake, however, to describe Jerusalem solely from an anthropocentric point of view, while neglecting its more-than-human components. This article will present the fruits of a three-year study, conducted as part of the *More-than-Human Jerusalem Lab* in Bezalel's Master's in Urban Design. Study spanned three projects: *Liquid Jerusalem* (2021), *Growing Jerusalem* (2022) and *Terra Jerusalem* (2023). Together with the students, we explored possibilities for a renewed interaction between artificial and planned elements and between living organisms in the urban space, focusing on water, vegetation and soil in the city and their interweaving in urban culture and everyday experience.

The lab sought to challenge the separations between 'nature' and 'culture,' and to develop nature-based solutions to offer a new perspective on the city, one that can open different futures of inclusion, care and cooperation between the human populations—but also between them and the more-than-human inhabitants of the city. Through a series of projects, the article will describe the research and methodological process of thinking about Jerusalem as a laboratory of the more-than-human, suggesting planning tools designed to enhance urban resilience, justice and inclusion.

Introduction

In a historical speech before the Israeli Knesset in 1964, a young Member of Parliament and author, S. Yizhar, turned to all members of the parliament of a state founded only 16 years earlier. Yizhar sought to speak in the name of the "delicate, light creatures," to establish legislative authority to halt and prevent the decimation of wildflowers, the harm to the lizards, to the reptiles and to all the rest of the protected fauna and flora. The blue lupine, the fields of tulips, the daffodils standing tall, the red anemone, the ratama bushes blooming with serenity in the Sharon region, all described with full artistic intensity. Yizhar made present a perspective of

tenderness in the parliament, the likes of which had never before been heard in the emergency culture and survivalist spirit that characterized the era (Furst 2020).

The poetic oration, that gave rise to a new discourse in the engineered-utilitarian mindset of the era, which saw dressing the earth in "a robe of concrete and cement" as a lofty goal for the nascent nation, stood out in its rarity. Perhaps for this reason precisely, it was so successful and was a part of the process that brought about the legislation of a series of laws and ordinances for the protection of nature.

From a historical perspective, Yizhar's deed of giving presence to a new awareness of the interaction between the human and the non-human in Israel's open space and culture resounds particularly in Jerusalem. A city caught perpetually in the tension between a spiritual asset of legendary proportion and a vibrant city serving hundreds of thousands of residents of diverse religions and nationalities who coexist in a political space that is at once unstable, conflicted and sublime. Ian McHarg's (1969) protest, which denounces the approaches that disconnect humans from nature's frameworks and sees anthropocentric interrelationships as the source of the problem, becomes at once relevant and particularly fascinating in Jerusalem, the cradle of Abrahamic culture. McHarg criticises fiercely and explicitly the monotheistic religions as being responsible for the ethos that formed the relations-in-crisis between humans and the environment. He states that "The great western religions born of monotheism have been the major source of our moral attitudes [...] the Biblical creation story [...] in its insistence upon dominion and subjugation of nature, encourages the most exploitative and destructive instincts in man" (McHarg 1969, 26).

But, as we have mentioned above, Jerusalem is not only the idea of a city or a symbol of monotheistic religion; it is also a living city with unique features. Physically and ecologically Jerusalem is an example of an ancient walled city, with remnants over 3,000 years old. With a continuous yet limited human presence for thousands of years, the city served as fertile ground for the development of an integrated system of nature and humans. The amalgamation of those very same ancient urban expressions of symbiotic space and extreme expressions of accelerated development in the twentieth century, which expose the anthropocentric approach characteristic of urban construction in the modern machine age, is what models Jerusalem as a one-of-a-kind laboratory. Yet, despite the twentieth century's accelerated development, it was in Jerusalem that compelling interactions formed with animal life, plants and streams –making Jerusalem into a local leader of planning processes for preservation and integration of natural frameworks into the city, and in forming captivating interactions between the human and the non-human in the daily life of a congested twenty-first-century metropolis.

An example of such alliances can be observed, for example, in life that developed over hundreds and even thousands of years on the Old City walls and that have added strata to sites such as the Western Wall that are more than human, such as swallows, capers and lichens (Figure 1). Another example, found in the new part of the city that developed outside the Old City walls, is the Gazelle Valley Park, which forms an island of wild space, hosting a rare population of gazelles and natural systems of wildflowers and wetland habitats. Simultaneously, these form an encounter between city residents and a diverse, living, dynamic ecosystem that is part of daily life in the urban space (Figure 2).

Figure 1. A superposition of swifts' flying patterns recorded over time at the Western Wall of the Old City. (Part of a diptych together with AIRLINES XVIII-2 · Mauersegler über der Trennmauer · Bethlehem · 15. März 2018 · 2:55 Minuten). Image credit: Lothar Schiffler; AIRLINES XVIII-4 · Mauersegler an der Klagemauer · Jerusalem · 14. März 2018 · 48 Sekunden; Lothar-Schiffler.de

Figure 2. Gazelles at the Gazelle Valley Park, which lies at the heart of the urban fabric and serves as an enclave of wild nature.
Image credit: Amir Balaban

Today Jerusalem oscillates between two ends of a planning spectrum. The unique nature survey of the walls of the Old City initiated by the Israel Antiquities Authority as part of *The Conservation of Jerusalem's City Walls* project (https://www.antiquities.org.il/jerusalemwalls/default-eng.asp) integrated the system of creatures and their diverse habitats that developed over thousands of years on the stones into a system of planning decisions. Yet today, 70 years after the McHargian revolution, we are still witness to neighbourhoods being planned on unstable soil, coupled with increased destruction of fertile habitats.

Recently, sinkholes have been appearing in Jerusalem's urban environments with increasing frequency. We perceive this as the soil's way of calling us to attention.

To deal with the more-than-human of Jerusalem responsibly, we need to slow down, to be attentive to features of different scales, and to redirect our attention, as suggested by Latour (2018), towards the Earth, Gaia, and the Terre. It is a call to reconnect with forms of knowledge that relate to the ground.

The more-than-human city

The more-than-human approach is gaining ground in the contexts of philosophy (e.g., Abram 1996; Bennett 2010; Haraway 2015), sociology (e.g., Maller 2018), ecology (e.g., Van Dooren et al. 2016) and urbanism (e.g., Hinchliffe et al. 2005; Houston et al. 2018). A two-pronged assumption –empirical and ethical– is at the basis of the research approach to the more-than-human city. From an empirical perspective, this approach shows how the city does not rest upon human agency alone but also on natural foundations that affect its activity, such as soil (Gandy 2003) and water (Kaika 2005). Furthermore, the city houses not only human residents but also an ecological diversity of animal and plant life, ranging from alley cats, boars, sparrows and bees to trees, wildflowers, lichens and mosses.

From an ethical perspective, this movement seeks to identify the more-than-human not only as an empirical fact, but as a foundation for a broader and more inclusive focus, broadening the domain of care beyond the city's human residents (Puig de la Bellacasa 2017). In this manner, the approach refuses the accepted Western-modernist hierarchy, which sees in human beings alone the agents of action (that is, those who shape the city) and the objects of interest and care (that is, those who urban planning is meant to be taking into account).

Steele et al. (2017, 411) have stated that "in the mythology of modernism, the city was depicted as a place where nature had been tamed and domesticated into a benign physical environment for primarily human habitation away from the 'wilds' of nature." The thought of the city as more-than-human helps us conceive of

urban space as something that isn't independent of nature; rather, it forms a unique multi-species place to live. In it, different species negotiate for land and resources of the built-up surroundings, acknowledging the many agents and the mutual dependence of multiple human and non-human, alive and not-alive players, including plants, animals and ecosystems (Barua and Sinha 2020).

The more-than-human approach introduces nothing new. Indigenous ontologies are founded on a deep awareness and acceptance of ongoing mutual relationships between humans and the rest of nature (Yunkaporta 2019; Porter et al. 2020). Nevertheless, in the context of modern Western planning, the more-than-human demands significant changes in consciousness and in daily practice. In a world in which most humans live in cities, and where cities influence the entire globe (referred to as "planetary urbanism"; see Schmid and Brenner 2011), the challenge is not to restrict the human for the sake of the non-human or vice versa, but rather to develop a profound approach of environmental ecology of which the city is a part.

As we shall see below, the more-than-human challenge is to think in a manner that is always site-specific and deeply situated: biologically, geologically, hydrologically –but also in a manner that is social, political and urban. Following Shingne (2022), we would like to think of the 'more-than-human right to the city' in such a way that it does not abandon any of the players in the urban multi-species ecology, and even opens a new gaze to the discourse on the human component as a "keystone species" with a major role in recovering the ecosystem (Robin Wall Kimerrer 2022). In this way we propose re-examining prevailing perspectives, which see humans primarily as a destructive and invasive species. Rather, we consider the perspective which sees the potential in human systems for constructive reciprocity between homo sapiens and the environment –as proposed in Frederick Steiner's (2016) discussion on Human Ecology, or, alternatively, in Lynn Margulis' discourse on symbiotic systems as a dynamic that allows adaptive development and survival of diverse life systems on the planet (Margulis and Sagan 2013).

More-than-human Jerusalem

Steele et al. refer to the problem of the very classification into non-human vs. human, "given not all non-humans are the same, not all humans are the same" (2019, 411). This point leads us to a discussion on Jerusalem as our field of engagement, and on the emphasis we place on the human community aspect as an integral part of the more-than-human ethic in the city.

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divided between East (part of the occupied West Bank) and West, and between Palestinian, Jewish religious-Orthodox and Jewish secular neighbourhoods. It is a religious meta-city, in which past and future fantasies and obsessions are part of quotidian life, but also a fascinating place of everyday practices, unexpected encounters and productive frictions, defying top-down categorisations. At the same time, it is a modern, neo-liberal city, in which local and global capital play a major role in new urban developments. It would be a mistake, however, to describe Jerusalem solely from an anthropocentric point of view, while neglecting its more-than-human components.

This article presents the outcome of a three-year study, conducted as part of the *More-than-Human Jerusalem Lab* in Bezalel's master's degree in urban design. Study spanned three projects: *Liquid Jerusalem* (2021), *Growing Jerusalem* (2022) and *Terra Jerusalem* (2023). Together with the students, we explored possibilities for renewed interaction between artificial and planned elements and between living organisms in the urban space, focusing on water, vegetation and soil in the city and their interweaving in urban culture and everyday experience.

The aim of the Jerusalem Lab is to think of Jerusalem as a city of multiple players, with the human and the non-human intricately intertwined. As an underlying pedagogical assumption, the lab views the academic arena as an experimental space vital for study and development. It allows speculative research that challenges prevailing solutions found in practice, and it opens up new tools and perspectives that could affect spatial planning. As a point of departure, the lab asks what meaning the changed perspective of more-than-human has on us, as urban designers, in an age that requires protesting the isolation that characterises our relationships as humans to all that surrounds us.

The lab sought to exploit the developing insights on the relationship between culture and nature as a planning opportunity for forging creative new symbiotic relationships between the human and the non-human in urban space. As artists, architects and designers who operate from a perspective of involvement and mutuality, we went forward and backward in time and sought new and different stimulating partnerships and collaborations, between ourselves and the animate, the vegetative and the inanimate around us. We told stories, conducted experiments, buried ourselves in the numbers, spaces and data, and dived into the world of butterflies, threads, clods of soil, clouds, leaves and smells. Together we pondered whether we could stop designing **for** the world and begin designing **with** the world.

The studio's methodology was rooted in a research process that incorporated the personal interest and motivation of each student together with the urban issue. Analytical and conceptual project

development placed an emphasis on developing plastic and visual research –believing that urban design must engage in beauty, precision, temptation, true effort, tenderness and all the rest of the unmeasurable aspects of our work, those that are necessary for creating the architectural and urban quality, connected to the place in which it generates new opportunities for meaningful interaction. The lab acts as an academic arena integrating "tuition and intuition", developing a planning approach that combines poetic licence with our social and public responsibility, as those who are responsible for the drawn lines that form the human clusters in urban space.

As a starting point for the projects, each lab formed a body of knowledge that surveyed and mapped different features and processes of water, plant life and soil in the Jerusalem arena. Professional advisors assisted the project,[1] helping students develop the body of knowledge and gain a deeper familiarity with important basic concepts from the domains of urban ecology, pedology and hydrology and place them in their rightful place in the planning discourse. Those same physical aspects of natural space –the full range of flora and fauna, soil and water– were plotted on an axis of time using a series of city-wide mappings, with an emphasis on integration of historical, economic and social bodies of knowledge related to the unique human culture of Jerusalem.

In a methodological process we called "realistic utopia," the labs searched for the right balance in their projects for integrating a bold, open conceptual and theoretical approach and an in-depth familiarity with the human and more-than-human data of the city. Examination of the data, the mappings and the analysis served as a foundation for freedom and imagination that allowed us to transform ideas into alternative possibilities and scenarios to propose a new and creative type of human intervention in the city. The effort was therefore scientifically founded and aspired toward creative urban design, with awareness of political dimensions of activity in a city whose past history and whose present are found in deep contention.

As a programme at a distinctly Jerusalemite institution such as Bezalel, Jerusalem's sociology and politics do not skip over the shared academic space: each of the labs includes Israeli and Palestinian students, secular and religious, with wide-ranging attitudes to the city of Jerusalem and to the world at large. As we seek to demonstrate below, a central motivation was to examine how the more-than-human could create a re-territorialisation and de-territorialisation of the city's familiar human borders, and what potential the more-than-human has to transform the human layer into a more just one.

1 The professional advisors were eco-hydrologist Ori Moran, ecologist Amir Balaban, tree expert Yisrael Galon and pedologists Rami Zeidenberg and Ori Halberstadt.

The "Growing Jerusalem" lab

The "Growing Jerusalem" lab conducted a renewed examination of the dichotomy between "culture" and "nature," and the anthropocentric perspective that rules spatial design. From the opportunities available in "rewilding" the urban space, we re-examined, as urban designers, everything that grows, that entwines, that sheds, that withers, that shades, that flowers, that sprouts, as significant players in the experience of space. We began to think about "growth" not in the sense associated with modern capitalism or urban development, but in a different sense; one which goes back to the natural, untamed object of growth –the plants themselves. For this we sought to go back to our roots: plants as a spatial rhizome, knotty and full of holes, with the ability to grow, rehabilitate and to astonish. Jerusalem's particular geographical conditions and its long history have formed a rich palette of wild and cultivated plants and agriculture. Forestation efforts of the 1950's have introduced landscape influences and additional vegetation. Today the city is home to diverse sacred trees, cultural landscapes that hold myths and cultures, nature reserves and national parks, as well as private gardens, orchards and traditional and modern farmland.

Continuing the trend that calls to bring nature back to the city, the lab engaged in different aspects of the relationship between vegetation and Jerusalem life. With the goal of forming meaningful integration of plant life into the city –not only as urban gardening or engineered landscaping– we studied the manners in which plants could serve as material to shape place and identity, to form changing and uncontrolled dynamics, and to develop rich interactions between nature and urban culture and space.

Jerusalem is built almost entirely from 'Jerusalem Stone' (various types of pale limestone and dolomite, common in and around the city). Entire swaths of the city have existed for hundreds and thousands of years; these stones serve as a bed for growth of a diversity of plant life. The greater the margin between the stones, the more textured they are in three dimensions, the more cracks they have –the more life they allow between them– the richer the habitat of the stones and the cracks between them. A project entitled "The right to an ecocentric city" mapped the stone beds and developed a planning language of fissures of different scales. This network of fissures serves as a habitat for pollination routes and insects, for a variety of plant species, and even serves as a shelter for unsheltered people in areas identified as "solitude spaces" (Figures 3 and 4).

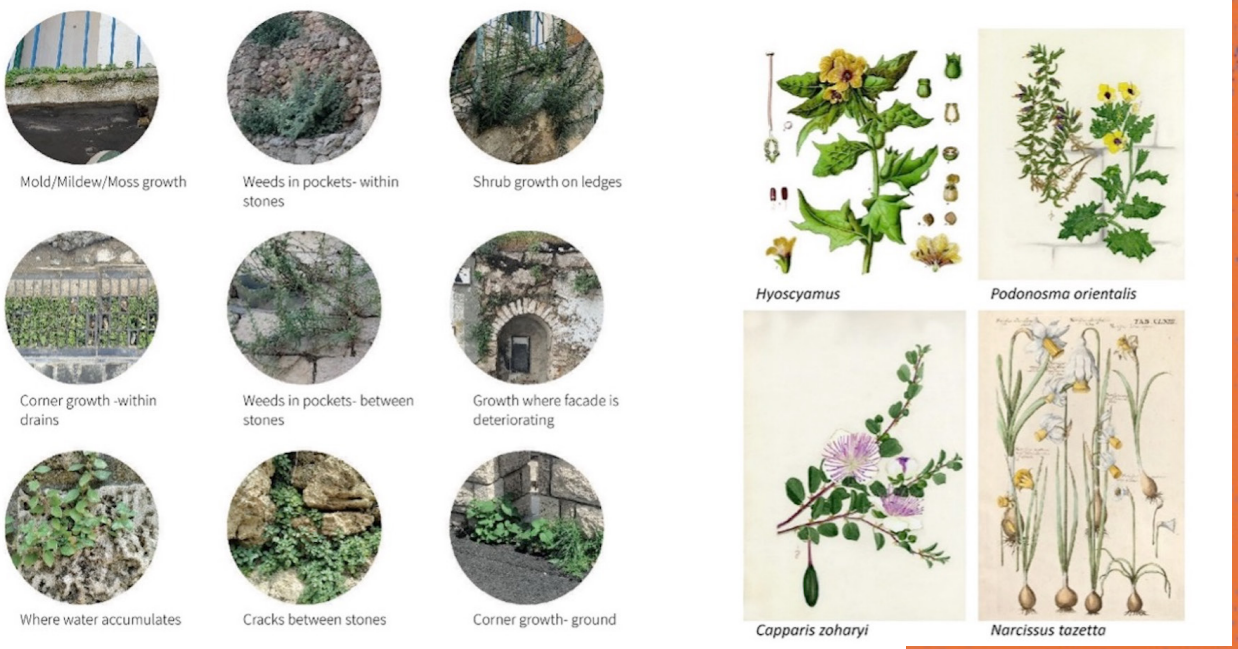

Figure 3. Catalogue of plants' adaptation of cracks within the various Jerusalem wall types. Image credit: Shelli Kushnir, Eitan Egdes, Tamir Manzur and Ariel Hanoch; "The Right to an Eco-centric City."

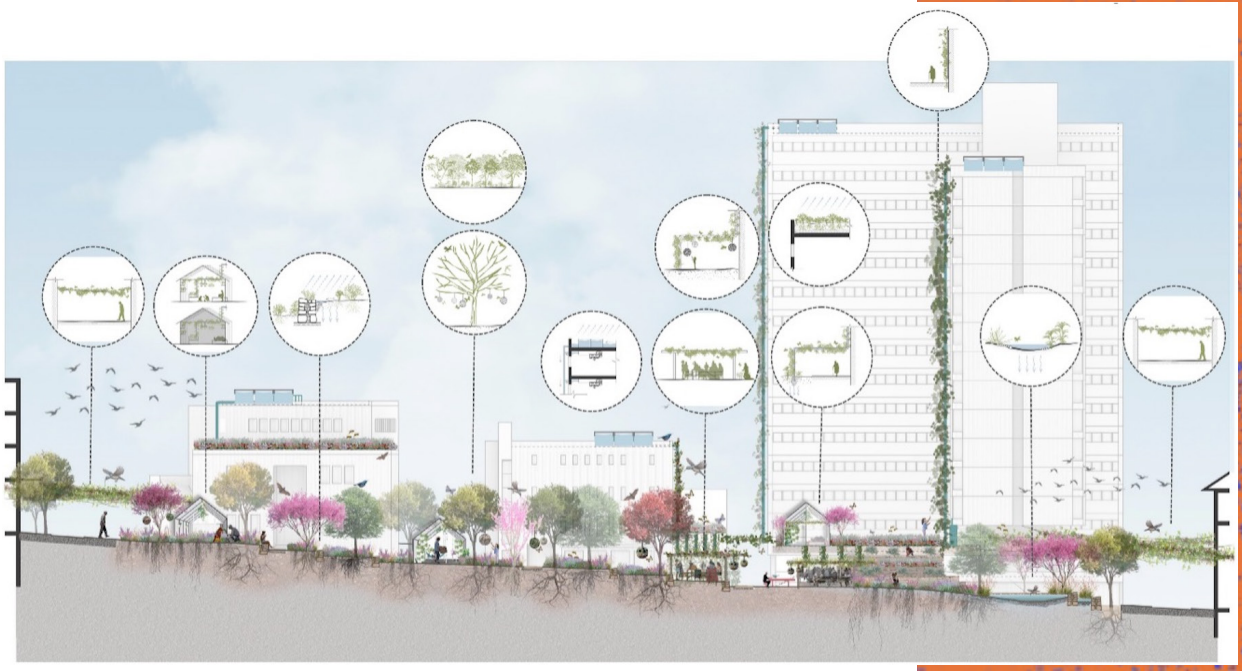

Figure 4. Cross section of Hillel Street, demonstrating various design tactics in several scales that use the urban "fissures" to enhance human and non-human activity. Image credit: Shelli Kushnir, Eitan Egdes, Tamir Manzur and Ariel Hanoch; "The Right to an Eco-centric City."

A project entitled "Food as a cultural landscape" engaged in reviving the local food network. The project offered a range of old-new spaces for growing food and distributing it throughout the city, including: open spaces in East Jerusalem that do grow food today but the produce of which does not reach other parts of the city due to the Separation Wall; built up areas in the Old City, on

rooftops of spaces that served in the past as a central food market for the entire space (Figure 5); areas forested decades ago by the human hand, exposed, after destruction in recent fires, as the site of a rich system of agricultural terraces that had been covered over as part of an organised effort to hide Palestinian history; dozens of food orchards and forests scattered throughout the city, restored and connected to the public transportation network, making them accessible to local communities.

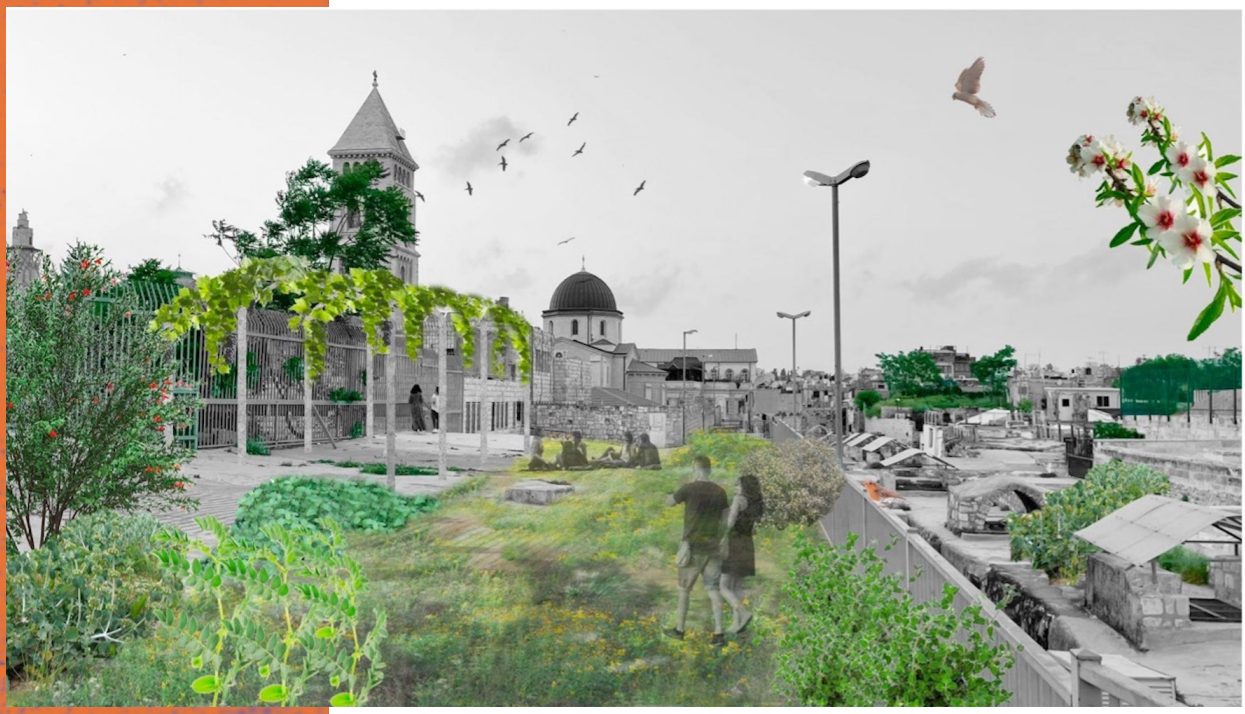

Figure 5. Re-positioning the Old City as a local food market, and rewilding its bare rooftops. Image credit: Sharbel Halloun, Kim Guttmann, Sarah Maria Elizabeth Gerdiken, Ismael Pharoun and Eli Philip; "Food as a cultural landscape: Reviving local farming in the Old City"

In this context, we wish to point out that a major objection to nature-based solutions (NBS) pertains to the fact that these solutions are almost always directed toward improvements in urban habitats for humans –instead of considering how they could also benefit the local ecosystem and non-human species (Maller 2021). Moreover, such solutions are often implemented in a technical-engineering manner, without considering biodiversity, historical knowledge and the local culture (Seddon et al. 2019, 85). The projects described above took site specificity as a point of departure for urban intervention: beginning with an in-depth study of geological and hydrological conditions, using local plants ecologically adapted to the existing urban nature of the city, and finally, giving consideration to urban justice and cultural, historical and narrative contexts, in ways that acknowledge more-than-human as part of the urban 'sense of place'.

The "Liquid Jerusalem" lab

The "Liquid Jerusalem" lab studied options for reconnecting the city and its residents to all presentations of water in the Jerusalem space. The trickle, gurgle, reflection, spray, cascade, gush, floods, flow, droplets, pores, stains, dark cisterns, hidden streams, toads, tadpoles, canes, bulrush, lichens –all disappeared in urbanised effort to channel, concretise, and drain water resources in the name of the need to engineer, to protect and to form stable, dry spaces clean of the cascading, the surprising and the everchanging dynamics of water. The lab studied ways in which the conception of water in the city could change from a domesticated and managed space to a rhizomatic network; from a collection of discrete items to a system of communicating vessels; and it adopted approaches in formation of "rewilding" and "nature-based solutions."

In Jerusalem, issues of water have always been particularly complex. As a landlocked city situated on the edge of an arid desert, Jerusalem suffers from a threefold problem: first, water runoff down the mountain slopes makes retaining water and utilising rainwater difficult; second, the level of groundwater in the city is particularly deep, such that excavating wells down to that level is not possible; and third, springs are sparse due to the proximity to the Judean Desert. These geographical challenges coupled with accelerated development of the city, meant to double its built-up area in the coming decades, demands a new and creative way of thinking, whereby solutions for water and infrastructure are recognised as being of prime importance both for the city's physical resilience and for its cultural and social life.

A watershed divides Jerusalem in two, with most water draining westward, while the eastern side is drier, at the edge of the desert. This is a geomorphological line but is also a political border that divides the Palestinian neighbourhoods of East Jerusalem and the Jewish neighbourhoods of the western part of the city. The eastern side, suffering from innate hydrological inferiority, aspires toward a better future in a reality of extreme nationalism, complex land rules, neglected infrastructure and absence of urban opportunity. The "Hydropolis" project focuses on the Mount of Olives in the A-Tur neighbourhood adjacent to the Old City –a Palestinian enclave partially detached from basic infrastructure of water and sewage and suffering from flooding each winter. The project, developed by four students, two of whom reside in the neighbourhood, proposed exploiting every geological and built structure in the area as an opportunity to form a hydrologically autonomous space, under existing conditions that include non-permeable or partially permeable soil, the dramatic topography of deep wadis and steep slopes, an array of unattended open space, and the Separation Wall that delineates the neighbourhood to the east. The project proposes to dig an artificial aquifer under the Mount of Olives, into which water will trickle down naturally and

from which it will be possible to draw the water back up to the surface of the mountain when needed. The Separation Wall, in a radical reclaiming process, becomes the dam that could create a reservoir holding a huge volume of water that would accumulate from the entire system (Figures 6 and 7). Together these create conditions for an innovative system of water infrastructure with the power to forge considerable change in the urban space and to form environmental, economic and social resilience.

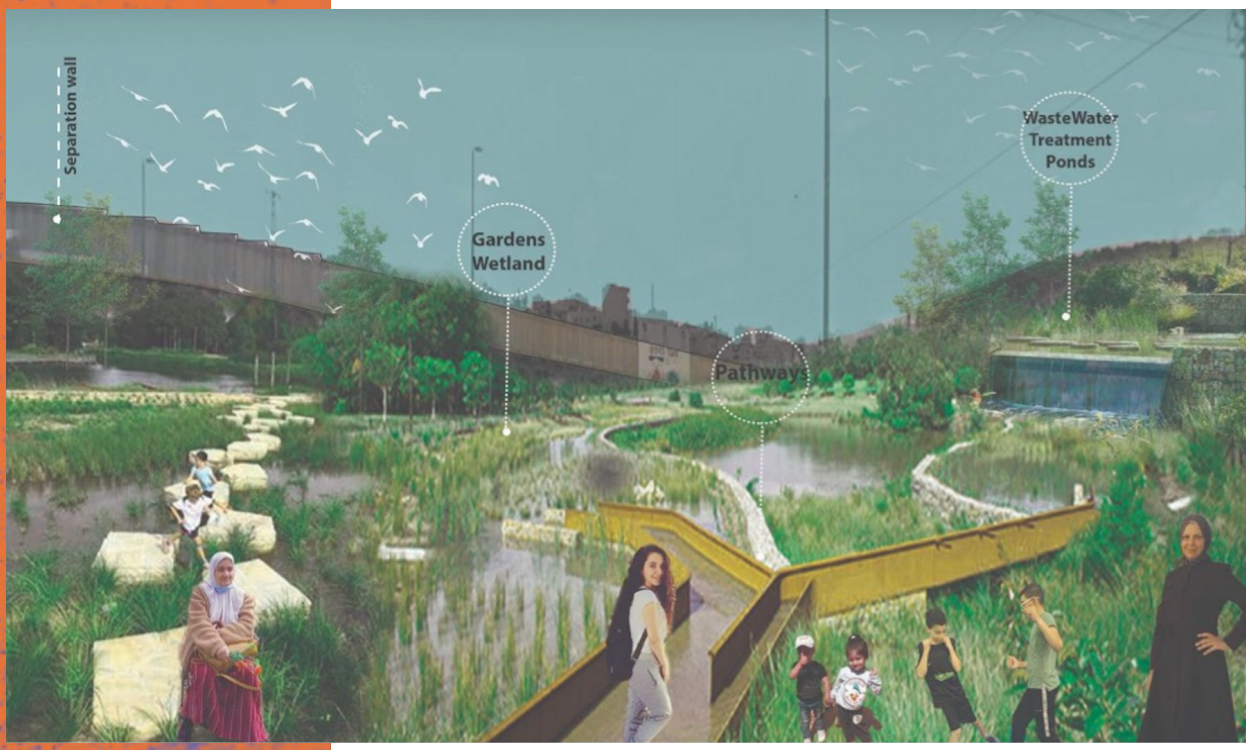

Figure 6. Garden wetlands, wastewater treatment ponds and pathways as part of the communal infrastructure. Image credit: Rawan Shalalde, Maisa Shweiki, Marianna Kimyagarov and Jenia Gutman; "Hydropolis."

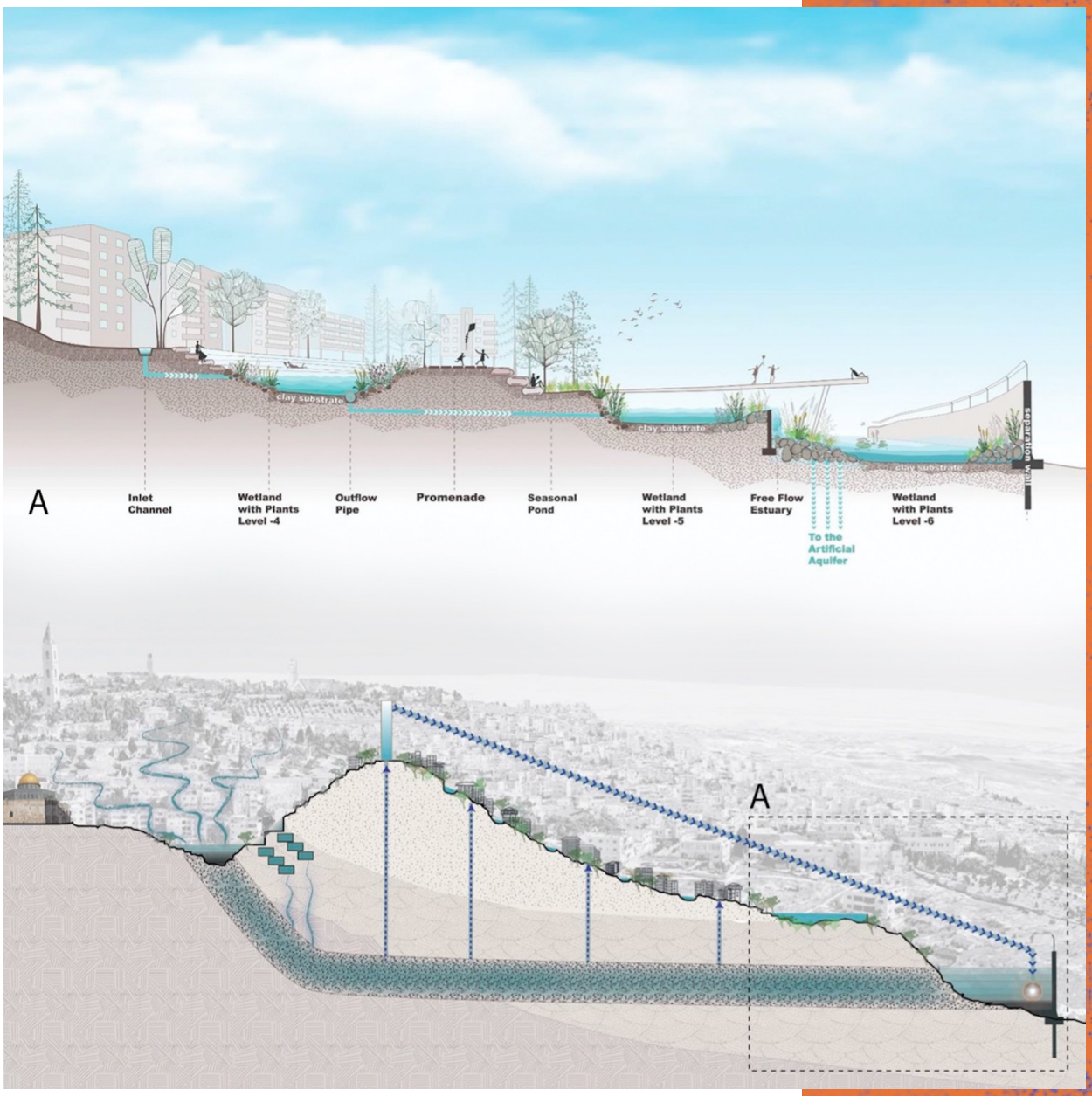

Figure 7. Cross section from the Old City to the Separation Wall showing the artificial aquifer and the entire water system for A-Tur, that not only gives them water autonomy but also highly improves the public space with a series of water ponds and wetlands. Image credit: Rawan Shalalde, Maisa Shweiki, Marianna Kimyagarov and Jenia Gutman; "Hydropolis."

The "Water line" project studied Jerusalem's water supply, which has been a major challenge since the city's earliest days. Throughout the generations, city residents were forced to find solutions for the water deficit, in accordance with technologies available at that time, and to bring water to the city from afar. As the years passed, these water systems became increasingly sophisticated, and have developed into a huge engineering project. But along the way, the linkage between humans and their source of water, once so central to urban life, was lost. Today Jerusalemites consume desalinated water, transported from the Judean foothills to 19 reservoirs scattered atop the city's mountain

ranges, in the centres of its neighbourhoods but hidden from view. The project celebrates these reservoirs and transforms them into a magnet, drawing in the community, channelling the rainwater from the rooftops of these reservoirs to an altitude at the centre of the slope of the range –this is the "water line," forming a new horizontal urban continuum in a topological city. The "water line" flows through and between the city's neighbourhoods, exposed to all, and serves as an intriguing open public space and as a centre to the more-than-human life of plants, insects, birds, reptiles and mammals.

The "Terra Jerusalem" lab

The "Terra Jerusalem" lab sought to focus on what is always underfoot, and to develop awareness of and concern for that living layer of bio-infrastructure (Puig de la Bellacasa 2017). A lot can be discovered from careful observation of the soil. Being an archive of tangible memories, a simple one-meter-deep cross section through the soil exposes the roots of this year's plants, dry shoots of what grew last year, worms and other organisms that slowly treat and heal the ground. The pedological timeline can tell us about the seasons, about historic temperature, about humidity, about the motion of tectonic plates or the age of rivers. Extending this capability to Jerusalem's human past, we could add to the timeline layers of silenced narratives and give voice to marginalised histories. Digging into the ground, exposing what was buried, we can face the subconscious and the repressed.

Like the other labs, Terra Jerusalem, too, wished to combine the human with the more-than-human, to empower the shared resilience of the populations in the space.

The "Re-imagining Agricultural Lifta" project originated from understanding that the pre-1948 borders of the Palestinian village of Lifta –whose inhabitants were expelled during the war, and of which only a small part of the built area still stands– previously encompassed large parts of what today forms the northern portion of the city. Prior to their expulsion, the inhabitants of these lands engaged in various types of agriculture and land management practices. Post-1948, Jerusalem expanded into most of the lands, turning them into residential neighbourhoods and national institutional centres of culture and government. While tracing the paths taken by the village's inhabitants, students (including a descendant of Lifta's refugees) discovered a natural underground cave that was exposed during the works on Jerusalem's new train station. This prompted them to propose reviving the memory of Lifta through unveiling of underground routes and uncovering of the paths that once formed part of the village. A "land ethic" (Leopold 1964) led the students in this case to be attentive to human repressed histories, but also to indigenous agricultural knowledge, suggesting a sustainable, more-than-human deep ecological urbanism (Figures 8, 9 and 10).

Figure 8. Subjective map of Lifta lands with the current city- and landscapes.Image credit: Lee Gorelik and Nadine Akel; "Re-imagining Agricultural Lifta."

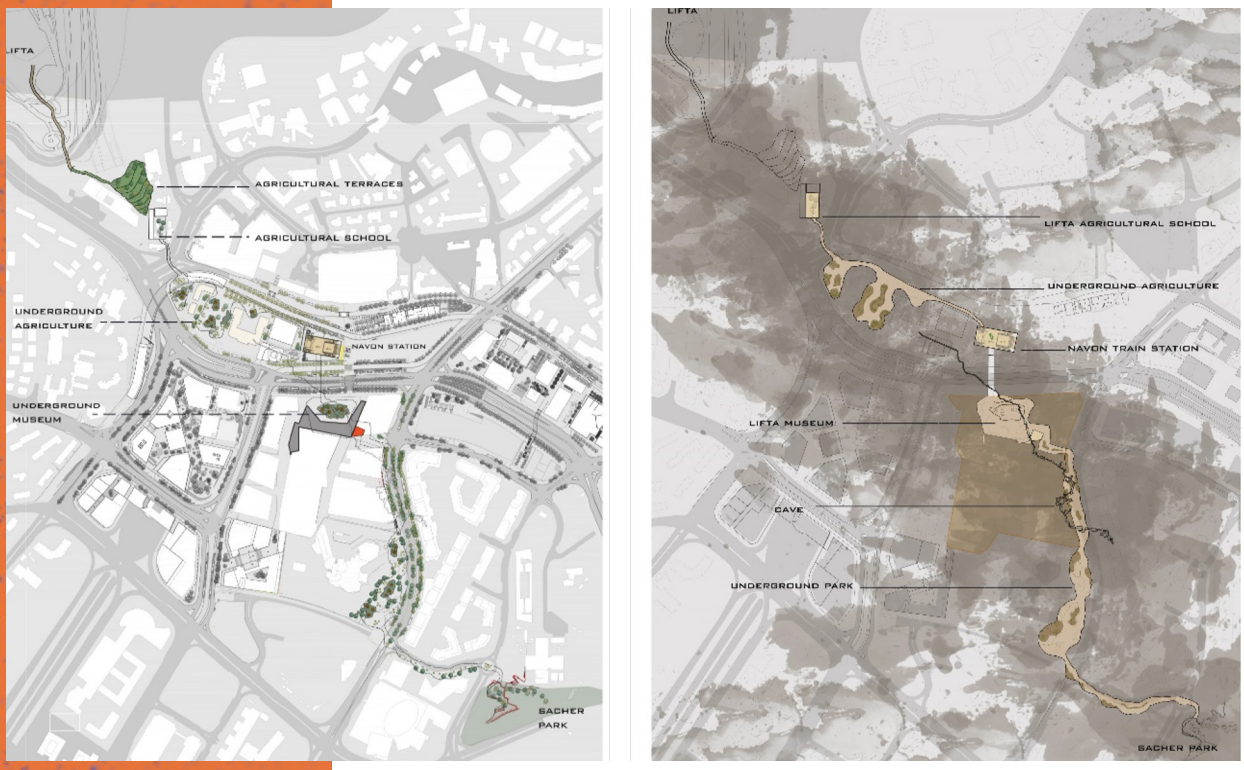

Figure 9. Overground and Underground plan of memory path. Image credit: Lee Gorelik and Nadine Akel; "Re-imagining Agricultural Lifta."

Figure 10. Cross-section of memory path. Image credit: Lee Gorelik and Nadine Akel; "Re-imagining Agricultural Lifta."

On the other side of the Old City lies the "Hinnom Valley." Theologically, the valley was associated with the concept of the underworld, its name being very close to the Hebrew word for Hell. Due to its harsh climatic and topographic features, the valley became a symbol for pain and punishment. Observing nineteenth-century writings of European surveyors, the students discovered a system of aqueducts, viaducts and blood pipes (used in the Jewish Temple to dispose of the sacrificed animals' blood) leading to and from the Old City. Around the line of separation, between two rock formations, the students found a series of historical caves. By extending the existing caves for therapeutic uses and

expanding the number of ducts using the extracted material for natural connectivity above the valley, the students proposed to free the ground from human activity, allowing the wild that once existed there to prosper again (Figures 11 and 12).

Figure 11. Imagined section of potentially wild Hinnom Valley. Image credit: Sonia Shuster and Naama Blum, "Earth's Womb."

Figure 12. Introduction of new ducts and caves on top of the valley. Image credit: Sonia Shuster and Naama Blum, "Earth's Womb."

Conclusion

The More-than-Human Jerusalem lab has sought to challenge the distinction between 'nature' and 'culture,' to offer a new perspective on the city, one that might open up possibilities for different futures of inclusion, care and cooperation among the human populations –but also between them and the more-than-human inhabitants of the city.

The lab is an ongoing experiment in realistic utopia; an experiment that seeks to expand the design language and urban sensitivity of the members of the "human, all too human" community (to borrow from Nietzsche). The more-than-human needs to spark the imagination –What does the soil want? What does the lichen need? What is the existential anguish of the tree? And how could we think about more-than-human urban resilience, the kind that offers spatial inclusive justice to flora, fauna, soil and humans? Radical inclusivity, where we climb out of our skin and of our consciousness and move toward the other, requires collaboration that does not follow the typical routine of academic work and its familiar practices, in order to create shared study that crosses disciplines and fields of knowledge as well as human and political borders. We thus see in our shared imagination a toolkit that is not considered of lesser importance than the prevailing planning toolkits.

Stoetzer (2018) wrote that to relate to the urban as ecological formation means knowing how to contain and live with unexpected neighbours. Derrida (2000) examines the welcoming of guests as a political question and identifies the tension between hospitality, hostility and being held hostage. He reminds us that every encounter with a guest forces us to make room for the other, by reducing ourselves and raising questions about our own identity. In the more-than-human we come up against a threat to our standing as human beings, where we are used to perceiving ourselves as the ones "in charge" in the city. Simultaneously, it also opens up before us an opportunity for an inclusive urban design practice, in which more-than-human imagination allows us not only to think anew about organisms, water and soil, but also to find shared points of contact, interest and collaboration among human populations in Jerusalem. Rather than perceiving Jerusalem as a meta-city, we wish to see it as an urban place of everyday multiplicity, in a way similar to Amin and Thrift's (2002, 9) view of "everyday urbanism" that gets "into the intermesh between flesh and stone, humans and nonhumans, fixes and flows, emotions and practices. ...It needs to know the city beyond the powers of cognition, venturing into the realms of poetic invocation and sensory intimation."

Acknowledgements

The lab and the research would not have happened without the belief and support of the Master's Degree in Urban Design at Bezalel Academy for Art and Design. Special thanks are due to the professional advisors who assisted the lab: ecologist Amir Balaban, eco-hydrologist Ori Moran, tree expert Yisrael Galon and pedologists Rami Zeidenberg and Ori Halberstadt. Their invaluable professional knowledge made it possible to deepen and develop the connection between urban planning and the more-than-human knowledge of the natural sciences and ecology.

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Entanglement of "trauma" spaces

How people, place, and objects co-produce the mental, therapeutic, and physical space(s) in trauma-informed design

Emma
VAN DAAL

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Abstract

Trauma-informed design (TID) is emerging as an interdisciplinary collaboration between architecture and psychology, unified in the goal of improving the psychological well-being of individuals impacted by trauma. Designing clinical spaces to be trauma informed is increasingly regarded as key in trauma recovery, with the scholarship evidencing the important role the built environment can have in mental health (Shepley and Sachs 2020). Although these advancements have successfully (re)positioned architecture as a therapeutic intervention within mental health, TID aims to replicate what is already known to work through readymade anthropocentric methods (Gildersleeve and Guyotte 2019). Subsequently, TID fails to grapple with the complexity and rhizomatic nature of trauma/trauma recovery and cannot attend to the human-non-human entanglement that potentiates trauma healing. New Materialism opens innovative spaces in architectural theory and practice that put TID to work and answer the related questions of: what are the effects of matter and materiality on mental health experiencing (Larsen, Bøe, and Topor 2020), and how is materiality done and undone in "trauma" spaces? Understanding the role of materiality can help us comprehend how mental health experience happens *in* place *with* matter and respond accordingly.

This article argues for a New Materialist turn that shatters the core "human" tenets of TID by reconceptualising it as a dynamic process of "becoming" trauma-informed that simultaneously drives the "unbecoming" of trauma. The site of this inquiry is a private mental health practice for women and children in Melbourne, Australia. The case example challenges dominant, anthropocentric assumptions of TID by iteratively and multimodally mapping the intra-agentic movements (Barad 2014) of a parent-child dyad interconnected to place and objects across two psychotherapy sessions. What are revealed are the multitudinous relational potentialities of materiality and matter that drive the movements of *doing* trauma healing and *undoing* trauma within a dyad-TID-trauma space assemblage.

Introduction

Designing clinical spaces to be trauma informed is increasingly regarded as a key intervention in trauma recovery, with the built environment viewed as having a key role in promoting the mental health of staff and consumers (Friesinger et al. 2020). Trauma-informed design (TID) makes a significant contribution in the

field of trauma; however, in practice, the creation of a trauma-informed designed clinic does not equip the therapist or the client sufficiently to manage the "something/happening through energies...through multiple engagements" (Whatmore 2006, 600) of trauma and trauma recovery. The reality of psychological trauma is very different. A confluence of "the relationship between mind and matter" (Malafouris 2019, 195), trauma lives on in energetic and haptic ways, in vibratory currents that move through social environments, collapse history and time, and re-circulate between people, place, and objects. Its manifestations are incredibly complex and cannot be understood only in terms of human experience. They combine sense and non-sense in that the effects and affects are both human and non-human, not immediately recognisable and generating an invisible force that is impossible to trace using conventional methods.

This article seeks to problematise TID by answering the call for a posthumanist response contemplating how the human and non-human elements influence the lived experiencing of trauma. Perhaps a conceit of trauma theory and a hangover of a priori methods, recovery is typically privileged as the ultimate goal of interventions (Van Daal 2021). My experience of designing a trauma-informed clinical setting has shown the limits of humanist epistemologies to address the complex needs of clients in the context of a suburban private practice. It has, however, irrupted the desire to go beyond providing aesthetic solutions to human experience and put TID to work in ways that plug people into place into object into theory into space (Mazzei 2014). By doing this, the interplay between lived experience, affect, and the material elements of mental health will be revealed (Andrews and Duff 2019; Malafouris, 2019), agitating new and different knowledge(s) regarding trauma intervention.

The site for this inquiry—the "trauma" spaces—is an entanglement of the physical space of the clinic, mental space of the parent-child dyad and me as the psychotherapist, and therapeutic TID space. It is also a space of play, both in its literal sense and as a process potentiating change.

This paper, like trauma, is an entangled composition, combining academic, reflective writing with maps that move the reader between the different theoretical and conceptual spaces diffracted by and in this inquiry. It is meant to be disruptive. The ensuing discussion of the case serves to illustrate how the parallel Deleuzian concepts of "becoming" and "unbecoming" are operationalised by Barad's (2014) notions of intra-action/diffraction between humans and non-human materiality. New Materialist mapping processes are proposed as an effective and playful way to visually deal with the material engagement of a traumatised parent-child dyad in this context. It is necessary to stress, the dyad act as the human entry point into New Materialist thinking/working/researching in

TID; their subjective experience is not the focus. The cartographic experimentations are superposition-ally described/discussed, while grappling with the multisensory and multitudinous human-non-human (re)configurations that drive the becoming of trauma healing and unbecoming of trauma.

Becoming, unbecoming, and re-turning

The notion of becoming is a central concept within New Materialism, describing the continuous interconnections between materiality and matter that drive differentiation by dissolving binary notions that separate humans from non-human (Barad 2014). Human becomings are conceived as messy tapestries woven by the mutual entanglement of the becomings of the natural and material world (Ingold 2011). Grosz (2005) describes this as "involve(ing) a fracturing and opening up of the past and the present to what is virtual in them, to what in them differs from the actual, to what in them can bring forth the new" (4). Barad (2014) explains this difference as "not...returning as in reflecting or going back to a past that was but re-turning as in turning over and over again—iteratively intra-acting, re-diffracting, diffracting anew... re-turning as a multiplicity of processes" (168). Simultaneous with becoming is unbecoming; a re-turning motion that drives both doing and undoing. In this sense, trauma and trauma healing are engaged in a double movement re-turning sense, sensations, experience, and affect co-produced within the between spaces, connecting mind and matter. Just as one does not "do" therapy, therapeutic spaces become sites to continuously work and rework trauma in an inquiry process co-constituting clients within a relational field. In this way, the how of "therapeutic" and "trauma-informed" is continuously done and undone in a movement of thinking, doing, and becoming.

The interdisciplinary implications are profound if we consider how Deleuze and Guattari's (1987) concept of the "veritable becoming" (10) entangles the becomings of TID and trauma healing. Their notions of deterritorialisation and reterritorialisation refer to a process whereby a particular field of relations—a territory—is altered and re-configured as a new territory. Thus, the unpredictable possibility for trauma/trauma healing to (re)animate in any moment in any space can immediately and unexpectedly be "diffracted, dispersed, threaded through with materialising and sedimented effects of iterative reconfigurings..." (Barad 2014, 168). For example, the texture of upholstery fabric on a chair is more than a passive material chosen for its "healing" properties of soft, smooth, and soothing. Rather, it is these effects that move the skin/the person/the air/the mood into an intimate moment of becoming that activates a re-turning of new sensations-experiences-perceptions-memories, connected/ing to the something happening of trauma/trauma healing. In another moment, another re-turn, another becoming and subsequent unbecoming.

Matter matters

In re-turning to matter, a curious observation of TID is that despite being concerned with material properties, it remains unconcerned with understanding the effects of material engagement on human experiencing, or the agency of objects on becoming (Malafouris 2019). Quite simply, matter is missing. There is a growing consensus to reposition objects, place, and things to the same ontological status as humans (Goodbun and Jaschke 2012; Ingold 2011), and introduce processes that stimulate and attend to the "more than" dimensions of multiple becomings and parallel unbecomings. An emerging argument against a humanist approach to interdisciplinary practice is that this restricts our understanding of the effects of materiality on mental health and well-being: a position that underpins this paper.

So, how are mental health, wellness, and recovery embedded in, and how do they emerge from, relationships with everyday objects, place, and space, so that we might understand the significance of materiality in terms of mental health recovery (Larsen, Bøe, and Topor 2020)? And, "how is materiality done" (1) and undone in TID?

New Materialist agitations help apprehend the complex interplay of the more-than-human dimensions of psychological well-being (Andrews and Duff 2019), evoking a much needed human–non-human understanding of mental health (Friesinger et al. 2020). This concern is highly pertinent to TID. Without disrupting the human-centric notions of lived experiencing to see how trauma is partially formed and unravelled by our material environment (Friesinger et al. 2020), TID is at risk of being positioned as a "readymade methodology" (Gildersleeve and Guyotte 2019 1) that perpetuates anthropocentric knowledge(s), denying the potential of objects, place, and things as agents of change. A human-centric approach to TID fails to grapple with the complexity and nomadic nature of trauma/trauma recovery and cannot attend to the "and, and, and" (Franklin-Phipps 2017 22) that potentiates trauma healing. Whereas, matter and material forces are sources of becoming (Ingold 2011) that can help us to better understand the complex interplay between the various conditions, qualities, and configurations that drive the becoming-trauma healing.

Entangled space(s)

The entangled trauma space is not a singular unity erasing the differences of the mental space, physical space, and therapeutic space. As Barad (2014) comments, "on the contrary, entanglings entail differentiatings, differentiatings entail entanglings" (176). In the context of this setting, the trauma space is envisioned as being composed of the mental, physical, and therapeutic spaces that are (de/re) territorialised by the complex interplay of sensory and affective relays in constant flux and flow, connecting people

and objects to space and place that, in turn, produce becomings that converge, overlap, and metamorphose.

The Physical Space

This inquiry considers the case example of a private mental health clinic where the main service users are children and women with trauma histories. The clinic was designed to be trauma-informed, primarily addressing the unique needs of infants and children who are frequently overlooked by the literature. Figure 1 details the floorplan, showing the therapeutic spaces of a playroom and a counselling room, and an open studio area encompassing a kitchenette, and storage and waiting area. The physical space is not one singular expanse demarcated by walls, doors, and windows. As Deleuze and Guattari (1987) describe, they are sites that bring everything into play.

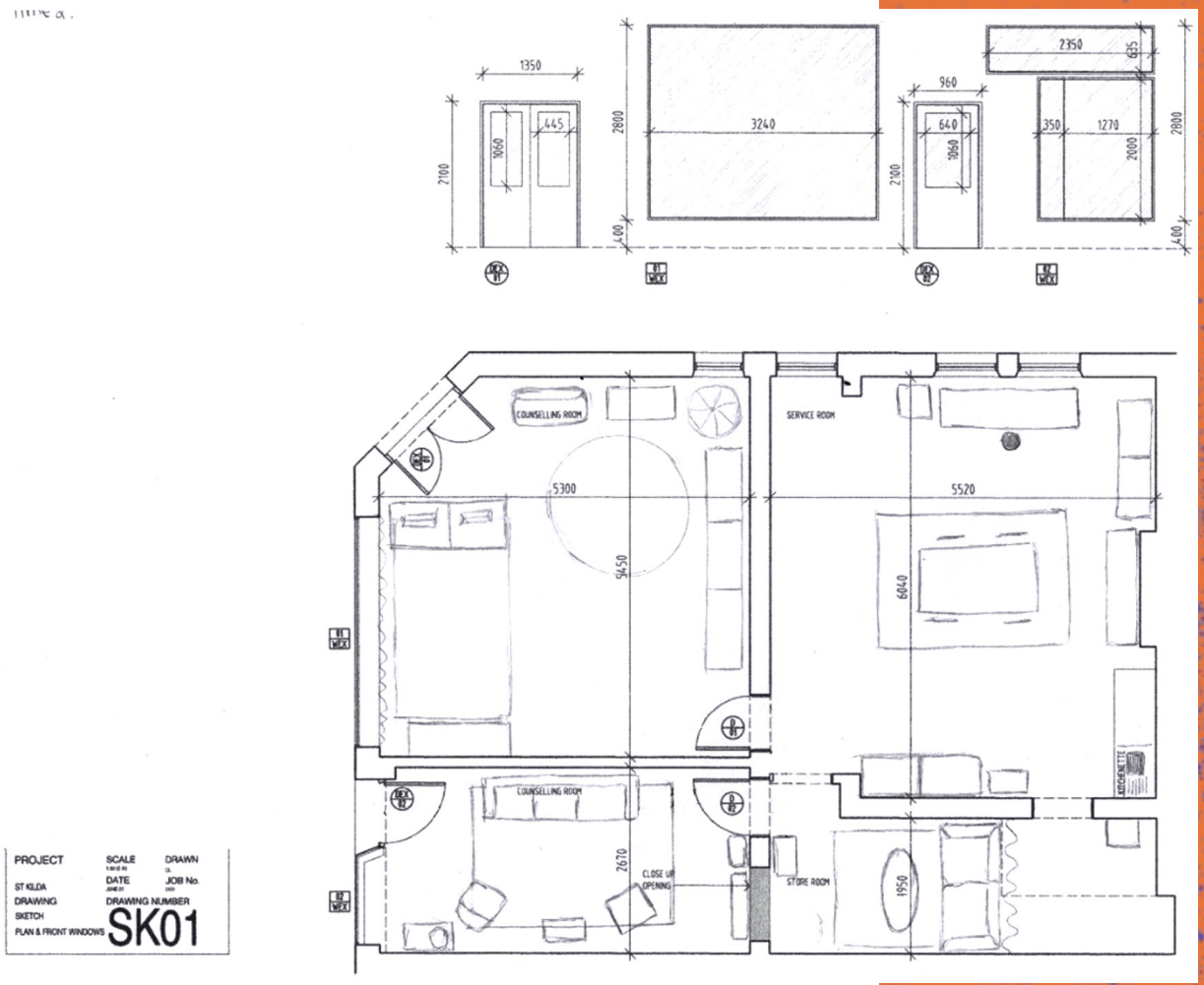

Figure 1. SK Private Practice (architectural plans)

The Therapeutic Space

This case inquiry arose from an earlier TID project I undertook at a domestic violence refuge, which stirred my interest in the restorative effects of materiality. From these two experiences, different thinking and ways of designing a therapeutic space irrupted. Unlike other forms of interior design, where furniture

and furnishings are arranged within their spatial dimensions and achieve a particular feel or aesthetic, a therapeutic space needs to have the capacity for therapeutic "doing" to meet the needs of an individual at a particular time. This goes beyond rearranging objects in the space to increase level of comfort; it speaks to the capacity for ever-changingness in spaces where others already indwell and mediated by the multiplicity of elements. From a New Materialist perspective, the therapeutic room (i.e., the physical space) is continuously reconfigured by the different material entanglements in a series of moments coming together. Just as children and women act upon the space(s), matter and materiality possess equal agentism. Together, the intra-agentic human and non-human elements combine in dynamic and surprising ways (Barad 2014), creating and disrupting various configurations of "therapeutic" that produce relations and identities that are dynamic and ever-changing.

Qualitative mapping is not a new technique—psychogeographies create interdisciplinary opportunities to document human interactions with surroundings, highlighting objects, places, and events that hold significance. However, without a posthumanist agitation, these techniques can perpetuate attachment to tracing anthropocentric representations of human experience (Mcphie 2019). More importantly, conventional mapping is not able to address the questions asked in this paper. Deleuze and Guattari (1987) contend, "make a map, not a tracing" (2). Immersive and experimental mapping possess the capacity to visually apprehend the interplay of human and non-human dimensions (Rousell 2020) and diffract TID within a relational ontology.

Ethical considerations

To address ethical concerns regarding client privacy, confidentiality, and consent, no identifying information has been included, no photographs of the actual configurations of the spaces created in the context of therapy were used, and no analysis or interpretation about the meaning of these encounters have been made. The maps re-imagine two sessions.

Making new materialist mappings

A re-turn to the multimodal cartographic experimentations utilised in my doctoral research was needed to interrogate how a New Materialist agitation of TID can help us to better understand something of the effects of materiality on mental health (see Van Daal 2021); specifically, the effects on trauma and child trauma. By creating a series of iterative maps that complexify the lived experiencing of trauma–trauma healing, we can attune to the multitudinous relays of sense and affect, movement, and patterns that are in constant flux and flow. An iterative and layered process

of mapping is needed to achieve this. This inquiry focuses on presenting the alive "experiencings" that constantly moved the humans into and between the different territories of the entangled trauma spaces. The intention is to describe the chaotic messiness of inter-related events that compose the trauma–trauma healing assemblage in an ordinary private practice. Only then can we begin to comprehend trauma healing as a transformative process entangled with the environment. Second, the map abstractions fracture anthropocentric practice by dissolving existing boundaries to enunciate the virtuality of the human-non-human connections. The maps emerge from the between spaces of theory and practice and cannot be reproduced. Their value is in being unafraid in attending to the uncertain and ambivalent aspects of trauma–trauma healing that emerge in the doing of therapeutic interventions.

Discussion: Beginning in the middle

Two different, yet related cartographic approaches were used to create a series of abstractions describing the process of doing materiality: "lines of flight" and "the palimpsest." They detail the intra-action between human and non-human actants that drive the double movement of becoming trauma healing and unbecoming trauma over two sessions.

Map abstraction 1: Lines of flight

This first abstraction is a simple mapping of the physical movements and interactions of the dyad (and me) using lines drawn onto the floor plan to show the convergence of flows and emergence of intensive zones (refer Figures 2a and 2b). This set of maps establishes the foundation of interactions between people and space, people intermingling in space, and the space with people. They provide the consistency needed to cohere the disparate elements (Deleuze and Guattari 1987) and visually orient the reader to understand the processes described.

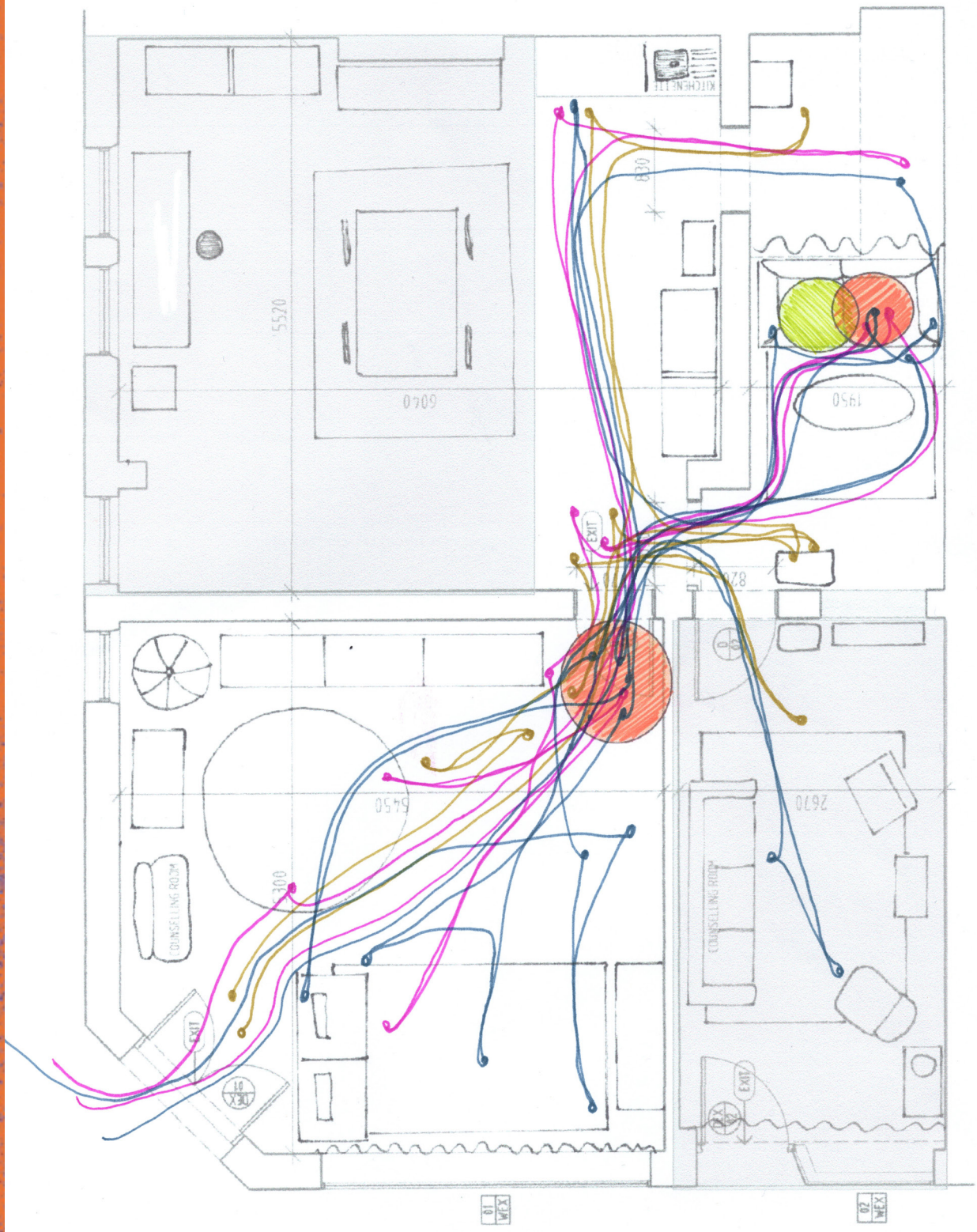

Figure 2a. 'Lines of flight' (Time 1)

Figure 2b. 'Lines of flight' (Time 2)

Intra-agentic movements

Figures 2a and 2b show the initial field of relations formed between the humans and materiality of the built environment, offering insight into the processes of *doing* TID entangled with the *doing* of trauma healing, recovery, and therapy. Rather than interpreting these maps topographically, they propose the *something happening* of becoming that emerges from this interconnectedness. For example, we can see how the three people moved around and through the various clinic spaces, free to move and re-turn as needed. With each re-turn, in another moment or in another session, the territories the actants move within are turned over, again and again. What is not able to be illustrated on these maps are the other actants that move or moved with us: we re-turn to this in the second set of map abstractions. Yet, the lines help us to see, attend to, and understand these movements of making and unmaking that are made and unmade by the changing reconfigurations. Nomadic movements that dispersed 'us' (people + object) around and through the whole office in different ways. Paths that can never be retraced, arising from the particular conditions present in those particular moments.

The benefit of mapping the various lines of flight in this way is that it helps us understand how people affect and are affected by the material aspects of the physical space. In this case, the entryways and exits, windows, designated areas of the waiting area, playroom, counselling room, and studio, and the furniture/furnishings. The lines do not terminate at a node; rather, the dots suggest a place of re-turning back/around/away/to.

Intensive spaces

The convention of locating therapeutic processes within a designated therapeutic room—a boundaried site that acts as a refrain—is sacrosanct in psychotherapy. However, trauma processing is messy, with Figures 2a and 2b illustrating how it spills out in chaotic ways, fleeing into certain areas whilst avoiding others altogether. The physical boundary of the clinic rooms disappears, transformed by the intensive forces and energies that meet and converge. The playroom did not emerge as the primary intensive space as one might expect; the between spaces were. For this child-client, the doorways connecting the playroom with the waiting area were interesting sites of reconfiguration holding unanticipated agentic value. In both maps we can see congested lines indicating a high flow of movement. However, Figure 2a shows the between space of the playroom doorway as a site of greater re-turns, whereas in Figure 2b, lines flow more freely from and through these entryways/exits. This doorway was transformed by the child-client into another holding space, with greater capacity to provide comfort, containment, and connection (Figure 3). From the photo below, we can see how the potential capacities of the doorway increased. No longer just a device to open or close off

a space; its deterritorialisation made possible by the blankets, cushions, padding, colour, and texture that merge with the timber door and frame, metal handle, narrow egress, and the negative space. This between space is an example of becoming another territory where both the human and non-human actants work and rework trauma and trauma-healing, further extending the child-client's relational opportunities.

Figure 3. Playroom-studio between space photographic detail

Other between spaces of high intensity emerged from this clinical mapping expressing movement into "a deeper level of meaning-mattering (differentiating-entangling)" (Barad 2014, 176). The use of orange and green circles marked on Figures 2a and 2b illustrates two paradoxical zones of intensity: liminal sites returned to over and over to drive the becoming of trauma-healing and the unbecoming of trauma respectively. However, it was in these intensive zones where the relationships between humans

and materiality were not merely transactional but examples of powerful material assemblages (Larsen, Bøe, and Topor 2020). The doorway-between-space, denoted by orange in Figure 2a and seen in Figure 3, emerged as an important site where temporality, intersubjectivity, affect, sense, and materiality concentrated before escaping again. Once created, we were careful not to disturb its construction. It felt and looked fragile, with the powerful sense of the dyad re-turning to trauma historialities whilst establishing new, life-giving connections. Unspoken questions arose, such as "How close can I get to it?" and "How can I pass over it, if at all?" Although constructed of therapeutic resources that aim to evoke a sense of safety and connectedness, the energetic property of this configuration provoked anxiety and ambivalence that paradoxically supported the inter-related becomings.

In contrast, the green zones were a different kind of material landscape, distinctly devoid of the soft furnishings and sensory resources used in Figure 3. Thus, opening new between spaces that increased relational connections seemed to slow down the unbecoming of trauma and unhelpfully potentiate its becoming. Although the space was, unlike the doorway, free of obstacles, the paradoxical material effect of this was being unable to move, feeling overwhelmed, and a sense of heaviness. The presence of materiality's non-sense doingness impacted on human experience. It was difficult to sense into and make sense of—an experience arising because of the ineffable non-human and thus non-sense qualities. Of course, within an empirical paradigm, this is nonsense; however, it is precisely this non-sense that helps make and unmake trauma , taking embodied experiencing to a point where it threatens to spill over. The large green circle in Figure 2b highlights the agency of objects by their absence, co-producing a relatively empty physical space, a mental space that was hard to think in, and a therapeutic space that verged on becoming untherapeutic.

Re-turning mapping

The second set of map abstractions (refer Figures 4a-4e) act to increasingly complicate the first map abstractions by including the various objects. This is an example of Barad's (2014) process of iteratively intra-acting described earlier that drives the becoming and unbecoming of trauma/trauma-healing. The mapping aimed to record the sensorial and affective afterimage left behind by the therapy event. A palimpsest approach was adopted whereby drawings of the new (re)configurations were superimposed onto photos of the playroom and key objects to show the role of materiality in stimulating multiple between spaces that re-configured the trauma space.

Inspired by Sarah Wiggleworth's visual essay of a dinner party (Singley and Horwitz 2004), a similar approach was taken to follow the haptic, sensorial, and affective flows of the dyad-TID-trauma

space assemblage that emerged over two therapy sessions. The wonderful feature of Wiggleworth's drawings is they infer the interaction between humans, objects, and place in space and time by presenting this movement. We gain a felt sense of the event and its fullness through understanding how the various material elements co-configured the experience without her needing to precisely plot everything and everyone. It is an early example of a non-conventional diffraction of the preferred architectural ordering of place, status, and functioning into chaos and non-sense. Immediately transported into the event, the viewer is transformed by her maps—our own becomings merge with the becoming of the drawing, the architect, and the book it is published in.

I created the map abstractions as part of my process of trying to understand the "doing of" TID alongside the therapeutic work with clients, going beyond the "design things" such as the colour palette, style of furniture, and lighting. This is an issue I have repeatedly encountered, highlighting how these things on their own fall short in the doing of trauma healing. In a radical moment of re-thinking of the first set of maps, I realised that I am not external to objects, and clients are not external to them either. We exist together as examples of Deleuze's veritable becomings, emerging in between spaces continuously evolving and changing because of our relational connections that determine "the nature of the lines, and seeing how and whether they overlap, connect, bifurcate, or avoid the points" (Emerling 2017, 440). Again, the maps are deliberately iterative and seek to complexify the interactions to show the "how" of the effects of materiality on trauma processing. Neglecting to depict the different spaces configured around and through the clinic and presenting the material encounters as separate from this multisensory milieu risks returning those encounters to the status of objects.

Map abstraction 2: A Palimpsest

What could not be shown in the first set of maps was the role of objects, furnishings, and structures in the veritable becomings, reconfigured each week depending on what material encounter was needed in response to trauma processing. These figurations were unanticipated and surprising. What can be seen in this series of map abstractions (Figure 4a-4e) are the playroom still bearing the ghostly traces of earlier arrangements—re-configurations of the playroom over two sessions. These maps pay close attention to how the material elements are re-turned in each session, revealing something of the configuration(s) between the lived experience, affect, and material components. They expand the first series of maps by deliberately staying with this complexity. Entangled in a multisensory milieu, they appear as an afterimage with the lingering remnants of sensations and affects that could be reanimated long after the original figuration had disappeared (Van Daal 2021).

It needs to be stressed that the child-client moved *every* item of soft furnishing from the clinic and *all* the sensory furniture and equipment to the area by the window to build a fort each week. The result was a new area tentatively created, with care taken to (re)position objects in unusual ways, achieving undisclosed functions of psychological-emotional containing not known they were needed until that moment. The 11ft curtains tacked to create a roof, and the modular lounge turned on its side becoming walls. Cushions stuffed into cracks to stop something unwanted from coming in and/or escaping. The entrance is a tunnel big enough only for the child to climb through. A small table used to reinforce a wall. The tent offers the option for retreat.

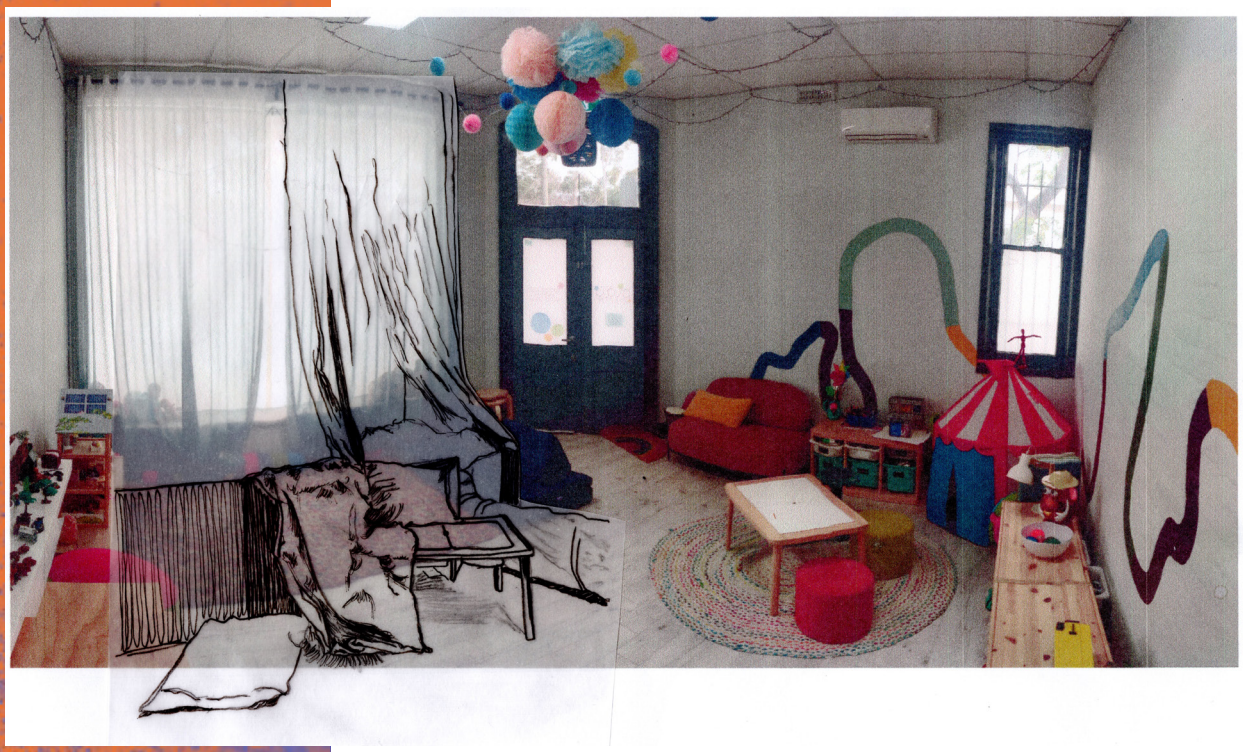

Figure 4a. Playroom configuration 1 (Time 1)

In the careful creation of a robust fort, new between spaces open that can be peered through, as seen in Figure 4b, extending connections into other between spaces. This provides spontaneous opportunities to heal from trauma through the ability to contain, withdraw, or connect.

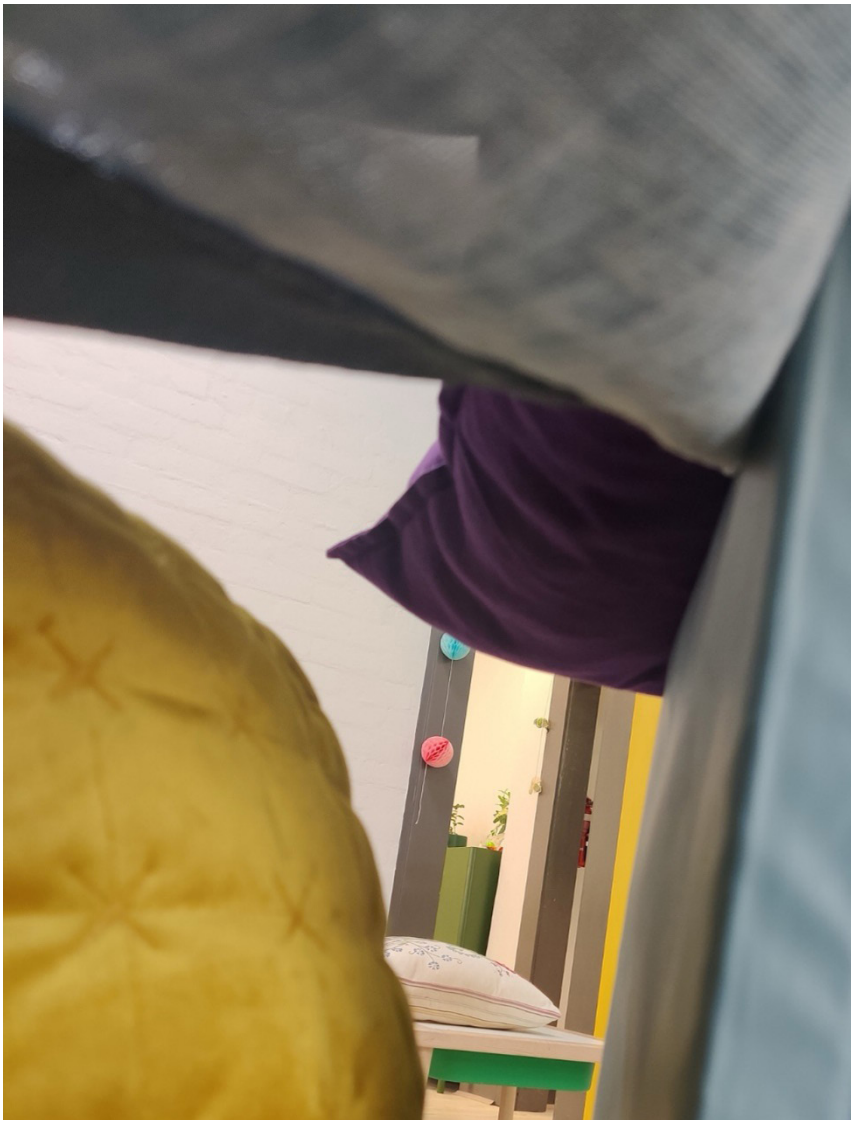

Figure 4b. Between space (Time 1)

Figure 4c presents another between space, (re)created by another re-turn of people, place, and object. It might look similar, include the same objects and people, but the energy is different and flows differently, as illustrated by the first set of map abstractions. The effects of materialities on mental health experiencing are becoming more apparent where the movements of deterritorialisation can be observed. Solutions from the previous session are found, yet new problems emerge that need dealing with. The objects did their own thing, and they are hard to control. The same pillow could not be returned to the same place with the same effect expected, eliciting senses and sensations that were partially new yet still familiar. In turn, this entangles with the affective qualities of the large window bringing the rainy weather inside, creating a dreary atmosphere when last week was sunny. In this session, the curtain canopy is too heavy, collapsing the foam wall. Instead of setting up the physical space in the same way, we (mother-child dyad and I) are engaged in a process of re-turning material elements again and again, potentiating a multiplicity of trauma/trauma healing becomings.

Figure 4c. Playroom configuration 3 (Time 2)

Figure 4d. Playroom configuration 3 (Time 1 + 2)

The layered configuration in Figure 4d shows another perspective on the playroom, this time looking towards the between space of the internal door. We can now see into the multiple between spaces—under the curtain canopy, the tent, the tunnel, and a nook. Spaces within spaces that increase the client's access to trauma healing and capacity for connections with others (Larsen, Bøe, and Topor 2020). This illustration helps make sense of the flight lines marked in Figure 2b and offers a nuanced understanding of the orange-coloured intensive spaces of the nook and the tent-tunnel, as well as the empty areas of the room that configure the green zones of intensity.

Figure 4e. Becoming-unbecoming entanglement

The final map abstraction (Figure 4e) layers all the re-configurations re-imagined, so we might gain a full sense of the intensity of the trauma–trauma healing/TID assemblage. Although it can seem chaotic and disorganised, this figure is intended to highlight the considerable transformative potential of materiality in effecting mental health lived experiencing. We connect to the "partial and full, raw and embodied" (Charteris et al. 2019, 1) material nature of doing TID in relation to doing therapy and doing trauma recovery.

Conclusion

This inquiry attends to the intention of creating new and different opportunities to think/play/experiment with multimodal mapping by making agential cuts that diffract TID in unexpected ways. The maps reveal the multitudinous relational potentialities of materiality and matter that drive the (de/re) territorialising movements of doing trauma healing and undoing trauma; veritable becomings that are complexifying in nature and impossible to apprehend using conventional methods. This experimental approach of mapping allows us to shatter the core "human" tenets of TID by reconceptualising it as a process of doing with matter rather than something that is done.

Additionally, the maps help uncover the hidden potential, under-realised in the scholarship, of imagining new and diverse ways to conceptualise childhood trauma/trauma healing. Attending to the ongoing intra-activity that *also* includes the child's human experience as an equal part of this complex entanglement means finding ways to increase our understanding of how materiality affects a child's sense of place and peer belonging (Kyronlampi, Uitto, and Puroila 2021), identity, and culture (Cutter-Mackenzie-Knowles, Malone, and Barratt Hacking 2020). Subsequently, we cannot use these maps to compare human experience across time, place, or event . Instead, they illustrate how the experiences of trauma and trauma recovery are re-turned by and from a material environment that has equal agentic value. An interweaving of a relational ontology is required to provoke radical ideas and methods that attempt to comprehend how human experience happens *in* place *with* matter.

As a final reflection, interdisciplinary practice needs to grapple with an over-reliance on narrow, postpositivist, and realist practices that perpetuate methods concerned with upholding and reaffirming anthropocentric standards, theories, and epistemologies. The growing pervasiveness of trauma is a contemporary human issue that is too important and too urgent to neglect in this way, and new imaginings can evoke a much-needed humbling of anthropocentrism. This case highlights the potential for TID to be incorporated into everyday practice by putting it to work in an everyday setting such as a mental health clinic, highlighting how it becomes a therapeutic intervention without simply being an architectural project. Trauma healing does not end when the therapeutic session has ended or the physical space has been exited, and nor should design. New Materialism sits in the between spaces of what is human, what is architecture, what is therapeutic, and what is design to engage with the complexity of lived experiencing as something that is always in states of becoming.

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Assemblages as Ecologies
Sculptural Collaborations with Subterranean Bodies

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Abstract

In this essay, I draw on my art research and installation 'Earthly Bodies, Subterranean Rhythms' to posit assemblages as ecologies: platforms where specific agencies and interactions occur at different scales, including microscopic levels. Based on documentation images of my creative process, I delve into my experience exploring sculptural building and creative possibilities in more-than-human collaboration. This research involved observing subterranean bodies and temporalities, rhizomatic growth and mycorrhizal interactions, as well as working in interspecies cooperation with oyster mushroom mycelium and wheatgrass roots.

As spatial practices, architecture and sculpture have developed specific building methods. I expand on assemblage, the building method I worked with, seeking to articulate three lenses: sculptural, material and philosophical. Technically, an assemblage is a piece made by bringing together disparate elements. In this case it consisted mainly of ceramics, different earthly substrates, mycelium spawn, soil and seeds. Borrowing from Bennet's 'Vibrant Matter' (2010), Tsing's 'The Mushroom at the End of the World' (2015) and DeLanda's 'Assemblage Theory' (2016), I reflect on living sculptures as interspecies assemblages: spaces of collaboration, cooperation and contamination between living and non-living bodies, matter and forces, human and more-than human agencies. From this perspective, assemblages are more than the sum of their parts as they have the capacity to re-make and transform us through encounters. Practice-based research is linked with Negarestani's notions of 'complicity' and 'contingency' and considered embodied and intimate.

A polyphony of worlding processes makes the collective architecture we live in: our shared world. Working in interspecies assemblages may enable more respectful and enjoyable ways of collective dwelling.

Dialogues of contamination

As spatial practices, both architecture and sculpture have developed specific building methods. In this essay I draw on my art research 'Earthly Bodies, Subterranean Rhythms'[1] to revolve around assemblage, the building method I worked with, seeking to articulate three lenses—sculptural, material and philosophical[2]—that prompted me to understand my sculptural assemblages as ecologies. Based on documentation images of my creative process, I delve into my experience of exploring sculptural building and creative possibilities in more-than-human collaboration.

1 This work was developed in the context of my postgraduate studies in the Art and Humanities MFA at Duncan of Jordanstone School of Art (DJCAD) at Dundee University.

2 I first developed this idea in an oral and visual presentation named 'Earthly Bodies, Subterranean Rhythms: Living Sculptures as Interspecies Assemblages' at the Multispecies Architectures Postgraduate Symposium, 1 December 2022, University of Dundee.

Developed in a 'thinking through doing' and do-it-yourself (DIY) key, this investigation was practice-based. Artistic, creative and embodied explorations led me to dialogue with philosophical and ecological concepts that informed the work. I observed subterranean bodies and temporalities, rhizomatic growth and mycorrhizal interactions; I worked in interspecies cooperation with *Pleurotus ostreatus* (oyster mushroom) mycelium and wheatgrass roots in the building of living sculptures. The outcome was a multimedia installation at the 2022 Duncan of Jordanstone School of Art (DJCAD) Masters Show.

Technically, from a sculptural and material perspective, an assemblage "is art that is made by assembling disparate elements," (Tate n.d.) which are "entirely or in part, (...) preformed natural or manufactured materials, objects, or fragments not intended as art materials." (Seitz 1961, 6).

To approach the concept from a more philosophical lens—which could also be thought of as political and material—I borrow from the philosopher Manuel DeLanda, the anthropologist Anna Tsing, and from Jane Bennett, a political theorist who specialises in ecological philosophy.

In her book *Vibrant Matter* (2010), Bennett explains that there are instrumental and naturalised perspectives that conceive matter and other-than-human forms of living as passive or inert. These conceptions, Bennet states, cause us to figure these materialities simply as commodities or resources and "feed our human earth-destroying fantasies of conquest and consumption" (ix). As an alternative, the author's notion of vibrant or vital materiality considers matter and lively things as actants, which is to say that they have sufficient agency and coherence "to make a difference, produce effects, alter the course of events" (viii). However, its efficacy or agency is distributed across ontologically heterogeneous elements: it "always depends on the collaboration, cooperation, or interactive interference of many bodies and forces" (21). Thus, matter or actants never really act alone, but in the form of an assemblage.

DeLanda's *Assemblage Theory* (2016) brings together, analyses and disarticulates Deleuze and Guattari's different definitions of assemblage in an attempt to make sense of this complex theory, while adding his own contributions. DeLanda explains that assemblages "are always composed of heterogeneous components," "can become component parts of larger assemblages," and "emerge from the interactions between their parts" (20–21). Through this perspective, emergence becomes a key notion as it implies that assemblages are irreducible to their parts—they don't 'merely coexist' but rather generate a 'new entity.' The properties of an assemblage are not 'necessary or transcendent,' but 'contingent': "if the interactions cease to take place the emergent properties cease to exist" (12).

Tsing claims, along similar lines, that assemblages are greater than the sum of their parts. In *The Mushroom at the End of the World,* (2015) she proposes that assemblages entail contamination, and this is why they are not a mere gathering of elements: they are gatherings that become happenings. Contamination means transformation through encounter: "We are contaminated by our encounters; they change who we are as we make way for others. As contamination changes world-making projects, mutual worlds—and new directions—may emerge" (27). For Tsing, both collaboration and contamination mean to work across the differences, and they happen within and across species.

Regarding interspecies collaboration in the arts, transmedia artist Ana Laura Cantera explains that in co-creations between human artists and non-human living beings, the parts that are involved cannot be dissolved:

> they are fundamental to the creation or piece in formation. Non-humans participate operating and becoming (...). There is cooperation from their very inhabiting of the artwork, the developing of their existence and the adaptation of their life cycles to specific contexts. They are active living beings that operate and have agency, even when intentionality is not involved (Cantera 2022).[3]

Dialogue across species is possible through observing, listening and spending time with those materials and other-living beings. While in the creative process there is always an attempt to predict potential behaviours of the materials, it is only by assimilating the unexpected—acknowledging a distributed agency—and focusing on the process—rather than on the output—that alliances and collaboration can happen.

Regarding this aspect, the interplay between 'contingency' and 'complicity' explained by the artist, writer and philosopher Reza Negarestani becomes relevant. The author proposes a contingent conception of materiality, in which materials have an autonomy of their own that influences and interferes with the artwork and its processes in spite of the artist's decisions. "Contingency is the concomitant expression of possibilities (...) anything can happen, but equally, nothing might ever happen; it is the simultaneous suspense of infinite likelihoods and inexplicable frozenness" (Negarestani 2011).

Complicity is the artists' willingness to embrace and engage with the contingency of the materials they work with. This does not mean that they approach the artwork with 'creative openness' or total material experimentation. Instead, it refers to a 'rigorous closure' to the artwork that enables its contingent materials to reveal themselves while opening the work beyond its confines. According to Negarestani, complicity "reformulates the rigorous

3 My translation.

closure of the work as a narrative plot where contingent events unfold, where unpredictable twists take shape and where the work becomes the subject of experimentation of its own materials" (Negarestani 2011).

> Complicity gives the artist the speculative opportunity to see the work as the reflection of contingent materials on themselves, their secret collusions, conspiracies, antagonisms, indifferent attitudes, and their weird twists in and out of the possibilities they bring about (Negarestani 2011).

I started to work with the concept of living sculptures during my undergraduate and further expanded on them in my thesis and exhibition '*Permanecer y Transformarse*' [To Remain and Be Transformed] (2018) as vital situations with their own requirements, relationships, rhythms; mutable processes with a fragile, living and dialectic temporality. The concepts and theories explained above are the main conceptual lines that, in dialogue with my art practice, led me to understand my living sculptural work as interspecies assemblages and as ecologies: spaces of collaboration, cooperation and contamination between living and non-living bodies, matter and forces, human and more-than-human agencies.

Sculptural building and creative possibilities in more-than-human collaborations

Living soils

Figure 1. 'Channels and Connections/ Wood Wide Web.' Artist: Deepika Nandan.

While "mushrooms dominate the popular fungal imagination," (Sheldrake 2020) the fungi kingdom is remarkably broad and diverse, and merely a "10 percent of (known) fungi produce mushrooms" (Lim and Shu 2022, 23). The species that actually produce mushrooms are called macrofungi, while the "overwhelming majority that don't form sporing bodies are called microfungi" (23).

Thus, even if mushrooms are the component we humans are more aware of, they are just one piece of a bigger whole: the visible parts of the (macro)fungi that grow overground. They are sporing or fruiting bodies. "Fungi use spores like plants use seeds: to disperse themselves. Mushrooms are a fungus's way to entreat the more-than-fungal world" (Sheldrake 2020).

Mushrooms are made of hyphal strands, "networks of many cells known as hyphae" (Sheldrake 2020). Hyphal strands also form the mycelium, which is the fungi's component that grows underground, in logs of trees, or into decaying or dead matter. "Mycelium describes the most common of fungal habits, better thought of not as a thing but as a process: an exploratory, irregular tendency. Water and nutrients flow through ecosystems within mycelial networks" (Sheldrake 2020).

In some species of fungi, the mycelium extends in huge and entangled webs under the ground, forming connections with plants' roots that are called mycorrhizal relations. Through them, plants and fungi share nutrients and information, they compete and collaborate (Figure 1).

This sparked curiosity in me. What is happening under our feet that we cannot see, but still supports us? Can we humans learn from the interspecies entanglements that take place in the living soil? How could we interact with them with our differences? Is it possible to creatively collaborate in building together? How do subterranean bodies decay, grow and build relationships, space and time? What does a rhizomatic body—like roots or mycelium—encompass? Which are the limits, if there are any at all, in a body that grows rhizomatically and entangles with others?

Tangible encounters

Practice-based research has proven to be a fertile ground for exploring and developing interspecies interactions and ecological conceptions and actions. During my investigation, I came across interdisciplinary projects that became relevant for my practice. One powerful example is 'Arachnophilia,' the research-driven community that emerged from artist and architect Tomás Saraceno's work regarding spider/web architectures, biomaterials, behaviour and biotremology. Aware of the so-called Sixth Mass Extinction, the broad aim of 'Arachnophilia' is to surpass the

usual repulsion towards spiders (arachnophobia), by shifting "how people value these relations—how we notice, connect with and care for our arachnid kin" (Arachnophilia n.d.).

Jae Rhim Lee's current research, the 'Infinity Burial Project,' revisits Western conceptions and rituals around death and post-mortem bodies. "Featuring the development of a unique strain of mushroom that decomposes and filters out the toxins in human tissue," the project looks into human–fungi relations in order to develop "an alternative, ecologically conscientious form of burial, promoting a more personal engagement with the process of decomposition" (FACT, n.d.).

Embodied and experimental methods are also practised by the architectural firm ecoLogicStudio, "where each project becomes a laboratory, a real test bed of future models of inhabitation of the Urbansphere" (ecoLogicStudio n.d.). Described as an urban curtain, their installation 'PhotoSynthetica Curtain' (2018) worked with the "power of algae to absorb carbon dioxide from the air" and store it in real time. The system "demonstrates how biotechnology can become integrated in our cities to help achieve carbon neutrality" (ecoLogicStudio n.d).

The sculptural lens in my inquiry into the subterranean world, the ecologies that it hosts and rhizomatic growth opened up a question about physical bodies, their limits and their encounters. Where does a body end, where does a body begin? Which are the boundaries between bodies of different species? Are such boundaries stable or dynamic?

Aiming to understand the growing processes of fungi and my possibilities of interaction with them, for five months I explored a diversity of moulds, containers and structures of different shapes, materials and textures. I tried cardboard and paper, ceramics and 3D printed PLA (Polylactic Acid). Over the course of a year, I attempted to grow different fungi species, such as *Hericium erinaceus* (lion's mane) and *Ganoderma lucidum* (reishi): with successes and failures, each process of cultivation took between four and six weeks, and some of these explorations are still in progress.

Based on what I learnt along this material and formal research, I decided to work with clay in two human-scale structures that would later become liveable spaces for *Pleurotus ostreatus* fungi.

Figure 2. Photogram of 'The Body Itself as a Perspective' (2022), an audiovisual piece that was part of my research and installation. It was filmed at the DJCAD Clay workshop facility.

Clay interested me due to its earthly quality. Furthermore, working with clay implied a direct physical, material and tangible connection between my own body and the sculptural bodies through touch and movement. In this sense, the conception of vital materiality resonated and accompanied these human–clay interactions: "if matter itself is lively," Bennett suggests, "then not only is the difference between subjects and objects minimised, but the status of the shared materiality of all things is elevated. All bodies become more than objects" (Bennett 2010, 9). The scale of the work intensified this relation (Figure 2) and what, in Negarestani's terms, we could call clay's autonomy. With one sculpture being 220 cm tall and the other 130 cm, I had to move around them, change my perspective and my body position in order to build them. Clay's contingencies marked the pace and possibilities of the building process. Its temporality—regarding its plasticity and humidity/dryness—and its weight—that challenged my physical endurance—were the main factors that either allowed me to keep on building or threatened with collapse. The process was possible through a corporal dialogue of coordination and motion—almost like a dance—and through sensitive observation and touching infused with patience, caring and waiting times.

Figure 3. Texture's detail on one of the fired ceramic modules.

Aware of the rhizomatic way in which fungi bodies structure, I gave the clay pieces a relief where I considered the mycelium would grow better: a rough texture with holes that it could grasp on to and entangle with. Once the pieces were built and texturized, I divided them into modules in order to be able to manipulate them and fit them into the kiln. Pieces were fired to biscuit (1020°C) so that the ceramics maintained a certain porosity. This would become useful at a later stage for keeping the pieces humid, allowing fungi to grow (Figure 3).

Building by decomposing

As I mentioned above, I worked with *Pleurotus ostreatus* for this project. Commonly known as Oyster mushroom, *Pleurotus ostreatus* is a saprophytic fungus. The etymology of 'saprophyte' derives from the Greek *saprós* (rotten, putrid) and *phyton* (plant). By breaking down decaying or already dead matter, saprophyte fungi "recycle and make available nutrients that would otherwise be locked up into dead matter" (Lim and Shu 2022, 28) and bring them back into the ecosystem. "That ability plays a critical role in the carbon cycle by enabling the release of carbon dioxide from decaying organisms, and it transforms plant organic matter into substances that both fungi and other organisms can utilise for nutrition" (Wilson 2018).

Pleurotus ostreatus decomposes organic matter, feeding mainly from lignin and cellulose without any previous biological or chemical treatment (Alder and Zubillaga 2020, 11), even if the

matter is poor in vitamins and nutrients. This allows this species to be cultivated in a broad arch of substrates that are often available in our human daily diet, in our waste or in our close surroundings. As well, since very technical or lab equipment is not essential, it is possible to cultivate *Pleurotus ostreatus* in a DIY key.

DIY is a widely-used method by artists working in interspecies alliances that involve processes that exceed art traditional techniques. For example, artist Kuai Shen Auson expands on the use of his "own 'do-it-yourself technology' in sort of a 'trial-and-error' fashion' (Auson 2011, 63) when working in a human–ants relation for his artistic research and audiovisual installation, '0h!m1gas':

> The learning curve has been difficult, as dealing with living beings that do not speak your language can be frustrating. (...) keeping tropical ants alive simulating their original environment implies dedication, time and commitment. (...) Nevertheless, the lessons learned from the mistakes I committed have left me with a great deal of knowledge. It has indeed become an obsession that has taken me on fascinating field trips (mentally and physically) to discover the relationships and differences between the myrmecologic microcosmos and the human perception of the world (Auson 2011, 63).

Furthermore, artists, architects and designers working in the areas of biodesign and biomaterials share a vision of knowledge accessibility. With a free source political conception, many platforms and discussion forums have been created for experiences and recipes exchange—e.g., 'The Future Materials Bank' and 'Materiom.' However, usually a component of transformation arises in following these recipes, moving beyond direct application. These collectivisations of experiences could be conceived as assemblages and ecologies between people and practices, species and territories.

My material research was potentiated particularly by the biofabrication with mycelium protocol (Cantera 2020) developed by the transdisciplinary collective Mycocrea; and Biology Studio's '*Siembra y Programación*' [Sowing and Programming] (Medina 2022). It was also encouraged by the 'Material Atlas,' (Leboucq 2019) where the creators of the Growing Pavilion (BioBased Creations) share "knowledge about smart and environmentally responsible construction" (51). The authors explain that working "with naturally grown and locally sourced materials is a choice to minimize the impact on the environment and to explore the path to a fully biobased future" (51).

Figure 4. Collages made with photographs and microscopic pictures of the collected substrates. From right to left, substrates are yerba mate, autumn leaves, grass, peanut shells. These images were used for *Earthly Textures* (2022), an artist book that was part of my research and installation.

Along these lines, and grounded in the territory I live in, I looked at my surroundings to locate possible substrates that contained cellulose. In autumn, I found tree leaves on my daily walks. I collected yerba mate from my everyday diet. Peanut shells were an occasional food waste I produced. Eventually, I also encountered grass clippings. For months, I paid attention to these elements that would have ordinarily ended up in the bin, increasing the volume of urban waste. Instead, I collected them, dried them and stored them (Figure 4).

Once I had sufficient substrates collected, and the sculpture modules were fired, I proceeded to the 'inoculation' stage. This phase consisted in mixing *Pleurotus ostreatus* mycelium spawn with the stored substrates. Inoculation is a very delicate stage, and all possible hygiene and safety measures need to be taken. I pasteurised the substrate by boiling it, to then mix it with the mycelium spawn, covering each ceramic module with the mixture.

Next, I placed all the inoculated modules in a dark and humid environment where, by feeding from the autumn leaves, the dried grass, the yerba mate and the peanuts shells, the mycelium started to grow from the spawn, filling the space with its whiteness. "Mycelium is how fungi feed. (...) The difference between animals and fungi is simple: Animals put food in their bodies, whereas fungi put their bodies in the food" (Sheldrake 2020).

Figure 5. White mycelium hyphal strands decomposing and feeding from an autumn leaf.

As weeks went by, interactions occurred at different scales, on both macro and microscopic levels (Figure 5). In gradually decomposing the substrate items, mycelium grew entangled with the ceramic pieces by filling the holes of their texture. As it grew, mycelium assembled the diverse material components together in a rhizomatic living weaving that held itself, the ceramic and the substrates together.

This process of whitening implied a certain level of material homogenisation through substrates' decay, while increasingly defining each module's spatial boundaries through mycelium expansion. Whereas in terms of mushroom cultivation this stage is named colonisation, in assemblage theory it could be analysed as a process of territorialisation. DeLanda explains the degree of territorialisation (or de-territorialisation) as one of the two parameters that characterise assemblages. "Territorialisation refers not only to the determination of the spatial boundaries of a whole (...) but also to the degree to which an assemblage's component parts are drawn from a homogeneous repertoire, or the degree to which an assemblage homogenises its own components" (DeLanda 2016, 22).

In 'Undercover Softness: An Introduction to the Architecture and Politics of Decay,' Negarestani elaborates on decay as a building process. Through complicity between time and space, "everything is collectively mobilised by and toward putrefaction" (Negarestani 2012, 413). Decay connects discrete elements in a progressive softening of forms that lose their limits to dissipate in the environment where the rotten object is nested. Decay, however, "imposes a perpetual deformability on the formation without completely erasing its ontological registers (...) without eventuating in radical erasure or complete transformation" (410). This was the case with the sculptures, where, even if the substrates were decomposed by and integrated into the mycelium in a process of homogenisation, their shapes remained in the texture, which was not completely uniform.

Coding (or decoding) is the second parameter explained by DeLanda. It refers to the degree in which 'special expressive components' (mainly, chromosomes and languages) fix the identity of a whole. For Deleuze and Guattari, assemblages operate where "the coding parameter is low, as when animal behaviour stops being determined by genes, or when human behaviour ceases to be fully specified by written norms" (DeLanda 2016, 23). Therefore, a higher degree of decoding implies that behaviour is not rigidly programmed and enables more flexibility. The hybrid character of the sculptures—which involved biotic and abiotic, designed and recycled elements, shapes and materials—along with the certain level of artificiality of the context—an environment in-between an art studio, a laboratory and my home—provided a 'decoded milieu,' one made of a diversity of expressive components and natures that do not usually come together. Thus, the identity of the sculptures was not (fully) defined by codes or norms but, instead, emerged through the moment-to-moment interactions among their heterogeneous components. The emergent properties, features and alliances of these sculptural assemblages were specific to their very own ecologies.

The rhythm of a space

Figure 6. 'Shape of Continuity' detail (2022). Image Credit: Sherry Trimon.

Working with living others requires time. Time to listen, to observe, to get entangled and understand our own and others' cycles and living processes. Time to cultivate, time to grow, time to imagine and explore ways of communication in order to co-create together. Working with living others broadens temporal existences. Tsing (2015) reflects on progress as the temporal frame we humans are embedded into; as a driving beat that pushes us in a forward march that prevents us from looking around and from hearing temporal patterns that never fit in the progress timeline. Along these lines, working with living others allows experiences that overcome hegemonic and (exclusively) linear temporalities, while concurrently expanding perceptions of space.

My research implied noticing a diversity of biotic and abiotic rhythmicities that were sometimes divergent, occasionally clashed and other times were attuned. Aiming to better explain her concept of assemblage, Tsing borrows from music the word 'polyphony.' Made from simultaneous and autonomous melodies that intertwine, in polyphonies moments of harmony and dissonance happen. "Patterns of unintentional coordination develop in assemblages. To notice such patterns means watching the interplay of temporal rhythms and scales in the divergent lifeways that gather" (23).

If temporality had been so present during the creative process, how could I better share this duration spatially with the audience? At what pace was I going to invite the audience to interact with this artwork? How would people share time and space with the sculptures? Which direction were they going to walk in? What are the rhythms of a space?

With these questions in mind, and further diving into the subterranean world, I worked in collaboration with roots (Figure 6). With them, I followed the rhythm of the space where my work was meant to be shown later on.

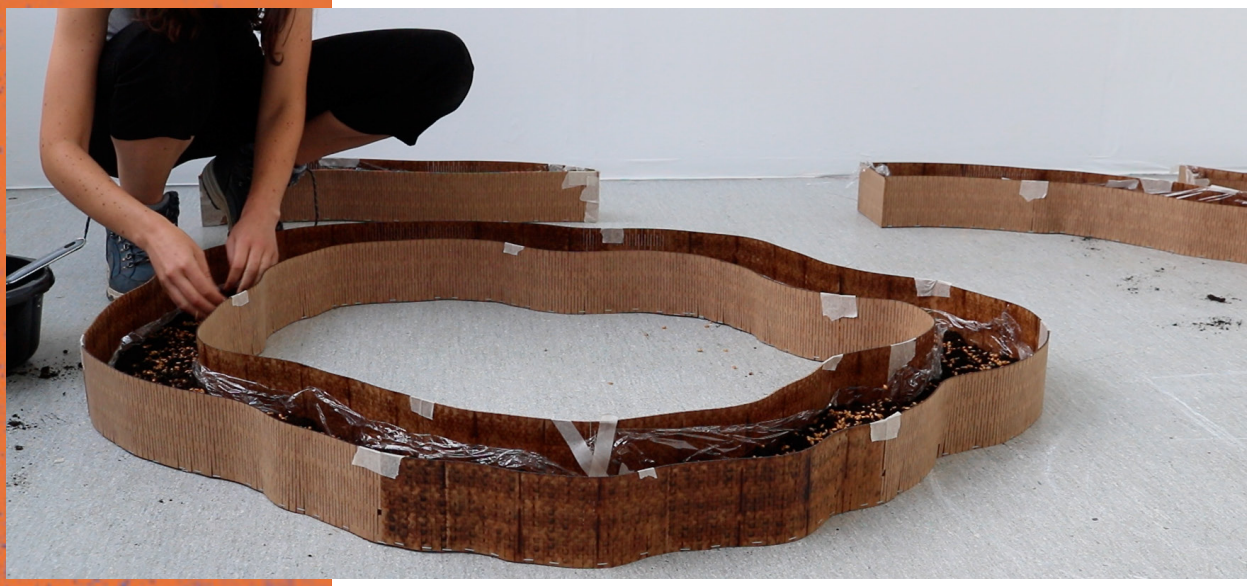

Figure 7. 'Path of Continuity' in process. Photogram of 'Care as a Method' (2022), audiovisual piece that was part of my research and installation.

I drew organic shapes on the floor by imagining a potential path, a rhythm. By following these forms, I designed and built moulds with laser cut MDF. A vertical line pattern cut in the walls enabled me to shape them easily. I filled them with soil and planted wheatgrass seeds (Figure 7).

Grass thrived above the surface, while roots grew strongly below, copying the moulds in a very accurate and resistant way—making it easy to demold the pieces. Again: a powerful rhizomatic body assembling, holding together, drawing in space and shaping it.

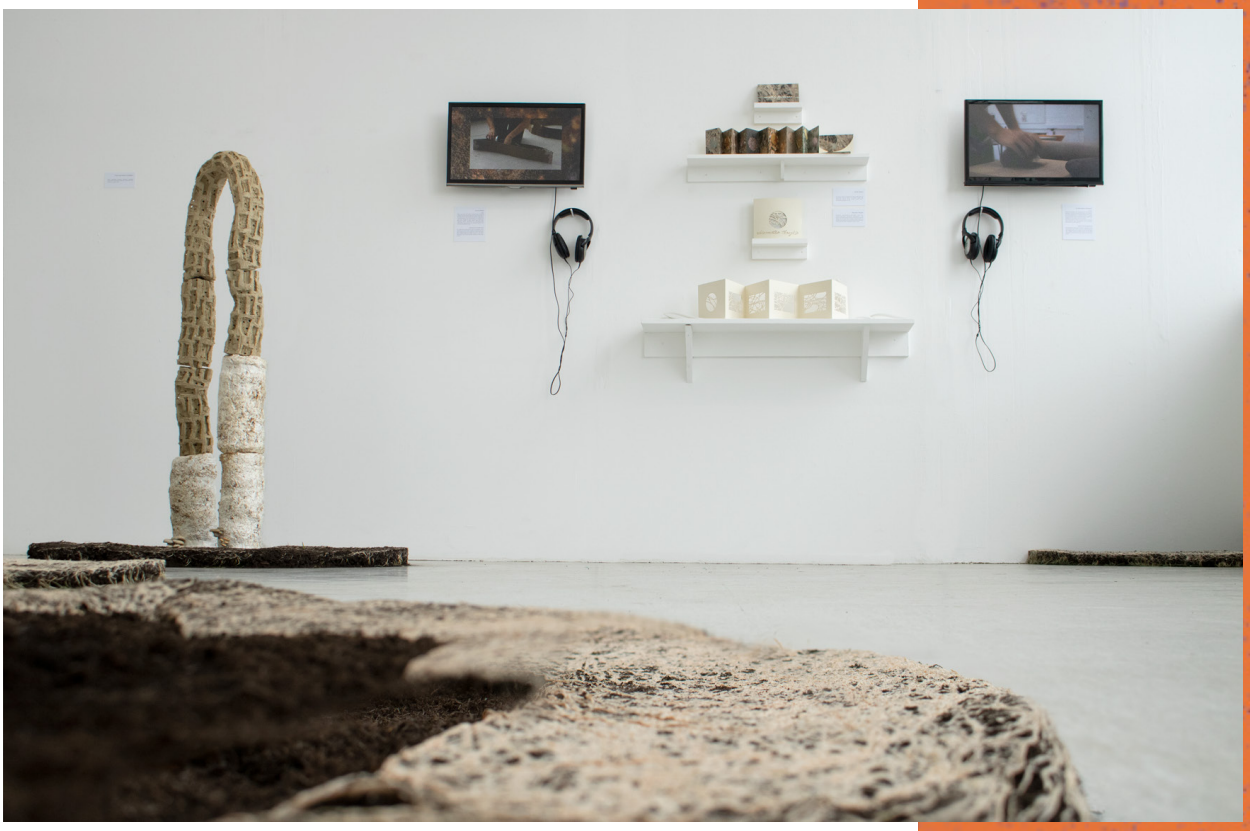

Figure 8. Earthly Bodies Subterranean Rhythms, installation at 2022 DJCAD Masters Show.

Figure 9. Detail of fructified mushrooms on sculpture.

After around four weeks of the mycelium growing in the darkness, and three weeks into the development of the roots, I set up the installation by re-assembling the ceramic–fungi modules into sculptural wholes—*Fungi Assemblages*—and surrounding them with the roots' structures—*Shapes of Continuity* (Figure 8). In this stage, the several assemblages that had been built separately became components of larger ones—what DeLanda's calls 'assemblages of assemblages.'

In this reconfiguration some interactions were transformed, others were potentiated. Also, new relations started to happen between sculptural work and diverse elements of the installation, such as the audiovisual documentation, artist books, and the very exhibition space. The daylight and brightness of the room, the fresh air, the temperature conditions, along with other factors, resulted in mushrooms fructifying on the sculptures (Figure 9). As the days went by, it was possible to witness changes of both living and decaying processes in the artwork: assemblages are not stable, "the polyphony of the assemblage shifts as conditions change" (Tsing 2015, 158). Actants modify their relations and are modified by them through time. Described by Bennett as "event-space" and "open-ended collectives," an assemblage "not only has history of formation but finite life span" (Bennett 2010, 24). Hence, assemblages are not about results but processes.

'Earthly Bodies, Subterranean Rhythms' emerged from what Bennett explains as a distributed agency. Every living and non-living element involved in the creative process of this research had a certain degree of agency that enabled the sculptures and the exhibition to exist in their very particular way. Along these lines and drawing from Deleuze and Guattari, Thomas Nail explains that a common feature of all assemblages is *personae* (agents):

> Personae do not transcend the assemblage but are immanent to it. They are not the origin of the assemblage and do not control or program the assemblage in advance. Rather, personae are the immanent agents or mobile positions, roles, or figures of the assemblage (Nail 2017, 27).

Personae are then "collective subjects of an indefinite event," where the individual elements "are not nonexistent, but rather secondary" to the collective 'we' immanent to the assemblage (Nail 2017, 27).

The notion of ecology comes into play, as it studies the interactions "between organisms and their physical environment within an Earth–System context" (Chapin, Matson and Vitousek 2011, 3). In these interactions, living and non-biological elements, as well as matter cycles and energy fluxes, are considered. "The environment of an organism consists of all those factors and phenomena outside the organism that influence it, whether these are physical

and chemical (abiotic) or other organisms (biotic)" (Begon and Collin 2021, xi). Used for the first time by Ernst Haeckel as *Ökologie* in 1869, the term derives from the Greek *oikos*, meaning 'house, home, dwelling place.' "Ecology might therefore be thought of as the study of the 'home life' of living organisms" (ix) and thus it is closely related as a term to both 'assemblage' and 'architecture'.

In this case, the mycelium grew in a specific shape because it interacted with the ceramic and the substrates that gave a specific texture to the sculpture. The darkness allowed the mycelium to grow, while the bright space allowed mushrooms to flourish. Roots grew, copying the shapes of moulds, and once de-molded, they stayed together because of their rhizomatic structure and the strength of the connections they formed with the soil and within themselves. During the show, the audience brought their physical bodies to play within the space—their movements, reactions, thoughts and experiences became part of the assemblage.

It is in this sense that I posit the living sculptures I worked with as interspecies assemblages, as ecologies: platforms where specific agencies and interactions coexist, occur and emerge at different levels. Ecosystems that involve matter and energy fluxes, biotic and abiotic actants. Gatherings in which each being, each element, each piece of vibrant matter that formed the sculptures—me included—affected and was affected, acted and was transformed by encounters and interactions, through collaboration and contamination.

'We': a place to begin

Through architecture, liveable spaces are designed, built and inhabited. It is possible to conceive the world we live in as a collective architecture, with a powerful and fragile structure and balance that involve multispecies agencies. A polyphony of worlding processes makes our shared world.

Through sculpture, we build, play, create; we can touch and imagine possible worlds or even reframe the one we know. In my work, I explored an interspecies building method in an attempt to bring to the fore that we humans can learn from and co-create with other living beings.

Working in interspecies practice-based terms opens a question about the tension between control and uncertainty—despite the expectations for a sculpture to live and grow, there is a constant threat that nothing will happen at all. In my experience, however, attempts of control have proven to be an unsuccessful method due to life's indomitability and agencies' plurality within art processes. Instead, it is through dialogue and material complicity that living artworks are likely to emerge. Intimacy—closely dancing with the notions of noticing, care, embodiment and attunement—also

became essential for my work to happen and thrive. Assemblages are site, temporal and personae-specific. Not every human will relate in the same way with a certain species of fungi, and no experience will occur twice.

Co-creating, co-building in more than human cooperation implies observing, listening and learning from other species and about our very own. Interspecies collaboration shatters the fiction of humans as unique isolated bodies inhabiting abstract spaces. It shows, instead, that we are part of a deep ecology. We not only coexist but also co-depend on specific relations, contexts and territories. In this ecology, in this assemblage, in this *oikos*, in this architecture, we humans are neither the only inhabitants, nor the only builders.

"For living things, species identities are a place to begin, but they are not enough: ways of being are emergent effects of encounters" (Tsing 2015, 23). Working in more-than-human assemblages may be a platform to build not only sculptures but also collective knowledge across species, to recognize the life-sustaining importance of a "we" upon isolated individualisms, to co-create more respectful and enjoyable ways of collective dwelling.

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Exploding all explosions

Reconfiguring art and architectural meaning, matter, and space with Cornelia Parker's Cold Dark Matter (1991)

Abstract

In our paper, we seek to explore Cornelia Parker's art and how it engages with exhibition making that overwrites self-referential narratives by revisioning art and architectural meaning, experience, and space. We intend to theorise how Parker's non-adaptive and divergent architectural artforms transgress artifactual biases and disarticulate the adaptive preferences and prerogatives in exhibition practice. Instead, she offers a speculative possibility space of non-totality and the devalorisation of meaning yet retaining the ability to respond. Parker's radical technics of installation assume an arbitrariness. Her installations, we think, disrupt meaning and genre-conforming specificities and reimagine non-essential ways to de-concretise conventional exhibition making that subsumes the totalising agencies of architectural meaning and representation which invariably arrives at dense rigidities. Parker's large-scale installations like her *Cold Dark Matter* (1991) not only dislocate the essentialist ways of exhibition practice but also reimagine speculative and innovative technics of spatial and architectural manipulation that fractalises the demarcating ontologies of spatiality and perception, producing immersive and collectively attuned more-than-artifacts that move beyond transcendental dependencies with more-than-art resonances. Parker's artform entails an architectural practice of speculative reworlding which effectuates an affective unfolding of matter and space, instead of imposing fixities or homeostatic formalisations on them. Through these deviant architectural expressions, we shall attempt to conceptualise how Parker stands out and practises a necessary artistic incompletion to destabilise and confront the architectural rigidities in exhibition making and move towards a radical and non-conformist expressivity that accentuates the untapped virtual potentialities of mind, matter and space to produce events and become something more—a fractalising multiplicity recalibrating the collective dynamics of spatiality, sensibility and perception in relation to curatorial methodologies and experiences by designing alternative exhibitions that involve a radical unbecoming in praxis.

Introduction

Contemporary exhibition practices are defined by a narrative of sedentariness, segregation, gaze, cataloguing, and myth-making. Articulated by the compressional models of artifactualisation, exhibitions have been adopting the language of conformity, uniformity, and totalisation. Through Cornelia Parker's installation art, we intend to counter the onto-epistemological agency of adaptivity in the politics of architectural and spatial representations in exhibition practices that have lost its topos. Parker's art counters concretisation. With a special focus on her Cold Dark Matter (1991), we intend to study Parker's installation art and how the work's

engagement with a space where it is exhibited de-concretises the architecture of this space and, via an extension, its exhibition context. This paper shall postulate a speculative and philosophical discourse on de-concretisation of artistic and curatorial practice, architecture, display, and exhibition making. We shall study how the technics involved in Parker's installation art metabolise without any logic of exclusion, how her ways of exhibition making manifests a possibility space of intervention, and how the expression of de-concretised artistic practice colliding with the spatio-architectural expressivity brings about a new flexibility not only in the ways of seeing, but also in attempts to disarticulate the organism of the exhibition itself, thereby ceasing to be an exhibition, and becoming something more.

Parker's art, as she herself claims, is non-essentially pluralistic (Vickers 2019, 98). It is abundant with an excess of non-meaning. It can be argued to be an impersonal field of anti-meaning. When asked upon the subject of her work, she has explicitly spoken against genre-specific frames of references. Her work is not one that is meant to be reduced to certain intellectual premises, as well as spatio-temporal historic totality, even when it speaks of a *somewhere* and a *somewhen*, for instance, in *War Room* (2015). Parker's artifacts are more about a politics of spatial representation which reimagines a topos without any necessary dictation of logos. It is a speculative possibility space, where perception, expression, reception, and convention collide to reconfigure and reimagine new ways of seeing.

Despite being non-adaptive, Parker's art retains the ability to respond. Contemporary geopolitical, environmental, historical concerns are inextricable from her work. She has been explicitly vocal about the political commitment of art.

> This is the time we all need to politically engage. We need art more than ever because it's like a digestive system, a way of processing (Parker, as cited in Tate[b]).

Although her proclamation about the sensibility of art's conscious and response-able engagement with politics carries an edge of insurrection, it is more committed to the praxis of a processual manifestation of a possibility space of aesthetic–political mediation into how to destabilise, disarticulate, and reconfigure the epistemic enclosures. It is neither absolutist, nor does it propose propagandist infantilism. That which is desired out of her art is neither a sense of historical closure, nor any indulgent upholding of self-referential narrative. Instead, it is an invitational ground of experiential possibilities which are meant to be encountered, non-essentially, non-adaptively, and without any domination of meaning. It has no intention to become a sacred relic of human civilisation. It defers genre-specific frames of reference only to arrive at a negation of

meaning and thereby, representing malleable non-meaning. Its viscosity of referential meaning is contingent.

Parker's oeuvre, in a post-Duchampian mode, ignores the definitiveness of form yet retains the Duchampian sensibility, for instance, in Auguste Rodin's *The Kiss* (1882) sculpture which she wrapped using a 'mile of string.'[1] Her intervention is a subversive mockery of traditional meaning which is subsumed as a totalising phenomenon, tampering which, as it had been the case for Parker, is an offensive aberration in practice. There is neither any absolute acceptance, nor any absolute rejection. Her art is laden with interpretative differentials that acknowledge the erosion of meaning in contemporary art. This deviant nature deconstructs and destabilises interpretative and experiential stability. Parker's art interprets the experience of seeing. Through intensities, collectivities, haecceities, segmentarities, Parker's art, and its projection upon the retina, results in the co-production of non-adaptive alterities of meaning and representation which is reciprocated by the deflected and dislocated totalising-interpretative gaze of the spectator. The artifact gazed upon is a dispersive field of (com)possibilities and speculative worlding, whereupon every point and every pixel relocates the gaze to another multiplicity before it tries to assume any meaning of totalisation. In so doing, Parker's art activates a flux. It refuses to be a *Gesamtkunstwerk*. For Parker, to arrive is to arrive at an unmeaning non-totality. Parker's non-meaning in art is inseparable from retinal arbitrariness of the spectator. This reciprocative acknowledgement of arbitrariness in interaction assumes a position quite contrary to the formula of art altogether. Her oeuvre reflects her advance into an artistic incompletion—a non-total open set of philosophical transversalities positioned against adaptive preferences and prerogatives of representation.

Parker's practice is vigorously present in her *Cold Dark Matter: An Exploded View* (1991), first exhibited in the Chisenhale Gallery in London. The gallery was a suitable fit as it was "a dark space" that received "no natural light" and Parker "wanted to make something that had its own light source" (Parker 2022). She contacted the then curator, Jonathan Watkins, and proposed her idea of blowing something up in that space (Parker 2022). Inspired by the extreme absurd cartoon deaths in Tom and Jerry, Road Runner, and other comedies, Parker was drawn to the visual analogies (Parker 2016). One of the impetuses behind the 1991 installation was an idea where objects met 'tragic ends' and then "resurrected" (Parker 2016). This idea of resurrection is always carried out via a material as well as onto-epistemological transvaluation of space, light, matter, and representation. She tells us,

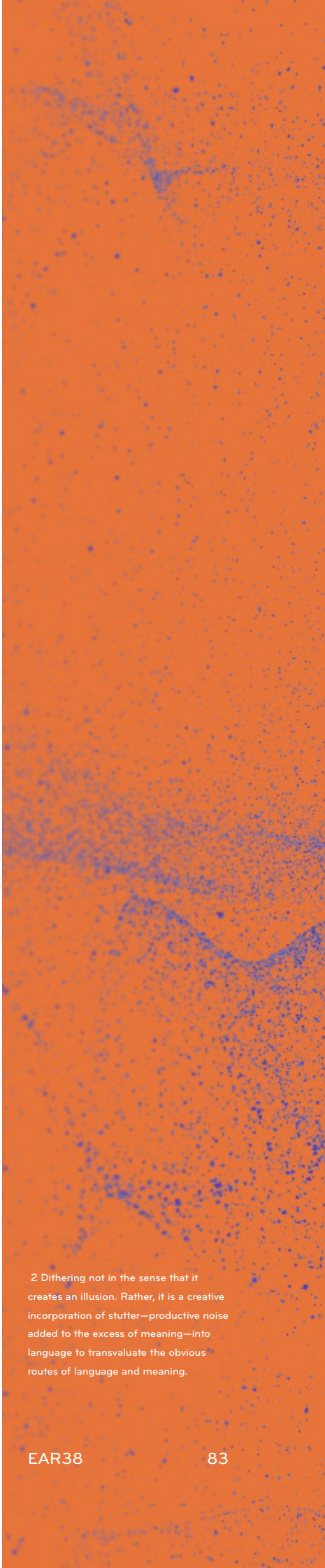
> I resurrect things that have been killed off ... My work is all about the potential of materials – even when it looks like they've lost all possibilities (Art Story).

1 In 1942, for the exhibition *First Papers of Surrealism*, Andre Breton, who organised the exhibition on Surrealistic Art in New York, approached Marcel Duchamp for an installation. Duchamp designed an installation called *His Twine*, which soon acquired a popular name—*Sixteen Miles of String*. This installation had a precedent in the 1938 *International Surrealist Exhibition* in Paris, where he lined the ceiling of the main hall of the Gallerie des Beaux-Arts with 1200 empty coal bags.

Cold Dark Matter is thought out of wreckage. Without blatantly jumping into the fantastic conceptualisation of remaking of other possible worlds from a nowhere and nowhen, Parker undertakes the laborious task of constructing a departure from these concrete narratives. She shows that the aftermath of the explosion does not concretise ruination. For her, ruins are not unthinkable grounds. Instead, her artwork is thinking upon the ruins of thought to imagine other thinking-worlds without ignoring the conditions of the current one. Such an idea of resurrection emphasises on the potentialities and affectivities of matter and materials already present, and the retaining of their will to construct otherworlds on unthinkable grounds, especially when they are thought to have lost all potency.

After Hiroshima and Nagasaki, the Cold War, the nuclear race, and the aggressive militarisation, the conception of the 1991 exploded view needs no conceptual premise. In fact, Parker herself stated her concerns about the IRA bombings to Leigh Ann Miller (Parker 2022). Since the 1970s, the Provisional Irish Republican Army had continued their bombing carnage in England. From the violent campaigns in the 1970s to the Hyde Park and Regents Park bombings in 1982 to the Kent Barracks bombings in 1989 to the attacks in the early 1990s—and which continued even after that—these violent actions and counterreactions formed the historical, political, and a concrete contextual framework of *Cold Dark Matter*. The IRA bombings are just another sprocket in the narrative of explosion. Parker is haunted by the spectre of explosions. However, the manifestation of this haunting cannot be reduced to be a mere response to a historical event or events and nothing else. When asked about the significance of the narrative properties of the charred pieces, Parker tells us that "it was more to do with fear of IRA explosions," but it was "always about freezing the moment and looking at it carefully" (Parker, as cited in Ure-Smith 2022). "Now it's like a universal bomb" (Parker, as cited in Ure-Smith 2022). It is an orchestration of damage without evacuating from history. Suspended, it obtains a new temporal exigency—that of timelessness and reconstruction. As the charred particles are relocalised into the liminality of suspendedness, its narrative affectivities are estranged. This estrangement is neither an absolute erasure of meaning, nor does it provoke more meaningfulness. Instead of tethering or untethering, it is dithering.[2]

Cultural artifacts bombard us constantly with the imagery and iconography of explosion and war. They are always-already present. The linear and concrete narrative of explosion is being perpetually fossilised. For Parker, this overused narrative has reached an equilibrial state. The narrative of explosion no longer produces novel forms of experience, and the culture industry has become a junkie, addicted to the pastiche and monotonous narratives. In this sense, explosions are pornographic. There is no desire. There



2 Dithering not in the sense that it creates an illusion. Rather, it is a creative incorporation of stutter—productive noise added to the excess of meaning—into language to transvaluate the obvious routes of language and meaning.

is no future of explosions. There is exhaustion and stagnancy, eternally sluggish. Parker (Tate[a]) speaks about the permeation of the archetypal bang and the bombardment of the image of explosion in literature, media, art, etc. The bang appears to be ever present and becoming a concrete organism. However, the archetypal image is not only restricted to the explosion, but also extended into the "refuge-like" architecture of the "archetypal shed" which the artist chose to blow up (Tate[a]). The architecture of the shed defines the affectivity of the architecture of the exploded view. The shed is both conceptually and visually blown up. The blowing up is "important to the [anti-]meaning of the work." (Tate[a]) Parker explains the shed as a "time capsule," (Parker 2016) a storage place meant for things we "cannot . . . throw away" (Parker, as cited in Tate[a]). This shed is a fantastic place of memory, repressions, secrets—a space full of meaning knots. It is a personal museum space—a composite organism, always locked, always dank, a-trophied in slow decay. This artifactualisation of personal history, memory, and meaning is a compressional model of romance and mundanity. It is latent with conceptual artifacts that retain the self-referential narrative of personal significance, like an antique that neither lives nor dies. It is infantile and devoid of growth. The shed is the definitive architecture of a historic closure turned into an artifact of nostalgia and memory. It turns into a claustrophobic space of repressive meaning, superfluous and surplus residues dictated by specific frames of reference. The mundane shed caves in on itself, like *hikikomori*—a modern day pathological phenomenon of isolation, solitude, and retirement into remoteness and depravity. It is a reclusive space for burnt-out objects; it is defined by seclusion, exhaustion, and fatigue. It naturalises compression via a concentration of discarded discourse accumulated in an infantile topos—an isolated system with entropic meaning and dissipation of material narratives advancing towards a uniform temperature, a stagnant equilibrium, a heat-death. Hence, the blowing apart is a negentropic reshaping of space.

The choreographed explosion acts as a kind of deliverance from the territorialisation of meaning. The detonation frees the shed from the concreteness of locational meaning and dislocates its referential agency. As the domestic fidelity of the shed is dismantled, the meaningful perimeters are changed. Parker unmakes and refashions the reclusive domesticity of the shed to potentialize it. In a world impregnated with the horrors of compression, a world of respiratory disorders, motion sickness, and ADHD, nurtured by the technologies of speed (elevators, pod hotels, office cubicles, capsules, technologies of compression), and the strangulating ligature of the accelerationist drive, the blowing apart is the opening up of a space of breathability—a possibility space in the compressional continuum to counter the claustrophobic and asthmatic engulfment of meaning. Parker's offensive reappropriation of the explosion transvaluates all

meaning of explosion articulated by defensive militarisation. The future of all explosions is cancelled.

The blowing up demonumentalises the concreteness present in monumentality—the concreteness of history, memory, and meaning, especially those that retain a tendency to valorise. Parker confronts this artifactual valorisation in curatorial practice. Hal Foster (2022) observes,

> As we know, many monuments commemorate acts of violence (war, conquest, empire, expropriation) in ways that effectively cover them up. Parker began her career with little feats of "demonumentalizing," casting souvenirs of iconic structures like Big Ben in lead, then hanging them upside down or flooding them with bathwater. Her inaugural move was thus one of antimonumental counterviolence. In a stretch, this might recall the ancient Roman practice known as *damnatio memoriae* (literally, "condemnation of memory"), whereby the image of a leader, once honored on a coin or a column but now deemed an enemy of the people, would be struck out in such a way that both acts, the commemoration and the cancellation, were retained (later iconoclasts carried on this practice in their own ways). Updated, such an approach might split the difference between the often unsatisfactory alternatives of simply retaining an offensive monument and removing it altogether. Parker points to such a third way: How many disputed monuments might be given the Parker treatment—blown up, to respond to demands of social justice, and then strung up, for purposes of historical reflection?

Parker's *Cold Dark Matter* presents a haunting scenario of an exploded view working against the traditional concepts of architecture, space, and sculpture. She collaborated with the British Army, who, "to her surprise," "were very co-operative"[3] (Tate[a]) and "very gung-ho" (Parker, as cited in Ure-Smith 2022). Without any pyrotechnics or the use of special effects, Parker "decided on plastic explosives as providing 'the archetypal explosion'" (Tate[a]).[4] These blown-up particulates, skewed and charred from the force of the explosion, which survived the blast are suspended using transparent wire from the ceiling along with a single light bulb in the centre which casts haunting overlapped, folded, and oblique over-looming dramatic shadows, criss-crossing, skewing, and slippery, simultaneously converging and diverging, lacerating each other—a deviant architecture emerging out of its own (dis) proportions and dimensions, overcoming itself and topologically unfolding an abcanny geometry like a monstrous blossom blooming haphazardly in every direction all at once—across the gallery room, its floors, its walls, and even upon the spectators. It is a multiplicity. It is larger than its own body; an alien transgressing

3 Parker collaborated with the British Army via the Army School of Ammunition in Banbury. Major Doug Hewitt supervised the project.

4 One of the reasons why Parker might have decided upon using plastic explosives was because during the mid and late 1980s, the IRA used Semtex, a plastic explosive, in their bombing attacks.

the limits of its own skin—a traitorous prion always folding itself into imperceptible and nomadic becomings. In so doing, it becomes an artifact of non-quantitative and non-numerical minority, in the Deleuzian sense—of minor becomings, dispelling mythic resonance, constantly fractalizing the ontological borders of perception, constantly otherising itself—becoming the Other, becoming-whatsoever.[5] It repels adaptivity and conformational absorption as it tries to question the meaning of art itself in order to break away from the demarcation problem (see Kingsmith 2017) in its radical pursuit of becoming more-than-art. *Cold Dark Matter* presents a scenario of explosive non-meaning—the explosion of entropic meaning and its subsequent emergence into an excess of non-total, a scrambled assemblage of meaning-knots suspended mid-air. Contrary to a thermodynamical whimpering entropic heat-death, Parker presents the picture of a limbic bang—an affective disintegration of the grand narratives. From the totality in structure of the garden shed and its contents that appeal a totalising gaze, the exploded view is more of a radical stripping—a topological unfolding of matter, as if everything is laid bare, "element by element" which we can "walk round and look through" (Tate[a]).

After the explosion, when the blown-up particulates were being gathered by Parker's team, it was found that some objects were either missing or blown away or "totally destroyed" (Tate[a]). The concrete totality of the shed—its structural integrity, its architectural and spatial demarcations—prior to the blast has been deconcretised, and it has been carried out by the very vulnerability communicated by the weapons of destruction and the agencies which promote them, against which we are wrestling—reflecting violence through violence without perpetuating historic agency, as if the weapons of war have made violence thinkable/intelligible to more-than-human perception, even though the existence of violence preceded the conception of life. Parker's *Cold Dark Matter* only becomes intelligible as a metabolising stitchwork of non-total collectivities, haecceities, subjectivities, and technologies. It confronts the problem of thinking complexity between spatialities, temporalities, agencies, and bodies through which Parker reconfigures historical agencies considering the very complexities which her multi-layered work projects. For instance, her collaboration with the army could hint at the artist's subtle radicality, a kind of subdued sarcasm, an acidic prank.

Parker's collaboration with the army, a repressive apparatus working for the State, problematises contemporary artistic practice. Involving the military does not entail the overturning of artistic rituals. It pronounces the complicity always-already present in the reactionary apparatuses of the State, controlled by the State, only waiting to be tapped out of their controlled state, out of their own repressiveness. Parker, like an agent provocateur, persuades the law to perform for her without breaking the law. Her practice infiltrates into the system and infects like a pathogen, like a refugee, like an alien—like a protein particle which enters the system, infects,

5 According to Deleuze, minority is not quantitative; it is not a matter of size. The Deleuzean rhetoric of minority relies upon the concept of becoming.

and attempts to transform it from within. Even if the effect is not statistical, the practice is means to craft new maps according to the transformations in the systemic mesh. Contemporary artistic practices are guided by a sense of cancellation. For instance, the prejudices of Nazism or, of Racism, are often met with counter-prejudices, which inevitably leads to the logic of exclusion. While these reactionary biases are to be strung up, they are more often excluded completely, either via total cancellation or by clichéd condemnation. Both tropes have been overused and have lost their potential to unground. Rather, practices, even subversive ones, have become rigid, conformational, adaptive, and territorial. Parker's divergent and transgressive artistic practice metabolises.

Cold Dark Matter is not a solid sculpture. Parker herself has said, "I've never made a solid sculpture; I am more interested in the space with and around the mass, in atmosphere" (Tate[a]). "The space between" the suspended particulates is significant as it confronts the problem of demarcation, playing with space and light, and via an extension, with the gaze of the spectator, as the "boundaries between the work and the viewer are blurred" (Tate[a]). *Cold Dark Matter* is a fractalized mass, fractalizing the ontology of space, time, and the agencies of society, politics, and culture. The re-creation of the moment of explosion into an exploded view cannot be quantified. It cannot be demarcated. An architectural fractal and an artifact of transversalities, Parker's art de-localises, de-stabilises but more importantly, re-arranges, re-localises the particles, suspending them into possibilities instead of levelling them or restructuring them back to its concrete form. The diffusion of the absolute total along with its indexed contents is compensated by the distribution in re-arrangement. Each particle becomes an independent piece suspended collectively as an incomplete (w)hole, endowed with the possibility of different subjectivities—especially those which are combatively active and battling against the oppressive pull of gravity, an always pulling force which is constantly trying to 'swallow.' It is an inverted repression where pressure is not exerted upon from 'above' to subdue, but rather a constant attractive drag felt, a gravitational pull that the ground exerts on the surface from 'below'—a subterranean pull into the abdominal gorge of the planet; crushed from 'below.'

There is also a hint of a Donnesque metaphysical protest, a refusal staving against the corporeal coup of death. The suspended particles are Parker's Donne-like critical dialogues through which she proclaims: Gravity, "be not proud"[6] (Donne 1895, 34). In *Subconsious of a Monument* (Parker 2005), where "fragments of dry soil," extracted from beneath the Leaning Tower of Pisa "in order to prevent its collapse," are "suspended on wires from the gallery ceiling," we discover this anomalous projection, a projective inversion where the 'below' is removed from the ground and suspended 'above'—a revolt against the invading force of gravity that is constantly pulling us, compelling us to fall and submit. Suspension is the anti-pull—the anti-fall, an artifactual precursor to flight (both spatial and temporal), an ungrounding of objectified and subjected subjectivities.

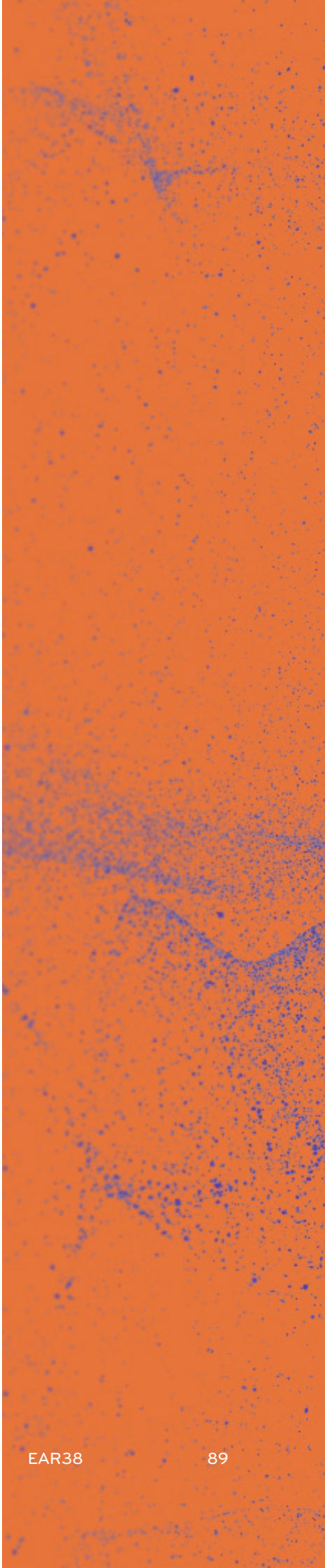
6 John Donne, an English metaphysical poet, wrote Sonnet X: *Death, be not proud*, where the poet defies the historic and mythic reputation of death, and denounces the dreadfulness death projects. Donne overthrows the narrative of death, its ontologisation of depravity and despair. Instead, his theo-logical argument against death brings death alive and by doing so, logically, subjects death to its own death. This is the death of the narrative of death.

Parker's art, battling against the constant conceptual and material pull of gravity, defies the model of gravitational conformity. Exhibition practices conform to this gravitational logic, its fixating and self-indulgent narrative. It has become essentially adaptive. Gravity places, fixes, and accumulates in its own territory. It is totalising. Parker's art refuses to be fixed, placed, and pulled. Without disregarding this territorialisation, Parker suspends her work upon the territory she defies. To create new architectural, spatio-temporal sensemaking, she constructs that which is antithetical to the demand dynamics of gravity and homeostatic curatorial conformity. Parker realises the need of other non-concretising frames of references in architecture and art, and therefore, the need of a new configuration of exhibition making. This suspension is the anti-pull rebelling against the conformational narrative of gravity. As if in a faceoff, both staring face to face, coexisting, the suspension—a rebuke—mocks gravity and strips it of its meaningfulness. Parker transgresses the conceptual borders of exhibition making. Displaying rebellious works that invariably become an artifact of these conformational logics is not enough today. There is a need to rethink architectural sensemaking and the frames of references that condition curatorial practice, even at a basic level such as placement and positioning of artworks in galleries.

Parker, moving beyond the subdued discourses of the academic intelligentsia, attempts it. She imagines a space that allows for a shared recognition—a space without any self-referential narratives. Without reducing exhibition making to comfortably accommodate the visitor's perception, this space, along with the asymmetrically disproportionate suspension, breaks down the existing spatial, narratological, representational, architectural, and perceptual frames of reference that condition our ways of seeing. This is a breaking down of the demand dynamics of sight, a topological deconcretisation of the ways of seeing through radical intensities and affectivities unfolding the eye of the spectator, the way we see and think in space. This space deliberately alienates us from the familiar narrative of explosion and introduces us into a vermiformal narrative of exploding the explosion. It is a breathability pocket that speculates on how to rethink the existing architectural rigidities. *Cold Dark Matter*, then, is the Copernican trauma upon the sensibility of the existing logics of architectural sensemaking. The centrality of gravity is deterritorialised and decentred. The narrative of explosion is deconcretised. Parker, without stopping at the decentralisation of the conformational poetics of architecture, space and exhibition making, reframes the artistic, architectural, and spatial dynamics in light of this trauma. She labours to resituate her exhibition in the consequences of this trauma, and attempts to build a space which rethinks spatial (anti?)representation with localised bodies and concepts. In the wake of this trauma (the trauma caused by the material explosion as well as by the conceptual destabilisation), *Cold Dark Matter* is Parker's manifestation of a possibility fissure through which she intervenes into how to reconfigure the existing tropes of exhibition making.

Cold Dark Matter is a project in processual recalibrating resurrection. And in its re-calibrations, it enters a continuous synthesis—synthesising each 'separate' yet avoiding to 'become' *something*. It is always in becoming—a work always in progress; in flux and perpetually kinetic—a nomadic mobility. It contains a molecular logic of sense. It is a molecular becoming. As Derek P McCormack (2007, 369) puts it, "materiality of the molecular is not a stable ground with which to anchor representations." Within Parker's *Cold Dark Matter*, particles link, detach, suspend, decay, rearrange, readjust, reconfigure, connect and combine, "where the outside of one" becomes the "inside of another" (Rose, as cited in McCormack 2007, 369). It is extremely ironical to see that in a view of explosion which is perpetually exploding, Parker creates a corpuscular space of coalescent collectivities. The subparticles are mobilised into experiential and perceptual fields. *Cold Dark Matter* is a nomadic mass—dehistoricised, demythologised, non-adaptive, and undifferentiated. By being incomplete, it provides enough possibility space—a "breathing space" according to Parker (2003, 369), the localised interaction with which invites the spectator to experience otherworlds, other-collectivities and other-narratives of matter. In so doing, it presents the possibility to reiterate new material affectivities. The perpetuating contingency is also revealed in the processual re-arrangement of the disjointed artifacts. Every re-arrangement compels the fragmentations to acquire a new experiential and perceptual possibility. Such re-adjustment, by the virtue of its structural, formal and affective resonance, becomes in itself a performance. It is more of a non-adaptive collective attunement which confronts the limits of experience. The re-arrangement of the exploded mass becomes more intriguing by the fact that each re-arranged profile, in comparison with all other re-arrangements, possess a separate subjectivity, structure, perceptual quality, and resonance, even if they happen to be coincidentally and permutationally same. This implies that the subjective experience of the frozen explosion re-arrangements is always more than the experience of one of its combinations.

The design of the explosion and how it was enacted with the help of the army reveals Parker's intention towards an extreme case of interaction. Inspired by a cartoon and implemented by the army, her work presents a symphonious orchestration of completely invariable, if not disobligingly incompatible, forces of the social ecology. In the wake of a world riven with the politics of segregation, *Cold Dark Matter*, composed of post-nuclear debris, speaks about compossibility—between the quantifiable and the unquantifiable, a way of formalising the explosion (Parker 2016). Situated in the exhibition hall is a nebulous nomadic mass of a frozen explosion caught in a continuum of awe, a perpetual loop of fragmented deferrals arrested in the momentum of a detonation, as if it is exactly that which was needed to break away from the excess of incontrovertible meaning. It is an introspective recoiling of thought



against the limitations imposed upon it; a recoiling of thought from the excess icons of violence. There is a subtle hint of the Kantian negative aesthetic in the work that counteracts violence through a reflective violence to the imagination. The shadows cast on the walls and the floor hints at new possibilities, especially one of indeterminant experiences—a (com)possibility space of co-existential indeterminacy.

Cold Dark Matter re-models the logic of binocular vision. Parker's work requires a body full of eyes to get induced in such a distributed multi-optic experience which it calls for. The installation of the work, along with the performance that precedes it, is as much artistic as the exhibited outcome. The installation is not an epiphenomenon of Parker's artistic vision. Extended into the poetics of space in exhibition making, the installations of the work in different galleries—which include architectural and spatial (dis)proportions and folds unique to each other—reshape the models of conventional exhibitions as they challenge the spatial and architectural rigidities in curatorial practice. This is a moving exhibition. Even though it has been acquired (territorialised) by Tate as a part of its permanent collection, *Cold Dark Matter* is not de-potentialised. It has not been castrated. It can move and that is very threatening to curatorial rigidities—challenging the prerogatives of conventional exhibition making. It is dynamic and moving in the sense it is fractalizing. *Cold Dark Matter* retains some degree of curatorial agency through which it addresses the conformational grounds in curatorial practice. Parker's laboratory of experiments paralyses the demarcating a priori assumptions grounded in architectural practice by provoking the space to reflect and think at the limits of thinking—a defiant thinking that expands, intercepts, interacts, and counteracts itself and its own limitations beyond the reasonable and conceptual finitude of epistemic determination which precludes, unreasonably, from becoming something more, something other than what it is and how it is. Fascinated by its own spatial, architectural, and conceptual liminality, the violence of the exploded view violates to bypass and overcome its own organismic body to cease to be an object of art and become a moving limit of thought. In this sense, *Cold Dark Matter* is a liminal mass that non-essentially and somewhat paradoxically operates in anti-stasis. Parker (as cited in Tate[a]) explains that suspension post-explosion siphons "the aura of death" and activates the residual vitalism in debris. Its life is radioactive. The exploded view is not about the explosion. It is exploding the explosion. It overtakes the narrative of the explosion and folds it to become something other than the explosion. With every installation installed at a different place, a different re-explosion of the exploded view is found. This is where we find the installation adds vitality to the work. For instance, other variations on *Cold Dark Matter* were seen in the Phoenix Art Museum and the de Young museum in San Francisco (Ure-Smith 2022). Further, in 1997, Parker exhibited another installation like *Cold Dark Matter*. The 1997 installation was called *Mass*, or *Colder Darker Matter*.

Cold Dark Matter's exploded view is thought re-thought at the noetic limits of thinking. While, before installing, Parker lays out the charred bits on the gallery floor, it resembles a morgue. This is also seen in T*hirty Pieces of Silver* (1988–89), where objects crushed by a steamroller are laid out on the gallery floor. However, once the installation of *Cold Dark Matter* is transformed and re-energised, the monotonous forensic metaphors are overcome and "it stopped being like a morgue;" it "became more like a dynamic display" (Parker 2022). The narratives of explosion are nothing but a part of a grand totalising narrative of death that corresponds to the legitimisation of a unified view. Contrary to this, Parker's is a plurality of anti-narratives that are not woven together as a uniform whole. Rather, Parker's art is stitched together not as local narratives of a fragmented uniformity, but as an un-whole which refrains from formulating the legitimacy of narratology, of the ritualisation of violence. Parker "does not aestheticize trauma so much as ritualize violence, transforming it, framing it, controlling it, and there is nothing particularly personal in the outcome" (Foster 2022). The installation, the exhibition making, and the viewing, come together as un-whole performances—explosion constructed from the residues of explosion, operating as "relics" of caution (Foster 2022).

We think that Parker is not only trying to reconfigure destroyed objects due to some fascination with destruction or reconstructing destroyed objects with new formulations. If so, that would just be another way of solving puzzles and Legos which even if collapsed have a way or could be made to fit it. But we don't think that it is just fitting or refixing that is the primary objective presented through her art, but rather the experimental awareness to move beyond the toolbox of experimental artists, their experimental data, into a transgressional experience of exploration which trespasses the limits of human experience. The very nature of the detonation and the materials used is beyond the ordinary permutational–combinational compositions. The final work, which is always in a flux, is non-essentially a schizoid rupture of experiences, and the experience projected by the exhibited work is inextricable from the exhibition space itself. The construction of the gallery does not rely on an oversimplified bilateral symmetry, and if the exhibited concreteness of Parker's artworks is continually dislocated and discontinued, then every temporal exhibition undergoes a processual reconfiguration of the very framework itself, along with its contextual, perceptual, formal, and other expressions.

Parker obliges us to think about the expression of architecture in exhibition spaces. This is explicitly displayed in the Cold Dark Matter exhibitions, where the immaterial is also a part of the artist's project (for instance, the shadow is an immaterial material which Parker uses as art equipment). This constant morphing of the framework of expressivity questions the ontology and epistemology of art and architecture, "the ceaseless constraints of the metaphor," and

becomes a transgressional attempt to exhibit "in a space beyond analogy" (Kingsmith 2017). For this, the language of exhibition that reinforces contexts and cartographies must be deterritorialised in praxis. Parker's art is devoid of a 'being.' If the problem of onto-epistemological demarcation is cleared, the 'pragmatic interest' of locating the art in terms of a context does not persist. Whether it is the bleeding-out ink at the molecular edges of her drawings or the haphazard projection of the shadows throughout the gallery room, Parker's practice of art remains combatively elusive to the ensnaring methods of exhibition. The delocalisation of art, its lack of a concrete definition, along with its transgressional mobility, destabilises any categorical or combinational absolutes, both in precepts and in practice. Cornelia Parker's art remains in a "semi-stable process of becoming;" it is a "metamorphosis-machine"—a fractalizing force (Kingsmith 2017). Her non-adaptive practice is non-essentially schizoid—a praxis of "strategic affirmation" of becoming-whatsoever (Kingsmith 2017). *Cold Dark Matter*'s exploded view is more than an explosion.

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