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## Reclaiming Freak Soils: From Conquering to Journeying with Urban Soils

Germain Meulemans

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### Introduction: Ecological narratives of conquest

*November 2014. We are in the middle of St-Blaise district in eastern Paris, a low-income neighborhood, and one of the most densely populated in Europe. A shy summer's heat soothes the square of La Réunion. It is early in the afternoon, and the sounds of the weekly market dissipate as the stallholders fold up their stands one after the other. As they tidy up, they bring stacks of fruits, vegetables, and plants to a big pile of broken trays and cardboard boxes. It's a mound of leftovers, all the groceries that were too damaged, too rotten, or too ugly to be sold. From the heap emanates the characteristic smell of early fermentation processes as bacteria kick-start into action under the auspices of the afternoon sunbeams. The acetone smell of overripe mangoes soon merges with that of fermenting tomato juices and rotten onions. Several of the district's inhabitants have gathered on the market place to glean their weekly groceries from among the recoverable items. They are soon joined by wasps, and a timid rat sometimes furtively enters the scene to catch its share. Léo jokes as he hands me a box of spinach: "You smell that? It's the smell of very young compost." Unlike our fellow gatherers, we are here to get not only food but also "organic matter" to build soil for a garden Léo has started—or should I say "cleared"?—on a nearby section of the Petite Ceinture, an abandoned railway that is home to homeless people and migrants, and as many plant and animal species as are found in the woodlands that circle the city. I have come here to learn soil-building techniques with the gardeners. Today, we gather rotten vegetables. Tomorrow, it will be fallen*

*leaves or the wooden planks of discarded pieces of furniture. All these will be brought back to the ceinture's garden to continue transforming its hard ground into soil.*

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My encounter with Léo and the *ceinture's* garden took place at a specific turning point in my doctoral research. In November 2013, I had begun fieldwork in Paris and at an abandoned industrial site in eastern France to research “urban soil science.” The urban soil sciences are an emerging technoscientific trope that aims at guiding the ways in which soils should be protected, managed, and even “made” in cities (Lehmann and Stahr 2007; Morel et al. 2015). For thirteen months, I interviewed most of the soil scientists and technicians involved in researching these urban soils in France, and had followed them in their daily research work in laboratories and experimental zones as they dug the soil in search of “aggregates” and “collaborated” with earthworms to grow fertile soil in controlled conditions (Meulemans 2020).

Unlike previous generations of soil scientists, these researchers' goal was not to describe and classify these soils but to grow artificial soils that could mimic and improve the functioning of natural soils, and implement these made soils within and around cities to carry out “functions” that natural soils could no longer carry out. These included water filtration and retention, heat mitigation, and hosting vigorous urban biodiversity. Scientists working on the development of these synthetic soils were often soil ecologists rather than more traditional pedologists, and they were convinced that soils were a living entity. In the last twenty-five years, soil has increasingly come to be seen as a lively compound. It has now become common to write about “the living soil”—an expression used as a motto by defenders of an ecological approach to soil (Gobat et al. 2004). In 2015, the Food and Agriculture Organization's International Year of Soils initiative showcased the idea that once soil is understood by the wider public as a living

compound rather than an inert substrate, more ethical and careful relations with it would ensue (FAO 2015).

Like most contemporary ecologists that engage in the study or restoration of anthropogenic environments, urban soil scientists are wary of misplacing nature as an unchanging “out there.” They refuse the tenacious idea of there being a “balance of nature.” Instead, to them, ecosystems are inherently changing and processual realities that always intertwine with human becomings. Because human projects and ecosystem processes entangle, the latter cannot be enframed, as with the old modernist tropes of “controlling nature” through territorial intervention, but can only be “followed” (Pickering and Guzik 2008). Furthermore, since human interventions can neither appeal to a great outside of nature nor ignore the possibility of unintended consequences, they can only consist in open-ended “real-world experiments” (Gross and Hoffmann-Riem 2005) that invent new combinations between engineering and care. As Bruno Latour has summarized in a memorable few words: “It is as though we had to imagine Prometheus stealing fire from heaven in a cautious way!” (2008: 4).

As I witnessed the ways in which the urban soil sciences were swiftly addressing the challenge of caring for anthropogenic soils, it quickly appeared to me that their claim to further human “management” of soils and their “services” often boiled down to an extension of green technologies and markets to soils. Ecologists’ practices of soil construction were indifferent to social or political matters, and often fell quite in line with a capitalistic understanding of the world, with young researchers getting their soil mixtures patented at the end of their PhDs, and the waste and construction industries designated as its principal allies, in the idea of improving the “territorial metabolism” (Barles 2015) of cities.

Through the trope of “making better soils than nature” also came the age-old hylomorphism that places human will or agency as the modeler of inert nature or ecologies in need of taking up a better form. Scientists often spoke of “reconquering” wastelands and biodiversity, and

occasionally described themselves as heirs to Middle-Age land-clearer monks, and their conquest of new agricultural land over the enviroing wasteland. These narratives connect to well-known stories of frontier pioneers, industrialization, and progress that have been used across the ages to justify the shattering of local ecologies and cultures in the name of improving the productive capacity of landscapes in so many places. They were yet another story that staged humans as lords of creation.

To me, this revealed how narratives of care can subtend appropriative or colonizing practices in ways that are not always easy to detect at first. Susan Leigh Star's (1990) warning to always ask oneself the crucial question *Cui bono?* comes in handy here. Who does this benefit? And who does this harm? As Tom van Dooren (2016) notes in the context of conservation, "care" for endangered species can sometimes justify a lot of violence to other species or people, or render such violence invisible. Could scientists' claims of caring for the soil come into tension with other, more local care practices regarding urban soils? Can we think of building and reclaiming soils in ways that do not necessarily foreground human dominance and mastery?

In this chapter, I address these questions by attending to the practices of Léo and Henri, a pair of activist gardeners who reclaim urban wasteland by (re)building soil in these places. I concentrate on a railway brownfield site which they have turned into a school for themselves and others, a place to learn about and experiment with the kind of life and spirit that thrives in the city's cracks—the very life that discourses of ecological conquest fail to acknowledge. In this, I follow Bettina Stoetzer's proposal to attend to ruderal worlds (and their soils) in order to redirect ethnographic attention toward "often unnoticed, cosmopolitan yet precarious ways of remaking the urban fabric" (2018: 297), and thereby help us think about how we might inhabit an urbanized world.

In the first two sections that follow, I suggest that these practices can be inspiring for a critical and ecologically informed ethnography of relationships between soils and people in cities.

Indeed, these gardeners have become experts in following urban materials and lives as they coalesce into the soil, indicating an ecological understanding of soil processes that does not disconnect the material and human histories that make and unmake the city. Because of this, they guide us through marginalized lives and landscapes that tell alternative stories than those of progress and green policing.

Then, in the following two sections, I examine the ways in which the gardeners help soil grow on the railway brownfield where Henri used to live. My aim is to show that these techniques not only are imaginative and highly sensitive to the fragile entanglements that make life possible, they also radically depart from a managerial conquering impetus by placing the emphasis on the shared creativity of people, other organisms and materials. Indeed, these urban gardeners do not view themselves as managers of soil assemblages. Rather, they *participate* in forms of creativity that encompass more than just human invention, and that bring forth new reciprocal functionalities between people, organisms, and materials. The practices they explore make worlds where soil's entangled lines may thrive, and help us understand soils as fellow beings to learn from rather than as spaces for occupation or extraction. I conclude by providing some reflections on how these gardeners' work can help us inform ecological thinking and cultural theory.

### **A bootleg garden on old train tracks**

Because of the ambiguities of ecologists' "careful experimentations," I decided, in October 2014, to return to Paris to interview actors in the waste management sector who were pushing to develop "made soils" as a new commodity in the sector of construction materials. This is when I met Léo Nguyen Van Thé, by chance, sitting next to each other at a conference on the recycling of urban waste. Léo describes himself alternatively as "a gardener and dry-stone wall builder" and as "someone in between a gardener and a forager." He immediately told me about

a derelict train station where he was building a garden. As Natasha Myers notes, “gardens are crucial sites for examining the more-than-human dimensions of social, political and economic life, offering profound insights into forms of governance, political economy and ecology, industry, labor, and more” (2019: 126). As we spoke, however, I understood that the place he was talking about was just concrete and gravel and that he was actually building soil there. The more I learned about Léo’s soil-building project for his garden, the more I became intrigued by this place that both related to and departed from the ecologists’ reclaiming projects. For six months, I regularly returned to Paris and met Léo, and our friendship continued to develop after the end of my PhD. I regularly went with him to local markets or public gardens to gather organic waste and grow soil in ways rather different from the ones I had encountered with the soil ecologists.

Léo was trained in the city school of gardening as a garden worker, after which he worked for several years for the city council and private landscaping businesses. During this period, he mowed lawns, watered flower beds, and was exposed to pesticides on several occasions. In parallel with this, he explored the city and started to gather the weeds he was paid to get rid of and plant them elsewhere. He started to participate in spontaneous neighborhood projects inspired by the Food Not Lawns<sup>1</sup> movement, in which inhabitants turned the well-tended lawns of their social housing estates into permaculture gardens. The authorities, however, did not approve of these unsolicited reclaiming practices and wanted the lawns to remain lawns. The gardens were soon dismantled, and the gardeners were fined. Léo remembers this time as one during which he became growingly angry at mainstream gardening practices and the way they framed urban nature simply as a pleasant backdrop, without any possibility of touching or relating to it more meaningfully. He became involved in local guerilla gardening groups and left his job in 2012 to participate in the opening of several community gardening projects. As he moved away from the traditions for well-tended gardens he had been trained in, he opened

or helped open both legal and illegal gardens in several places within the city, and started to work with “freak soils”—his name for the local polluted brownfield soils—and the ruderal<sup>2</sup> plants that thrive in these areas.

Léo met Henri Taïb in 2012. Henri is an artist. Between the late 1990s and 2017, he lived in a decommissioned *ceinture* train station and transformed it into a place open for artistic and cultural experiments. The train station was once part of the *Petite Ceinture*—literally the “little belt”—a 32-kilometer long circular railway connection around Paris that was progressively abandoned in the second half of the twentieth century, until its complete decommissioning in 1993. The *ceinture* has often been described as the archetype of a “terrain vague” (Lizet 2010), a place “in between,” that is “hiding in plain view” (Foster 2014), cutting through every outer arrondissement of Paris. The *ceinture* is an “interstitial landscape” (Jorgensen and Tylecote 2007) in which novel cultural practices can thrive without needing official assent (Hatzfeld et al. 1998). Because it currently falls outside of projects of urban planning and control, it has become a laboratory for other ways of inhabiting the city.

One can easily feel disoriented after crawling through one of the rabbit holes that provides access to the *ceinture*. It is hard to know whose kingdom we have just entered. Certainly it is an animal and plant territory more than a modern-human one. Bursting with smells of compost, urine, and wet spray paint, pulsating with plant and insect life, the *ceinture* seems to abide by a wholly different temporality than the large metropolis around it. It is home to foxes, bats, feral cats, birds, and wild orchids, and its “degree of biodiversity” is as important as that of the city’s two major woodlands, the Bois de Boulogne and Vincennes (APUR 2011). Many people come here for shelter—homeless people and migrants find temporary or more permanent refuge under its bridges—but also because the place is bursting with experimentations and other modes of living together (or alongside) other humans and animals. A disorienting place, but also one where I definitely could feel a force.



In line with the colonizing narratives I alluded to in the introduction, the *ceinture* is often framed as an “internal frontier” by planners and the *mairie* (city council). The *mairie* regularly speaks of “reconquering” the *ceinture*, while dismissing it at the same time as vacant and dangerous. “Reconquering” here means managing the *ceinture* in the name of democratic access for all citizens to this biodiverse space. It is also a way to dismiss already present forms of life by favoring what the city council calls “peaceful use: conviviality, strolling and gardening” (Mairie de Paris 2018).<sup>3</sup> Henri’s life has been directly affected by this reconquering impetus. For years, the national railway company (SNCF), which owns the station and the tracks, had allowed Henri to live there in exchange for a low rent, as part of its open policy regarding artistic and cultural projects. In 2009, however, the SNCF decided to redirect its wastelands to more lucrative uses everywhere it could, delegating the management of these estates to a private society. The rent rose to twice the amount Henri had had to pay until then, and he soon could no longer cope. When I did fieldwork with him, he still lived in the old station, but he was regarded as a squatter and faced threats of eviction.<sup>4</sup>

Henri started gardening by the train tracks just behind his home in the early 2000s. He started the garden on his own, with the help of his teenage son, and was soon joined by Léo. He often says that his involvement there came from “his concern for the place.” He showed me pictures of the place when he first arrived, in the 1990s, highlighting the mineral universe he dwelt in. There was no soil in sight, only mineral surfaces, well maintained over decades by glyphosate treatments, still extensively used by the SNCF for track maintenance. These were typical “surfaces of empire”: concrete, hard-surfaced city ground, supposedly dead, abiotic, and meant to afford only walking and upright posture (Ingold 2004). Asphalt, which covers most of the ground in Paris outside of buildings, is representative of a specific urbanistic approach to the senses. Because it remains solid, doesn’t slip, and doesn’t have a smell, asphalt is thought to civilize the world. It lends itself to be made into a surface that is just a surface: smooth, hard,

and stable. It participates in the ambition of silencing all forms of life other than human—to establish soil as a countryside feature, far away from the sight of urbanites, who, no longer distracted by muddy streets and smelly decomposition processes, can concentrate on “higher” matters like politics, business, and trade (see Ripoll 2016). Soil sealing and the effective demise of soils it hastens are a key aspect of the modern alienation from nature, of the split between daily life and the environmental relationships one depends on to live (Tsing 2015).

Even though Léo and Henri do grow food in the garden, their reasons for growing plants mostly stem from a sheer interest in what the place affords, and a passion for its transformations, soils, and botany. This feeds into a very particular interest in the city’s biological cycles, the hands-on development of an uncanny botany. As a complement to their other militant commitments, they created the Special School of Free Spaces (ESEL), a gathering of activists and neighbors who wanted to learn together about growing soil in wastelands. A lot of the work done with ESEL entails constructing soil on, and from, the crumbling concrete platform, to transform it into something like an interface of exchange, rather than the hard surface it once was. As they once explained to me: “We want to produce ideas, like you would when writing your thesis. But we want to do it by growing soils. We want to explore the art of soiling.” Léo and Henri do not just enjoy the aesthetics of these ruderal ecologies. They have become apprentices of the city’s queer ecologies.

Léo and Henri are far from being the only ones who want more soil and more gardens in the city. However, to them, making soil is what really sets their project apart from the many gardens that have opened in the last twenty years in Paris, which often rely on the bringing in of topsoil. Topsoil is the name used for the superior, fertile horizon of forest or agricultural soils. It is considered a construction material and is sold on the construction market. When a new garden is opened in Paris with the help of the municipality, the latter offers the soil as a courtesy—meaning it brings a few big bags of topsoil to the site to make sure vegetables aren’t

grown in polluted soil (Daniel 2015). This clean soil, however, is actually agricultural soil scraped off fields that have been preyed upon by property developers in the periphery of the city. There can be no such delivery of soil without the destruction of soil elsewhere. Commodified soil depends on the same business as that of urban sprawl and soil sealing. To Henri and Léo, making their own soil is, therefore, a way of contesting the recourse to commodified soil. It is a political gardening act. As Léo explains, “It annoys me that we move soil around like that, that we compact it, that we are not at ease with what we have already ... If there is no soil, it does not matter—we will build it gradually.” Soil construction is a vital practice to them, a weapon of choice against the transformation of the city into an abiotic, sealed, and mineral environment. In this place at least, no council worker will spread pesticides for a while. They can create a space for the city plants they like, where they can strive to form novel ecosystems.



**Figure 1:** Henri and the *Petite Ceinture* garden in winter 2013, not long after he started gardening on the old train platform. Photo by Léonard Nguyen Van Thé.

### **Noticing soils: The intruders' point of view**

We often tend to think of soil as something that sits in a place, or that even embodies a place such that it confers it its unique character, its identity. However, this idea of soil, as a well-defined, measurable skin of the earth, only recently emerged in the modern west, and is not shared by many peoples. The anthropologist Kristina Lyons (2014) explains that for the

Colombian farmers she met on fieldwork, “soil” is not a fixed entity that can be located somewhere on the farm. It is primarily an entanglement of relations that bring together the forest, farmers’ hard work, their hopes for the future, and the governmental politics that hinder these hopes. Likewise, Léo and Henri’s mode of pedological observation starts not by scrutinizing a specific spot but by walking around the city and observing how life develops in its cracks. Indeed, to guerrilla gardeners, soil doesn’t appear as something that sits in a place. It isn’t a terroir but rather a temporary knot of open-ended lines of life and materials. Their explorations of the art of soiling start not in the garden itself, but whenever they walk around in the city. Unlike the static gaze of landscape admirers, looking while walking prevents romantic contemplation. As Vergunst and colleagues note, “Vision during movement is not a singular gaze, but involves glances, distractions, and a specific and lively being-aware rather than the generalised awareness of consciousness” (2012: 7). Cultivating their passion starts with observing the city not just as a backdrop for urban (human) life (as critiqued in Stoetzer 2018: 299) but as a chaotic, ruderal, and spontaneous garden space. This change in perspective relies on their effort to see the city from the eyes of its intruders: the soil and flora that spontaneously appear between pavements, on roofs, or in gutters. This is very different from the kind of vision pedologists develop when looking at specific grounded entities such as soil profiles, but rather resembles the “precise modes of inattention” (Picard et al. 2016) that experimental artists such as Lois Weinberger deploy in following the vegetable exuberance in the fissures of urban modernity—modes in which the observer does not know in advance where to look in order to find ruderal communities.

Developing an art of noticing soils in cities means learning to pay attention in a world where what one is looking for has been carefully hidden away by asphalt and concrete. To Anna Tsing, the arts of noticing that we need in order to address the current ecological situation are directed toward “the divergent, layered, and conjoined projects that make up worlds” (2015:

22). They allow us to become aware of ways of life that have been removed from dominant narratives of progress, to retrace the effects that this ideology has on them, and to provide situated answers to situations of alienation. The hard surfacing of soils is an ideology of progress that makes us believe that we do not need muddy companions. But careful observation reveals that life continues everywhere in spite of it.

Hence, Léo and Henri's city is not one of forms and structures, but of compost. When they walk in the city, they look both up and down: to the roofs and to the ground. Soil for them can be in a gutter or a layer of decayed leaves on a roof, and high up on buildings. They spot every little plant and speculate on how it got there. They once brought me to a ruined building just to observe concrete decay, to contemplate how in cities the wind is one of the strongest soil-creating forces, as it carries dust, leaves, trash, and sand to corners and interstices where it gets trapped. Trash and dust are soon taken over by a host of organisms that start digesting them and transforming them into something else—something some are happy to call soil. Even in newer and well-maintained buildings and streets, once a crack appears in concrete, the dust that starts accumulating in it will benefit from the humidity and the heat the concrete stores during the day to develop into a young soil. In becoming an expert urban gardener, one develops an eye for this life that develops in city interstices. The city, then, takes on a whole new dimension. Far from the cold concrete façade that many see, it becomes one in which life is everywhere, weaving in and out of the mineral surfaces of the city. As Léo explains:

When you suddenly see trees of heaven, medlar trees and apricot trees that start growing altogether in the same spot in town, you can guess that there is some sort of soil and microclimate that enables this. Then when elsewhere, you see only dry liana plants, you know there is probably little soil depth, but you will still find mosses or other living things. There is always something going on.

To follow these materials and their transformations is to enter a world in formation—one in which the city is a socio-material composite, taking in processes of decomposition and recomposition that we might dare call pedogenetic. When they walk through the city, not only do Henri and Léo look at such micro-climates and the spontaneous flora they foster, they also intervene. When they can reach them, they prune trees or displace stones to protect plants and gather heat; they add compost; they collect seeds and re-sow them. Sometimes, they also dig up these plants to replant them by the old station.

### ***Growing soils: “Soiling mounds” and “dry-stone soils”***

In creating mound-gardens, urban gardeners emulate the processes of growth, degradation, and recomposition that they notice in their urban surroundings. For Léo and Henri, to construct soil is to resonate with the strange ecology of the place. Gardening and constructing soils, taken together, are means to reclaim the city through its strata, not just its surface and to further an understanding of plants and soils by constantly experimenting with them. They are both practices of knowing and of making the world. At the intersection of epistemology and ontology, they are “ontological politics” (Mol 1999) that shape reality as gardeners engage in soil knowing and making.



**Figure 10.2:** Léonard Nguyen Van Thé sets the first layers of a new mound on the abandoned platform. Shredded greens from the market mixed with straw or dried leaves will be placed on top of the cardboard layer. Photo by Germain Meulemans.

### **Soiling mounds**

Their basic reclamation technique consists in building what they call a *soiling mound* (in French: *une butte de sol en devenir*). Constructing such a mound starts with gathering rotten vegetables, discarded wood, leaves, or cardboard found on the streets. A mound's basic design is simple: it consists in laying a base of cardboard, then alternating layers of “green” matter such as fresh leaves to provide nitrogen, and layers of “brown” matter such as straw or dried leaves to provide carbon. The mound is then planted and left to develop. As seeds from the now fully degraded vegetables sprout and grow, they contribute to the degradation of the layers, which in turn become a fertile substrate for these plants. Once arranged in layers, the rotting

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materials ferment and interact with one another to form a new entity bursting with life: the juices of some smoothening others while the cardboard placed underneath retains nutrients. When the wet mix starts settling down, plants, bacteria, and fungi take up and continue the process, until all the rotting materials are digested down to a thick layer of fertile compost. The climate also comes into play. Water penetrates through the pores of decaying materials and further smoothenes them. With time, however, it also washes nutrients away. If left unattended, the mound eventually loses its fertile properties and sags down. At the time I worked with them, the fertile layer was still shallow and the mounds were quickly washed away or consumed entirely by the plants. The process of mound building thus had to be repeated every season, using the earth remaining from previous living mounds to infuse new ones with their microorganisms.

Constructing soil from and on the impermeable ground thus implies repeated work on the boundaries, limits, and surfaces of the garden. The boundary of the garden isn't marked by a fence but follows the surface onto which they can build and maintain a thick enough soil. To work on the limits of the garden is to work on the whole surface and the thickness of it, to make it more or less permeable and organic. In turn, the surfaces and boundaries that materialize through the growth of plants need care to maintain their existence. It takes constant rebuilding for this soil to hold. Far from being an isolated background in the landscape, it is what Galarraga and Szerszynski (2012) call a "metastable artifact" that can only hold because of the web of relations that traverse it. Its natural tendency is not to persist, and the plants can only exist "through the controlled exchange of material and energy with their environment" (Galarraga and Szerszynski 2012: 223). As a gathering that is greater than the sum of its parts, the *ceinture* soil is constituted by the intricate fold of material fluxes that circulate across and within it or are derived from it, and the constant re-doing of the soil by the gardeners and the environing forces are all at once what counts as gardening. Again, the *ceinture* soil isn't a

specific localizable entity, but a going-on, or “a place where several goings-on become entwined” (Ingold 2010: 96). It is a condensate of its surroundings that leaks outside of its space, as multiple trajectories are enfolded into it to give it its particular existence.

### **Dry-stone soil**

Among the various soil-building techniques used by Léo and Henri to build soil, the one that best exemplifies the intermingling of materials, recomposition processes, skills, and sociality is the making of what they call *dry-stone soils* (in French: *un sol en mur de pierres sèches*). These combine a lasagna bed and a dry-stone wall—a kind of wall made from stones assembled without cement, typical of rural regions in southern France and Europe, where it was long used to cultivate and stabilize mountain slopes. In the mountains, dry-stone walls are erected to build soil, retain it so it does not get washed away by the rain and wind, and drain it while also retaining a certain level of warmth and humidity. Dry-stone wall building does not separate horticulture from earthwork construction, architecture, and the force of plants, soil, and climate. In the mountains, not only do walls hold the soil that holds a grapevine or apple tree, the root system of the tree also allows the wall and the soil to hold together, and the heat stored by the stone wall, in turn, creates the conditions for the roots to thrive. Stones hold the soil, which holds the tree, which holds the stones. Léo and Henri learned from their observation of city recomposition cycles that the city is a lot like a mountain: “Just like in cities, a lot of mountain soil comes in carried by the wind and water. So peasants have to subtly capture this before it continues its course.” In the mountains, these walls are built from stones removed from the fields when plowing. They are built by “paying maximal attention to frictions between stones, which provide the stability of the whole, as if geological layers were there, re-woven by the hands of the peasant-builder” (Vidalou 2017: 37). In Léo’s case, the “stones” are technogenic—they are bits of crumbled concrete, bricks, and asphalt—but the building process is the same.



**Figure 10.3:** Léonard Nguyen Van Thé builds a dry-stone wall around a tree of heaven (*Ailanthus altissima*) on a brownfield site in Aubervilliers. The pit will later be filled with vegetable waste and dry leaves to make a bateau—a walled lasagna. Photo by Jens Denissen.

Dry-stone wall constructions are in fact an apt metaphor for thinking about anthropogenic pedogenesis, in which soil, plants, and human activity co-constitute each other in the making process. Indeed, on mountain slopes, the shape that a wall takes is organic; the tree and the weather are as responsible for it as is the human builder. It emerges not from planning but in the repetition of the building and rebuilding process, in the constant struggle with the forces of rain, wind, and gravity. As the philosopher and dry-stone mason Jean-Baptiste Vidalou explains, the dry-stone walls that pepper rural landscapes in southern France and Europe have nothing in common with what we call infrastructure, because they do not flatten the territory or participate in dreams of control. They have not been “designed following a pre-established

plan, but woven from day to day on and from the mountain of which they constitute a texture of subsistence” (Vidalou 2017: 37). This is perhaps why each dry-stone wall and terrace is contextual and different, as each “emerges from the local needs of a house, a hamlet or a village” (ibid.). They originate in toying around with the forces and materials at hand, in striving to stay one step ahead of the weathering process. As Léo explained to me, “It’s like homeopathy: peasants could not ‘treat’ the whole mountain and make it a field, so they work around every tree. It’s much-localized earthwork construction.”

In building a dry-stone wall, the forces of sun, rock, and recomposition are brought together. The wall emulates the conditions of cracks in concrete buildings in which wild urban plants normally grow—and it does it by reusing materials. Unlike narratives framing landscapes as deserts to be conquered, dry-stone soil-making leads one to become attentive to the conditions of a place, the materials it affords, and their potentialities. Making dry-stone walls is material poetry. It is to make worlds for soil’s entangled lines of life to thrive, to stop seeing the soil as a den of natural resources and start seeing it as a fellow being to learn from, to make kin with (Haraway 2016).

In the urban form of dry-stone wall-making that Henri and Léo developed, the concrete seal of the station platform and the excavated clay bricks are no longer what they were. They now hold and drain soil, and their interstices are soon inhabited by colonies of insects and fungi. Not only do plants, soil, and stones rely on one another in this arrangement: we can think of them as growing together, as undergoing a process of “conrescence” (Whitehead 1929).

### **The reanimation of soils, skills, and community**

Thinking about how soils not only grow but conresce, or grow-with, helps us think of soil as something that transcends boundaries between the material and the social, and to further question the prevalence of human agency in processes of making soils. In the gardens that

Natasha Myers studies, “it is not just the plants that are ‘cultivated’ or ‘cultured’ in gardens; the plants also remake the people who tend, harvest, and enjoy them” (2019: 126). We can connect this observation to the processual understanding of soil-making that I underline here by turning to Tim Ingold’s studies of makers’ and growers’ engagement with materials in art, archaeology, and architecture. Ingold relates the western dichotomy between making and growing to that between artifacts and organisms. We tend to think that artifacts are made according to an external organizing pattern while organisms grow according to internal organizing patterns (often identified with genetic information). The point for Ingold is to reverse the analysis of the making process from one based on the putting of raw matter into a form to one in which materials take their form in an unfolding field of forces, which includes both the properties of materials and the action of the maker. Thus, for him, artisans do not transform the system, but their activity is “part and parcel of the system’s transformation of itself” (Ingold 2000: 345). In this view, organisms too grow into shape, in a process that he describes as autopoiesis: “the self-transformation over time of the system of relations within which an organism or artefact comes into being” (ibid.). To emphasize that the gardener’s activity is part of a system’s larger transformation of itself implies that the life of the garden and that of the gardener are tied in a common becoming of which they both are the emergent results.

These loops of growth also imply human sociabilities and the many human neighbors of the *ceinture* garden. The *ceinture*, indeed, is far from being the vacant space that the city council sometimes speaks about. The *ceinture* garden neighbors one of the largest social housing estates in Paris, and for many teenagers who live there, the *ceinture* is a place to meet and relax. When Henri began gardening there, his compost box was regularly used by graffiti-makers as a stepstool to reach up higher. His lasagna beds were also regularly trampled by careless walkers or dismantled for fire fuel. However, instead of building a fence around his composting

box he decided to stop using it and try other composting techniques. He often explains that for him, graffiti-makers were only a problem until he remembered to think of them as part of the ecology of the site. Hence, trampling came to participate in shaping the mounds. The garden grows with trampling rather than despite it. Léo and Henri constantly rebuild their walls to follow the paths of walkers or to guide them when possible. The pathways that have to be observed are those of plants and the weather, but also of other humans, with whom it is important to “live alongside” (Latimer 2013). Gardeners learn to cultivate a “polite distance” (Candea 2010) with the many forms of sociability taking place on the *ceinture*, while remaining aware of the “the frictions, the rubbings, the hesitations that make [them] feel [they] are not alone in the world” (Stengers 2018: 81).

The story of the *ceinture* garden shows how the reclaiming of ruins can be something else than another story of inventing better techniques for building soil. Instead, it conjures up a sense of invention that places the emphasis on the shared creativity of people and materials. It isn't really that Henri and Léo invent new techniques. They rather *participate* in the invention of new reciprocal functionalities between organisms and materials. The kind of creativity at play encompasses more than just human invention. Hence, Léo and Henri build soils as participants in processes of growth, in joining forces with the active materials and activities at hand, by embarking on an adventure with them.

### **Conclusion: Growing with soil as becoming capable**

In the western world, city planning is currently undergoing an ecological turn. At the same time, it remains largely captured by the hegemonic forces of the state and capitalistic investment, which subtends an understanding of urban interstices and their soil as places to be conquered and policed. In this chapter, I have followed soil-making practices that thrive in the

cracks and fissures of the hierarchically planned city, participate in the emergence of concerned groups of people, and render palpable other possible ways of cultivating urban soils.

The chapter started with the movement of gardeners in the city and how they learn to focus their attention on plants and soils. It continued with the correspondence between the gardener's exploratory movements in the city and its materials. In this, skilled movements and materials converge in the building of a mound-garden. Learning to notice soil processes through walking in the city and growing mound-gardens go hand in hand. The making of a garden is based on processes in which the materials of the garden are active and have to be joined in their movements of growth. This refutes the idea of there being a superimposition of form and rather suggests forms of co-action. In soil-making, humans do not control these processes but strive to work with them, to collaborate with material flows, to vectorize (Gatt 2013) them through constant attention to a material arrangement. In this, Henri and Léo's skills, their relationship, and their knowledge grow together with a loose community of *ceinture* squatters and fellow gardeners.

Now, how can such engagement with a place's lines of life inspire ethnographers and cultural theorists? How might thinking about local practices of soil-building open our imaginations to other forms of living with the damaged soils of cities or postindustrial landscapes? For the great archaeologist and theorist of techniques André Leroi-Gourhan (1965), technology—the science of techniques—must start from the description of making processes—what he called the “operational sequences.” To him, careful descriptions of sequences of gestures and tools would make it possible to “dethingify” objects. They would show all the invisible moves and detours necessary for the existence of the setup, and provide a better basis for understanding than that afforded by a more formal analysis of the finished objects. Just seeing the finished boat-shaped dry-stone wall could lead us to think of its beautiful design, or to praise the intelligence of how it espouses the walking movement of passers-by. But its real beauty—as Léo attests every time

he talks about it—lies in the stories and journeys through which soil comes to be in this place. Léo and Henri’s following of materials and processes in cities, and their vectorizing in making soil for the *ceinture* garden, is exemplary of what María Puig de la Bellacasa calls ecological thinking: a way of thinking that is “attentive to the capacity of relation-creation, to how different beings affect each other, to what they do to each other, the internal ‘poiesis’ of a particular configuration” (2016: 52). Léo and Henri’s soils do not acquire “social meaning” after they are made. Rather, socialities, skills, and soils grow together in the permanent process of their making and remaking. They too undergo concrescence. The specificity of their way of making soil also lies in the unexpected associations that develop between the city’s activities, the soil, and the plants.

This is also how their practices can open up new political spaces through the cultivation of care and sustained attention to the meaningful networks that bring about soil on the *ceinture*. In contrast to engineers’ mode of reclaiming, inspired in the large-scale transformation of landscapes for human use, Léo and Henri’s reclaiming practices link to a healing impetus that goes far beyond the soil. To them, reclaiming does not link to a narrative of conquest or control over ruderal land, but resonates with the idea of becoming capable, of learning to be sensitive to what makes and unmakes living conditions for the city’s more-than-human life.

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## Notes

<sup>1</sup> Food Not Lawns is an international movement founded in Oregon in 1999 that aims to turn urban lawns into collective food-producing gardens (see Flores 2006).

<sup>2</sup> Ruderal is a botanical term that comes from the Latin word for rubble (*rudus*). It refers to organisms that spontaneously grow in disturbed environments usually considered to be hostile to life (see Stoetzer 2018).

<sup>3</sup> The chief of the “mission homeless” at the city council explains clearly in an interview (<https://youtu.be/sLcKaB2aigE?t=21m40s>) that the way in which the abandoned buildings of the *ceinture* can become dwellings for the homeless is a source of disorder, an endless problem that will only be overcome once the space becomes used by “the Parisians”—the other Parisians, the official ones. Opening the *ceinture* is, therefore, part of a strategy of occupation to prevent such “illicit” use.

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<sup>4</sup> Later, in 2017, Henri was eventually evicted for unpaid rent, and the place was soon occupied by new squatters. The garden is still in place, and Léo and Henri continue to build soil on the platform, even though access has been made more difficult.