Universiteit Utrecht

MSC CULTURAL ANTHROPOLOGY: SUSTAINABLE CITIZENSHIP

Vivid Ecologies in Urban Rewilding

Shifting aesthetics and ontologies in more-than-human backyards in Rotterdam's green turn.

Master's thesis

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Date : 30 June 2024

Word count : 19.538

ABSTRACT

This thesis explores the concept of “vivid ecologies” as a novel approach to urban rewilding in Rotterdam by focusing on how engaged backyard gardeners redefine urban spaces through negotiations of biodiversity and aesthetic desires. Drawing on ethnographic methods and theoretical frameworks such as more-than-human assemblages and ontologies of urban green spaces, the study examines how gardeners disrupt conventional urban landscapes dominated by cleanliness and orderliness. Through an exploration of the garden assemblage, both within as outside its physical demarcations, it reveals how these practitioners cultivate intimate relationships with plants, fostering resilience and ecological diversity in these private spaces. Through participant observation, interviews, garden tours, and creative methods, the thesis elucidates how these practices challenge institutional norms upheld by municipal authorities and urban planners in transformative times of Rotterdam’s green turn. It argues that promoting biodiversity in backyards is not just an act of urban rewilding, but of “revivifying” urban green space by revitalising human-environment and human-plant affects and linkages. This study underscores the transformative potential of gardening practices in creating vibrant, potentially biodiverse urban environments that celebrate the interplay between human and nonhuman actors.

Keywords

urban gardening, biodiversity, more-than-human assemblage, ontology, vividness, urban rewilding, Rotterdam

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Introduction

Surprising garden dynamics

In November 2023, Marie and Piet, two elderly acquaintances in my hometown Rotterdam, asked me whether I had time to help them with chores in their backyard. My preparations for this thesis were still in an orientation phase and anything related to urban ecology had not yet mingled in my ideas or fantasies. It was still winter and I visited them on a dry, relatively warm day (for this time of year in the Netherlands) to help them out. We first sat down to chat as they were about to eat lunch. A year ago, Marie had an accident when stepping into the garden. She fell down and as a consequence, she fractured her leg. This meant that she had been laying in bed for a year to recover and could now only short walks with a supporting walker. She told me about the current state of the garden being rather poor and that she used to walk and care for her plants on a daily basis.

In this rather sad tone, she also told a story of an encounter with municipality gardeners in her backyard. The end of the garden is enclosed by the outside wall of a municipality-owned building on the court behind their backyard. For many years, Marie, and her husband Piet, grew English Ivy climbers (*Hedera helix*) to cover the wall as part of the garden aesthetic. However, at a certain moment, a year before I was here, the municipality interfered to remove almost all of the climbers in their garden, without any warning causing damage to several plants. Marie could by no means understand how they could think of doing such a careless and hostile act without compromising beforehand. It seemed like she was still mourning about the wall climbers.

Another such story was about the municipality gardeners who removed all the plants she added to the "self-maintenance" tree plot in front of the house. In collaboration with the municipality, citizens take care for public plots near their houses. However, according to Marie, municipality gardeners who maintain the public space do not recognise the differences between weeds and meaningful plants, due to their lack of knowledge and their extensive labour of everyday pruning with machinery. *They are not in tune with the slow and irregular rhythms of intimate gardening*. It happened multiple times that these gardeners destroyed the plants she carefully selected and intimately took care of.

When our coffees were finished, I started pruning the hedge. This consisted of the same climbers as there were on the wall at the back. Marie leaned on her walker in the door opening as she was giving me instructions on which protrusions render too rampant

of “our” side of the hedge and, if reachable, also the neighbour’s side (as they were rather uninterested as gardeners). She also instructed me to be careful with not mistaking the entangling climbers and to be aware of where I could and, especially, could not stand. Then, she also asked me to prune branches of other tree-like bushes called *Blauwe Regen* (*Wisteria*), which “flourishes beautifully in the summertime but grows extensively”, she said smiling while showing me how to prune this species with an instructional YouTube video on her phone. She instructed me to cut them almost at the bottom of each branch as they would grow rampantly in the upcoming season, disrupting the other plants. As I had little experience with gardening, these nuances and specifications of such a seemingly straightforward task surprised me. While I was busy, Marie started talking about the results of this year’s *vogeltelling* (bird census). She participated in this for many years so she could compare the results with previous years. “I do not know why, but sadly, the sparrow seems to disappear.” She also happily mentioned that she saw a new species appear for the first time. The next moment a pigeon entered the garden eating the food they provided for other bird species.

When we were done with the tasks for the day, we went back inside and I saw a little booklet on the table of *Verborgen Tuinen* (Hidden Gardens). I asked Marie what it was and she said that is a yearly event in which a selection of backyards in Rotterdam (among other cities) are open to visit. “Oh yes, we used to participate in this. Hundreds of people, even tourists from all over the world, come, wait in queues, ask questions and get inspired by our backyard garden.” The nuances and emotions attached to taking care of plants, garden aesthetics and knowledge, multispecies entanglements, and social dynamics between neighbours and citizens-municipality dynamics that were raised that day were surprising to me and enchanted me to learn more about it. Especially due to my interest in the anthropology of more-than-human relations and the social organisation that occurs around them. This day, I learned how the ontology of the garden of Marie was so different than mine as I was surprised by the amount of knowledge and social dynamics that were situated here. The garden was an assemblage of sensuous aesthetics and different nonhuman actors while it was also hidden and usually inaccessible to the public. With Verborgen Tuinen and Marie’s enthusiasm, it seemed like people as engaged with plants as her wanted to bring this private place to the public. Especially with the campaigns and general awareness of the “green turn” in Rotterdam, Marie showed me that this site might entail a rich source for understanding more-than-human dynamics in urban spaces.

Contemporary society: situation & context

In recent years, backyard gardens have become an important asset for greening initiatives and the municipality of Rotterdam to promote its urban biodiversity. Today, the second-largest city of the Netherlands finds itself in a "green turn" in which excessive *grey* tiles and concrete must make space for *green* plants, bushes, trees and even weeds (Gemeente Rotterdam 2024, 4). Its urban green spaces are managed more ecologically, with less frequent mowing, reduced pesticide use, and more native herbs in flowerbeds replacing exotic ornamental shrubs (Reemer and Smits 2014, 2). Being a coastal harbour city that exists for 19.7% out of green space and 34.9% out of the water, water management is particularly challenging and has a primary focus in its attempt to become a "blue-green resilient" city (Tillie and van der Heijden 2016). For example, the municipality is working on turning 20 hectares of urban space and 15 urban squares into "green-blue oases" between 2023 and 2027 (Rotterdam 2023, 22). It investigates innovative ways to prioritise collaborations with the soil through land use management (Lu and Stead 2013) presented in urban planning strategies like "Rotterdam Water City 2035" and "Sponge City" (Tillie 2020) in which the municipality has been trying to find ways to merge water management and urban revitalization (Meyer et al. 2010, 156). The sponge principle is related to greening as "the more plants and flowers there are, the more water can be stored in the ground. Additionally, greenery provides more cooling during heat and better drainage of rainwater after heavy showers" (Rotterdams WeerWoord n.d.). The city's motivations for greening are embedded in the national goals of the Dutch government to become "nature positive" that recognises urban spaces for the "strengthening of nature reserves" (Rijksoverheid 2020).

Rotterdam's green turn is not necessarily a new phenomenon. In the early 20th century, the Vreewijk district, inspired by Ebenezer Howard's Garden City concept, was developed. Its design aimed to merge urban benefits—education, employment, entertainment—with the countryside's advantages, including clean air, sunlight, gardens, parks, and healthy housing (Het Nieuwe Instituut n.d.). However, the architectural history of urban gardens in Rotterdam remains scant, partly due to the city's World War II bombardment. While the Garden City concept influenced subsequent neighbourhood designs, it primarily targeted the working class and extended beyond mere spatial planning ideals. With urban space becoming more valuable through spatial scarcity, the municipality does not aim to build districts with more backyards, but promotes what is generally understood as "urban rewilding" the existing green spaces that make a

“significant component of urban green infrastructure” (Cameron et al. 2012). Rewilding has multiple meanings, but “these usually share a long-term aim of maintaining, or increasing, biodiversity, while reducing the impact of present and past human interventions through the restoration of species and ecological processes” (Lorimer et al. 2015, 40). Piana et al. (2024) explore these new notions of wilderness in which humans and nonhumans live in close proximity:

> This new wild dimension of urban spaces, driven by processes of land take, climate change, deforestation and re-forestation contribute to the definition of cities as new habitats and to re-shaping the boundaries - both physically and imaginatively - between humans and non-humans in urban contexts (p. 2)

The Rotterdam Green Turn has become visible through new urban architecture, grassroots and municipal initiatives and collaborations, campaigns, local and national newspapers and even in their museums. In the latter, Natuurhistorisch Museum Rotterdam created an exposition in which the urban ecology of the city was explored under the label of “national park” Rotterdam, inspired by London which had “officially” achieved this label beforehand (Leahy 2019). I visited the museum near the end of my fieldwork, in which I partook and observed the vivid relations and lives that blossom in gardens. Due to its stark contrast, entering this museum felt absurd: it is full of staged, dead bodies. Nonetheless, the temporary exposition of Rotterdam as a national park showed an awareness and seriousness of the biodiversity in cityscapes. Its descriptions moved our attention to nature from natural parks towards the city. For example, “more than 130 bird species have been recorded as breeding birds in Rotterdam over the years” of which certain species are new and others disappeared (Natuurhistorisch Museum Rotterdam 2024).

> The city is a unique habitat that showcases the resilience of the plants and animals around us. But it is also an environment heavily influenced by the behaviour of its creators and most dominant inhabitants: humans. The way people design the city determines what space there is for nature. If residents take into account the plants and animals around r, we also benefit. The benefits that nature provides us with are also called ecosystem services: nature provides us with a service. Insects are important for the production of our food. Birds and bats help reduce the nuisance we experience from harmful insects. A green city is not only cooler but also for our mental health. So, these are some important reasons to continue taking good care of nature in the city: it helps us improve our environment (*ibid*.).

The importance of biodiversity has become increasingly important for a habitable planet with global trends of ongoing urban growth and its impact on biodiversity is caused by processes of "land-cover change, loss of habitat and vegetation biomass, and other anthropogenic factors, and the self-reinforcing feedbacks among them, are contributing to reduced species, functional, structural and ecosystem diversity" (Diduck et al. 2020). Cities are "hotspots of climate change impact" (Krarup 2022, 1136) and the growth of urbanisation attributes to habitat fragmentations that are essential for the survival of more fragile (local and smaller populated) beings. Hence, "ecosystem fragments remaining in cities are far more important than their limited size and disturbed state might suggest" (Rudd et al. 2002) as "extinction rates for non-human beings are now running at about 200 species a day and are still accelerating" (Strang 2023, 476). On the other hand, an awareness grows that no ecosystem exists outside of the realms of plural processes like capitalism and globalisation, making them rather "novel ecosystems" (Hobbs et al. 2009; Lorimer et al. 2015), and that urban spaces constitute and include a richness of biodiversity. Hence, we cannot anymore see the urban space as merely human-inhabited and made, but as an ecology in which humans and non-human beings co-exist and co-become. However importantly, humans remain dominant players in the co-becoming of these relations as, for example, "gardening is typically represented as a process of ordering or controlling nature" (Power 2005, 40). For instance, modern-day technologies and processes of globalisation have taught us to hybridise nature (Bhatti and Church 2004, 38). Therefore, "solutions to stemming biodiversity loss will therefore depend on changing people's attitudes and behaviour" (Pett et al. 2016, 576). It is thus important to understand how the novel ecosystems in urban ecology are both created through human dwelling and also through co-constitutive entanglements of all kinds of beings in their assemblages. My goal is to contribute to the knowledge of more-than-human relations and their interplay with cultural and social aspects of urban dwelling in this regard to understand how urban spaces are created in collaboration with nonhuman beings.

Research site and question

Urban domestic backyards are a type of urban place which is distinct from other types of urban spaces in which plants are staged: rooftops, balconies, front gardens (façades), courts, unowned spaces in front of houses and spaces in-between backyards or along paths and roads. Even apartment galleries and hallways are sometimes constructed as gardens in which people dwell and make plant relations. Although domestic gardening will have

similarities among the categories, the material and spatial aspects make them also distinct in regards to their limits, possibilities, neighbourly relations, and more. This research focuses on the dynamics of urban private backyards which might also be different from that of suburban gardens (Head and Muir 2006; Power 2005). Private gardens are in particular interesting because they entail urban vegetation that "is unique in that it is made up of new assemblages of native and exotic tree species that are influenced by the biophysical conditions of the site and by human factors, such as management or planting preferences" (Albuquerque et al. 2023, 5).

With the social and ethical pressure to improve spatial sustainability, urban planners and governors are increasingly interested in gardens to find potential solutions (Syahid et al. 2017). For instance, gardens appear as "ecosystem services", attributing to the health of humans that interact and live with these places. These gardens are part of debates among urban planning and sustainable environmentalists around "green infrastructure" to promote biodiversity in urban landscapes (Beumer and Martens 2015; Buijs et al. 2016; Cameron et al. 2012; Calvet-Mir et al. 2012). Comparative to the notion of sustainability, it appears to be an appealing form of spatial design to increase the collaborative participation and engagement of citizens as a reaction to the paradigmatic trend of urban growth and individualism (Nikolaïdou et al. 2016). Shared and communal gardens have drawn their attention in particular, because they appear to provide a combination of benefits to both humans, spatial distribution and rights and urban ecosystems (for example, see Schoneboom et al 2023; Tornaghi and Certomà 2021). However, the private garden — especially that also incorporates nonhuman agency — remains overshadowed, even though they are sites in which contemporary more-than-human entanglements and urban dwellings are so clear. In Schuurman's plead to elaborate on multispecies homescapes (2024), "urban backyards extend the space of domestic multispecies co-living outside the house-as-home, thus producing alternative urban imaginaries" (p. 6). With this in mind, gardens are a productive site to look at ontological and more-than-human dynamics at home that represent the future of urban ecology. As Hustak and Myers (2012) put it, "anthropologists could be on the lookout for 'marked expressions across sites' that stage livable futures for both plants and people (…) [and] the ways some garden designs have the potential to stage both new scenes of, and new ways to see (and even seed) plant/people involutions" (p. 299-300 [original emphasis]). It highlights the affective, mimetic involvements — in a broad sense —between people and

plants that empathically interchange rhythms. And so, the evolution of beings comes with interspecies involvements — or involutions.

> "As part of everyday life, gardens and ways of gardening convey ideas about cultural change, personal identity, lifestyle and relations in the home. The practices of gardening provide insights into changing human-nature relations in late modernity" (Bhatti and Church 2004, 38).

Turning back to my first encounter with the backyard of Marie and Piet. Marie seemed to mourn about the disappearance of the climbers at the back of her garden — something that might look rather insignificant for an outsider. She could have talked for hours about gardening and the plants that inhabit her backyard and it brings a smile to her face. This encounter showed the complexity and meaningful nature of gardening with its more-than-human, political, social and cultural dimensions. I was curious about the lessons that can be drawn from people who passionately, intimately and engaged interact and co-become with plants and other nonhuman beings at home. Akin to Bhatti and Church (2001), I am interested in linking "debates about cultures of nature to the everyday world of homes and gardens" (p. 366). They highlighted how gardens are structured by a garden industry and socioeconomic relations of "changing housing patterns" which also have a "distinctive, yet ambiguous, ecological role" (p. 379-380). They also teach us "the relationships between more abstract political attitudes – say, to global issues such as climate change – and more concrete local issues" (Krarup 2022, 1123). With the goals of Rotterdam to become a national park in which a large diversity of more-than-human humans and nonhumans are considered to live symbiotically, embedded in contemporary challenges that comes with urbanisation, I am also interested in whether, and if so, how gardens promote urban biodiversity.

Therefore, this thesis delves into the following research question: to grasp and unravel gardeners' ontologies and human-plant co-becoming, how do urban, private garden assemblages come to being in the green turn of Rotterdam? My focus here is on processes of "co-constitutive relationalities" (Haraway 2003, p. 32) of humans and plants, which have long been marginalised in anthropology as plants share less of the phenotypical characteristics of humans (Seshia Galvin 2018, 235). I take the garden as a pivot point to unravel these more-than-human assemblages which enables me to see how urban dwellers interact with each other and perceive urban space with specific details on multispecies linkages. Aligning Kennedy et al. (2013) I look at relationality to ask how things come "in

connection with each other" (Edwards and Davies 2018, 486) to learn how the garden assemblage comes to being in the green turn. It is an anthropology of ontology that is "about what we learn about the world and the human through how humans engage with the world" (Kohn 2015, 313), situated in urban space, a green turn, private backyards, engaged gardener perspectives, and more-than-human assemblages. Ontologies fundamentally shape how gardeners understand their role in the natural world and their interactions with plants. By examining the ontological foundations of gardening practices, we can gain a better understanding of the ways humans cultivate relationships with urban ecologies in transformative times. As Albuquerque et al. (2023) put it: "Research on the diversity of ontologies inhabiting the urban space is essential to regenerate the sustaining bases of our lives, both human and more-than-human, in the face of the civilizational crisis of the Capitalocene" (p. 7). Here, the Capitalocene refers to the significant impact of capitalism on the Earth's ecosystems that emphasizes the role of economic and social systems in driving environmental change and degradation (Moore 2016).

Interlocutors, methods & ethics

Consisting a period of three months, from February to April, I conducted fieldwork in the houses and gardens of "engaged gardeners". Like Marie, these gardeners are urban, private gardeners who actively interact with, and curate their garden ecologies. The selection of engaged gardeners is based on a common interest in caring for the botanical life in private backyard gardens. Their gardens are predominantly green, carefully selected and maintained by their owners. Importantly, this research does not make general claims about gardening practices across Rotterdam but focuses on the intimate relations of certain gardeners and their plants (in contrast to people who are not so interested in gardening). Naturally, this is a privileged selection as not everybody owns a garden. Moreover, as it turned out while searching for engaged gardeners in Rotterdam, the largest group is of a relatively older age which is around fifty years or older. In Table 1, I provided a comprehensive overview of the four homes I alternatively visited throughout the fieldwork period located in three different districts in and neighbouring the city centre: Delfsehaven, Kralingen-Crooswijk and Noord (see Table 1). Four gardens seemed a good amount to continuously engage with garden activities while building up rapport to get a more intimate view of the assemblages.

Two things were remarkable in my search towards engaged gardeners: most of them are retired, and women are usually the most engaged or the experts in the garden of the

family or couple. Although observed but not emphasised, “gardens are a gendered space” (Bhatti and Church 2004, 38) and the availability of time seem to be an important aspects of being an engaged gardener. Additionally, these households appeared to be middle class or higher, which impacts the garden assemblage as “socioeconomic factors are important determinants of urban plant richness patterns” (Avolio et al. 2015). For example, “the income of property owners is positively correlated with plant richness - a relationship that has been defined as the “luxury effect” (Hope et al. 2003)" (Albuquerque et al. 2023, 5).

The fieldwork methods at these gardens consisted of participant observation (PO), interviews, garden tours, visual mapping and looking into garden archives. The types of engagements, like gardening or being guided on a tour, guide my balance of being participant or observant (see Russell 2011). As an anthropologist, my body served as the instrument to collect data, which required me to interpret the data in a perceivable, processable, and translatable manner (Madden 2017, 35). During my encounters with PO and both unstructured and semi-structured interviews in gardens, I collected field notes, audio recordings and photographs as data that represents the gardeners’ ontologies, the materialisation of the garden and the dynamics of the co-becoming assemblages at stake. In making the familiar strange, I wrote reflexive notes to not overlook the subtle and familiar events but also to reflect on the embodied knowledge I obtained while being at home and in gardens.

Later on in the fieldwork, I turned towards a more creative ethnographic approach for methodological triangulation and to increase my “attentive thinking” (Kashanipour 2021). Both myself and the gardeners made a coloured drawing of the garden. Here, the gardener was instructed to draw the garden as “a map in the way you like to see it”, to get insights into the desires and the role of aesthetics of their garden ontology. Meanwhile, I instructed myself to draw a detailed map of the garden. This was valuable in four ways: firstly, the gardener drawing served as a “heuristic approach (…) an unspecific finding, a discovering without preconceptions” (Kashanipour 2021, 90) in which the desires and aesthetics of the garden were visually foregrounded. Secondly, DeWalt (2010) highlights the importance of thoroughly “seeing” the spatial arrangements, people, activities, and other elements within a setting. Mapping is suggested as a productive method to accomplish this (p. 81), because to map was to “slow down the gaze” (Kashanipour 2021, 92) and notice the detailed materialisation of the garden by drawing a map. Thirdly, both drawings of the garden at the same time took away the pressures of perfectionism for some interlocutors. And lastly, having a shared activity gave new opportunities to dwell along

afterwards, like observing the animals and plants, and going to the plant shop. Indeed, “drawing together is an ad hoc yet precious social ice-breaker” (Harkness in Azevedo and Ramos 2016, 140).

Moreover, we looked into old pictures of the garden to track the lineages of the garden as a project of co-becoming. Meanwhile, we talked about what changed, which decisions were made and why and about important events that impacted its current state. This also helped me understand which things were remembered and important and which aspects were largely ignored or overshadowed in comparison with the embodied knowledge I achieved during PO.

Furthermore, I participated in a greening initiative, visited a shared garden, went to museum expositions, and interviewed several professionals who are related to the green turn and backyard gardens. In addition, living in Rotterdam and doing fieldwork metaphorically “in my backyard”, I have had multiple unexpected, informal, but relevant encounters about the theme, such as talking to an engaged gardener while waiting in the train, going to a plant market with my girlfriend and her mother, and helping them with gardening activities in community gardens. Altogether, I predominantly investigated the gardeners' ontologies of what the garden is, and should be, and how they perceive and interact with plants. Through interviews, museum visits, attending relevant events, such as the Zoöp detour at Het Nieuwe Instituut (n.d.), and living in the city and near the city centre myself (i.e. reading local newspapers), I also learned how the green turn of Rotterdam (tries to) interact with private ecologies.

Marie and Piet served as my “gatekeepers” (Madden 2017) and through a snowball method, they facilitated connections to other participants, ensuring a diverse yet consistent sample of garden spaces. All individuals referenced in this study provided informed consent and were anonymized (DeWalt and DeWalt 2011, 215) concerning the privacy and intimacy of the home (Bashir 2017). For the same reason, I decided to not share the exact locations, but only refer to the districts and explain my personal experiences of how I perceive the streets of their houses, which are not very useful for identifying specific houses or even roads. Only Meike de Sloover in chapter 3 openly preferred to be mentioned by her actual name.

Names of residents (anonymised names)	District	Career / home situation
Eleanor, Edward and Eveline	Delfsehaven	Eleanor is an Australian writer and has a professional history in plant science. They moved to Rotterdam only just over a year ago. Edward, her Dutch husband, is now retired and Eveline is often at home as she is looking for the right education.
Inge and Hans	Kralingen-Crooswijk	Inge has a background in garden design, architecture and organisation. Hans worked as adjunct-director in a large water management institution. Both are retired now.
Marie and Piet	Noord	Both Piet and Marie used to work in the health sector, but Marie also used to design gardens for others professionally. They are both retired.
Fien, Mark and Livia	Noord	Fien is a young mother of toddler Livia. She owns a social-artistic studio and works for a high variety on projects. Both Fien and Mark work, so often only one of them was at home to care for Livia.

Table 1. The key interlocutors with anonymised names, the districts of residence and short descriptions about their current situation and relevant background career information about gardening.

Thesis overview

In this ethnography, I look at the co-becoming of more-than-human assemblages. Then, what about the nonhuman perspectives? Due to time limits and the broad, explorative nature of the research question, I did not thoroughly investigate the plant perspectives as suggested by some scholars (Gibson 2018; Hartigan 2017; Myers 2017). Instead, I shift perspectives throughout the chapters. Four chapters follow from here: firstly, in the following chapter, I outline the conceptual debates in which this thesis is positioned, followed by the conceptual framework with which I collected, analysed and represented empirical data. Secondly, I emphasise the ontologies of Inge and Hans, consisting of desires for aesthetics and how they form vivid ecologies out of these desires in co-creation with nonhumans through the different rhythms that occur in gardening. An abstract notion of biodiversity changes the gardeners' ontology of what plant companions the garden should be inhabited with. Thirdly, we return to Marie and Piet, but also to their indirect neighbour Fien. Here, I look at the movements of nonhumans through the ecological, social and political networks of care in which the garden becomes a liminal space. Fourthly, we move towards Rotterdam's green turn in which backyards serve as

inspirations of what urban space could and should look like. These examples are vivid as well: they enhance the liveliness of urban biodiversity, involve “vibrant life” (Bennett 2010, vii) and desire for “aesthetic satisfaction” (Bolton and Mitchell 2021), while at the same time may be equipped with personal histories and with spaces in which the garden serves as a kind of sanctuary apart from Nature. Ultimately, I see these engaged, aesthetic gardens as “vivid ecologies” in which ideas of aesthetics and biodiversity, and nature and culture, are continuously socially negotiated in gardener ontologies and shaped by the more-than-human assemblage.

Debates & framework

Conceptual debates

To capture how the garden co-becomes, I turned my gaze towards gardeners' ontologies, and encounters and linkages of more-than-human assemblages. Consequently, these concepts also helped me to interpret the data as a way of thinking and looking at processes in and around backyards in Rotterdam's green turn. In the following paragraphs, I contextualise these concepts in the debates in which they are introduced and discussed. In addition, I introduce "vivid ecologies" as a representative concept that represents a space that is predominantly occupied by a selected diversity of plants that are visually attractive to the designer. These plants are "vibrant matter" that are interlinked to vivid memories, desires and presence that shape gardeners' ontologies, co-constituting relationalities of backyards.

The field of anthropology has been critically unravelling processes which enabled the Anthropocene, a commonly used and critiqued concept that refers to the contemporary epoch of human-caused, planetary crises (see for example Eriksen 2016, 2022; Haraway 2016; Tsing 2015;). More recent discourses around this contemporary epoch of crises, or rather "evented knottedness" (Henig and Knight 2021), try moving away from the politico-economical connoted notions of sustainability and crises. Instead, they propose new ways of looking that encompass all forms of being in the world in which Humans are just one example of (Haraway 2016). Chakrabarty (2021) argues to think in terms of habitability to imagine futures which concern life in general, through "planetary thinking", instead of the "highly political", "human-centric" and reductive idea of sustainability:

> The question at the centre of the habitability problem is not what life is or how it is managed in the interest of power but rather what makes a planet friendly to the continuous existence of complex life. (...) [H]umans are not central to the problem of habitability, but habitability is central to human existence (p. 83).

In Haraway's *Staying With the Trouble* (2016), this approach also critiques the nature/culture dualism, a product of Western, binary thinking that separates the human body from "nature" and ultimately positions itself above nonhuman beings. Nothing could be

more wrong as humans do not exist isolated from nonhumans, and thus Haraway (2016) merges them into "naturecultures". These debates opened up a "species turn" or "ontological turn" in which humans and nonhumans are not becoming apart from each other, but are "becoming-with" in relational entanglements (p. 30; Kirksey and Helmreich 2010, 546). With Latour's concept of actor-network theory (ANT), private gardens have been researched concerning nonhuman agencies (Hitchings 2003; Power 2005). More recently, several multispecies ethnographies adopt Deleuze and Guattari's (1987) *assemblages* to describe how more-than-human beings and subjects co-become in relational and "more-than" fashion (for example, see Jhagroe 2023; Tammi et al. 2023; Tsing 2015) as "a perception of more-than-human ontogenesis involving subjects or selves who also relate to one another as people, plants, animals, spirits" (Strathern 2021, 452). Although closely related to ANT, assemblages focus less on the particular subjects and their agency in larger networks, and more on the heterogenous, interrelational processes of ethical co-becoming. It could be seen as an ecological or symbiotic way of looking at the agentic, social processes that anthropologists have adopted from posthuman philosophical thinking. For example, Moore and Kosut (2014) demonstrate how urban beekeepers in cities become-bees as their ontologies tune towards bee ontologies in the empathic, affective work with bees: "intra-species mindfulness works to reveal our intra-species relationships of co-constitution whereby we become human through our engagement with non-human animals (p. 536). Bees are an interesting example here as they highlight how "species" co-constitute social organisation and human ontologies.

Since the late 1980s, rewilding has come to life as "an ambitious and optimistic agenda for conservation" (Lorimer 2015, 40) which involves an "approach of reinstating natural processes to restore ecosystems" (Moxon et al. 2023, 888). This was usually emphasised by conservationists through the "reintroduction or introduction of megafauna" (Root-Bernstein et al. 2018, 292), promoting the autonomy of "wildlife" and restoring the negative impact of anthropogenic interventions in the past (Wynne-Jones et al. 2020, 71). By promoting native plants and animals in the urban ecology, among its positive outcomes for both humans and nonhumans, urban rewilding can also negatively impact biodiversity and cities by favouring invasive species and introducing diseases. It can also displace communities due to rising property prices and increase human-wildlife conflicts (*ibid.*).

As much as rewilding is cultural, so is biodiversity (Lorimer 2015, 45). Hartigan (2017) shows how species and biodiversity are arbitrary concepts which move as "travelling concepts" (Bal and Marx-MacDonald 2002), referring to how concepts "develop and

transform as they move within and across disciplines and thus become productive sites of interdisciplinary exchange" (Diphoorn et al. 2023, 2) in-between disciplines among natural and social sciences. This makes it nearly impossible to define and makes it even not well-suitable for certain disciplines, like genetics (i.e. due to hybridization). Both concepts remain relevant, however, as "they hold and can impart an intimate knowledge of species" (Hartigan 2017, 213) in preserving genetic diversity. This aligns with Escobar (1998), who noted that "biodiversity" is not to be seen as "a true object that science progressively uncovers, but as a historically produced discourse" (p. 54).

Biodiversity is often connected to, and measured by keystone or model species that serve a key component to particular ecosystems. However, like bees, some also become a "flagship species" (see Lorimer 2015; Schlegel et al. 2015) and become an emblem of the need to restore healthy ecosystems in times of ongoing expanding urbanisation (Frantzeskaki and Kabisch 2016, 90) through means of rewilding (see Root-Bernstein et al. 2018). These kinds of highly valued species enable social movements of moral, financial, and political support to support biodiversity. The same goes for ascribing "wild", "native" or even "enemy" species in the social projects of rewilding. For example, Ginn (2014) richly demonstrates how slugs are considered enemies that are killed because they "deny the flourishing of valued life" (p. 541). These understandings of what should promote and what denies biodiversity — or rather, valued life — are important factors that co-shape the ontologies of dwellers and the more-than-human assemblages in cities.

Conceptual framework — "vivid ecologies"

This thesis focuses on three main aspects: gardener ontologies, garden assemblages, and urban rewilding. Akin to Kohn (2015), "I define "ontology" as the study of "reality"—one that encompasses but is not limited to humanly constructed worlds" (p. 312). It is also used as a lens to understand how more-than-humans "become" in relation to "historically contingent assumptions through which humans apprehend reality" (ibid.). I explore perspectives and meanings to understand gardens "as objects that reflect the cultures and understandings of their (human) gardener" (Power 2005, 40), within the more-than-human assemblage. Their ontologies provide insights into the ways they relate to nonhumans and the garden and give meaning to the materialisations of the garden and their behaviour in garden-dwelling.

Throughout this thesis, I look at more-than-human relations in and among the garden as assemblages "where organisms are co-present and heterogeneously connected to themselves, being pulled in different directions, always in the process of becoming multiple and parallel, beside themselves with dissolution, intermittently present to themselves, each of them a para-self" (van Dooren et al. 2016, 14). In a more practical sense, Seshia Galvin (2018) describes gardens as "formative meeting places" (p. 234) where assemblages constitute and "in which spatial, temporal, social, and cultural relations come together. These assemblages include not only humans and nonhumans but also capital, science, technology, infrastructure, and various social identities" (*ibid.*). Petitt (2023) remarks that multispecies ethnography typically centres on just two species, with one always being human, while assemblages "explore multispecies relations in a nonbinary way that decenters the human in both data collection and analysis" (Petitt 2023, 34–35; Schuurman 2024). Looking through the lens of assemblages declines the hegemonic idea of hierarchy and power distribution always being top-down, opening up perspectives in which plants and other nonhuman beings assert agency in their own terms (van Dooren et al. 2016).

In *The City as Assemblage: Dwelling and Urban Space*, McFarlane (2011) terrifically elaborates on the ways assemblage thinking is applied in the context of urbanism and its relation to the notion of dwelling. The conception of assemblage, here, is distinguished in three ways: "as a descriptive emphasis of how different elements come together …[;] a name for relations between objects that make up the world, an ontology of assemblage …[; and, as] an orientation to an object that operates as a way of thinking the social, political, economic, or cultural as a relational processuality of composition" (p. 652). In this thesis, I utilise the concept of assemblage which entails all kinds of multidirectional affects and power dynamics in human-plant relationalities in particular but also take the concept of assemblage beyond the garden in which broader processes co-create the more-than-human establishments in the garden.

The concept of assemblages aims to look at broader interrelations terms, allowing me to look into broader sociocultural, political and ecological processes that shape these human-plant relations in the garden nexus (Seshia Galvin 2018). Secondly, I am interested in how the notion of biodiversity transforms these assemblages by changing the gardener's ontologies. This means that I am not interested in an ecological assessment of biodiversity in the garden, but rather in its ontological meanings and how it impacts garden relations — and vice versa — in times of a green turn. With these focal points, I introduce a descriptive concept, called "vivid ecology", which brings together particular characteristics of the

garden as a project of ethical co-becoming (Jhagroe 2023) as an “affective ecology” (Hustak and Myers 2012). The processes of the presented gardens - as urban spaces - are rewilding in a city’s green turn, but also entail vividness with its temporal, vibrant and aesthetically pleasing characteristics. It brings forth the interplay of the “vibrant materialisation” (Bennett 2010) of plants and the desires of both visual aesthetics and “wildlife gardening” (Lindemann-Matthies and Marty 2013) of engaged gardeners. In the end, I argue that instead of rewilding, engaged gardeners and the interrelational more-than-human assemblage are revivifying gardens in Rotterdam as a kind of green urban infrastructure.

Chapter 1: garden affects

Meeting Inge and Hans

I met Inge and Hans through a mutual friend of Marie and Piet. We appointed a first meeting which gave me a chance to get a first look at their backyard garden. It was a cloudy, brisk spring day in the last week of February as I went there on my city bike. When I entered their street, there were very few remarkable to see. To me, it was a typical 1980s to 1990s architectural street like many in the Netherlands: brick houses of two to three levels in facing rows, separated by a clean, brick street that is just spacious enough for two cars and a bike to cross. The houses were two-under-a-roof, meaning that one property is half of a building which is split into two houses. Each house is then connected by a shared driveway

Figure 1. An image of the garden towards the back of the house on the first day I was there. The decking goes over the ditch in a straight line towards the house, with its glass wall. Plants are grouped on the sides and pots are spread throughout the garden.

with garages that are connected but also split by a wall in between. In front of each house are one or two cars waiting to be used and a façade of around 4 meters wide and 1 meter deep. Spring was still relatively cold so there was not much to see when it came to flourishing or blossoming plants and trees.

I rang the doorbell and Hans, a tall, well-articulated man of around 70 years old with thickly framed glasses and relaxed, well-fitted clothes opened the door for me. He kindly and calmly welcomed me with an open and interested smile on his face. I hung my jacket on the coat rack and when we went to the living room, I saw Inge sitting on the couch in the living room reading. The living room felt like a relatively large, open space in which the sections of the dinner table and living room were not separated. Moreover, between the living room and the kitchen was a shiny, black grand piano and the walls were partially covered with different art pieces. Remarkably, the wall on the backside of the house was almost fully covered with glass, blurring the lines between inside and outside and making the garden visually an integrated part of the interior. Hans was getting us a cup of coffee and as I looked around the house, I asked whether they liked going to museums, to which Inge responded: “Oh yes, definitely". I would even say it is our favourite activity.” Around the dinner table, the wall is filled with garden, architecture and art-related books and a collection of objects made of glass. Hans noticed me curiously looking around and told me about their interest in glass art and shared with me stories of who made them and historical facts about the domain of glass art. Their joy spread when they started talking about the fascinating aspects of the art objects in their house. It almost felt like I was in an art gallery of which the garden was part.

Not long after we finished our coffee, both Inge and Hans showed me around in the garden. It is relatively large for an urban garden for its proximity to the city centre and its surface is approximately 150 square meters with a width of around 7 meters and a depth of over 20 meters. Midway, it contains a remarkable and eye-catching trait: a ditch crosses the garden horizontally, visually connecting their garden with neighbours as there are no fences above the water. A decking pathway connects both ends of the garden, including the shed and the centrally located terrace with straight lines. Paths predominantly split apart from the soil, clearly distinguishing the civilised from the wild. The plants that are not put into pots are for the most part bordering the side-edges. There is a stroke of roses that crosses the middle. As we walked through the garden, there did not grow a lot yet so they told me a lot about what was about to grow there and convinced me that it would become great in the upcoming months.

Among them was a tropical grass that would grow 3 to 4 meters high around which they built construction to guide its cascading movements and control its growth, a flowery bush that has its flowers growing on top of the branches, making it a “marvellous construction”, a collection of pots that used to be inside the shed due to its proneness for freezing temperatures that could arise in Dutch winters. Remarkably, they only showed me the plants (and a small stature) which were relevant to them. The stories they told were about backstories of personal memories, inspirations, and the plant aesthetics in which different shapes, sizes, textures, constructions and especially colours were emphasised.

“an endlessly layered project that we never get tired of”

Two months after our first meeting and multiple times that we have gardened together, we made an appointment to look into the archives of their backyard gardens. We sat down to

Figure 2. Drawing of the garden by Inge. According to her, this drawing represents: 1) the most essential parts: the ditch, tree, shed and decking; 2) the layout principles: a combination of lush planting and straight lines; 3) an abstract representation of desired plant aesthetics through different growth patterns, colour combinations, shades and composition; 4) an imaginative place to sit down and enjoy.

talk about the history of their garden but also about the history of the garden as an art form, something that interests them. Inge has a professional history in designing gardens and the dinner table was covered with paper scrolls containing garden sketches. One of the sketches was a 35-year-old, hand-drawn map of the backyard garden on an exact scale of 1:5, including a list of up to 90 plant and tree species. It was made when they bought their current house in 1996. In the following conversation, in which I refer to Inge (I), Hans (H) and myself (M). First, we looked at a technical drawing from 2005 when the garden was renovated.

> M: So in 2005 you decided it was time for a renovation?
>
> I: Yes, that was because the soil had subsided. And then, the ditch had become so rich in liveliness, planting and wildlife. When we came here, it was a bare ditch. We said: if we want to experience the water life, we want a pond where we can look in and see fish and plants, which we thought was a great idea. Then, the ditch had become so rich with greenery and wildlife that we said, we could do without the pond. It had also subsided a lot. It was made with ship sacks and it had to go as we said we could do without it. And we then had a gardener do it.
>
> (...)
>
> M: It's quite a task, isn't it? So what exactly had to be done to get this all done?
>
> I: The posts remained, but the decking wood was replaced because much of it was rotten. So this is a difference of, what do you call it? Content and design. And the rest is just about the same. We were still very satisfied with the layout of the garden.
>
> H: Yes, except [the height of the stairs] was a bit difficult. We found it too high. So Inge designed this, with five steps down. Anticipation of ageing.

The garden is a project of a desire for life in and around water, accessible infrastructure, and, what Bolton and Mitchell (2021) call an “aesthetic satisfaction”, referring to a “recognition of things taking their proper forms and making visible what should be visible” (p. 341) that is observed in the layout. With ageing and subsiding soil, they had to re-negotiate the form of infrastructure that supports both a marine ecosystem and their accessibility in the garden, while also maintaining a proper form. This work presents a

“selective breeding of plants, or gardening practices that act to physically control plant growth, thus ensuring the expression of the gardener’s plans. These practices rely on the pre-supposed separation of nature and culture but also work to distinguish humans who are understood to be unique in their ability to domesticate and civilise” (Power 2005, 41).

N: Wow, look, yes! Oh, this is really... look how nice! Oh my goodness, Hans. We do have a planting drawing. Unbelievable!

M: It's a treasure map, isn't it? What do you have here?

I: It is the entire planting plan. What a variety. Look at that!

M: Wow. The list is from 1996. Do you remember making it?

I: Well, vaguely. It is incredibly detailed, I have to say. Now, I would make it with larger groups of themed plants. It is no longer as detailed as it was then.

M: And how much of all these names would still be here, of these plants? What do you think?

I: Yes, that arum list is still there. Anemones are still there. Helianthus not anymore. Do you know Piet Oudolf? He also makes those detailed drawings. But those are larger groups. And they probably remain the same after years. I have made a garden for friends, and they always use my plant list. With everything they do, they look at my list. Then you think, oh yes, that was it. That used to be the setup, but I don't do that here.

H: Gradually you see that some areas develop by themselves. For example, this spot is here in the front right. A lot was planted there, but only one species is left, the Iris. And a few, just a few small ones. So you also have to let some things just manifest themselves over time.

I: The atmosphere is the same. These are a lot of perennials, as well as roses and climbers. It really is a bit of that English feeling of a... What do we call it? A bit lush planting. We always wanted these lines to be tight and the plants to be lush. That is still in it. But they have also become larger groups by themselves. If I had to inventory it now, a large part of the names would be different than what is here for a part still the same. Well, I think 15 per cent would be the same.

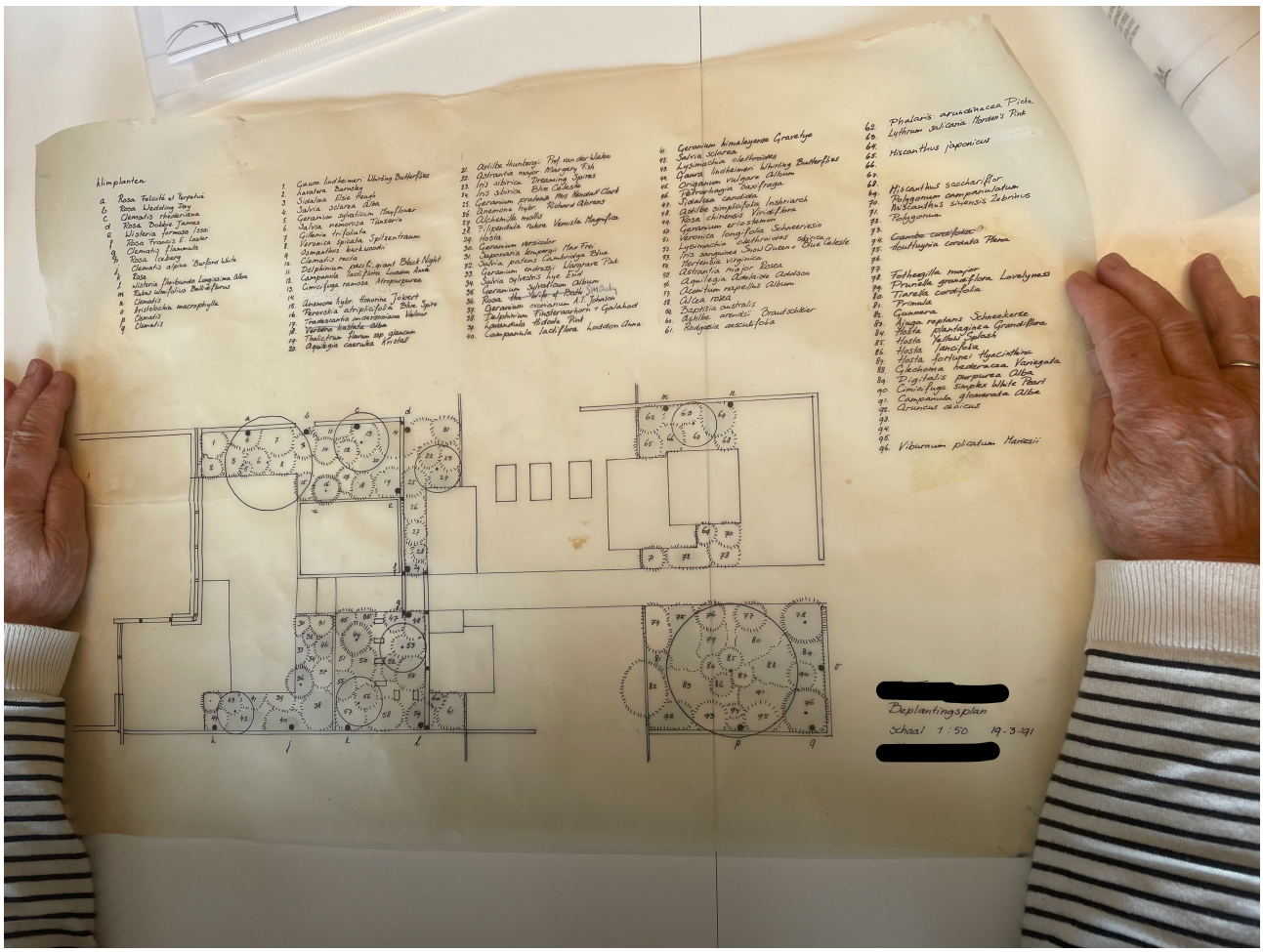

Figure 3. The entire planting plan from 1996.

This conversation shows how the garden is not merely materialised based on a drawing, imagination or plan, but are “formative meeting places” (Seshia Galvin 2023) in which plants “manifest themselves over time” as only 15 per cent is the same. Moreover, it shows how the layout is related to “that English feeling of … lush planting” and straight lines and that its “atmosphere” is still alive, even if only a small part of the plant species are left. Their admiration for garden and plant aesthetics had me puzzling for a long while. Hans later told me that he loves that *tuingevoel* (feeling of the garden) in which the soil looks clean and dark. The dark colour signifies healthy soil and it is free of weeds. It gives a feeling of “aesthetic satisfaction” he achieves by taking care of the garden. However, there is way more to it. This also brings me to the important note that this chapter is only a limited snapshot of the totality, or what Geertz (1988) refers to as a “partial truth”. I share this because two quotes from Inge stayed in my mind while wrote this: “I am sharing with you things that pop up in my head about certain plants and the garden. However, there is a huge cloud of knowledge hovering above my head which I do not know how to express to

you". In addition, as I was once thinking out loud about how much Hans and Inge invest in their garden motivated by their passion, she replied that "it is an endlessly layered project that we never get tired of".

Plant references and memories

Five days after our first meeting, we appointed a moment in which I could help with gardening. A bit stressed as I was a bit late, I entered the street again in cloudy and drizzly weather. Inge welcomed me in as I arrived in my wet gardener outfit. At this moment, I had to adjust my rhythm when I was there: from hastily biking to the calmness of being in the garden. While Inge and I had a conversation about my research objectives, I saw Hans working in the garden. The drizzle and lack of sun did not stop his disciplined work. Inge had other things to do, so I went outside to help Hans. He shared that he was working on pruning the climbers on the edge of the garden. These vines were a mix of "*Wedding day rose*" (*Stephanotis floribunda*), and *klimop* (*Hedera Helix*). "We do not want the *klimop* to be entangled with the *Roses* because otherwise, they might suffocate". When I wanted to know more about it, he concluded that the main priority of our labour is to make it look better. "It also looks messy if you let them grow like this … it simply feels better if it looks tidy."

During our gardening activities, Hans told stories and shared things he seemed passionate about, like particular flowers and memories. While pruning the *klimop*, he told me about the *Wedding day rose* to has beautiful white flowers, just like a wedding dress, and it reminds him of their wedding. As we went on, he took a portable, hand-sized saw from his pocket to remove some branches. "To have proper tools is maybe the most important thing when gardening. I guess that it is my belief as a son of a carpenter", he told me smiling. Hans learned to appreciate building things and working with his hands because of his father. The shed at the back of the garden, which he designed and partially built, is something he is proud of and which is his favourite place at home when the sun is shining. He loves to convivially gather with friends. He told me that his father also loved to spend time gardening and that his three grandfathers (whom he considered to be a grandfather too) all had large backyards in which they were all invested. Hans himself grew up spending a lot of time helping his father in the vegetable garden. "It is not really coincidental that I love doing this. *Het is met de paplepel ingegoten*" (it has been grafted onto me). For Hans, the garden is…

> an everyday workplace of bodily pleasures; getting hands dirty, being out in the wind, rain and sunshine; or aching from hard digging. At other times doing nothing in the garden is a source of enjoyment—simply 'being' in the garden can give people tremendous pleasure through a state of repose, relaxation, and a deeper connection with nature or a quasi-natural surrounding—a material imagination according to Bachelard (Bhatti et al. 2009, 72).

For Inge too, gardening is motivated by a personal history that traces back to her early childhood. For example, the backyard includes *Witte Stamrozen* (*Rosa "Iceberg"*) which stopped blossoming recently. "We are immediately going to buy new ones. I once got it from my father who has passed away, so this flower is a reminder of him".

> My parents lived in a very small house in Vreewijk back then. Vreewijk is one of the first garden cities in Rotterdam, designed by Grand Prix Molière. One of the characteristics of the garden city Vreewijk is that all the gardens are surrounded by privet (Ligustrum vulgare) hedges. And I'm telling you this because, from my earliest childhood, I know that smell of privet. And you've probably heard it too, that childhood impressions, especially smells, can be incredibly defining. And I have that with the smell of privet. And of course, I didn't know anything about gardens or anything back then because when I was four, my parents moved to Dordrecht. And there we had a big garden. But the smell of privet always brings me back to Vreewijk and my early childhood. So in that sense, a seed was planted at a very young age, but it was a scent seed.

The visual and odorous aesthetics in the garden present human-plant involutions through "sensuous embodied practices … [which] can be fully memorialised, apprehended and appreciated" (Bhatti et al. 2009, 69). Specific plant species here are valued by their "a certain kind of sensibility: a 'doing' through haptic perception; a caring through cultivating; and emotionality through memory … a poetics of the garden in which enchanting encounters reverberate in time, place and memory" (p. 73). Like the stories of gardeners in Inhambane, Mozambique that Archambault (2016) present, "gardens turned into repositories of social relations. Each plant had its own story, even if some were remembered more vividly or fondly than others" (p. 255).

Attuning to the garden assemblage

During my participation in gardening with Piet and Marie (see introduction), I had to be very conscious about where I moved: both to make sure I did not damage the carefully

maintained plants, get a cut on my face, or to step on small sprouts or even seeds that have not yet sprouted. This is something I had to train, for each garden. I also had to learn to recognise which plants were valued, semi-valued or were ascribed as irrelevant. What struck me here was the detailed memory and mental image Inge and Hans had of the arrangement of seeds and plants. Even 35 years later, they recognise which plants are in the garden and which ones are not anymore.

The word vivid refers to a “clear impression that produces distinct mental images” (Merriam-Webster 2024a). Also in neuropsychology, vividness often describes one’s capacity for strong imagination and detailed memory (see Pillemer 2009). According to Blazhenkova (2016), “vividness of imagery refers to the quality of the subjective imagery experiences in terms of their clarity and richness, sense of reality, and resemblance of actual perceptual experiences” (p. 491). Here, vividness constitutes two different dimensions of imagery: "pictorial (colour, texture and shape)” and “spatial (3D structure, location, or mechanism)” (p. 503). During participant observation in gardening, I had multiple experiences in which I lacked spatial knowledge in contrast to the gardeners who knew exactly under which spots of soil seeds were planted but had not yet sprouted. They hoped that these might still flourish one day and my unknowingness of the spatial dimension was potentially dangerous. The clear mental image of life in the garden typifies how the garden is an intimate place as gardeners know exactly where to stand and where no foot may touch the ground. “Gardens have ‘memories’ that shape their continued existence, for example, a harsh winter, a wet summer, it is individuals who remember” (Bhatti et al. 2009, 64).

> The garden that emerged was a network of different actors with different needs, which together generated and regenerated tranquillity, harmony, chaos and a multitude of colours through their constant negotiations and conversations. It is at this emotional state that a person ‘opens himself to the world, and the world opens itself to him’ (Game & Metcalfe 2011, 43, cited in Saramifar et al. 2018, 301).

Having not been there for almost three weeks, as they were on a holiday, in which sunshine and rainfall alternated frequently, the garden overcame a metamorphose compared to the last time I was there. Inge and Hans seemed truly happy when viewing and talking about the flourishing garden. The moments we walked through the garden, or I saw either Inge or Hans dwelling without a plan, I recognised a change in the rhythms. When we looked up close at how plants had flourished, we started to notice them. This

slowing down, and noticing allowed us to recognise new seedlings as well. Some of these seedlings were not identified but remained there to see what they would look like. Others were removed as they were recognised as potential weeds. In contrast, at the back of the garden, Inge told me that the micro-climate of plants around the large tulip tree changed its composition as she was inspired by a "coincidence", a moment of inspiration by the assemblage. She recognised a new sprout that appeared somewhere around the tree which she recognised as one of the *stinsen* category — which is specific to Dutch horticulture, referring to non-native species (although the term can sometimes ambiguously refer to locally introduced native species) introduced in parks and around castles deliberately for their ornamental value, particularly in the 18th and 19th centuries, and which have since become naturalized in new areas (Ronse 2011).

"By showing, watching, strolling among, discussing, doing, picturing and being guided by plants, we can come to appreciate their agency" (Gibson 2018, 96). As the tree has grown over the years, the plants around it have to adjust to the fact that they acquire less sunshine. For Inge, this was an inspiration to gradually transform this part into a stinsentuin. This shows that "the process of human–plant domestication is rather more symbiotic" (Seshia Galvin 2018, 238). During these human-plant involutions, the rhythms of humans and plants get attuned to each other.

Figure 3. Inge taking a close look at the state of her potted plants. She moves the plant to feel its quality and to look at it from different angles. Now, she can also better identify the plants that are currently there.

These diverse rhythms also characterise the garden-dwelling activities in vivid ecologies, especially at moments when they attentively notice plants and are less concerned with modes of planning. “The garden anchors these modes of time in the ‘now’, where ecological, social and subjective time intersect and interweave” (Bhatti et al. 2009, 64). In garden assemblages, rhythms change in the dynamics of human-plant encounters as “gardens are sites where it is possible to get a feel for the momentum that propels people to involve themselves with plants” (Myers 2017, 297). Schoneboom et al. (2023) exemplify how the “now” in gardening becomes an “elongated presence” among volunteering gardeners in community gardens in North East England. They experienced “cherished moments or feelings of being with others and of making things together” (p. 171-172), complemented by nostalgic associations of childhood memories in which plants take a symbolically and symbiotically important role. These elongated experiences contrast the fast-paced progress-oriented temporality of neoliberal capitalist labour.

This is comparable to Tsing’s notion of “salvage rhythms” (2015, 132). Here, temporalities wrap around the lively assemblages of foragers in matsutake worlds which are shaped through acts of noticing and improvisation, especially compared to the organised temporal orientation of capitalism. These continuous adjustments involve a keen attentiveness to the lively nuances of the environment. Moreover, Tsing makes comparison with temporalities of music here with “polyphony”, referring to “multiple temporal rhythms and trajectories of the assemblage” (p. 24) which requires the art of noticing to be able to hear and understand its diverse modes that “perform a still lively temporal alternative to the unified progress-time we still long to obey” (p. 34). These are mainly observed during moments of care (in the garden) and exchange (across places). The temporal aspects of the gardener-plant entanglements are vivid as they create sharp associations of memories and involve clear and lively future imaginations of what the garden could look like in summer.

Conclusive remarks - an intimate, vivid presence.

This chapter explored gardeners’ ontologies that influence and are influenced by relational aspects of the garden. The garden relations are typical for its intimacies (Bhatti et al. 2009) which allow human-plant involutions (Hustak and Myers 2012) to occur and shape the ontological rhythms, and show how humans closely keep track of the inhabitants and their shapes in place. Moreover, it foregrounds the temporal and visual aesthetics (Prior and

Brady 2017) that give value to certain plant species and make others outsiders or even "enemies" (see Ginn 2014). The often re-occurring human-plant involutions in garden intimacies make their relations lively. Coming once again back to the temporalities of music, Abel (2014) utilizes the philosophical concept of "vivid present" by Scholtz, in which is argued that music can provoke a strong sense of the "now" — a vivid presence — in which the past, present, and future coalesce into a unified experience. Hence, I argue that these rhythms of gardening and human-plant interactions, with their temporal and emotional entanglements, form a vivid, ontological presence that allows convivial gatherings.

From a merely human perspective in a more-than-human assemblage, gardens are ecologies that provide so-called "ecosystem services" that "contribute to life satisfaction, meaningfulness, improved mood and reduced stress levels" (Hanson et al. 2021, 1), increasing the vividness of the gardeners' lives. It is a collective term in which all of these vivid aspects intersect and mingle. On the other hand, gardeners are also becoming plants when "following the categories that practitioners themselves mobilise to talk about, think about, and interact with lively vegetal processes" (Ernwein et al. 2021, 20).

Chapter 2: plant movements

Plants as “vibrant matter”

Plants are all but passive beings. The intimate relations of humans, plants and the garden are also co-shaped by the assemblage that goes beyond the physical demarcations of the garden. As McFarlane (2011) rightly puts it, “assemblages can pave ways to see relations from a place, while not being bound to spatial dimensions” (p. 662). In this context, plants have become “subjects” in the study of the garden assemblage and “objects” that are part of the materialisation of the garden that carries meanings of vivid ontologies.

> “Materiality” most often refers to human social structures or to the human meanings “embodied” in them and other objects … vibrant things with a certain effectivity of their own, a perhaps small but irreducible degree of independence from the words, images, and feelings they provoke in us. I present this as a liveliness intrinsic to the materiality of the thing formerly known as an object (Bennett 2010, xvi).

The co-becoming of gardens as rhizomatic assemblages are continuous interrelational processes in which plants, as vibrant matter, are moved and revalued through means of “biopolitics”, highlighting the ethical-political linkages that take place in broader networks and temporalities (Seshia Galvin 2018, 237; Wynne-Jones et al. 2018, 72). Here, plants appear “as things, that is, as vivid entities not entirely reducible to the contexts in which (human) subjects set them, never entirely exhausted by their semiotics” (Bennett 2010, 5) as they can achieve different meanings and values when moving to different contexts. Through these movements, plants, among other actants in the field, are “matter in variation that enters assemblages and leaves them” (Deleuze in Bennett 2010, 54). This is not just about the ways plants are being moved by others, but also by attuning themselves:

> To stay in sync with the movements of the sun, and the activities of their pollinating insects and herbivores, plants behave differently at different times of the day: they grow, move their organs, open their flowers, and produce nectar at specific moments (Myers 2015, 44).

The human-environment relation of the private garden is typical of its permission to exert control over what happens there. It allows people to decide which plants should be cared

for and protected against species that disrupt their aesthetic preferences that define their proper form. For humans, plants can for example become kin (Chao 2022; Miller 2019), commodified (Ernwein et al. 2021), and therapeutic (Langwick 2018), among many other social meanings. Gardens inhabited by gardeners' selected plants could be considered to be “in-place”, but could be “out-of-place” when taking a different perspective. “The notion that everything "has its place" and that things (e.g., people, actions) can be "in-place" or "out-of-place" is deeply ingrained in the way we think and act” (Cresswell 1997, 334). For example, weeds might just be weeds in interstitial places, which are the small in-between spaces found in the “cracks of urban infrastructure” (Stoetzer 2018, 304). However, when they enter a garden, they become out-of-place as the garden is not its “proper place” due to the garden ontology of a proper form (Bolton and Mitchell 2021). Consequently, they may be removed and considered waste. This valuation of plants is strongly dependent on how they are perceived in terms of aesthetics, utilitarian or ecological functions. In this chapter, I explore the co-becoming of the garden by looking at the movements of plants in the socio-political circle of care.

Bringing plants home

A couple of years ago, Inge and Hans went to England and France multiple times to get inspired by its landscapes and gardens. For instance, they have done a rather special guided garden tour in England. They went there because they had read about it and wanted to see it by themselves, assuming that it was still open to the public. When they were there, it appeared to be closed for five years already. However, the landlord was open and friendly and showed them around. They could still vividly imagine walking there, and smelling the “wonderful” *Penelope rose* (*Paeonia*). As Inge emphasised, “We couldn’t wait until these roses were in our own backyard!” And so they bought some in the neighbourhood and brought it back, into their backyard. Both Inge and Hans and Marie and Piet, have told stories of going to England to observe gardens and going back with “a car full of plants” (a quote of both of them!). The aesthetics of the garden are strongly influenced by their interest in English garden history and art, which was also apparent in the many garden art books I saw in both their households. They get inspired during holidays and bring plants that are appealing to them on these moments in which memories could be directly materialised and a vivid relation between the gardener and plant is created.

Eleanor, Edward and Eveline moved from Australia to Rotterdam just over a year before I was there. To *vivify*, which is "to bring to life" (Merriam-webster 2024b) the garden and get things going, they decided to let Stek, a sustainable company which "coöperate with nature for a strong nature-experience" design it for them. The goal of Eleanor her garden is "to create a small, native ecosystem", and so Stek was asked to design a plant selection that solely existed out of native species. One major asset to create a "thriving ecosystem" was the introduction of a new pond. After our drawing session, they allowed me to join them when they were going to the *intratuin* (a large plant shop) in Pijnacker. There, memories of their homes in Australia influenced their choices and so Eleanor bought some non-native (to the Dutch ecosystem) Australian water plants that could enrich the water life. Their aesthetics were connected to memories. Additionally, what I found interesting was that she was looking for plants in pots that could be attached to the windows in front of the house where vivid colours and cascading shapes were a main priority.

Fien also demonstrated such an example. As I helped Marie manoeuvring her to the pedicure with public transport, she walked by with a friend and her daughter. At this point, we had not met yet, and Piet shortly chatted with her. Both she and her friend carried plants that they bought at the plant shop on the corner of the street. When we first met, I learned that she was aware that these plants were not that healthy as these species should not be sprouted yet according to the time of the year. Despite knowing that it was not grown in an ethical way according to her understanding, she could not resist its enchanting colours and bought it to enrich the pots — inhabited by small, flowers and bushes — at the façade in front of her house.

Flower history and industry

> "Each city has its own dynamic environment that favours the circulation and consumption of knowledge and plants through formal and informal circuits" (Albuquerque et al. 2023, 2)

These examples showed how gardens come to being through enchanting encounters at different moments and places. Multiple times it occurred that a new plant had arrived in-between the moments I came by for research as these purchases were often unplanned. The plant catalogues in gardens come to being through human-plant encounters at all

kinds of places through affects, visual attractions and interpersonal attachments. Most of the plants in gardens come either from these encounters in stores or via the suppliers when a new design is implemented by an external person or organisation, like Stek. In both these cases, the biodiversity of plants depends on the catalogues of an ornamental plant industry. Like in the *intratuin* with Eleanor, all of the gardeners bought some flowers at some point during fieldwork at a local plant store based on their aesthetic attractiveness. Although all of the key interlocutors shared that they prioritise buying bio-organic plants, they were uncertain whether these plants were grown ethically. Arguably, this might be due to the ways gardeners vividly notice plants, making them prone to get enchanted at plant shops. Through these enchanting encounters, common plants-as-commodities move from the flower industry, are being brought into contact with gardeners through (web)shops, and enter the intimate gardens (see Cavender-Bares et al. 2020).

> Our use of flowers is strongly associated with values of beauty and aesthetic practices; flowers themselves (particularly roses and tulips) have been and are powerful tropes for emotion and ethics; the incipient Dutch flower industry of the Netherlands' Golden Age helped to launch the world's first modern consumer society" (Gebhardt 2015, 17).

In *Holland Flowering*, Gebhardt (2015) explores the social and historical aspects of the contemporary Dutch flower industry in FloraHolland Aalsmeer's auctions and across the industry. It focuses on tulips and cut flowers, but, nonetheless, provides interesting insights into how the plant industry has developed today, essential for understanding how the plant assortments in gardens come to be. The Dutch flower industry is one of the first global industries and is until today a dominant player in the global economy, alike the economic position the VOC once achieved by aiming for "long-term prosperity through market dominance" (p. 75). During the colonial era, Charles d'Ecluse, better known as Carolus Clusius, who was born in 1526, established "a link between science and aesthetics in the new field of botany" (p. 55), instantiating circles in which plants move as "he also helped to build networks of flower enthusiasts … [installing] a vital link between systematic botanical inquiry, colonial exploration, and wealth accumulation" (ibid.). Being a passionate botanist, "tulips intrigued him for their aesthetic appeal, and [he] harboured a belief that beauty was an important value in plants, independent of or in addition to any practical use they might possess" (p. 56). This illustrates the beginning of the global movement of plants based on a primary interest in beauty and aesthetics as "interest in

flowers at this time was limited to Holland (a small but influential province), to places such as Amsterdam, Haarlem, and Enkhuizen" (p. 59).

When I joined Eleanor, Edward and Eveline at the intratuin in Pijnacker, the scale of these greenhouses was immense — making a large contrast to the small-scale urban gardens I went to multiple times a week. Later, I learned that we were driving at the heart of where the global ornamental plant industry. This area is also known as "the city of greenhouses since about a third of the terrain is under glass" (p. 61). It represents the global scale of flower trade and a colonial past, that is situated in gardens through the economic movements of plants. Full of both native and exotic plants, today's plant shops represent a historical "enthusiasm for both gardens and curiosity cabinets where exotic specimens could be grown and shown" (p. 74). While rooted in historical traditions and symbolic meanings, today's plant shop assortments reflect current trends and global influences in horticulture. Today,

> over 3,000 Dutch companies do business in hybridizing, growing, forcing, and exporting bulbs. … but there was a time when a commercial market for flowers was scarcely imaginable when the Dutch did not trade in flowers. How it came about is part of a matrix of other events and developments, some botanical, others economic, cultural, and political. Scientific ideas about the cultivation of flowers emerged with the tulip, and at the same time, values around aesthetics, class sensibility, and monetary worth (p. 47).

Flower growers and breeders are continuously experimenting in order to invent aesthetics that are attractive to a large public. In the case of tulips, this is promoted as a national Dutch symbol. "'Classic' aesthetics become associated with politics, and a world view grounded in a 'timeless' image of Dutchness that collapses a sort of Golden Age kitsch and yearning with a contemporary xenophobic outlook" (p. 196). Ironically, tulips grow healthier in Kenya and emit six times less compared to being produced in Dutch greenhouses — with its long journey included. Roses, on the other hand, are marketed as a romantic symbol. This shows how visual aesthetics are also connected to sentiments which artificially keep up classic trends. Arguably, the global trade of these ornamental flowers promotes a historical global homogenization instead of local biodiversity (Daru et al. 2021). Through this lens, these trendy flowers carry scars as a vibrant matter out-of-place (Bennett 2010; Cresswell 1997), which is a result of "displanting" (Mastnak et al. 2014), the removal and displacement of native plants as part of the broader colonial effort to reshape

and control the environment. This only shows one side of the contemporary diverse, social, vibrant lives of plants in and across garden assemblages. On the other hand, especially in the context of Eleanor's backyard, here, a plant industry disrupts her goals of providing for a local, native urban ecosystem.

Neighbourly plants and ontologies

Gardeners and plants engage in ways that allow proliferation and exchanges outside of the global horticultural economy as well. It was the beginning of April, and Marie and Piet needed my help for essential tasks at this time of the year. We started gardening at the back of the garden, where Marie had thought about which tasks were most essential for this time of year. "In two weeks, it will be mid-April, the perfect time to plant seeds." On her balcony, Marie spends a lot of time creating new sprouts, which she often gives away to friends and neighbours. She also grows vegetables, like small tomatoes, there. Most of them, she gives away to neighbours and friends. The moment I joined her in gardening, she often found a sprouting seedling that she would pull out and keep to give away to others. We started discussing the neighbours' gardens, where Marie also likes to contribute her knowledge and advice. She talks about her neighbour Fien's new garden: "I need to give her tips about the soil before she starts planting! Because there, the soil is still all clay." This used to be the case for Marie too, but she covered it with sand a long time ago and now she adds new soil every year. Moreover, she tries to recycle the plant waste by cutting it into small pieces and throwing them back because "they will compost anyway. It is even good for the soil's nutrition. I don't understand why everybody throws that much in the bin." Fien also has a border for shade plants that is still empty. "We could go to the organic garden store. They can give advice to design a collection of plants that nourish in shaded areas."

In the front, we see tulips in purple and orange. Compared to the first weeks of my fieldwork, the garden is already much greener. Marie has been able to walk through the garden daily for a few weeks and can now (though with difficulty) enter the back, where we repositioned some plants and planted some potted plants in the ground so they can flourish better. Slugs and snails still enter the garden, even after adding toxicity and removing them by hand. Therefore, Piet and Marie put garlic throughout the garden as these pests dislike the smell. Marie asked me to help dig holes for three new sprouts. They needed enough space between them and to be deep enough, but not too deep. Moving

them from the pot into the ground gives them more space to grow and strengthen. For many years she has been gardening now, and she says the most important thing is “to learn how growth works. How plants react to each other, how they move towards the sun, and sometimes they just die without understanding why.”

Marie and Piet had always spoken positively about their neighbour, Fien. Piet introduced me to Fien and as she was enthusiastic about the nature of my research project she loved to engage as an interlocutor. A week later, when I came by to get to know each other and to see her garden. On the window in front of her house, she had two posters hanging that promoted the *Nationale bijentelling* (national bee census). Fien greeted me warmly, with her daughter Livia nestled in her arms. The living room was light and spacious and so now there were toys and children's books. Next to the chair of Fien, a vinyl record was playing in the background.

Figure 5. The garden a week after being renovated. A winding path is added, making every part of the garden accessible and giving a more “organic look”.

Over a cup of coffee, Fien introduced herself and our common interest. She owns a social-artistic studio and is currently working on an audio tour narrating the lives of residents around the Hofbogen, a disused train track being transformed into a “nature-inclusive,” “climate-adaptive” park. This project, she explained, taught her to “look through the eyes of animals” to understand urban ecosystems better. While we stood in the garden, we shared our understanding of gardens as ecosystem services. At this moment I learned how important neighbourly human-garden relations are for looking at urban ecology: “Now we are talking about birds, I learned that they do not care about one garden and that they live in a range of multiple kilometres. If gardens together cannot provide the needed resources, it does not matter how biodiverse your garden is. It is all about how the gardens work together, becoming a kind of corridor. For hedgehogs, this works the same way. They need to be able to move through gardens.” Especially with the high amount of slugs and snails in the garden of Marie and Piet, their street might provide a good backyard ecology for this species.

Figure 6. Fien’s drawing (with help of her daughter Livia). We see a utopia of flourishing, colourful plant assemblages symbiotically living with bees. Moreover, we see common blackbirds that she used to feed with her mother when she was young.

McLauchlan (2019) elaborated on exactly that:

> you must also ensure that not only are you connected to your neighbour's garden, but that your neighbour is connected to their neighbour, and so on all throughout your block of homes. It's a lot of work, and there are no guarantees ever that a hedgehog will find his or her way to your garden at the end of it (p. 513).

Fien recounted how a friend's initiative to replace tiles with greenery inspired her, despite her father's suggestions to use weed barriers. She values the ecological benefits of weeds and believes in their importance. Another such progressive thought she shared was about the autumn leaves that end up in the plant pots in front of her house. "Sometimes I see people looking at it, thinking that it is a mess. That is something I struggle to deal with, but at the same time, I learned that these leaves will turn into compost and herewith increase the soil's health. Actually, it is completely unnecessary to remove them." She admitted to initial anxieties about failing and the shame for not having proactively engaged with the backyard which "is a privilege to have … When friends visited, I felt embarrassed about not making the most of our backyard. Now the rampant weeds are removed, and the new path lays there, the garden already looks way better."

Next to being a fine neighbours, Marie is important to her as a teacher to learn how gardening works. As Marie puts it, "most importantly, to learn how growth works. How plants react to each other, how they move towards the sun, and acknowledging that sometimes they just die without understanding why." She sometimes visited to offer advice and brought sprouts of seedlings from her own garden, helping Fien take her first steps. In exchange, Marie learned that from Fien that an online store called *Sprinklr* provides a great way to order ethically produced plants. Fien told me that the webshop is also a great tool to see what ecological services plants could provide and what they need in order to survive. Like parenting, the garden is a project where she learns to care. She compared it to babysitting and swimming with Livia, emphasizing the importance of learning by doing. Her garden is not just a space for plants but a playground, featuring a large fig tree, a grapevine, an apple tree, and a sandbox. Last year, the apple tree produced enough fruit for a cake, a testament to the garden's growing bounty. Receiving plants from friends adds a special touch to her garden, making it a social endeavour as much as a personal one.

In the previous chapter, the garden-dwelling of Inge and Hans could be considered a "compositional conservation [that] has demarcated, ordered and valued nature at both a species-population scale and through the bodies of individuals" (Wynne-Jones et al. 2020,

72). In several moments, Inge emphasised that her idea of what the garden should include has changed in the last few years. Aesthetic desires got loosened and made place for what could be interpreted as an embracement of rewilding — a letting go instead of proper form while taking care of plants' health. For example, instead of critically looking at every individual and the ways they fit aesthetically, the overall atmosphere of plots in which she learned to co-become in the garden became the priority. Moreover, she stopped buying plants that are rendered "sterile" and only buys plants that serve a role for the ecosystem. Still, bishop weeds needed to be removed, but plants that needed too much care were slowly being replaced by other, more ecologically suitable plants.

The agency and proliferation of plants got more ground by this ontological change towards urban rewilding. Rewilding is an ambiguous term as it refers to an idea of promoting an ecological structure that is self-supporting and does not demand persistent attention, while also being human-induced (Pettorelli et al. 2019). Instead, it appears that "there is overlap between rewilding and restoration, and both are parts of a continuum, whereby all spaces can become wilder, or more like prior ecosystems, or both" (p. 416). Here, Fien shows how she engaged with her garden by removing the rampant strawberry bushes to make space for a higher diversity of plants, with all the insecurities and investments that come with caring for it: a side effect of urban rewilding (Maller et al. 2019, 176). This seems to be opposing the rewilding definition, while at the same time promoting a diversity of plants in which slugs, birds and bees can be fed, hedgehogs can shelter and worms nourish in nutritious soil.

Conclusive remarks: the garden as a stage

"Urban rewilding represents a significant step in the development of the rewilding concept, taking it away from the wilderness areas of its conception" (Durant et al. 2019, 415). Moreover, its ambiguity comes with "the irony … that rewilding projects are human-driven" (Graeff 2016, cited in Seshia Galvin 2018, 240). Her project aims to bring the garden to life, in which memories are created and she, together with her daughter Livia, intimately involve themselves in an urban ecology that is shaped by a multispecies assemblage, different temporalities and rhythms and the larger processes of capitalism and colonialism that unfolds in the movements of plants. In my attempt of "worlding" (see Haraway 2016; Hohti and Tammi 2023), I argue that urban (re)wilding here is rather an act of revivifying: a bringing back to life. It encompasses the vibrancy of plants, human-plant intimacies, different rhythms, memories, desires and imaginations of both providing

for keystone species and the vivid memories, colours and shapes that are so important. It is a highly social act as gardens are interconnected. Hence, they are spaces in which plants come and go as they are staged, and that are a stage of lifecycles and societal processes. Metaphorically, they are still life paintings which represent a stage between diverse histories and moral futures:

> The art of still life painting is a celebrated part of Dutch culture, but this time-honoured artistic style didn't develop from thin air. Before still life emerged, there were illustrators who delicately illuminated handwritten manuscripts with images of flora and fauna to add emotional power to a written work (a quote on the back of the journal booklet of Eleanor she showed me).

Gebhardt (2015) interestingly compares flower aesthetics with the visual art of Still Lifes in a historical analysis of the culture of the Dutch flower industry (p. 172). These paintings can draw a scene that is as "immediate and relevant" today as it was centuries ago. However, today "consumers are urged to consider the circumstances in which these commodities are produced and sold" (Gebhardt 2015, 173) when viewing visual representations of them. In contemporary crises, still lives and gardens are contextualised in a "moral economy" (*ibid*.). From here, we turn towards a resilient presence in which the moral movements of urban rewilding mingle with the historical embeddedness of flower and garden aesthetics.

Chapter 3: *revivifying* backyards

A collaborative project

In my interview with a coördinator at the educative *Stadstuin*, I learned that in the district of Spangen, multiple initiatives of urban greening took place. Two weeks later, I interviewed the current organisers of the Verborgen Tuinen event, who forwarded me to Meike de Regt–Sloover[1], who works at *Coöperatie Tussentuinen* (Coöperation in-between gardens) with which she helps people to collaboratively green their gardens and public spaces near people their houses. She invited me to her home in Spangen for an interview. A couple of years ago, she completed a study about "ecological garden design" in which characteristics of the natural environment function as a starting point for (re)designing gardens, parks or green spaces. She told me that, indeed, a lot of initiatives in regard to greening were initiated in her neighbourhood. One of them was her own backyard, in which she gave me a tour. The garden is surrounded by around 20 houses (with apartments on higher levels) that together form a triangular shape with a sharp corner. The open space in between the houses, which are usually split into separate backyards, was part of the *vereniging van eigenaren* (VVE). This means that the people who live there have a shared responsibility to maintain the space. On two of the three sides of the garden were houses; on the other was a transparent fence (where the VVE zone stopped), that split the garden with a *nieuwbouwproject* (new development project).

Connected to each house was a small tableau that served as little private gardens. Then, these were connected to a path that went around passing all the houses. The garden looked like a playground: small hills and grassy fields with colourful toys and native flowers that were crossed by winding paths. Next to the fence is a greenhouse (that served as a gathering place) and to get there, we walked over a wooden crossover that bridged a wadi. Originally, this refers to "the bed or valley of a stream in regions of southwestern Asia and northern Africa that is usually dry except during the rainy season and that often forms an oasis" (Merriam-Webster 2024c), but in Rotterdam, they are a trend in urban landscape design that quite literally aligns with the city's goal to become a "green-blue oasis". According to Rotterdams WeerWoord (n.d.), it refers to a ditch covered with grasses and filled with gravel which is dry in fine weather, but when it rains it fills with rainwater. The water that falls on the surrounding roofs is directed to the wadi via the downspout and an open gutter. Here the water is temporarily collected and slowly released back into the

[1] Her name is not anonimyzed as she openly allowed me to share it.

soil. As Meike emphasised, the garden is designed together with the residents and is therefore a mix of ideas and influences that are translated into one concept by the garden designers. It involves priorities for connectivity, space for children to play, and a diversity of colourful, native plants. She showed me pictures of the design and building process, a lot of creative ideas and convivial collaborations between neighbours. The interactions in and with the garden were memories in the making.

Next to the passage on the other end of the fence, where the nieuwbouwproject was located, was designed in a completely different way. One that Meike and I disliked. Its spatial structure was alike the garden: two rows of houses and a green space in the middle. Hence, it could have been equal to the shared garden. However, from our point of view, we could see the backyards and the green passage that looked like a public space for people to walk and let dogs out. This space was not vivid at all: it looked too "clean". All of the houses looked exactly the same and the backyards contained high fences, straight lines and lots of grey. The passage had a path with well-maintained lawns next to it. Its cleanliness and new character had no memories, nor had it personal desires. It missed a sense of home-making. It looked like a mould of urban planners instead of a convivial gathering with intimate more-than-human co-becoming where the nature-culture and private-public distinguishes were enforced. In contrast, the shared garden of Meike and her neighbours was a place where these dichotomies vanished. The plant ecologies represented personal aesthetic desires and were intimately cared for. This difference was observable because the garden consisted of lots of small projects while the passage and lack of vivid ecology were uniform and easy to maintain with machines like lawnmowers. This kind of relating to, and caring for an urban environment gives little space for attuning to the rhythms of plants and opening up to new seedlings and their vibrancies.

Greening backyards in Rotterdam

Meike invited me to join a garden tour that was facilitated by *Aktiegroep Oude Westen*, a central organisation run by residents that supports and enhances the neighbourhood of Oude Westen in multiple ways — of which one is greening. When I entered the neighbourhood, it appeared to be a typical city centre neighbourhood of Rotterdam. Upon arrival, I had to be careful to avoid any accident on the chaotic street bordering the neighbourhood. As I entered the smaller residential streets, I saw many cars parked along the road, occasionally intersecting with pots of flowers and small trees. These were well-maintained despite the busy urban area and considering the number of people and cars

flowing through and the multiple stories I heard about plants being destroyed by pedestrians. I almost missed the doorway of the Aktiegroep Oude Westen. The building was under maintenance and seemed identical to the houses on the street from the outside. So close to the crowded streets, it felt like I was in a place where everyone was a stranger. This changed completely as I entered the Aktiegroep building. A colourful interior that was full of little crafty ornaments and posters showing liveliness and eventfulness inside. On the other hand, it had also an office-like character with a secretary and meeting rooms.

I was warmly welcomed by Lieke, who was busily organising and ensuring everything was in order for the tour. She made contact with everyone in the building as if she owned the place, monitoring her presence while ensuring everyone felt welcomed and seen. We chatted briefly about their current work on "greening" the neighbourhood. She also emphasised the current projects on greening courts, and squares, and trying to "break open backyard gardens" as "greening connects." The nuance of different types of gardens was essential, which is why we only looked at backyard gardens today as a theme for the route we were about to walk with residents. They also organise "EHBO" workshops, which are speed courses on the essentials of garden maintenance, focusing on what to avoid — like grey tiles. I got a brief tour through the building and here. People who work for the municipality also work in this building and the organisation is in fact in continuous contact with the municipality for integral collaborations.

This day's event was about inspiring residents of the neighbourhood about the potential of gardens and how to make the most out of them. We went to the *voorbeeldtuinen* (example gardens). These were backyards that Meike, with Coöperatie Tussentuinen, completely transformed into gardens that would promote local biodiversity. These provided examples of which kinds of materials she used, what subsidies were available, tricks to minimise the waste and financial investment, and, of course, which plants were native, provided ecological services, and which also were visually pleasing. Two of the seven gardens we went to were these examples, and two others were of engaged gardeners that also served as good examples with their high variety of plants. During the 3.5-hour walk, we also went to the gardens of other residents because everybody became very curious. During this everybody spoke up about what they loved and did not love about what they saw in the gardens and along the way, regarding the plants and flowers.

This event is part of a collaboration of Aktiegroep Oude Westen, Coöperatie Tussentuinen, the municipality and together with residents and volunteers from the neighbourhood. This project is also supported by Rotterdams WeerWoord and *Woonstad*

Rotterdam. Rotterdams WeerWoord is a highly collaborative project between the municipality, several Water Boards and a water company Evides that aims to green the city on different scales, including the individual resident and their garden. Therefore, they collaborate with parties like Oude Westen to reach them, along with city-wide campaigns to mobilise a general ontological shift that turns weeds into valuable beings for the urban ecosystem, and along with providing subsidies that lower the bar for people to "green" their gardens and streets. For example, when people install water barrels or plant Indigenous herbs, bushes or trees, they receive cash back. Also, when removing excessive tiles (which prevent water absorption and kill nutrients in the soil), a *tegeltaxi* (tile taxi) could be arranged to pick them up. Another good example of such a collaboration is with OpzoomerMee, a foundation that promotes social cohesion on the streets by providing financial support and materials for all kinds of street-initiated events. Now they also help with bringing new policies of the municipality, related to neighbourhood initiatives, into practice. They also offer subsidies for greening the street.

"Rotterdam is moving and taking it more seriously. When they break open streets, like the crossroad behind the neighbourhood, the government must spend 5% of the budget on greening the space," she told me. This was remarkable but raised questions about whether they would collaborate with residents. When I asked what Lieke finds important when greening the city, she mentioned the social benefits of greening, the aesthetics of the neighbourhood (both "pleasing" and "neat"), and the goals of Rotterdams WeerWoord's mission to form a climate-resilient city. Lieke quickly finished her warmed-up dinner, and then Meike herself also joined. I helped them fold self-designed folders with information about the agenda and tips on making your garden green. Outside, a group of around ten people were already waiting for us. It was a diverse group in terms of gender and ethnicity, but not that much in age, as most of them were at least 60 years or older. Everyone briefly introduced themselves. Among them was someone who was about to retire from Woonstad Rotterdam collaborates with the Aktiegroep, residents without backyards who loved gardening and were curious, and some residents with backyards who participated in developing or representing an example garden with the event organisers.

Two older ladies shared their love for plants and efforts to fill their balcony or hallway with colourful plants and flowers. One of them said that she was furious that firefighters removed her plants without a warning, due to safety protocols. She emphasised how important plants are for people who rarely leave their homes due to severe physical constraints. These plants are crucial to their daily lives, and their removal has a grave

emotional impact, creating a sense of helplessness as they do not know how to contact the authorities managing these protocols. The other lady shared how her tulips were pulled out or cut by pedestrians, and that even seeds were stolen from her pots. She also disappointedly mentioned how municipal gardeners removed beautiful green plants from a nearby public space. It was clear that there were significant differences and distances between residents and larger organisations regarding how green in the city is cared for and how both public and private spaces are used, including overshadowed spaces like hallways and small front gardens. Despite this, I felt a sense of community as everyone had strong opinions about these themes but mostly agreed upon each other's.

"I dream of people thinking dandelions between tiles are pretty"

The tour finally started as Lieke pulled us along. Everyone had much to share about their negative experiences, passions, and ideas about gardening in their own lives. Unheard stories were given a stage to be expressed. As we walked towards the gardens, everyone started chatting in an enjoyable manner. The first garden we entered was a short walk away. We entered a court opened by the resident living there. The backyard had no closing edge at the back but ended at a stone-built shed with a behind-backyard pathway in between (owned by the municipality). Interestingly, the backyard owner mentioned the municipality forcefully asking her to close her garden, which she ignored. The municipality did not follow up on this. The garden had shadow plants due to its direction relative to the sun. They also used to have a shadow cloth for the bedroom, influencing the growth of certain plants. The most remarkable plant was a yellow tree with a strong smell (Meike highlighted this based on her ecological background). There was also a special plant that would later grow a large flower resembling an artichoke, intriguing almost everyone.

Like the first garden, the resident had lived there since the house was constructed 35 years ago. She had a rose plant inherited from the previous residents, who had to provide a "clean and empty" garden for the new owner, meaning they had to remove all the plants from the garden. In an interview with a policy maker of Woonstad Rotterdam, Rotterdam's largest housing corporation that provides housing for over 100.000 residents in the city, I learned that this was not common anymore. Instead, the corporation is partaking in the green turn by finding ways to incorporate "biodiversity" into its activities. However, as this is almost impossible to measure and translate into KPIs (Key Performance Indicators), for instance, it is hard to integrate it into periodic goals of the business strategy in order to justify investments and often ends up in. Such a discrepancy

in measuring sustainability and biodiversity in the economy is not new (see Brooks 2017; Turnhout et al. 2014). In developing new housing, the perspectives of some species must taken into account by national law. But to really address biodiversity, they creatively look for ways to implement it with low investments (as a side effect) and by a cultural shift that rejects the mere human perspectives and promotes the "importance of biodiversity". In the case of backyards, they looked for ways to incorporate greening in rental contracts, but this was still experimental and a work in progress.

Besides, I interviewed a policymaker of the municipality in the Department of Urban Development. Both of these employees in these large institutes shared that there were internal dissonances about their views on nonhumans. On the one hand, nonhuman beings are still considered relatively irrelevant. And, on the other, many species that are relevant for the health of urban ecosystems, were considered invasive and unappreciated. In the case of Woonstad Rotterdam, they observed that there was an ontological shift happening as more and more people were talking about climate change and sustainability. Biodiversity, however, was not yet very present in their minds. At the municipality, there is still a stark division between departments of the more progressive urban development (among which people work with a background in ecology) and the more conservative urban maintenance.

> It is hard to green the city because it does not pay back in money, and that is unfortunately how the world is structured. Luckily, there are plenty of initiatives that try to change the mindset of understanding that weeds are an essential part. I think that it requires a change in mindset. We are used to "sleek" and "clean". In my street, weeds are also removed of which I think "please let it just grow". We have to get used to the idea that it is good and that it can be pretty as well. It would be my dream if people would think that having dandelions grow between tiles is something that is pretty … We as promoters of biodiversity campaign for such a worldview, while *Schone Stad* (the Deparment of Urban Maintenance) communicates the opposite to keep the city clean and tidy … Look, when you are educated for 30 years to tidy up tree lanes, and it is also part of your job description, like "a tree lane should not have weeds, but should it should be delivered with black-coloured soil", if that is what you are asked to do than you will do it like that. So the objective should change. Then, still, one-half of the street may say: "All these dandelions, they look rubbish", while the other half may say "We want more dandelions because they look good and are healthy for the environment"

This is in stark contrast to the colonial history of the flower industry that still reverberates in contemporary doctrines of conservative and economic-driven ideas of what the aesthetics of flowers should be today. Instead, her efforts, along with the greening initiatives, could be seen as a “decolonial disruption [that] disentangles traditional human-centred relationships – such as ‘pest’ or ‘weed’ – to consider new identities in addition to recognising connections between species, and assemblages between species, place and other relevant aspects” (Edwards and Pettersen 2023)

Vivid gardens as examples

Quasi-jokingly, the owner of the second garden said “The plants look at me and say either 'yes' or 'no.' It's a surprise every year whether they will thrive or not.” Although she has been thinking of creating a seating area for several years now, she rarely sits down in her garden. “Lately, I thought I would enjoy reading a book, but I can’t because I constantly see a twig that needs to be pruned”, she said laughing. There were several potted plants kept inside during winter to survive and one of them she received as a cutting when she was 12 years old from her mother. A bystander noticed the blossoms: “All these white flowers, look how amazing!" The gardener prunes the tree regularly to prevent it from outgrowing the borders of the garden. It was an elderflower tree that "survived all renovations … when workers came for constructions or to paint, it was always stressful, especially with their tools like ladders that could damage plants. These people do not see the plants, and just walk through them." There was also a rosemary tree, which was flourishing well. ”Look at that rosemary, mine doesn’t bloom like that. That’s how it should be!“ They discussed the role of space for the tree to flourish and the lack of space some have for such a flourishing rosemary tree. She was worried about aphids, as there was a plague that she had before, which damaged most plants in a short matter of time.

When we entered the third garden, I noticed the remarkably few plants in pots. Although the garden was small, they had many grape plants on a pergola and along the fences. The place was well-designed but dominated by stones and one large tree, an apricot tree in the corner. The resident discussed the challenges of pruning the tree and managing the grapevines. The group admired the garden's aesthetics because it looked slightly luxurious, and well thought-through and maintained. However, as people noted, it lacked plant diversity. As we walked from garden to garden, across courtyards, alleys and streets, we peaked in all the other backyards whenever we could. Disappointing to some of us — especially to engaged gardeners who did not own a backyard, many of these gardens could

be considered interstitial gardens as these seemed “marginalized and rendered invisible” to the owners of the houses. In urban planning, these “empty” and “in-between” spaces are often considered a waste of space, but there is a recent increase in literature that these spaces also carry overlooked histories and meanings of dwelling (Steele and Keys 2015), among others (see Brighenti 2013). Besides, it is important to note that interstitiality is often used in different contexts and with different meanings in anthropology (for example, see Challand and Bottici 2021).

Here, they were inhabited by what Tsing (2017) refers to as “auto-rewilders”. Namely, uncontrolled, rampant plant species that “often kill the chances of other, less aggressive and disturbance-loving species” (p. 6). I once asked Eleanor, who has long worked as an ecologist, what would have happened to the garden if she had done nothing about it. “Well, then a couple of the rampant weeds would just have overtaken the rest of the garden. In fact, when we moved here, some were already invading.” In this sense, the voorbeeldtuinen do not show efforts of rewilding that are about returning autonomy to nonhuman beings by restoring balance through (re-)introducing species. With its application in urban contexts, its definition became looser (becoming “wild” again), but they have similar motives as they both try to rehabilitate ecosystems (Lorimer et al. 2015). The interstitial gardens were either fully grey or overgrown by rampant weeds. In both cases, it was clear that these gardens were “wild”, but not vivid. Limited to the borders of the garden, the plants were able to grow uncontrollably, as there was no interference from someone who considered themselves the composer. there was no effort put into these gardens and lacked diversity and aesthetics.

Towards intimate relations: revivifying the city

After the garden tour, a woman who was raised in Indonesia shared her perspective on the evening and her own gardening practices. To her, it was surprising how few fruit trees were planted while the Dutch climate allows the growth of many kinds. In Indonesia, she said, “you see fruit growing everywhere.” The evening brought her great inspiration, however, she does not have access to a garden herself. So she makes the best out of her balcony and the hallway. Gardening for her requires a lot of resilience: pedestrian, and especially playing kids destroy her plants. “That is because children do not anymore grow up with plants. They should learn to appreciate them and care for them.” On her balcony, she has a hard time to keep pigeons and seagulls away. During the tour, she was photographing colourful flowers, and she wished to have a plot which she could green herself. This

exemplifies the potentialities to further diversify vivid urban spaces. Her passion brought us in connection and the ideas she took from her youth could attribute to (bio)diversity in green urban space. She also demonstrates the amount of resilience gardening needed, and thus the appreciation for aesthetics and plants these dwellers have. This is in stark contrast to the gardeners Marie talked about: the large-scale and with machinery removing controlling and pruning plants in order to maintain the environment and keeping it “clean”. Meanwhile, it is interesting to align her story with Inge and Hans. How memories, desires, willingness and curiosity are and could be linked to the promotion of biodiversity. Even when class and background might be very different, these attitudes towards urban environment and plants are vividly present and these engaged gardeners promote diversity by continuously, both socially and intimately, negotiating aesthetics and biodiversity.

Conclusive remarks: revivifying Rotterdam

Gardens as units of heterogeneity

Like landscapes, gardens are "units of heterogeneity" (Tsing 2017, 7). In the first chapter, we stepped into the garden of Inge and Hans where the construction of aesthetics was explored through temporal and intimate aspects. They shape plant catalogues in the garden according to desires of aesthetic satisfaction (Bolton and Mitchell 2021) that were in turn shaped by personal histories and the human-plant involutions (Hustak and Myers 2012). Different temporalities and changing rhythms make a vivid presence that represents the emotional values of dwelling and the more-than-human assemblage. The garden co-becomes through intimate human-plant interactions and meanings.

In the second chapter, I presented how plants move and end up in gardens. Primarily, they buy plants or seeds from suppliers that produce them biologically. Paradoxically, the ways in which gardeners' ontologies attune to plant aesthetics reflect how some plants are bought (by impulse) in shops. However, which plants are available and attractive is influenced by a plant industry with roots in colonialism (Gebhardt 2015). Plants move by themselves through proliferation and seed dispersals in the more-than-human assemblage. The seedlings are sometimes unrooted to be gifted to friends or neighbours. All these choices are co-influenced by the exchange of knowledge and awareness on the urgency of supporting urban ecosystems. In this sense, the garden is a "collective work of art" (Strathern 2021).

In the last chapter, I looked at how the green turn of Rotterdam tries to shape the gardeners' awareness and, thus, ontology. I highlighted my experiences with Meike and Lieke with Aktiegroep Oude Westen that proactively reimagine gardens, transform them (as examples) and collaborate with residents. During the tour, visual aesthetics, practical aspects of gardening and memories were still re-occurring themes while a critical lens on plant diversity was applied in the meantime. A transformation in the culture of plant aesthetics was evident, unravelling striking ontological differences between the owners of interstitial gardeners, urban planners, municipality maintenance workers and engaged gardeners. What the latter characterised, was their emotional and visual engagement with small, green urban spaces. By juxtaposing these ontologies, vivid ecologies could be best understood. With these ontological aspects in efforts of urban rewilding, I suggested calling it "revivifying" which takes into account human-environment and human-plant effects and linkages. Revivifying is a signifier that represents the "conserving [of] a

diversity of life [that] requires acknowledging a diversity of values, knowledge and framings of biodiversity, and fostering a diversity of social–natural relations" (Turnhout et al. 2012, 154).

Limits and recommendations

After the garden tour, someone affiliated with the Aktiegroep asked me an array of critical questions that might help them in greening the garden. After all, I was the one doing research on backyards. The most important question here was: how can we reach the people who own a backyard but do not seem to care about their backyards? A remarkable question, which I was (and am) not able to answer constructively. Instead, This thesis has an explorative nature that goes into the constitution of backyards of engaged gardeners in which a broad notion of vividness, based on their ontologies, is conceptualised. Therefore, it leaves out many details, such as the differences in sensuous and embodied experiences (see Bhatti et al. 2009), nonhuman rights (see Kopnina 2017) and perspectives, violence (see Ginn 2014), class and privilege (see Haskaj 2021), citizenship (see Crossan et al. 2016), the intersection of race and gender (Hite et al. 2016) and much more. Due to the limits of my research scope, I focused on humans and plants, leaving out "other living beings, whose often hidden and invisible "work" is seen as crucial for the creation of human wellbeing … [who] are involved in creating and maintaining human health, which is constituted through and depended on the active participation of humans and nonhumans in shared social worlds" (Kopnina 2017, 342). As mentioned in the introduction, I did not represent the perspectives of plants, leaving out an essential side of the relational dynamics. Instead, I applied a generalised notion of assemblages that allowed me to shift from perspectives, sites and scales. Hence, I recommend further exploration of the vividness continuum to understand more-than-human relationalities in the context of urban green space and infrastructure of both people who are engaged and less engaged.

In conclusion

This research underpins this statement by exploring the engaged gardeners' ontologies and more-than-human assemblages at stake. The vivid garden is a space in which humans take care of the plants that are impacting the central visual stage of the garden. Vivid ecologies have shown how a group of engaged people shape urban ecologies and the liminal

assemblage that co-becomes. It shows the emotional connections, culture of aesthetics, social networks and both intimacy and resilience between people, plants and space. The growing interest in greening efforts and taking care of biodiversity initiated a cultural shift in which vivid desires become more weedy through their connections with aesthetics and green space. Ultimate plants are the ones that cover both aspects: they attract both humans and other nonhumans through their sensuous aesthetics. But their histories differ as their aesthetics are coupled with desires and memories that are linked to the garden as a project and personal histories. Some are bought on holiday, some on plant markets or online, and some are gifted by seed-dispersing birds.

In the fashion of maintaining urban space, their growth is controlled — steered or limited — to make sure they do not compete and entangle too much with neighbouring plants but also to keep the space accessible and, to some extent, tidy. Here, gardens are situated in intimate spaces that also serve other purposes, like that of a sanctuary and convivial meeting place. In contrast to dwelling on larger scales and through large institutions, like that of urban planners and municipality workers, gardeners adjust to the rhythms of plants — applying knowledge and gaining embodied knowledge, attach personal memories and value to places and plants, and prioritise (bio)diversity through aesthetics and social exchanges.

Based on my fieldwork, I align with the visions of Meike and Fien: to appreciate intimacy and inter-neighbourly collaborations — via either enclosed or shared gardens. For instance, Inge deliberately raised the garden door, opening up space for hedgehogs that were spotted in a garden at the other end of the street, creating an ecological corridor (see McLauchlan 2019). The work of Coöperatie Tussentuinen and Aktiegroep Oude Westen does exactly that. Together with engaged gardeners, they vividly combat the “nature deficit disorder” that “characterizes modern, urban life in industrialized societies” (Lorimer 2015, 52). Furthermore, “rewilding can produce landscapes that are more valued by people … [but,] less where there has been significant loss of traditional culture” (ibid.). When looking the ways engaged gardeners bring vividness to what were previously interstitial or empty spaces, I rather call their labour acts of *revivifying*. Revivifying is closely related to reviving an emotional attachment to place, contrasting the interstitial spaces. Engaged gardeners enhance biodiversity as well (Cameron et al. 2012), but still do that primarily with the materials that come from capitalist supply chains, like the plastic bags of soil, to bring back the nutrients and the plant industry. In the green turn of Rotterdam, movements of resilience, like that of Aktiegroep Oude Westen, might change that.

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