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Alternative Art Spaces as Multispecies Urban Collaborators: Curating Connections at Mediamatic

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**Universiteit
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MA Thesis

**Alternative Art Spaces as Multispecies Urban
Collaborators: Curating Connections at
Mediamatic**

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1. Introduction

1.1 Background of the study

The incorporation of other-than-human agencies in artistic practice has become increasingly popular within artistic institutions worldwide. The proliferation of exhibitions involving living things signals the willingness to challenge traditional understandings of the human and its positioning in the world. More specifically, multispecies artistic collaborations exhibit the vast capacity of art to overcome speciesism and anthropocentrism, which is the underlying belief in the superiority of humans over all other species. These partnerships offer a radical shift from the traditional idea of art-making as a human-centered activity, where creativity and imagination are solely the domain of the human mind. Contrarily, recognising the presence and agency of nonhuman entities in the world gives them back life and inherent meaning and, as a result, expands the definition of creativity. Collaborative art practices question and decompose human artistic subjectivity, producing what has been referred to as compositive subjectivities.¹

This thesis examines current art forms and experiments taking place at Mediamatic, an Amsterdam-based art center, involving active interaction with nonhuman entities in an effort to reconceptualise the urban living experience. The aim of the study is to highlight how cultural institutions' experimentations with multispecies placemaking lay foundations for the emergence of unprecedented community formations, conscious of the complex and interlinked nature of the societies we cohabit. Simply put, the core inquiry that anchors this thesis is: how do alternative art spaces contribute to our understanding of multispecies coexistence in urban communities? In delving into this question, I intend to present Mediamatic as an example of cultural organisation that has devoted itself to the curation of interspecies connections in the city.

The present study is set to uncover how cultural hubs support with their curatorial practices the evolving landscape of urban ecology and environmental sciences, giving insight on the transformative power of art, education, and creativity in forging informed multispecies cognitions of contemporary societies. One of the main thesis propositions is that in this particular genre of art, the role of curation may overshadow individual art

¹ Ambayec et al., "Changing Perspectives on Performance Collaboration."

projects. Artists may find themselves needing to adopt a curator's perspective, considering the collective impact of their work within a larger context. This dynamic underscores how the curation process becomes a vital component that shapes not only the presentation of individual creations but also the overarching narrative and resonance of the entire artistic experience. As artists begin to think curatorially, they extend their creative influence beyond their individual pieces, contributing to a cohesive and meaningful artistic discourse that transcends the confines of isolated creations. Concurrently, exhibition spaces are reframed as stages for ecological encounters where dialogue and collaboration are nurtured. The research hence seeks to unravel the unique initiatives undertaken by Mediamatic, investigating which curatorial approaches have been adopted, as well as which challenges and ethical dilemmas have been encountered along the way. Particular scrutiny will also be directed towards the hosting space of such creative endeavors, seeking to shed light on how alternative art institutions, rather than conventional art galleries, provide a particularly promising and prolific context for the overall meaning-making process of multispecies artistic interventions; more specifically, it will be described how those latter provide venues where heightened levels of exploration and ethicality can be attained.

Through the integration of the living entity they seek to rediscover, art spaces cultivate compassion and provide chances of connection on a deep emotional level. They also function as a translating activity, capturing the "almost-invisible" and making complex ecological concepts understandable to the human mind; as the example set by Mediamatic will demonstrate, participation and collaboration are always encouraged, while imagination is nurtured by speculative storytelling and innovative creations, designed to unhinge conventional views and elicit grassroots activism. It can be said that art spaces pursuing a multispecies agenda act on a prior level to the actual implementation of re-integration measures; by involving in the conversation those people who might be excluded from traditional top-down decision-making processes, they cultivate insightful understandings and a shared sense of responsibility. Through the establishment of a preliminary speculative discoursing activity, art spaces ensure a good future reception of re-integrations measures; without this latter practice, there is the risk that the implementation of other-than-human inclusive policies might be misinterpreted,

if not impossible to grasp. In line with these observations, Mediamatic's projects qualify as hypothetical instances illustrating what a more collaborative reality might resemble.

Two projects held at the art space will be explored, namely the *Japanese Knotweed Festival* and the *100 Years of Learning* masterclass. The Japanese Knotweed Festival, launched by Mediamatic in April-May 2023, aimed to rehabilitate the knotweed, a plant with an intriguing history. Native to Asia, the knotweed arrived in Europe in the mid-19th century as an ornamental specimen. Admired at first, its resilience and lack of competitors turned it into an invasive pest. Mediamatic's festival challenged perceptions, viewing invasive species as potential allies than problems. Eradication has proven difficult and costly. By highlighting its positive attributes, the festival encourages a mindset shift for sustainable cohabitation. Eradication efforts have indeed been costly, complicated, and generally unsuccessful, leading some to stress the need for alternative solutions to relate to the plant. By highlight its positive attributes, the festival aims to influence a shift of mindset that would lead to better ways of cohabitation.

Since 2020, the *100 Years of Learning* masterclass, a partnership between artist Arne Hendriks and Mediamatic, has united fungi, pigeons, and humans in an ongoing co-creative circle. The objective is to reframe our connection with the natural world. Hendriks' inspiration stems from the historical middle eastern pigeon towers, structures that once housed pigeons for sustenance and fertiliser. However, his innovation lies in building those with living mycelium blocks. These bio-towers provide nesting spots for city pigeons, whose guano fertilises mushrooms in a harmonious cycle. The mycelium structures symbolise urban inclusivity, embracing various life forms beyond pigeons, such as bacteria, snails, and worms.

The two projects are significant in their willingness to challenge the negative perception that surrounds certain living beings and notably in encouraging people to engage differently with urban wildlife. Both initiatives were selected for their effort to move away from anthropocentric thinking, highlighting the benefits of embracing a more comprehensive view of the world. The hostility frequently felt toward pigeons and knotweeds stems from their perception as competing and antagonistic life forms that threaten our tranquil existence; the fact that cities are commonly understood as humans' belongings, strengthens animosity. For millennia, human ontological exceptionalism has governed urban planning theory, prompting scholars to call into question the right to the

city theory and attempt to create a multispecies extension of it.² This means that human and nonhumans alike, have equal rights in the cities, and their desires and needs must be taken into account when developing new projects. Indeed, human planners' asymmetric negotiations with nonhuman others have contributed greatly to the current track toward catastrophic planetary change.³ Environmental science and urban ecology studies suggested how developing a functional and integrated multispecies city aligns with sustainability goals by promoting biodiversity, boosting urban resilience and optimizing ecosystemic services;⁴ some of the key techniques adopted to manage and promote human-nonhuman integration in urban settings have traditionally included: field surveys and biodiversity mappings, impact assessments of new infrastructures, implementation of habitat conservation and restoration measures, biota monitoring, development of green blueprints and sensibilisation campaigns. In the quest for the same aim, the artistic approach to multispecies community building can offer unique and valuable perspectives that complement the foregoing interventions.

Initiatives such as the *Japanese Knotweed Festival* and the *100 Years of Learning* masterclass challenge the idea of the urban environment as a space made on a human scale and restore instead its status as a multispecies venue; efforts are devoted to re-educate urbanities, showing how what we call "nature" is not something "out there" but all around us and immanently present. Urban settings are the perfect embodiment of the shared nature of the world. The incredible adaptability of urban species, has allowed them to coexist in close proximity to humans making them "directly and unapologetically challenge the culture-nature divide."⁵ When contrasted to the conventional medium-focused approach to art-making, the examples provided will demonstrate that artistic alliances between humans and nonhuman entities can transform the art stage into an intra-species channel for communication and dialogue, able to produce outlooks and outputs that push the limits of creativity and imagination. Interspecies artistic cooperation also fosters understandings of the essential role other-than-humans play in our ecosystems, granting them a voice and thereby assisting in the formation of new

² Shingne, "The More-than-Human Right to the City"; Houston et al., "Make Kin, Not Cities!"

³ Houston et al., "Make Kin, Not Cities!," 202.

⁴ Luo et al., "Multispecies Coexistence in Fragmented Landscapes"; Rupperecht et al., "Multispecies Sustainability"; Dearborn and Kark, "Motivations for Conserving Urban Biodiversity."

⁵ Shingne, "The More-than-Human Right to the City," 137.

perceptual knowledge. By getting us closer to entities that have typically been perceived as distant or even antagonistic, and by prompting us to sense, respond and learn from them, Mediamatic's programmes put us in a position to set fresh groundwork for more resilient and interwoven communities.

Overall, the artistic trajectory adds complexity, emotional resonance, and creative momentum to the endeavor of re-introducing nonhuman species into our life in the city. By combining art with science and urban ecology studies, we can achieve a more solid and holistic approach to the cultivation of equitable societies. Through such a complementary pursuit, art spaces that passionately embrace hospitality and strive to carve out room for the "other" acquire a discernible dimension of political resistance, aligning with Foucault's concept of *heterotopia*. Now more than ever we need the types of creations provided by multispecies practice. The twenty-first century presents us with a massive environmental problem that, without a doubt, also constitutes an existential crisis. We should therefore devise novel methods of relating to our world in order to re-evaluate our place on planet Earth. The increasingly interlinked world we live in, asks us to acknowledge and make sense of its complexities. If we really wish to cope with the uncertainty of our times, we must get rid of the Cartesian dualistic thinking, an overbearing rigidity of the past that imprisons us and prevents us from progressing any further. In this sense, cultural institutions can perform an ecologising mission by providing safe spaces where to forge invaluable alliances.

1.2 Methodology

Anchored within the expansive landscape of urban ecology, the present study draws inspiration from post-humanist perspectives and seeks to unearth how art and its curation contribute to our understanding of urban dynamics. The synergic exchange between different fields of inquiry is deemed fundamental in fostering a multi-dimensional resolution to the complex challenge to initiate a novel societal mode. Urban and environmental sciences have underlined the need of understanding cities as interrelated networks of ecological interactions.⁶ This stance has been corroborated by

⁶ McDonnell and Pickett, "Ecosystem Structure and Function along Urban-Rural Gradients"; Grimm et al., "Global Change and the Ecology of Cities"; Forman, *Urban Ecology*.

the development of post-humanist studies, which questioned human privileging positionings and instead have drawn attention to notions such as interdependence and uncovered the numerous agencies that shape our sense of reality.⁷ It did not take long before this new theoretical framework was applied to a whole range of disciplines, including the arts and curatorial practice.

Being multispecies art an area that is still in its early stages of development, I tried to establish and contribute to the field by identifying two types of curatorial methods when dealing with it, namely a *participatory* and a *co-creative* one, which I correspondingly considered when analysing my case studies. I aim to demonstrate the advantages of embracing a co-creative strategy and emphasise how co-creation and collaboration can be construed as performative speech acts.⁸ It must be pointed out that while recognising the presence of numerous nonhuman agencies ranging from animals to microbes, to technology to natural elements, this study will be dedicated particularly to the discussion of animal, fungi, and plant agencies.

Interning at Mediamatic facilitated the opportunity to conduct qualitative research by providing privileged access to the full creative process of the initiatives, encompassing their conception, delivery and subsequent outcomes evaluation. The survey benefited from the unique insights acquired through this immersive approach, providing to a more thorough knowledge of the phenomena under examination. In addition, the protracted exchange with the artists offered a detailed understanding of their creative activities, which reinforced the depth and validity of the study findings. It is essential to stress that the insider position also introduced potential challenges, such as the need to retain objectivity and limit potential biases stemming from close involvement.

The methodology used to analyse my case studies involved paying particular attention to several key concepts, listed below, held fundamental for the successfulness of a multispecies art project. Overall, this methodology aimed to critically assess the capacity of the artistic practice to move beyond anthropocentric perspectives and engaging in more equitable and respectful conversations with other beings.

⁷ Haraway, *Staying with the Trouble*; Braidotti, *The Posthuman*.

⁸ Ambayec et al., "Changing Perspectives on Performance Collaboration."

- *Clear purpose and theme of the project*

It is imperative that the purpose and thematic underpinnings of the artistic project are clearly articulated. The artist and curator should work together to rigorously examine the artwork's overarching objectives, conceptual framework and intended impact, ensuring that the involvement of nonhuman actors does not reduce to spectacularisation or simple entertainment.⁹ Recognising the ethical sensitivities surrounding multispecies art, the project should be guided by responsible inclusion and the cautious avoidance of sensationalism as to honor both the integrity and the broader implications of the artistic undertaking.¹⁰

- *Facilitating intra-species conversation*

A "conversation" with nonhumans should be established. However, methods should be devised to move beyond conversation as a purely verbal act. Nonhuman species communicate between each other in different ways, involving body movements, sounds or even through chemical signals.¹¹ If the feasibility of a dialogue gets limited to the verbal dimension, there is the risk to perpetuate the long-held belief that beings such as animals and plants are inferior to humans just because they cannot speak, or more specifically, they do not communicate in the same way as we do. Communication with other creatures requires an open mind, creativity, and a willingness to challenge human-centric communication norms. Multispecies art projects should thus devise ways to initiate dialogues, that do not necessarily involve the phonatory apparatus but potentially include other senses and operations.¹²

- *Equality*

⁹ Cross, "The Animal Is Present," 527; Vaage, "What Ethics for Bioart?," 101.

¹⁰ In addressing the project's purpose, it is important to clarify that I am not referring to its eventual outcome. The intention here is not to presuppose the final result but rather to focus on the underlying motives and resolutions that drive the creative enterprise. By emphasising this distinction, the intent is to maintain a level of openness and exploration in the creative process, allowing for the potential emergence of unexpected outcomes.

¹¹ Abram, *The Spell of the Sensuous*.

¹² Tromble, "A Longing in Our Hearts," 468.

If the above-mentioned conversation happens, this should avoid perpetrating power imbalances.¹³ Human and other-than-human subjects are co-creators in the making process; there exist no control position. The method used by the artist or initiative was therefore examined to determine whether it generated an equal conversation and in what form this conversation took place.

- *Geopolitical engagement*

The political and geographical context of the project was investigated, with consideration given to how well-grounded it was in these areas. This involved an examination of the social, political and cultural implications of the initiative, and the extent to which it engaged with local communities and their concerns. It is important that co-creative art practices get not considered inherently good, but that power-structures imbalances are acknowledged and properly addressed.¹⁴ Embracing a political dimension enables multispecies practices to gain a deeper connection to the broader issues that define the collective trajectory of urban ecology and the posthumanities. For instance, by proposing extended forms of hospitality, multispecies practices can foster placemaking.¹⁵ The direct and well-informed acquaintance with the multispecies localities of an intervention-focused territory, provides socially and politically informed solutions and reflections, that can turn the cultural institution into an intelligent collaborator alongside policymakers and urban planners in designing new versions of the urban commons.

- *Knowledge*

It has been discussed the absolute need to develop a good knowledge of the creatures inhabiting our reality.¹⁶ In this sense, curation and creativity should converge with empirical inquiry. In the analysis, I investigated whether the art project indeed provided opportunities for acquiring newfound insights.

¹³ Boyd, "Towards a Performative Multi Species Aesthetics"; Kirksey, "Multispecies Intra-Actions."

¹⁴ Sachs Olsen, "Co-Creation beyond Humans," 316.

¹⁵ Duhn, "Cosmopolitics of Place."

¹⁶ Van Dooren, Kirksey, and Münster, "Multispecies Studies."

- *Output & Agency*

Multispecies art should incorporate nonhuman actors' perspectives, experiences, and stories, giving them a leading role in the art-making process; in this way, the understanding that they are not passive things that we can treat and use however we want will be fostered, demonstrating that they have intelligence and desires of their own and should thus be treated with respect. The artistic output was therefore assessed with regards to the amount of space given to nonhuman actors and unexpectedness. This involved examining the level of agency given to nonhuman actors in shaping the artistic output and the degree to which the project allowed for unanticipated outcomes and experiences beyond any restriction operated by human users.

- *Emotional impact*

The strength of art also lies in its ability to resonate with its audience on a visceral level beyond pure didacticism. However, the curator of multispecies art should be cautious to avoid adopting exclusively metaphorical approaches, wherein human selves are projected onto others as to elicit strong emotional responses.¹⁷ This process discourages genuine impartial comprehension and obstructs the acquisition of fresh knowledge. Efforts to empathise with nonhuman creatures often fail to eradicate anthropocentric perspectives, which can undermine the significance of including diversified beings in artistic expressions. Regrettably, the species that are often prioritised in such instances are those that bear a closer resemblance to humans, indirectly demonstrating our subconscious inclination towards the familiar. The diversity of life is vast, and it is crucial that we broaden our perception of the world to integrate all species, including those that we may view as distant and dissimilar from ourselves or even repulsive.¹⁸

- *Compassion through care*

¹⁷ Boyd, "Towards a Performative Multi Species Aesthetics," 21.

¹⁸ Vrhoci and Weigl, "Art and Care, Reflections on the To Mind Is To Care Exhibition," 15.

Within this artistic context, care can be extended by the curator, artist, and audience alike. Viewers are often encouraged to “curate” the artwork themselves as a way to facilitate the development of a closer, more compassionate relationship. Practicing care should however be approached with a balanced perspective to prevent it from evolving into undue dependency. Maintaining this equilibrium ensures that care remains an empowering force. Compassion, an elevated form of care, holds the potential to enact profound transformation. Unlike empathy, which involves understanding and sharing another’s feelings, compassion goes beyond mere understanding by compelling individuals to take tangible, “prosocial,” and “altruistic” actions to alleviate suffering and promote well-being.¹⁹

1.3 Significance of the study

Scholars of urban planning, ecologists and biodiversity researchers have explored the possibility to envision the urban environment as a multispecies reality. However, before any new regulation in this area is implemented, there is an imperative need to act on a prior cultural level, that would prepare the ground for a really effective and fully understood adoption of multispecies policies. I suggest art spaces as the catalysts capable of initiating such a hopeful revolution via three central undertakings: the disclosure of ecological truths through condensation and simplification; the construction of new communication channels; and the speculative effort to forge new alliances.

The topic of multispecies art has already been widely discussed from an artistic point of view,²⁰ but what has not been yet extensively explored is the *space* in which such activities take place. The activity carried out by Mediamatic is not isolated, but rather part of a larger movement influencing various cultural institutions to re-discover how we situate ourselves in the world we inhabit with billions of other creatures. I suggest art spaces as not merely receptacles for multispecies creative outputs, but as optimum interdisciplinary platforms that allow for a level of ethicality and explorative power unprecedented to more traditional art venues. The present study will therefore place particular emphasis on the physical environment that serves as the backdrop for the

¹⁹ Nieuwland and Meijboom, "Eek! A Rat!," 310.

²⁰ Van Dooren, Kirksey, and Münster, "Multispecies Studies"; Lee et al., "EuglPollock"; Bossell, "Humans inside Nature"; Andreyev, *Lessons from a Multispecies Studio*; Rapp, "On Mycohuman Performances."

multispecies creations. This deliberate attention to the spatial dimension acknowledges the significant role that the physical setting plays in the overall interpretation, contextualisation and meaning-making of the artworks.

The study of curating multispecies art in contemporary museums shows the necessity to rethink traditional exhibition design, interpretation and engagement techniques;²¹ however, the endeavors in this realm of other types of cultural institutions such as the art space, the lab or the festival, have received insufficient examination. Mediamatic will therefore be explored as an alternative model to traditional art galleries. Art spaces are generally less constrained by institutional protocols and more open to risk-taking and innovation, hence they can be incubators for radically new ideas and forms of societal connections. The fact that Mediamatic configures as an art space and not as a collecting organisation makes it more experimental, flexible, and responsive to emerging trends and movements, thereby qualifying as a better venue for what Olga Majcen Linn and Sunčica Ostoić termed “intense curating.” Living artworks, according to the authors, are not only difficult to produce, set up, and maintain, but also to communicate.²² Indeed, the various issues associated with multispecies art arise from the fact that, when featuring living beings, these cannot be treated in the same manner as traditional figurative art forms stored in galleries and art depots. In some ways, artworks presenting living matter generally pose similar complications associated with performance arts, namely, how to deal with artworks whose very nature makes them uncollectible things. In addition, in the museum curators and conservators must contend with the additional challenge of preserving something that is intended to be living, as well as to question themselves whether they are morally permitted to do so in the first place. Often uncontrollability, decay and ephemerality are integral part of the works presented at Mediamatic and by other similar non-collecting institutions, whose exhibitions are more generally process-oriented and open-ended.

1.4 Structure outline

Before delving into my case studies, I intend to focus on multispecies art practice seeking to provide a comprehensive definition, as well as discussing the significance and impact

²¹ Fenske and Elpers, "Multispecies Worlds in the Museum."

²² Linn and Ostoić, "Curatorial Perspectives on Contemporary Art and Science," 92.

of its various curation modalities. The historical, social, and cultural aspects that influence the artistic practice will be here also taken into examination. The following section, *Cultural institutions as heterotopias* will provide an overview of the broader context within which the art practices under examination are situated. Art spaces and other types of cultural institutions will hence be presented as heterotopias for change and revolution; by transgressing the urban rigid imaginative geographies, these spaces strive to make peace with the uncomfortable feelings elicited by liminality. Section 4, *Mediamatic: Forging a multispecies community*, devoted to the presentation of my case studies, will be the most extensive and consistent part of this thesis as it can indeed be considered its core. Each case study will be analysed in-depth, highlighting its unique characteristics and significance. The findings from each case study will help to build a comprehensive understanding of different curatorial strategies and their impact on the presentation, reception and intrinsic significance of the artworks. On a larger picture, the comparison between case studies will reveal larger trends and contribute to a better understanding of the overarching theme and objective of the research. The final concluding section will provide a concise summary of the key findings of the investigation and address the research objective and questions posed at the beginning of the study. Additionally, areas for future inquiry will be underlined, reinforcing the relevance of the topic within the backdrop of the present era. I will suggest how curating the nonhuman offers new ontological perspectives, and how alternative art spaces and contemporary artist-curators are now laying the groundwork for novel urban geographies to emerge.

2. Multispecies art practice

2.1 Defining multi-species art

Multispecies art practice is an emerging field in the arts that seeks to solve the nature-culture divide by exploring the indissoluble links between humans and other species. The practice developed over time, as a reaction to various factors, such as the rise of environmentalism, the consequent critique of anthropocentrism, advancements in technology that allowed for unprecedented modes of interaction with other species as well as an increased attention to indigenous knowledge. Through collaboration and joint creation efforts with nonhuman living creatures - including animals of all kinds, plants, and even microorganisms - this type of art intends to nurture a new ethos of ecological understanding and interaction, hence representing a branch of environmental art.

More specifically, multispecies art is part of a transition away from using art to emphasise environmental concerns (as was the case with eco-art in the 1960s and 1970s) towards more interactive works that want to connect species, as well as artworks created *with* other species.²³ Inspired by Joseph Beuys' proclamation that "everyone is an artist,"²⁴ from the late 1990s onward, artists have experimented with new forms of art-making, allowing nonhuman critters to shape the final result of their works. The innovative productions of artists such as Ken Rinaldo, Amy Youngs, Gail Wight, Liang Shaoji, and Yukinori Yanagi have contributed to broaden the concept of art to transcend basic human craftsmanship; Canadian artist Aganetha Dyck has been working with bees to create honeycomb sculptures for over thirty years. Teresa van Dongen's collaborations with bioluminescent bacteria and fungi have delved into the fascinating realm of biological phenomena to create ethereal installations.

Originating in post-humanist theory and new materialism, multispecies art has a deeply ingrained philosophical dimension that qualifies those who choose to engage with it as "artist-philosopher" or "curator-philosopher."²⁵ A good comprehension of the underlying conceptual framework that cements the practice is thus crucial for grasping its very essence. Over the last few decades, several philosophical discussions have sought to expose nonhuman outlooks and ways of perception, questioning anthropocentric

²³ Sachs Olsen, "Co-Creation beyond Humans," 316.

²⁴ The Multispecies Salon, "Art as a Multispecies Engagement."

²⁵ Boyd, "Towards a Performative Multi Species Aesthetics," 20.

beliefs and stressing the urgency to stimulate new positive encounters between species. Among these, an important milestone is undoubtedly represented by Donna Haraway's book *When Species Meet*, where she eschews the view of humans as separate and superior to other species and instead highlights the complex interconnectedness of all living beings. Further important contributions to the field include Graham Harman, Quentin Meillassoux, Timothy Morton in the realm of object-oriented ontology, Manuel DeLanda's new materialist theories, and Jakob von Uexküll's century-old notion of *Umwelt*.²⁶ In any case, perhaps an absolute point of reference for the development of a multispecies art is represented by philosopher Karen Barad with the concepts of "agential realism" and "intra-action". The agential realism theoretical perspective, asserts that all entities are interconnected and mutually constitutive, meaning that they shape and are shaped by their interactions with each other. In order to describe the dynamic and mutually constitutive nature of these interactions, Barad postulates a fundamental conceptual shift called "intra-action" to replace the conventional concept of "interaction."²⁷ Intra-action denotes the mutual constitution of entities within their ongoing entanglement. This signifies that individual entities do not solely preexist as distinct wholes reacting to each other; instead, they actively shape one another through their intra-actions. In recognising that everything in the world emerges intra-actively, also the agency and intelligence of nonhuman species is acknowledged, as opposed to considering them as passive and insignificant actors in the system. The concept of nonhuman agency, has been also brilliantly explored by political theorist Jane Bennett, who underlined how agency is not a trait unique to human beings, but that our reality should be intended as an interrelated network produced by multiple interacting actors.²⁸

The work of multispecies ethnography, initially detailed in 2010 by Stephen Helmreich and Eben Kirksey, is another key contribution to the formation of a multispecies art. Multispecies ethnography is a relatively modern type of anthropological research that in recognition that the human species does not exist in isolation, but rather as part of a complex ecosystem, tries to comprehend the world through more holistic lens that include

²⁶ Harman, *Object-Oriented Ontology*; Meillassoux, *After Finitude*; Morton, *Realist Magic*; DeLanda, *A New Philosophy of Society*; Uexküll, "The Environment and Inner World of Animals."

²⁷ Barad, "Posthumanist Performativity."

²⁸ Bennett, *Vibrant Matter*.

the lived experiences of nonhuman beings. This approach to ethnography arose as an attempt to broaden the study of anthropology beyond human subjects, aware that species are influenced by their mutual intersections, as well as by the environments in which they exist. In short, as anthropologist Anna Tsing's puts it, "human nature is an interspecies relationship."²⁹ In an interview with Madeleine Boyd, Kirksey underlines how even though multispecies ethnography is inspired by the better-established animal studies, it should be considered a far broader and possibly more fruitful field.³⁰ The main issue concerning animal studies is that by focusing solely on animals, they frequently eclipse all other non-animal living forms. On the contrary, the term "multispecies" encompasses much more, suggesting greater fluidity and dynamism, as opposed to fallacious dichotomies such as animal/human or human/nonhuman. Animals, plants, insects, fungi, and even bacteria cohabit and can choose to collaborate or compete for survival; the results of these interrelations are complex ecologies and "co-constructed niches."³¹

Multispecies art is precisely a direct response to these new trends in the humanities. In multispecies art, the distinction between artist, activist, philosopher and ethnographer is hazy. When the aforementioned conceptual notions are translated into artistic expressions, they often yield creations that aim to mirror the interconnectedness of species and the vitality of natural ecosystems. These works endeavor to evoke both emotional and intellectual responses, fostering introspective thought and compassion towards other beings.

In the absence of a shared spoken language that can allow humans and other species to converse, artists have sought to discover alternative ways of communication, often with the support of technology. In *Talk To Me* (2011) Rasa Smite and Raitis Smits have tried to facilitate real-time transmission between humans and plants via a networked system. Participants could send text messages to plants, which then responded with different light patterns, turning the process of communication into a visual spectacle that highlighted the invisible connections that exist between living entities. Similarly, Dutch artist Christiaan Zwanikken has recently come up with the idea to set up electrical circuits to amplify the otherwise inaudible hum of plant life, by so doing strengthening the

²⁹ Tsing, "Unruly Edges," 144.

³⁰ Kirksey, "Multispecies Intra-Actions," 9.

³¹ Kirksey and Helmreich, "The Emergence of Multispecies Ethnography," 546.

understanding of plants as living beings. In *Amphibious Architecture* (2009), a joint effort with David Benjamin, Natalie Jeremijenko utilised buoy arrays with sensors and LEDs to visually represent fish activity and variations in the East River's water conditions. Other artists have instead explored new alliances; Beatriz da Costa's *Pigeon Blog* (2006) has equipped pigeons with small backpacks containing air quality sensors and GPS devices as a way to transform them into data collectors of air pollution; developed in the early 2010s, *CrowBox* by Joshua Klein taught crows to trade coins for peanuts, showcasing their advanced intellect and cooperative behaviors.³²

The products of multispecies art, are rarely "a final, representational 'thing'."³³ Remarkably, they seem to shy away from any sort of representative practice, classifying as a type of performative artistic practice. Indeed, following post-humanist scholar Cary Wolfe's assertion, every type of visual mode is to be considered extremely anthropocentric, hence arts like drawing and painting are inherently so.³⁴ Representationalism is founded on the Kantian aesthetic belief that reality is mediated through the human brain. Our minds are consequently believed capable of generating valuable interpretations of reality, deemed to be of special authority and worth.³⁵ According to this credence, when artists create works of art, they are not depicting reality as it is, but rather their interpretation of it. For example, if someone paints a horse, it is not a representation of an actual horse, but a version of what the artist perceives a horse to be. This perspective ignores the fact that perception is a complicated, multi-faceted process involving a variety of factors such as biology, culture, and social-environmental context, among others. As a matter of fact, no single mind can thoroughly filter the world around us, as the way we look at this latter is heavily influenced by our thoughts, experiences, and knowledge. Representation is, first and foremost, an interpretation subject to inaccuracy.³⁶ The process of perception is an intra-action of different agencies that interrelate to create our experience of reality. Since representing reality is not a straightforward process, in order for multispecies art to escape anthropocentric hubristic mechanisms, it is fundamental to be intrinsically

³² Joshis, "Crow Machine."

³³ Boyd, "Towards a Performative Multi Species Aesthetics," 20.

³⁴ Wolfe, *What Is Posthumanism?*, 99-125

³⁵ Boyd, "Towards a Performative Multi Species Aesthetics," 18.

³⁶ Van Fraassen and Sigman, "Interpretation in Science and in the Arts"; Eckersley, "The Discourse Ethic and the Problem of Representing Nature"; Walton, *Mimesis as Make-Believe*.

performative and not mediated from any kind of vantage point. A multispecies art practice hence adopts an interspecies relational approach that can be intended as an extension of Nicholas Bourriaud's relational aesthetics. An interspecies relational aesthetics encourages artists and audiences to engage with the nonhuman world, acknowledging the subjectivity of other beings. In the foundation of such an expanded framework, Barad's agential realism offers additional support, prompting a shift in focus towards material-discursive processes and existence in the world.³⁷ In virtue of these considerations, artistic forms that deviate from the traditional mediums employed by fine arts ought to be utilised in the creation of multispecies art (i.e. new media art, performance art, and interactive co-creative art practices), just as alternative cultural spaces to the white cube of the art gallery should be taken into consideration.

2.2 Curatorial approaches to multispecies art

The emergence of multispecies art is fueled by a desire to discover entanglements while questioning socio-cultural constructs. As I aim to illustrate, curating multispecies art does not mean to just maintain artworks and visual aesthetics, but to produce research platforms for the cultivation of relationships. In this particular paradigm of practice, the curation process assumes an ontological role, emerging as an art instantiation in its own right that resonates with the entire artistic experience of multispecies practice. This means that curating is not just a separate action but is deeply embedded and significant within the very essence of the artistic process. The artist becomes the curator of their own work, a function that is maintained and assisted by the institution curator, and occasionally, by the general public.

When dealing with multispecies art, I propose to make a distinction between two main curatorial approaches, namely a *participative* and a *co-creative* one. A participative approach has been typically used by traditional art institutions aiming to diversifying the perspectives and thus be accessible to broader audiences. The concept of participation applied to cultural institutions first emerged in the 1990s and soon became an increasingly studied field, especially with Nina Simon's 2010 publication *The Participatory Museum*. A participative curatorial approach involves collaborating with

³⁷ Boyd, "Towards a Performative Multi Species Aesthetics," 20.

various stakeholders, such as artists, experts, and audiences, to design and implement the exhibition or project. In the context of multispecies arts, a participative approach may involve working with artists to research the contact zones between different species, so as to inviting experts to provide scientific or ethical insights. The curator would be responsible for developing a coherent narrative and facilitating dialogue between the parties involved. In participative practices, it is usually the curator who takes the lead in shaping the overarching concept, selecting the works, and assigning roles to those involved, often leaving small room for feedback, input, and negotiation. Participation, already in the terminology, presupposes a subordinate role; “participating” means *taking part* to an activity or project whose guidelines have already been defined by a pre-established party, who believes to know the needs of the extra party involved. Participation of more-than-human species also necessarily presuppose exclusion, as there cannot be inclusion without somebody being excluded. The adoption of a participatory approach often leads to the incorporation of the most acceptable aspects from excluded groups, resulting in a superficial interpretation of inclusivity (e.g., excluding the notably distinct, such as plants). This underscores the pressing necessity to grapple with the intricacy of experiences and connections. While participatory strategies are undoubtedly valuable, it is imperative to transcend their limitations. Relying solely on such approaches perpetuates marginalisation, preventing a genuine reevaluation of underlying logics.

On the other hand, co-creative curatorship involves a more egalitarian and collaborative process, where all partners are involved in decision-making, production, and evaluation. A co-productive approach would involve collaborating with diverse communities of nonhuman species to create art that is meaningful and relevant to them. The curator is not completely in control, but would share decision-making powers and listen to the needs and desires of nonhuman actors, such as animals, plants, and ecosystems. Co-production would recognise the interdependence between humans and the environment and aim to promote ecological sustainability and rights. Co-creation presupposes a creative act that takes place when the resources and capabilities of two or more parties are combined and pooled to obtain positive opportunities and interactions. Because the act of making-with is an act of conversation, what Barad would call “agential intra-actions,” great importance is attributed to the process of creation itself. Artistic co-creation reveals *intra-actively* the collaborative and composite subjectivity of the actors

involved, multiplying the figure of the artist.³⁸ The artist becomes a translator, proving new types of sensorial-non-mediated engagement.

It can then be said that whereas a participative curation is decisively a more deductive practice where the end-result is known, pre-fixed and highly desirable, co-creative curation, conversely configures as an inductive modality, where the end-result is unknown and often what counts more is the creation process rather than the eventual by-products. In the first instance we are often creating *for* other species, whereas in the second one, we are creating *with* them. Claiming that a particular project is made *for* a specific other-than-human species does not depart from anthropocentric views in its incredibly hubristic confidence that human experts dispose of the cognitive means to understand what is best for another “target” community. Such discourses are often accompanied by sentimentalised calls for “preserving nature,” placing man in a superior position of savior, while all the rest is vulnerable and reliant only on human intervention. As reported by Monika Rosińska and Agata Szydłowska, referencing Monika Bakke’s reflections, what is important, is not to save nature, but to socialise it.³⁹

However preferable, as pointed out by Sachs Olsen, it is important that co-creative art practices get not considered automatically good as such, but emphasis should be placed on power-structures imbalances; indeed, : “just because there’s relations doesn’t mean there aren’t asymmetries and unequal power relations [...] because things don’t co-emerge in equal ways.”⁴⁰ This means that in order for multispecies practices to have an “empirical weight”⁴¹ and move beyond self-referentiality, these cannot transcend the development of a clear political dimension, reflective of the societal constructions and underlying power dynamics.⁴²

In this thesis I will suggest how a good way to reflect on the existing hierarchies can be identified in the concept of hospitality.⁴³ Hospitality can be conceptualised as the act of extending guest-oriented services and care to those who are perceived as outsiders to the normal community group. It therefore involves actions such as welcoming,

³⁸ Ambayec et al., "Changing Perspectives on Performance Collaboration."

³⁹ Rosińska and Szydłowska, "Zoepolis," 2.

⁴⁰ Boyd, "Towards a Performative Multi Species Aesthetics," 12.

⁴¹ Kaika, "Between the Frog and the Eagle," 1716.

⁴² Sachs Olsen, "Co-Creation beyond Humans," 316.

⁴³ Rigby, "Feathering the Multispecies Nest."

accommodating, serving, and ensuring the well-being of guests. Hospitality is a concept that has been widely discussed and debated within the realms of philosophy, social sciences, and tourism studies; researchers have also explored its spatial dimension. The literature on placemaking, for instance, highlights that public spaces are often designed to accommodate hospitality, creating welcoming and comfortable environments that encourage social interaction and conviviality. Whether through the provision of benches or public art, public spaces can foster a sense of belonging and community by providing opportunities for people to come together and share experiences. Even though hospitality theory has traditionally revolved around human needs, recently, scholars have explored the possibility of extending the concept of hospitality to multispecies public theory of placemaking, recognising that humans share public spaces with other nonhuman actors.⁴⁴ This perspective posits that hospitality should extend to nonhuman others, creating welcoming, inclusive environments that cater to the diverse needs of both human and nonhuman users. This could entail designing public spaces that provide water sources or safe areas for nesting, as well as creating opportunities interaction and coexistence.

Reasoning on hospitality allows multispecies art to be geographically relevant and thus politically well-grounded, as there can be no solid policy, without geographical situatedness. A deep understanding of the geography of a specific target-area is necessary to implement actions that can effectively address the issues and work towards more sustainable solutions. Geography informs policy decisions and is essential to ensuring their effectiveness. As policymakers need to pay close attention to the unique physical and social characteristics of the places they seek to influence, multispecies projects need to be locally positioned as to express political intentionality and hence holding significance within a particular area.

⁴⁴ Duhn, "Cosmopolitics of Place"; Sachs Olsen, "Co-Creation beyond Humans"; Baynes-Rock, "Precious Reptiles"; Morley, "Crow Cosmopolitics"; Van Patter, "Toward a More-Than-Human Everyday Urbanism."

3. Cultural institutions as *heterotopias*

3.1 Challenging norms through creative resistance

The activity carried out by cultural institutions exploring multispecies entanglements can be described as a speculative commitment in seeing *otherwise*. In pursuing such objective art spaces qualify as *heterotopias*, a concept introduced for the first time by Michael Foucault to indicate spaces existing outside the ordinary social order, with their own rules and meanings.⁴⁵ Heterotopias are spaces of deviation that simultaneously contest and mirror the dominant power structures. In his larger examination of power, Foucault underlines the deep and inextricably linked relationship between power and space. For Foucault, space is more than just a backdrop or container for power relations; it is an essential component of power production and exercise. Power is spatially enacted and inscribed within social and physical spaces. In this sense, also the urban environment, has its own specific power dynamics and control strategies. These spaces are not neutral; rather, they are constructed and organised to facilitate certain forms of authority and control.⁴⁶ The urban landscape is carefully fashioned to welcome only a restricted number of beings, often at the expense of others. This process of selective accommodation involves a range of measures such as urban planning and design choices that tend to prioritise human needs. On the other hand, much of wildlife and plant life gets disregarded and marginalised through the active creation of unhospitable conditions.

However, power also means resistance, as this is not only passively endured, but generates the conditions for the deployment of new possibilities.⁴⁷ It follows that since power is inherently productive, art spaces might be conceived as the consequent heterotopias, which arose to generate, among other things, a transgressive expression of space. Heterotopias disrupt and challenge conventional notions of space and the many norms and expectations of the dominant social order, enabling the expression of alternative identities, experiences and practices.

In this chapter I will describe how alternative art spaces play an important role in supporting the creation of multispecies cities in the Netherlands. By providing a space for experimentation and engagement with nonhuman creatures, these spaces allow for

⁴⁵ Foucault and Miskowiec, "Of Other Spaces."

⁴⁶ Foucault, *The Order of Things*.

⁴⁷ Aloï, "Introduction," 33.

alternative ideas and perspectives to emerge, while providing an extended number of people with the answers and right inductive tools to evaluate themselves why it is now crucial to envision our cities differently. Through their projects, such institutions show us that it is possible to create environments where all organisms can co-exist and benefit from one another, suggesting for the creation of better functional spatial configurations.

3.2 Uncovering entanglements at Dutch cultural institutions

The Netherlands is emerging as a prominent hub for the practice of multispecies art, with numerous cultural organisations actively researching and embracing this burgeoning field. These tendencies reflect a certain degree of receptibility towards recent turns in the humanities influenced by post-humanist theory and ecology. Within the bounds of this context, the notions of “multispecies community” and “multispecies urbanism”⁴⁸ have recently gained popularity, based on the premise that the urban environment may be modified to be more equitable and less human-centered. Cultural institutions and alternative art venues are especially important in supporting multispecies community-building. Rather than just implementing urban policies, such spaces provide a context in which to learn about and investigate what a multispecies city may entail.

Alternative art venues in the Netherlands are laboriously investigating new ways to relate to other-than-human entities. Common to these initiatives is the fact that even when exhibitions are held, it is not just a matter of presenting works of art to an audience, but these are usually accompanied by an ancillary programming, encompassing workshops, lectures, performances and other kinds of events, aimed at clarifying the broader critico-theoretical context within which the works in question are situated. The artworks are thereby much more than isolated creations, they enter in conversation by fueling the overall meaning-making of the artistic occurrence. It is also worth noting that the artists’ creations are in constant motion, and the curatorial act, whether carried out by the curator, the artist, or even the audience, does not cease once the piece is put into the exposition space. These locations take the form of interdisciplinary environments in

⁴⁸ The term multispecies urbanism (MU) was coined in 2019 by Dutch artist-researcher Debra Solomon to refer to her research focus on soil building and regenerative urban ecology. The term seeks to emphasise a style of urban development that prioritises nurturing the urban natural environment.

which there is no hesitation in mixing art, technology, and science to bring to life unprecedented formations.

MU Hybrid Art House (Eindhoven), stands as an active champion of multispecies art practice. The thought-provoking exhibition *ReShape: Mutating Systems, Bodies, and Perspectives* (2018-2019), curated by the dynamic duo of William Myers and Angelique Spaninks, explored interspecies interplays, delving into the fascinating world of unnoticed but impactful communications that trigger reciprocal changes. Recently, Jasper Griepink's solo exhibition *EARTHSHRINE: Sensing Sacred Soils*, presented soil as a "sacred" intricate web of organisms.⁴⁹ During a collaborative ritual performance with Victoria McKenzie, the public was encouraged to interact, smell and sense soil as well as to give thanks.

Since the 1980s, Rotterdam's V2_Lab for Unstable Media pioneers the exploration of art, technology, and society. It's a dynamic platform for artists, researchers, and scientists, that merges digital installations with living components. The lab supports publications, holds lectures, workshops, and exhibitions. In 2020, the group show *To Mind Is To Care*, capturing care-taking processes, was treated as a research platform rather than a finished product, with works like Nathalie Gebert's *Symbiotic Transmitter* engaging with plant communication; and Driessens & Verstappen's *Herbarium Vivum II* exploring plants' adaptive capacities. Not inclined to care for aesthetically indifferent things, how does caring for what's seen as trivial or even disgusting affect us? Caring for nonhuman artworks fosters responsibility, attachment, and familiarity.⁵⁰

Meanwhile, in Amsterdam's historic Amstelpark, Zone2Source wants to develop a new approach to urban ecology, where all species dwell and prosper on equal terms in the same habitat. The organisation's commitment comes to life through collaborations with visionaries like Heather Barnett, Špela Petrič, Anna Dumitriu and Debra Solomon, bridging science and art in a shared quest for deeper understanding. Zone2Source's *School for MultiSpecies Knowledges*, in partnership with OpenSet, has offered an alternative learning platform, engaging participants in transformative dialogues concerning what it means to be human in a multispecies society. The organisation has

⁴⁹ MU, "To Live and Die with Soil."

⁵⁰ Brouwer and Van Tuinen, *To Mind Is to Care*, 6.

also evolved into a “Proto-zoöp.” A “Zoöp” is an innovative organisational model rooted in cooperative governance with nonhuman life forms. Launched by Klaas Kuitenbrouwer in 2022, the model wants to reshape societal dynamics by working on a legal shift. This model, gaining acclaim, inspires cultural peers, like Zone2Source, to adopt Proto-zoöp aspects, progressing towards full Zoöp status.⁵¹

Apart from art spaces, festivals also function as cultural institutions with agendas that can strongly prioritise the establishment and cultivation of multispecies naturecultures. One such example is *Other Futures Festival* an event organised in 2021 in Amsterdam to explore how storytelling and speculative fiction can spotlighting alternative visions, breaking away from mainstream and often internalised convictions of how the world should be.

The presented projects offer just a glimpse into the diverse efforts undertaken by numerous cultural institutions in the Netherlands currently lighting the way for the constitution of a multispecies community. Many more venues certainly deserve mention, including FramerFramed (Amsterdam), The Waag (Amsterdam), Stroom (The Hague), Zipspace (Rotterdam), or IMPAKT Centrum voor Mediacultuur (Utrecht). Nonetheless, providing the reader with a comprehensive assessment of the Dutch cultural organisations pursuing multispecies agendas would undoubtedly go beyond the scope of this investigation. While constituting only a brief (and incomplete) overview, the projects enunciated have allowed me to suggest that alongside museum galleries, a parallel world moves with great constructive power, with the goal of being decisive forces for societal changes.

3.3 Multispecies practice in the art space

Multispecies art has emerged as a critical component of contemporary creative practice in the Netherlands. However, displaying living things poses some challenges, and while some particular artworks could receive favorable responses, others may engender controversy and critique. The use of living entities in exhibition spaces has frequently proven problematic; it is an extremely difficult practice to maintain ethically. For instance,

⁵¹ Nieuwe Instituut, "Proto-Zoöps."

bringing nonhuman actors into such settings, removing them from their native habitat, could be harmful or even disrupt their natural behaviors, relinquished for the sake of art.

If we consider the examples I just provided, it can be said that taking soil and place it in an enclosed space removes it from its context and transforms it into a mere symbol; what happens to the small lives it contains? Can it still be considered alive when positioned indoors and repeatedly handled, moved, and stepped on? The formula “caring for” presented at *To Mind is To Care* is likewise not fully convincing when behind the act of care we catch a glimpse of the evident human-dependency this might engender. In general, there is a widespread concern that the involvement of living beings may easily reduce them to a spectacle to gaze upon, hence perpetrating anthropocentric discourses.

For creative practices involving living beings it is essential to wisely balance artistic expression with ethical concerns. For this reason, museums hosting living exhibitions have developed strict guidelines with conservation experts. In the Netherlands, laws like the Dutch Animal Welfare Act and Flora and Fauna Act⁵² ensure good treatment of animals and plants in art. Dutch museums also adhere to the International Council of Museums (ICOM)’s Museums Code of Ethics, guiding ethical conduct globally. Art spaces are not bound by ICOM’s Code but may adopt its principles. Additionally, many of these institutions have their own guidelines for ethical conduct, specific to their organisational structure and mission.

When comparing the current year’s exhibitions hosted by the top 20 Dutch contemporary art museums, which attract the highest annual visitors, to those held in numerous smaller art spaces across the country, it becomes evident that living artworks are more readily observable within these latter venues. The main reason behind this can be possibly retraced to the fact that to avoid denaturing biological artworks, organisations must adopt innovative and adaptive approaches to displaying and preserving them. The traditional art institution is characterised by a higher level of rigidity in its curatorial strategies; typically, these involve displaying artworks in a static and sterile environment with minimal interaction or intervention, an approach that is incompatible with the inherently dynamic nature of biological artworks and can greatly limit their potential. The very concept of conservation, historically forming the basis for the establishment of

⁵² In Dutch: the *Gezondheids- en welzijnswet voor dieren* and the *Flora- en faunawet*

numerous museums, becomes problematic for biological artworks. The fact that those are almost exclusively featured in temporary shows reflects these concerns quite plainly. Because of its mutability and *in*-process status, multispecies art tends to take the form of a direct challenge to the idea of the commodifiable art object.

Cultural institutions other than galleries, such as the art space, the laboratory or the festival, by embracing the impossibility of replication have more easily welcomed such collaborative forms of art-making, showing themselves as better suited settings. Such curatorial spaces, notably non-collecting organisations, seem to have a better fit with the innovative character of multispecies productions offering fewer institutional constraints and intimate settings for deeper engagement. If traditional museums tend to follow a standard format of displaying art pieces, non-collecting organisation, on the other hand, have the flexibility to create a variety of experiences for visitors, which can range from immersive installations to performance art. Additionally, they also present the benefit of being more accessible to the public. Traditional museums often have a reputation for being exclusive and intimidating. The admission fees can be high, and the artwork can sometimes seem inaccessible. Non-collecting organisations, tend to have lower admission fees or offer free entry. Furthermore, as they do not have to maintain a permanent collection, they can allocate more resources to creating engaging and accessible programmes.

As Beryl Graham and Sarah Cook have pointed out, novel modes of curating are presently being developed, modes that are process oriented, non-object driven, and open to experimentation.⁵³ In other words, over the last few decades, the emphasis has gradually shifted from end-products to art-making processes. Alternative artistic venues offer much more than just the promotion of art; they establish spaces where individuals can convene and be challenged to delve into different viewpoints and ideas, often with a focus on social and environmental issues. In these contexts, exhibitions get more often referred to as “research projects” and are generally accompanied by peripheral programming as to support an even deepen involvement with the subject matter at hand. Often qualifying as non-commercial entities, such spaces are run by artists or other creative practitioners and seek to be not just platforms for the showcase of artworks, but

⁵³ Graham, *Rethinking Curating*, 237.

exploratory playgrounds for emerging artists opened to experimentation with unconventional techniques and processes. A hybridisation of artistic production and curating frequently occurs, blurring the boundaries between artist, curator and even the audience, actively involved in co-creating exhibitions and performances. Playfulness is an approach regularly adopted by such institutions; instead of just overbearingly denouncing serious and timely socio-environmental problems, those are handled with great creative strength and openness to trial and error.

In the following chapter, I will present Mediamatic as a heterotopia and look at how its initiatives are attempting to subvert oppressive power structures by imagining alternative spatial arrangements for the urban setting that promote inclusive and emancipatory relations. But first, let's discuss how cities have been conceptualised as separate, human-centered realms and what that implies.

3.4 Liminality and the reshaping of imaginative geographies

The idea to attain to the multispecies city raises from the realisation that, the world's rapid urbanisation, and the resulting overall decrease in available habitat for wildlife, requires us to cease considering urban settlements as exclusive human possessions.⁵⁴ As pointed out by Van Patter (2021), we live in the age of the urban, with cities housing the vast majority of the world's human population. In concomitance with this process, cities' spacetimes have become so varied that they must be regarded as relational entities; the interdependencies between humans and nonhumans in urban life are so intricately that the latter's social agency can no longer be ignored.⁵⁵ There is no reason to keep traditional partitions nature-culture into place as they obstruct the process of making sense of the ongoing and reciprocal inter-relationships that daily occur. The multispecies city challenges the conviction that there exists a space that is solely ours, moving past "dualistic understandings of belonging."⁵⁶ The goal is to dismantle the illusion of a monolithic human-centered space and instead (re)establishing one where liminality is now eschewed but acknowledged.

⁵⁴ McKinney, "Urbanization as a Major Cause of Biotic Homogenization."

⁵⁵ Amin, "Re-Thinking the Urban Social," 112.

⁵⁶ Van Patter, "Comment," 369.

Contrarily to what we tend to believe, the cityscape is a multifaceted domain that harbor a diverse range of dynamics and exchanges; despite being made up of buildings, roads, and sidewalks constructed by humans for humans, the urban fabric is also home to various plants, animals, and insects. For this reason, cities can be considered as the quintessential example of liminal space, where the encounter between human and more-than-human species repeatedly occurs. However, the liminal nature of cities, as areas where traditional partitions get messy, is particularly troubling for those who have internalised clearly-defined boundaries between the domains of wild and domesticated, as well as nature and culture. Liminality can indeed be quite confronting in its involvement of “a disconcerting process, an upturning of sorts in an individual’s frame of reference”; by definition “The [...] liminal [...] disturbs and by implication unsettles, perhaps scares or even terrifies.”⁵⁷ What is liminal, escapes classification, qualifying instead as something characterised by a considerable degree of hybridity. The resistance in accepting cities as liminal spaces, as they are, is therefore representative of the human need to control and order reality in single units. When such compartmentalisation gets lost, the low control experienced, and a general sense of in-betweenness can generate a sense of instability, which can raise discomfort or even fear in people.

The presence of feral and synurbic⁵⁸ species in cities, neither wholly wild nor domesticated, but rather existing at the confluence of these two domains, further compounds the issue, serving as a poignant reminder of the liminal condition of urban environments and causing people to feel uneasy as distinctions that society has long relied upon for comfort and stability begin to fade. In response to such feelings of uneasiness, the continued exchange between other-than-human beings traditionally located in the sphere of “nature,” and that of the civilised humans felt to belong to the industrialised anthropocentric urban environment, has been often rejected, conceiving of cities as an isolated space where nature, if it occurs, it is well-contained in parks and gardens. Urban planning has provided practical solutions to maintain divisions, with the creation of other-species-proof architecture (e.g., anti-roosting spikes), symptomatic of the

⁵⁷ Barrow et al., "Experiencing Liminality," 58.

⁵⁸ Synurbic species are creatures that have successfully evolved to live in close proximity to people, taking advantage of the resources provided by urban settings; unlike feral species, these do not necessarily have a history of domestication.

apprehension that liminality can produce in people. The creation of such structures is an attempt to remove nagging feelings. By eliminating the possibility of encounters with other species, a sense of safety and control may be experienced in what is often regarded as an unpredictable environment.

The present-day urban layout reflects our relationships with other species as well as the unease that might occur when confronted with the unknown. Eventually cities are *imaginative geographies*, constructed in our heads as uniquely human spaces. The concept of “imaginative geography” refers to the ways in which people imagine and construct geographical spaces through their cultural, social, and historical discourses. The idea of imaginative geographies emerged in the late 1980s with Edward Said’s critique on Orientalism. Subsequently, other theorists, such as Doreen Massey and David Harvey, expanded the concept to urban space, arguing that cities are also socially constructed through various power relations, discourses, and imaginaries. According to Philo and Wilbert all societies have their “imaginative geography of animals” and there are “[...] complex spatial expectations being imposed upon (them).”⁵⁹ Cities are hence not just physical locations but are also imaginative geographies that people inhabit. These imaginative geographies are shaped by the beliefs, values, and traditions of people living in the city, and are never simply representations of reality. Rather, they are *performances of space*, where people enact social, economic, and political practices that shape the urban landscape.⁶⁰ However, while these imaginative geographies are powerful sources of identity and belonging for some, they also justify acts of disregard or violence towards other-than-human creatures who do not fit into such imaginings. Such acts of violence and/or disregard translate in exclusionary and marginalising practices adopted in the design of cities, where physical and social barriers are created to prevent too-close encounters. It is important to understand the constructed character of such city imaginations and to question the power relationships that underlie it.

⁵⁹ Philo and Wilbert, *Animal Spaces, Beastly Places*, 11–22.

⁶⁰ I am here mainly building on Henri Lefebvre’s theory on the production of space and Judith Butler’s concept of performativity. In *The Production of Space* (1974), Lefebvre explores how the spatial environment is shaped by the negotiation between power structures and individual experiences. By conjugating this thought with Butler’s ideas that repeated performative acts construct power and identities, it follows that urban geographies are exactly the result of these adjoined processes.

In the imaginative geography of the city, we tend to relegate to the outside anything that is considered “wild” or “non-native” to that particular area. Yet, when animals or plants “transgressively” decide to enter what we consider domestic, hence “defy(ing) our conceptual categories and attempts to situate them in specific spaces,” then they become problematic.⁶¹ Perceived as “out of place,” they may generate in us aversion or even fear. Symptomatic of imaginative geographies is the fact that some species are not just “materially” removed, but are also discursively distanced. The apposition of dismissive or devaluating labels such as “pests,” “trash,” or “invasive” towards species difficult to control its common practice, also between “supposedly objective scientists working in the growing field of invasion biology.”⁶²

In my case studies, I will focus on two hated species: the pigeon and the Japanese knotweed. Although there are different reasons why the two species are despised, both originate from the same feeling of frustration in not being able to contain their respective populations. Pigeons, generally associated with dirt and disease have been often assigned the spiteful appellative “rats with wings” marking them as repellant filthy creatures necessitating removal. Separating and eradicating impurity is one of the hallmarks of modernity.⁶³ In *Purity and Danger*, Mary Douglas claims: “dirt is essentially disorder [...], in chasing dirt, [...] we are not governed by anxiety to escape disease, but are positively re-ordering our environment, making it conform to an idea.”⁶⁴ The Japanese knotweed, considered an “invasive alien species” and referred to as “bio-pollution,” is another instance of how untamed *nature* can generate aversion when entering domestic settings. Transformed from a plant to a “weed,” the *fallopia japonica*’s case is a clear example of how what we consider native or non-native can affect our views. Hateful labels stigmatise certain species as worthless or disposable, and dangerously shape common perceptions. It is important to pay attention to such labeling acts because other than just impacting views, they might also justify acts of violence directed towards the unwelcomed communities, setting them aside.⁶⁵

⁶¹ Jerolmack, "How Pigeons Became Rats," 88.

⁶² Nagy and Johnson II, *Trash Animals*, 6.

⁶³ Jerolmack, "How Pigeons Became Rats," 88.

⁶⁴ Douglas, *Purity and Danger*, 2–3.

⁶⁵ Kennedy, *An Ontology of Trash*.

Such misperceptions, both the product and result of an extensive lack of ecological knowledge concerning the liminal creatures we share our space with, prevent the development of appropriate policies to address co-existence.⁶⁶ The current political and cultural climate (which translates in urban planning and architectural configuration) exacerbates the situation by restraining even more opportunities to getting to know each other. Especially concerning is that the absence of regular interactions has engendered a decline in levels of tolerance. The artistic interventions I am going to analyse, come to play an important role when it comes to re-establish such encounters and reshaping perceptions. Now more than ever there is the need to solve the knowledge deficiency. I suggest that, since the scientific laboratory does not offer much opportunities to study nonhumans in a disinterested way, that would not consider the gathering of knowledge as something to use *against* a certain species or as a “proxy” *for* humans, the alternative milieu of the art space opens up new arenas to do that, also presenting the advantage of a higher level of transparency (differently, we need science to translate for us). Furthermore, an art space can stimulate the fruitful collaboration among artists and non-artists alike, such as scientists, engineers, and architects, in the pursuit of a shared vision of multispecies cities. Such teamwork can spark creative thinking about how to create a symbiotic interaction between the urban environment and nonhuman creatures. Art spaces hence provide an open forum for discussion and discovery as well as a unique platform for novel storytelling. When we learn more about these creatures, we can understand them better, and compassion is facilitated.⁶⁷

Solutions and paradigmatic shifts towards alternative ways of conceiving urban environments have already been pointed out since the 1990s by urban planners. In 1996, for instance, the journal *Capitalism Nature Socialism* featured an essay by Jennifer Wolch, where the author outlined the notion of “Zoöpolis” to counter the misconception of cities as a purely untouched human terrain.⁶⁸ The “zoöpolis” concept, is a model that wants to reframe the urban environment as a space inhabited and made to benefit both human and nonhuman-animals alike. The term “zoöpolis” combines the words “zoo” (from Greek, “living being” or “animal”) and “polis” (Greek for city), representing the

⁶⁶ Nieuwland and Meijboom, "Eek! A Rat!," 316.

⁶⁷ Ibid.

⁶⁸ Wolch, "Zoöpolis."

conception of cities as spaces of coexistence between diverse species. The concept suggests that animals residing in the city are not abusive occupants, but should instead be regarded as legitimate citizens of the urban community, with a right to exercise their agency to participate and shape their urban ecosystem according to their wills and needs. The zoöpolis concept understands urban animals as a specific geographically located category and considers cities their legitimate and unquestionable natural environment.

The notion of zoöpolis has been later mobilised by urban scholars Sue Donaldson and Will Kymlicka who explore the concept of citizenship further, coming to propose a model that would grant different degrees of political rights to nonhuman animals, based on their capacities and needs. In their book, *Zoopolis: A Political Theory of Animal Rights*, the authors propose three degrees of political citizenship for animals based on their cognitive, emotional, and social abilities;⁶⁹ by recognising animals as members of distinct political communities, they seek to devise ways to better regulate the exchanges and interactions we establish with one another.⁷⁰

Finally, departing from those theories, artistic curators Monika Rosińska and Agata Szydłowska have recently proposed to widen the notion of zoöpolis even more, suggesting instead the more far-encompassing concept of “zoepolis.” In ancient Greece, “Zoe” denoted the fundamental truth that all live beings share a common existence. Understandable as “life as such,” the concept includes all beings, deprived of borders between species. Citing directly from the curators, “It is not an individual life but life in relations, seen as a network of connections of beings that are not isolated from one another.”⁷¹ By substituting “zoe” for “zoo,” a more accurate incorporation of a distinctly Baradian intra-active stance is achieved, concurrently highlighting the shared vibrant vital matter that unites even the most disparate living beings. The exhibition they co-curated at BWA Wroclaw gallery (Poland) titled *Zoepolis. Design for Plants and Animals* (2017-2018) has been in this sense an experiment foreshadowing the formation of future multispecies communities.

⁶⁹ Donaldson and Kymlicka, *Zoopolis*.

⁷⁰ The three citizenship degrees are: “domestic citizenship” for animals living closely with humans, “wilderness citizenship” for those in natural habitats, and “liminal citizenship” for animals in captivity or human-dominated areas. These levels denote varying rights, recognising animals’ relationships with humans and their environments while offering different degrees of protection and consideration.

⁷¹ Rosińska and Szydłowska, “Zoepolis,” 4.

4. Mediamatic: Forging a multispecies community

4.1 Introduction: What is Mediamatic?

The Amsterdam-based Mediamatic art space strives to dissolve the confines of our imaginative landscapes, fostering connections and kinship. Following Donna Haraway's notion of "companion species," it seeks to uplift marginalised entities. Established in 1983, Mediamatic is a non-profit hub where artists, scientists, and cultural practitioners collaborate through exhibitions, workshops, dinners and other events. By utilising art to reshape perspectives on "nature," it fuels discussions and forges multidisciplinary urban partnerships. This versatile venue includes exhibition spaces, lecture halls, and laboratories, inviting artists and the public to engage in hands-on activities. The organisation may be described as a hybrid venue, because it comprises not only exhibition areas but also lecture halls and three laboratories where artists in residence may work on their projects and where the general public is invited to participate in hands-on activities.

In the next subchapters, I will explain how Mediamatic's efforts seek to herald the emergence of a modern political community of humans and nonhumans. Through the investigation of two specific initiatives, the *Japanese Knotweed Festival* and the *100 Years of Learning* masterclass, two types of curatorial approach will be detailed; the festival will be discussed as an example of participatory curating, while the masterclass will be presented as a co-creative instance. The resulting challenges and advantages of adopting one strategy over another will hence be examined. The comparative approach with case studies will shed light on the importance of being mindful of a range of crucial factors when curating multispecies art, encompassing ethical considerations and effectiveness; those entail nurturing genuine and equitable dialogue, raising awareness of inequalities, and allowing artworks the freedom to elicit surprise without exerting control.

4.2 The *Japanese Knotweed Festival*

The Japanese knotweed, originally from the east Asian hemisphere, is a plant considered a particularly resistant invasive species in Europe and North America and every year a lot of capital is invested in its removal. In Amsterdam, active efforts are underway for its eradication. Indeed, not having natural competitors that could somehow weaken or reduce its growth, the plant proliferates undisturbed, outcompeting native species and

often having destructive effects on local habitats. Moreover, the plant is particularly detested because, being biologically very sturdy, in urban environments it often makes construction difficult and can sometimes damage drainage systems and other facilities. Through the *Japanese Knotweed Festival*, Mediamatic aimed to shift perceptions and push harmonious cohabitation with this contested plant. The festival countered negative narratives and explored the many “positive” attributes of the plant, starting from being a very good basis for biomaterials, honey source, and cooking ingredient. Despite Amsterdam’s strict regulations prohibiting harvesting, Mediamatic organised residencies, workshops, exhibitions, a campaign, a dinner (Fig. 1), and a symposium centered on the plant.

The Japanese knotweed was brought from Japan to the Netherlands in the early 1800s by the explorer Philipp Franz von Siebold. At the time, the plant was appreciated as an ornamental plant, and extensively used to embellish gardens thus conferring them an exquisite exotic taste. However, the plant quickly outgrew the confines of private courtyards, transforming into what we now call an invasive species. Growing on lavas slopes in Japan, the plant is indeed incredible adaptable, even to the harshest environmental circumstances.

The festival has attempted to create a counter-narrative by reversing the story of the culprit. Language and storytelling have therefore received special attention, revealing how the knotweed is simply a plant and how, if there is a fault, this should be attributed to humans. Historically, the knotweed did not self-willingly migrate; it was humans that irresponsibly brought it to Western shores. Even today, its continued expansion often results from soil transfer and construction activities, rather than its independent propagation. The work of Palestinian artist Alaa Abu Asad, one of the highlights of the festival, was reflective of the hypocrisy behind the plant’s treatment, decrying the ambiguity of notions like invasive and native. With an adaptation of his ongoing project “*The Dog Chased Its Tail to Bite It Off*” (Fig. 2), Abu Asad reflected on the language typically used to address the plant; through a collection of more than 400 terms collected over the course of five years from newspapers and online publications, the artist reflected on the violent and derogatory nature of the language employed to describe the plant, resembling that often directed towards human migrants, and occasionally vaguely

reminiscent of a military jargon encouraging battle against some sort of national threat.⁷² “Alien,” “evil,” “wicked,” “vermin,” “bully,” “horrid,” “malevolent,” “grotesque,” and “living pollution,” are just some of the words employed, whose intensity is surely striking. Abu Asad invites the audience to reconsider the knotweed, confident that invasive exotics can teach us a lot about ourselves. The Japanese knotweed hate speech is just one more example of human dissatisfaction with attempting to restructure the landscape in line with deeply ingrained conceptions and beliefs about what nature should be. The presence of uncontrolled nature in domestic settings evokes a sense of aversion, prompting a pressing need to implement measures aimed at eradicating the perceived issue.

By showcasing the potential benefits of Japanese knotweed, the festival challenged preconceptions about invasive species and encouraged people to see them as potential resources rather than problems. The perspective of reconciliation ecology was hence adopted. Coined by ecologist Michael Rosenzweig, reconciliation ecology recognises that traditional conservation approaches, which often focus on protecting large, pristine areas of land, are not necessarily viable or beneficial in today’s heavily urbanised regions.⁷³ For this reason, environments are envisioned to sustain the coexistence of people and other plant and animal species, by granting them suitable habitats and food sources.

In today’s world, terms such as native and invasive, are taking on a vague sense of mythology and perhaps they are not serving us anymore. Does the concept of a native plant truly exist? A much larger picture of invasives and their ecological role should be established. In *Beyond the war on invasive species* (2015), Tao Orion brilliantly discusses the potential benefits of working with invasive species rather than against them, taking into account their ability to improve soil health, provide habitat and other ecosystem services. Every living creature has an ecological role, which may extend over such vast time scales as to surpass human comprehension. As underscored by reconciliation ecologist Pete Yeo, instead of reproducing pristine states of nativity, the responsibility incumbent upon individuals desiring to exert influence in the context of conservation biology lies in the endeavor to ascertain the nature and essence of said function.⁷⁴ There is no single narrative when dealing with “invasive” plants; in addition to recognising the

⁷² Mediamatic, "The Dog Chased Its Tail to Bite It Off."

⁷³ Rosenzweig, "Reconciliation Ecology and the Future of Species Diversity."

⁷⁴ Yeo, "Can We Allow *Planta Non-Grata* to Become *Planta Conviva*?", 144.

potential threats and losses those may pose, their positive effects must also be acknowledged. For example, the Japanese knotweed, like many other resilient invasives, provides an excellent food supply for pollinators, who have limited foraging opportunities in urban areas where extensive removal activities take place. Furthermore, the knotweed can remediate contaminated environments thanks to its remarkable ability to extract pollutants from the soil.

In a time of accelerated changes, ecological and evolutionary processes should be let free to flow and thus adapt. It is extremely dangerous to preserve ecosystems freezing them into time. As reported by Richard Mabey, these plants demonstrate traits reminiscent of an immune response, jumping in “to repair damaged [...] earth stripped of its previous vegetation” when major disturbance occurs.⁷⁵ The Japanese knotweed is a pioneer; it has the remarkable ability to colonise volcanic lava, initiating the transforming process of soil formation and heralding the appearance of forests. Many invasive exotics are now going through a process of naturalisation and have been shown to bring about climate resilience and to support the revitalisation of local landscapes.⁷⁶ We should cease to project our expectations onto the environment and dictating how it should be. Unable to deny the existence of such a plant, we must accept its existence and work to find ways to coexist without trying to exterminate it. The latter is a road that we have already tried to take multiple times and that has proved to be unsuccessful and highly resource-consuming; the more machinery disturbs areas around it, the more we create the situation for its proliferation.

In finding modes of coexistence, the festival promoted interdisciplinary collaboration and innovative approaches to address environmental issues, emphasising community involvement and education in achieving lasting change. To pursue this objective a two-days symposium was organised as to connect artists, scientists and various stakeholders to devise alternative bottom-up solutions to unrealistic eradication. Flemish ecological advisor Sus Willems, provided examples of native species that can keep knotweed under control, stressing the need to invest in co-evolution. Beyond its demonised depiction, philosopher Norbert Peeters explored what the strange perceptual switch surrounding

⁷⁵ Mabey, *Weeds: How Vagabond Plants Gatecrashed Civilisation and Changed the Way We Think about Nature*, 129.

⁷⁶ Yeo, "Can We Allow *Planta Non-Grata* to Become *Planta Conviva*?", 144.

the plant can say about humans. The symposium also saw the unforeseen participation of the Amsterdam Municipality. The main takeaway from the conference was that beyond sterile simplifications, the matter should be considered by adopting new holistic lenses, reiterating how the value of collaboration among diverse fields can be incredibly enriching and remains the sole path towards effective solutions.

The active involvement of the municipality has played a pivotal role in anchoring the project to the local community and the encompassing environment. Considering this aspect, the Japanese Knotweed Festival's political commitment has been remarkable. Obtaining the municipality support, has established a strong foundation for the project to thrive, fostering a sense of shared responsibility among all involved. The dialogue between the project and the municipality not only strengthens the former legitimacy but also provides a solid platform for sustained progress and long-term impact. As a result of the municipality's active involvement, the project is well-positioned to contribute to the socio-economic development and cultural enrichment of the community it serves.

The festival was just at its first edition and there are clearly improvements that can be made. For example, it has been observed that despite the laudable aim to shift perspectives, the main question that the festival has willingly or unwillingly addressed is *what to do with the knotweed*, leaving on the other hand not much space to understand what the plant is and has to say, imperative in an art practice that really wants to be multispecies. The festival missed to describe the plant as a living thing and instead limited itself to its usability, elucidating its "positive" qualities *for* humans. As many as 13 of the 16 projects that took place during the initiative, engaged with the knotweed by focusing on the perspectives of human-oriented consumption and production; in this instance, it is harder to affirm that the involvement of the plant in creative practice was done on equal terms.

During the festival the many possible uses of the plant have been explored extensively, chopping, drying, crafting, or converting it into a circular raw material (Fig. 3); Takako Hamano and Uno Fujisawa transformed it into eatable *ikebana*, Marieke de Hoop into paper, and Rotterdam-based artist Yoshinari Nishiki into an energy drink (Fig. 4). French musician Marc Lemonnier used dried knotweed to craft an instrument resembling a flute, and held workshops where he shared his skills to a larger audience. Social artist Pauline Wiersema collaborated with chefs Ghislaine, Vic Bridault, and Gregor Hiersemann to

create *The Cooking Show*, a series of episodes where the plant was used in appetising recipes like Japanese pancakes, roasted chutney, and aromatic pesto.

As this concise summary indicates, we cannot speak of co-creation within such creative instances, as the plant was treated as a mere material and was not allowed to speak for itself. To my judgement, this somehow limited the scope of the festival. Nevertheless, this must not diminish the organisation's endeavors to cast doubt on widely accepted beliefs by offering alternative interpretational lenses, and striving to alleviate unjustified feelings of fear and distress.

While the festival proposes multiple uses for the plants as a solution to deal with the knotweed problem, it also sought to prompt the public to contemplate the underlying factors that determine the worth we assign to different species, often contingent upon their utilitarian value, relegating those deemed non-utilitarian to the disposability status. Although this view-point is certainly centered and absolutely endorsed by the author, by presenting the plant as a *usable* thing and lacking on the other hand a good strategy to establish a dialogue on equal terms, the festival ended up to a certain extent falling back into the same reasoning patterns it wished to eschew. New insights about the plant beyond its "serviceability" were not properly collected.⁷⁷ Predominantly, interaction took the form of manipulation. However, when dealing with an art practice that aims for genuine collaboration, it is advisable to minimize the reliance on manipulation as the primary tool for gathering knowledge. The undue influence exerted in this way, restricts the organic agency of other participants and significantly curtails the freedom for autonomous contribution.

Referencing the concepts enunciated in the opening chapter, it can be said that the festival was curated more in compliance with a participatory approach. This meaning that the plant was physically there as a participant of the artwork, but not actively involved in its free development. Of course, considering that the festival was the first occurrence of a project aimed at annual recurrence, there is optimism for potential improvements. One good solution to keep in mind for future editions, would for example be to implement a more well-thought exploration of the concept of plant agency, recently researched

⁷⁷ By this I mean that several questions could have been asked, such as: how does the plant behave? What does the plant like and what does not? How and where does it prefer to grow and how does it interact with its surroundings? And so on...

thoroughly by the emerging multidisciplinary field of critical plant studies. Despite being surrounded by plants, our understanding of the ways we interact with one another remains largely mysterious. Instead of active subjects, historically plants have tended to be considered as aesthetic and passive objects or in Pollan's words as the "immobile furniture of the world."⁷⁸ The process of objectification that flora has gone through has been consolidated and validated by representation.⁷⁹ Relegated to a decorative function in the Middle Ages, charged with symbolic meaning during the Renaissance, and later captured in the white pages of herbaria for medicinal purposes, plants have been manipulated into flattened presences, recurrently "turned into [...] hollow vessel(s) for human concerns and feelings."⁸⁰ As a result of these objectifying processes, plant life has been widely devalued.⁸¹ Several experiments undertaken as early as the 1900s, however, have revealed not only plant sentience and ability to feel, but also distinct forms of agency in responding to external stimuli in varied ways.⁸² Plants are now only the quiet background of our existence, but our survival on planet Earth is directly depended on plant-human cooperation.⁸³ Just because plants' spacetimes are unperceivable to human senses, their vitality should not be overlooked. Art can help us make the invisible visible so as to dispel the myth of plants as mute and silent things. Recent plant sentience research has highlighted plants' ability to feel, make decisions, and even remember, challenging our understanding of intelligence, which tends to locate the mind in the brain.⁸⁴

For an effective plant-art practice, informed by the insights of critical plant science, conditions should hence be created for plants to "express themselves as somewhat 'intelligent' collaborators, rather than passive objects of representation."⁸⁵ Since plants possess decision-making capacities, they should be allowed to contribute to the unfolding process of an artwork. During the festival, regrettably, such a conversation did not occur, and in most cases the plant kept on being look at as a thing. Furthermore, even when the

⁷⁸ Pollan, "The Intelligent Plant," 94.

⁷⁹ But also fauna, it suffices to think to the ancient bestiaries.

⁸⁰ Aloï, "Introduction," 23.

⁸¹ For instance, traditional biological sciences continue to be influenced by objectifying perspectives.

⁸² Chatterjee, "Political Plants," 90.

⁸³ Hall, *Plants as Persons*, 14.

⁸⁴ Mancuso, *The Revolutionary Genius of Plants*; Gagliano, "The Mind of Plants."

⁸⁵ Ryan, "Plant-Art," 48.

plant was to some degree allowed to participate in the creative process, the output has been extremely controlled.

To ensure the lasting impact and evolution of future editions, it becomes crucial to move beyond basic manipulation of natural materials for fibers and dyes (Fig. 5) and fetishised symmetrical products (Fig. 6). More specifically it is important to refrain from using vegetal life to create “visual plant art,” “tactile plant art,” and “plants-as-art”⁸⁶ forms as to avoid perpetrating the long-withstanding tradition of manipulative representation. The final artwork should not be dependent, but self-regulating; in flux and transformation, it becomes the site of conversation, connecting the plant, the audience, and the artist. In this regard, new media art could have presented greater prospects for exploration.⁸⁷ The art space has the potential to create a common space with a new perceivable scale of intra-action. Yet, since many plant attributes are unperceivable to human sensing, technology must enter the picture at some time, since it may qualify as an excellent mediator.

Although still great room for experimentation has remained open, the Japanese Knotweed Festival has succeeded in bringing the issue to the table, providing a good introductory framework from which it will be necessary to depart in the next editions with new creative force. By expanding the scope of dialogue and encouraging innovative approaches, the initiative can transcend the limitations of objectification. This broader vision will propel the initiative forward, allowing it to address the complexities of the matter at hand, cultivate sustainable solutions, and ultimately foster meaningful impact.

4.3 *The 100 Years of Learning* Masterclass

During the summer of 2020, Mediamatic started its collaboration with artist and researcher Arne Hendriks to investigate the potentiality of using live mycelium waste as a building material. Many towers later called “mycelium tower,” “pigeon towers” or “myco-assemblage” have since then emerged and then decayed, challenging people to reflect on living cycles and what decay means. The mycelium-pigeon-tower embodies a sustainable symbiosis. A pigeon shelter is constructed from discarded mycelium bricks

⁸⁶ Ibid., 54.

⁸⁷ Take, for instance, the transformative power of what Roy Ascott has termed “moist-media,” and how this latter is proving itself to be an interesting ally in forging alternative fluid realities.

leftover from oyster mushroom farming. By consuming corn, the pigeons produce guano fertiliser, hence contributing to the life-cycle of the towers. Mushrooms are able to sprout again and are sometimes harvested by Mediamatic's staff to prepare delicious soups and salads (Fig. 8). Within the full life cycle of the tower, there comes a moment when it gracefully collapses, morphing into nutrient-rich soil. This soil undergoes a transformation into fertiliser, fostering the growth of grains. From these grains, fresh bricks are formed, specifically designed to nurture the growth of mushrooms. Once the mushrooms have been harvested, the mycelium bricks can be reclaimed and employed once more, constructing a new tower. Before mycelium can serve as building material, it is prepped by compacting. Hendriks used to mechanically press mycelium with car-jacks before 2021, but this became costly and time-consuming. The solution came in the form of "gentle discos," monthly events where people dance on mycelium to efficiently and joyfully prepare blocks for construction (Fig. 9). A festive ceremony, the gentle discos link together humans, mycelium and later pigeons in a circle of co-creation.

As of now, towers have grown and decayed around Mediamatic for about four years. All that has been collectively learned during this timeframe, is not an end in itself, but rather part of a protracted process of rediscovery, what Hendriks and Mediamatic refer to as a "masterclass" targeted at capturing new knowledge. This is what the title "100 Years of Learning" refers to. Hendriks highlights the timely nature of reshaping perception through trials and errors, urging a shared journey. He invites individuals from diverse backgrounds to join him in deciphering the meaning and lessons of these unconventional structures.

The towers are not just eye-catching formations, they are also a discerning socio-political critique. They serve as a visual commentary, inviting viewers to question the systems that sustain our world. They convey the message that the planet is not solely ours, and therefore we cannot continue to construct exclusive and self-centered spaces. In the current ecological crisis, a broader, conscientious vision needs to be embraced. It is our responsibility to build environments that allow for a diverse spectrum of beings to legitimately exist on their own terms. Hendriks's mycelium aggregates want to be welcoming and not-excluding for a wide range of life, or in any case for anyone who decides, of their own free will, to settle down or occasionally visit the towers. The bio-condominium teems with bustling activity, the life stories of pigeons, spiders, bees,

bacteria, snails and worms intertwine with each other. The project wants to highlight the human hypocrisy and delusion in believing that the urban environment can be ruled as one pleases. The *100 Years of Learning* masterclass serves as a commentary on how the gentrification of cities brings to the displacement of vulnerable communities, both human and other-than-humans. At the same time, the project challenges the concept of urban commons and tries to find a new definition.

The mysterious mycelium-pigeon-towers serve as a thriving habitat for pigeons and an array of other small beings; by interrelating different forms of life together, the towers are a testament to interdependence and coexistence. Snails navigate the tower's damp surfaces, insects scuttle along mycelial threads, and even bees have once used a tower for nesting. Up close, the towers reveal their bustling activity, a dynamic contrast to their monolithic appearance from afar. Pigeons further enrich the ecosystem, with their droppings contributing essential nutrients for fungi and plant growth. Alongside oyster mushroom mycelium, rival molds break down organic matter, aiding decomposition. The towers are microcosms, vividly illustrating the intricate interdependence of the world. These are elementary concepts of ecology, yet "culturally" still difficult to grasp. The impending and ongoing climate crisis is a clear manifestation of this massive failure to see. This connectivity, which is too broad for the human mind to trace, both spatially and temporally, is condensed and simplified by the towers, eventually drawing attention to it.

Between mycelium layers no further connective material is needed; when stacked, mycelium merges into a solid unit. While the artist initiates construction, it is the mycelium, as a co-author, that ultimately determines what shape each tower will take. How mycelium grows and responds to weather sparks intrigue, highlighting that even when given the initial input, things can change and evolve according to desires and needs that do not always correspond to ours. Working with live material means first of all acknowledging its agency and the need to engage in a continuous negotiation, where points of encounter and contrast lead us to new truths. Hendriks himself has repeatedly mentioned with deep devotion how before being able to build stable formations he had to learn to patiently converse with the mycelium.

The *100 Years of Learning* has no pre-designed structure. Activities within the masterclass include collaborative tower building, mushroom harvesting, pigeon care, workshops, and lectures. It is also important to note how decay is considered an integral

part of the creative process and is thus welcomed, not prevented (Fig. 10). The towers can be thought of as both living and dying systems; they evolve over months and years, adapting to climate and hosting diverse life forms by season. They present a fluid, enchanting vitality, shifting, shrinking, and gracefully changing. Fungal fruiting body textures shift from fluffy to sturdy, colours ranging from white to purple. The myco-assemblages beckon us to embrace the wonder of transformation and the delicate interplay between stability and transience.

The fact that the towers are located in the open air is noteworthy. This makes them susceptible to both the incursions of numerous beings and atmospheric effects, activating the potential of the multispecies work of art at its fullest, if compared to similar works placed in the aseptic spaces of the art gallery. To be precise, with “active” artworks we refer to those creations that present “a continuous, changing living system.”⁸⁸ The institutional and ethical limitations of the museum for showing such types of artworks have been recurrently pointed out. Indeed, when artworks featuring living systems or biological components are inserted into a gallery, their status can transition from active to *inactive*. Two famous examples are Simon Starling’s *Infestation Piece (Musselled Moore)* (2006–8) and Pierre Huyghe’s *Untilled (Liegender Frauenakt)* (2012), both transformed into “static inactive objects” when transferred into the museum building. Furthermore, inserting such works of art into galleries, whose core concept is the idea of a continuous life cycle, may pose a substantial risk of losing authenticity.

The transition to inactivity happens if we decide to act ethically and respect the pace set by the other-than-human co-authors. Yet, the curator may also more controversially decide to try to keep the living cycle active, but this often generates dependent and not auto-sufficient entities. To avoid this burdensome procedure, another common choice concerning multispecies art in galleries is the decision “to consider showing simulacra, documentation, or remnants instead of the actual “alive” artwork.” One such instances is *Four Legs Good, Two Legs Bad* a group show held between May and August 2023 at Nieuw Dakota (Amsterdam). Animals’ artistic expressions were showcased indirectly,

⁸⁸ Phillips and Van der Laan, "Flora and Fauna as Art: A Contemporary Art Conservation Approach to Living Systems," 329.

using remnant artifacts and media documentation, inviting audiences to an imaginative realm.

It becomes invariably evident that the curation of these instances of contemporary art requires a departure from conventional and entrenched paradigms, favoring a more divergent and innovative approach. Developing a fresh framework is crucial. One strategy is embracing material loss and the inherent impossibility of replication. This is why the art space, which may transcend the concept of “display” and is not confined by the repetitiveness of the gallery experience, but is more focused on processual performativity, can offer intriguing alternatives to deal with such complex productions. Spaces such as Mediamatic seek to challenge the boundaries of conventional exhibition practices, offering unique experiences that go beyond merely showcasing artworks, with instead a more pronounced focus on interactivity and participation. The living towers constantly provide visitors with the opportunity to engage in the artistic process. By so doing, the line between the artist, the artwork, and the audience is consistently blurred.

The *100 Years of Learning* masterclass prompts a reevaluation of long-standing urban imagined geographies and aspires to build new more comprehensive ones. This objective is chiefly pursued through the reexamination and reappraisal of the longly despised figure of the pigeon. The lectures and workshops held by the artist, are an intrinsic part of the mycelium-pigeon-towers’ curation and accompany people to re-discover the bird and her story, once greatly appreciated as a provider of highly valued fertiliser and then quickly damned to the “rats with wings” status. Hendriks’ towers draw inspiration from Iran’s grand pigeon towers. Historically, these Middle Eastern structures bred pigeons for meat, eggs, and valuable fertiliser, crucial for the sustenance of expanding populations. However, modern agriculture shifted to synthetic fertilisers, causing pigeon fertiliser's decline.

The pigeon bad fame is a relatively recent perception. Throughout history, pigeons have proved themselves to be great human allies, they delivered messages, navigated vast distances, symbolised hope and peace. In the twentieth century, urbanisation and the Industrial Revolution enticed an increasing number of avian species to migrate towards cities, allured by the manifold advantages that awaited them. Today’s city pigeons descend from domesticated ancestors; selective breeding, aimed at preserving the most

prolific specimens, soon transformed pigeons into a nuisance.⁸⁹ The “rat with wings” metaphor enjoyed broad use in twentieth century media such as *The New York Times*, but reached widespread popularity with Woody Allen’s 1980 film *Stardust Memories*.⁹⁰ While it is true that the label did not generate the pigeon problem, but rather served as a frame to describe an already existing one, it is also vital to highlight that the labeling act is decisive in treatment regulation. The metaphor, in particular, evokes a number of associations with the concepts of dirt and disease, classifying the labeled subjects as requiring prompt removal, no matter how cruel. So publicly challenging the reassuring illusion of a clean and “human” city, by prowling around our trash and leaving their feces behind, pigeons are perceived as extremely problematic and in a certain sense awkwardly “off-site.”

Fear and disgust impair moral judgment, revealing far more about us humans than the birds themselves. We need to move past these sentiments, but first we need to understand why we experience them. Getting past tags, will inaugurate the development of new moral foundations. When questioning something, we might learn something new. Disgust is a natural human emotion that serves as a defense mechanism against potentially harmful or disease-causing elements. While some disgust responses may be evolutionary, research indicates that much of disgust can be acquired through socialisation and cultural contexts.⁹¹ By reflecting on why we may feel disgust when we encounter a pigeon, we can learn that its expression is not only a biological factor but a social emotion that can be worsen by social representations. Understanding that socialisation has a significant impact on our emotional experiences as well as how we perceive, interpret, and respond to the world, can set us on a path of liberation from handed down preconceptions, where individuals can forge their own truths according to their beliefs and personal experiences.

The frontiers of human-fabricated mental landscapes are penetrable. While the sparrow was the most despised urban bird in the late nineteenth century, pigeons inherited that title at the beginning of the twentieth century.⁹² Their fame seems to have crashed when their perceived value diminished. It is therefore apparent how we tend to

⁸⁹ Mediamatic, "The Rat With Wings."

⁹⁰ In the movie a pigeon abruptly bursts into the protagonist’s room, getting swiftly labeled a “rat with wings!”

⁹¹ Rozin, Haidt, and McCauley, "Disgust"; Rottman, DeJesus, and Gerdin, "The Social Origins of Disgust."

⁹² Jerolmack, "How Pigeons Became Rats," 77.

value other beings as long as they are considered helpful or to a certain extent “good” for *us*.⁹³ As things can be relocated inside or outside of imagined geographies when a change of perspective takes place, the mycelium towers also offer a way to re-think the role pigeons occupy in society. Keeping in mind that narratives wield substantial influence in shaping behavior, exerting a profound capacity to structure and guide our actions, the project seeks to return them a respected position. By changing narrative and forming alliances, despised pigeons can transform into valuable collaborators. When we view them as street cleaners, consuming discarded waste, or as contributors to urban farming with their droppings, these birds can establish an esteemed connection with humans, akin to bees producing honey.

The masterclass transitively reasons on the concept of hospitality by providing a comfortable living space for the pigeons of Amsterdam, who in turn produce a “local supercompost.”⁹⁴ The many workshops and lectures organised aim to teach people more about these mystified feathered beings. Hendriks’ vision is to bring one day more of these living structures into the cityscape, further working towards the constitution of multispecies cities. The masterclass is an ode to an aesthetic of messiness, and a resistance movement against the human urge to maintain, regulate and order. Pursuing messiness, does not mean neglect; care and attentiveness are essential, especially during tower construction. Providing care, almost like framing a drawing or placing something on a pedestal, suggests that what is being cared for is special and deserves attention. As pointed out, care is generally good as it can support compassion, however this needs to be careful not to imply dependence. While care is an important component, multispecies works of art should promote self-sufficiency. Hospitality allows to get to know each other, bringing about fresh biotic cognition that may be reinvested in the long run for locally informed resolutions supporting participative social cohabitation. Certainly, the towers and similar instances of multispecies art are often not the final, functional “designed” thing, but rather agents of transformation and reflection working between the tropes of criticism and speculation.

⁹³ The fact that pigeons are and have been moved in or out of imagined geographies is reflected not only by the historical shifting perspective, but also by the geographical context, with some part of the world and cultures where those are held in high esteem

⁹⁴ Mediamatic, "Building a Pigeon Tower."

Considering the aforementioned, the aim of the 100 Years of Learning masterclass is to gather knowledge, facilitate mutual inspiration, and promote reciprocal exchange, transforming us in better actors. Indeed, summarising, there are several valuable lessons that can be learned from the initiative. The towers expand and rectify traditional understandings of time, making us reflect on natural cyclicity and transformation and exemplifying how things cannot be held and frozen in a state but must be allowed to take their own course. Moreover, they thematise how in nature there is nothing that gets discarded, but everything is always wisely reused. The mycelium, on its part, demonstrates how the human is not the only agent capable of shaping things, but that compromises must be made on a regular basis, which will be all the more unsuccessful the more one decides not to listen to what the other party has to say. The pigeons want to be looked at just as “birds”; behind any demystification, they impart valuable knowledge about ourselves, too scared of what we cannot control or whose uncertain state causes us apprehension. Lastly, other fellow humans inspire ourselves with their unique perspectives in a mutually enriching and non-hierarchical dialogue. Each actor involved in the masterclass brings a unique contribution, hence offering lessons that collectively enhance our understandings, encourage collaboration, and foster positive societal transformation.

5. Conclusion

5.1 Summary of key findings

The coexistence between humans and other species often leads to encounters between the two, reviling the liminal condition of cities, as not fully cultural nor natural domains. In this context, feral and synurbic species become particularly problematic because by their only existence, transgress the nature/culture divide and in so doing question the city's status as a purely "cultural" locus. Art institutions navigate this liminality, facilitating community formation and addressing reality without overlooking vibrant interactions. Recognising the importance of the urban multi-layered liminal condition is vital for creating a multispecies city. It is also necessary to reexamine unchecked human values and assumptions.⁹⁵

This study has explored art spaces as deliberate mediators for broader community-formations and highlighted the complications that arise from such an objective when the methods adopted are limited to just including the *other* without moving further to expose its agential characteristics. Two distinct approaches, participatory and co-creative, emerge from the analysis of curatorial modalities. Co-creation, epitomised by the second case study, stands out for equitable partnerships, mutual respect, and inclusive decision-making. It ensures that all involved parties have an agency in shaping the final artistic output, avoiding the pitfalls of exploitation or tokenism that may occur in a less collaborative context. Both initiatives challenge urban norms and power dynamics. However, in order to move beyond the objectification of the subject that one wishes to re-evaluate and insert into the city fabric, it is essential to grant to multispecies subjects the time and space to exist, without having first predetermined a desirable "use" for them. Despite contrasting levels of output control, the fact that both efforts reason on hospitality enables them to achieve the degree of geopolitical relevance required to shed light on the power disparities that exist between humans and nonhumans. In accordance with the idea that multispecies art needs to be political to be truly relevant, both projects recognise the importance of understanding and responding to the surrounding socio-political context to guarantee the success and impact of the initiatives.

⁹⁵ Nagy and Johnson II, *Trash Animals*, 8.

5.2 Recommendations for future research

The activity carried out by contemporary cultural institutions can support the development sustainable urban futures through innovative placemaking enterprises. Exploring how alternative institutions are working towards this objective is certainly a field that needs further study, including a transnational perspective. It is undisputable that cultural institutions are evolving, redefining themselves as hybridised trans-disciplinary spaces for knowledge production. Certainly, more work still needs to be done, yet it is fascinating to note how exhibition spaces are slowly expanding their functions, as illustrated by the example set by Mediamatic. An avenue then opens up to reevaluate and redefine the very boundaries of museology itself. According to Nora Sternfeld, we are indeed moving closer to attaining a post-representative museology in which the value does not lie in the exhibition of rare artifacts, but rather in the development of possibilities.⁹⁶ In this context, the research carried out by Mediamatic demonstrates that the exhibition space can potentially transform into an action-space where the curatorial process counts more than the final product, and where novel encounters and experiences are facilitated, resulting in new interrogations and representations of alternative future visions. Against what Tony Bennett has called the “exhibitionary complex,”⁹⁷ co-creative art practices, placeable in performance theory, demonstrate an aversion to the idea of creating a separation between an artist’s work and the surrounding world with the intention of “safeguarding” it.

Further investigation is also warranted to delve deeper into the spaces that accommodate these initiatives and their suitability. Can we imagine multispecies art inserted likewise in art galleries? Should we acknowledge that there are simply better places suited to host such kinds of artistic expressions? In this research, this has been just a suggestion serving as a starting point to emphasise the need for thorough examination as to accurately evaluate whether alternative non-collecting institutions are indeed the most appropriate.

⁹⁶ Sternfeld, "Inside the Post-Representative Museum," 175.

⁹⁷ Bennett, "The Exhibitionary Complex."

5.3 Closing remarks

The activities carried out by Mediamatic have allowed me to suggest how it is now time to completely rethink how the human positions itself in relation to its environment, arguing that nonhuman agents must be brought back to the fore in order to *re-learn* how to properly engage with them. Art spaces are becoming essential platforms in promoting the creation of multispecies cities, calling for an expanded notion of the urban commons. By providing a collaborative environment for artists-curators, citizens and experts to co-create, collaborate and engage in productive discussion, they support the construction of an equitable future for all living creatures. The better integration of animals, plants and other nonhuman species in urban settings is an essential aspect of sustainable development. In the near future, it will be critical to advocate for coalitions between governments, policymakers and art institutions, as to work in unison to accomplish this shared goal. Certainly, given the nascent nature of multispecies practices, it is expected that numerous obstacles may be encountered along the way. Notably, some of these difficulties have been briefly addressed in the present study. The path ahead may be marked by hindrances and complications, yet it is imperative to embrace complexity, as this is the cornerstone of the post-humanist turn we are currently witnessing.

Illustrations



Figure 1. Alaa Abu Asad, Uno Fujisawa, Aslı Hatipoğlu, *Liberation Day Dinner*, *Japanese Knotweed Festival*, Mediamatic ETEN, Dijkgracht 6, Amsterdam, photo May 5th, 2023.



Figure 2. Alaa Abu Asad, adaptation of *The Dog Chased Its Tail to Bite It Off* for *Japanese Knotweed Festival*, Mediamatic, Dijkgracht 6, Amsterdam, photo 2023.



Figure 3. Shoots of knotweed part of the EatArt Experience by Takako Hamano & Uno Fujisawa, *Japanese Knotweed Festival*, Mediamatic, Dijkgracht 6, Amsterdam, photo 2023.



Figure 4. Yoshinari Nishiki, *EROI Drink* (エロイドリンク), *Japanese Knotweed Festival*, Mediamatic, Dijkgracht 6, Amsterdam, photo 2023.



Figure 5. Lucie Havel, wool dyed with Japanese knotweed leaves and rhizomes, *Japanese Knotweed Festival*, Mediamatic, Dijkgracht 6, Amsterdam, photo 2023.



Figure 6. Virgile Durando's knotweed marquetry, realised during the workshop *Remaking Knotweed, Japanese Knotweed Festival*, Mediamatic, Dijkgracht 6, Amsterdam, photo 2023.



Figure 7. Explanation of the pigeon-mycelium-tower life cycle, illustrated by Mily Bogaarts, an intern at Mediamatic, 2021.



Figure 8. Arne Hendriks harvesting mushrooms inside the tower named “Mily,” Mediamatic, Dijksgracht 6, Amsterdam, photo 2023.



Figure 9. People dancing on mycelium blocks during a monthly Gentle Disco, Mediamatic, Dijkgracht 6, Amsterdam, photo March 2023.



Figure 10. Arne Hendriks tries to support the height of “Gentle.” As the tower bends under its own weight, it eventually collapses to the ground, becoming stage for new life, Mediamatic, Dijkgracht 6, Amsterdam, photo 2021.

Illustration credits

Fig. 1. Downloaded 10 August 2023.

<https://www.mediamatic.net/image/2023/5/8/asdfasdfxxxx.jpg%28mediaclass-full-width.c3083fedae46a95f1139ff9d5833b1b6b8e20a69%29.jpg>

Fig. 2. Downloaded 10 August 2023.

https://www.mediamatic.net/image/2023/5/5/the_dog_chased_its_tail_till.jpg%28mediaclass-full-width.c3083fedae46a95f1139ff9d5833b1b6b8e20a69%29.jpg

Fig. 3. Downloaded 10 August 2023.

https://www.mediamatic.net/image/2023/4/19/img_0916.jpg%28mediaclass-full-width.c3083fedae46a95f1139ff9d5833b1b6b8e20a69%29.jpg

Fig. 4. Downloaded 10 August 2023.

<https://www.mediamatic.net/image/2023/4/26/dsc02021.jpg%28mediaclass-full-width.c3083fedae46a95f1139ff9d5833b1b6b8e20a69%29.jpg>

Fig. 5. Downloaded 10 August 2023.

https://www.mediamatic.net/image/2023/4/3/img_8324_2.jpg%28mediaclass-full-width.c3083fedae46a95f1139ff9d5833b1b6b8e20a69%29.jpg

Fig. 6. Downloaded 10 August 2023.

https://www.mediamatic.net/image/2023/3/31/virgile_workshop.jpg%28mediaclass-full-width.c3083fedae46a95f1139ff9d5833b1b6b8e20a69%29.jpg

Fig. 7. Downloaded 10 August 2023.

https://www.mediamatic.net/image/2021/8/9/pigeon_tower_explanation.png%28mediaclass-full-width.c3083fedae46a95f1139ff9d5833b1b6b8e20a69%29.jpg

Fig. 8. Downloaded 10 August 2023.

<https://www.mediamatic.net/image/2023/8/4/mily2.jpg%28mediaclass-full-width.c3083fedae46a95f1139ff9d5833b1b6b8e20a69%29.jpg>

Fig. 9. Downloaded 10 August 2023.

https://www.mediamatic.net/image/2023/3/28/52732136245_21c64df5bc_k.jpg%28mediaclass-full-width.c3083fedae46a95f1139ff9d5833b1b6b8e20a69%29.jpg

Fig. 10. Downloaded 10 August 2023.

https://www.mediamatic.net/image/2021/8/9/arne_hendriks2.jpg%28mediaclass-full-width.c3083fedae46a95f1139ff9d5833b1b6b8e20a69%29.jpg

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