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Bringing urban parks to life: The more-than-human politics of urban ecological work.

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Abstract

Using *gestion différenciée* in Geneva (Switzerland) as a case study, this paper puts the politics of labor at the center of a political ecological analysis of efforts to “ecologize” the design and maintenance of urban parks. The paper first highlights how the neomanagerial scripting of an “ecological” mode of managing urban parks reshapes social configurations of work by increasing the uneven distribution of agency and visibility among park workers. It then argues that ecomanagerialism also redefines the boundaries of the work collective itself, as plants shift from being understood as “undead commodities” to “non-human laborers”. In order to elucidate the social implications of the enrolment of plants’ capacities, the paper advances an understanding of urban ecological work as more-than-human. The paper discusses the role played by understandings of what urban nature should be, and what it should do, in producing and justifying new divisions, hierarchies, and forms of unevenness within the urban ecological workforce.

Keywords

Labor, non-human labor, plant politics, political ecology, urban parks.

Introduction

In 2012, Geneva's green space service announced the slashing of 23 gardeners' posts – an unprecedented layoff since the creation of the service in 1842. In the following years, as workers in the service took collective action – mostly in the shape of protests –, their union denounced the “de-greening” of Geneva's urban parks by publishing press releases showing before/after photographs of the city's parks and green spaces. On the upper part of each page was a photograph of a well-maintained grass area punctuated with flowerbeds or rosebushes; on the bottom, a photograph of the same area, this time just covered with plain grass. Two captions were attached: “the parks before, when there were enough personnel”; “the parks now, without personnel”ⁱ.

This “de-greening”, or the reduction in flowerbeds and horticultural motifs, is a central aspect of a new maintenance approach, called *gestion différenciée* (literally: “differentiated management”) whose adoption coincided with the decrease in workforce. This approach aims to nurture parks' varied contributions not only to social life and heritage – as is the case with more conventional “horticultural approaches” – but also to urban biodiversity. As green space managers explain, *gestion différenciée* allows moving away from understanding parks as standard “green surfaces”, highlighting instead the multiple forms of human and non-human life that make them. An oft-overlooked aspect, however, is its contribution to new modes of governing the workforce. Invited to present Geneva's approach to *gestion différenciée* at the 2016 annual awayday of the francophone branch of the Swiss Association of Park and Green Space Servicesⁱⁱ, the service's adjunct director summarized: “Geneva's green space department is evolving. From a maintenance focus, with localized visions and standardized practices, we are moving towards a more managerial philosophy”ⁱⁱⁱ. *Gestion différenciée*, he continued, is playing a central role in such a transition: it is not just a means to bring about a more ecological

mode of maintaining green spaces, but also of deeply transforming the service's approach to resource and workforce management.

This paper uses *gestion différenciée* as a case of urban “eco-managerialism” – an approach to ecologization that is strongly shaped by neoliberal managerialism (after Daniel 2010). It shows that the combination of the ecological with the managerial shapes not only the types of urban ecologies produced, but the distribution of agency and visibility among the workers within the service, and the very boundaries of who counts as one.

A growing body of work is examining the labor involved in maintaining urban space and infrastructures (Strebel 2011; Fredericks 2017), including parks (Heynen, Perkins, and Roy 2007; Krinsky and Simonet 2017). Interestingly, as far as parks are concerned, little attention is paid to the difference that recent ecological understandings of them – as biodiversity hotspots, “green infrastructures”, and “nature-based solutions” (Nesshöver et al. 2017) – make to maintenance labor. However, evidence is suggesting that these new understandings of what parks are, and should be, for are redirecting work from “maintenance” tasks, towards more ecological interventions. Some work has shed light on the experience of green space professionals having to integrate new ecological knowledge (Arpin, Mounet, and Geoffroy 2015). Yet such scholarship has paid little attention to the way institutional transformations – including service restructuring, new management practices, and budget cuts – shape workers' integration of these new ecological ways of knowing urban nature.

This paper examines the politics of work within efforts to “ecologize” urban green space maintenance. It makes two contributions towards a political ecology of urban ecological labor. Firstly, by examining the new work configurations and relations that *gestion différenciée* in Geneva deploys, the paper highlights inequalities and unevenness in the distribution of expertise, autonomy, and capacity within work collectives which emerge from the managerial

scripting of urban ecological management. Secondly, the paper argues that the renewed work relations discussed are predicated on a new understanding of what urban nature should be able to *do*, and what role it should play within laboring relations. It shows that the boundaries of the work collective are enlarged, as urban plants shift from being understood as “undead commodities” to “non-human laborers”. In order to elucidate the social implications of the enrolment of plants’ capacities, the paper advances an understanding of urban ecological work as more-than-human.

“Metabolising” Urban Environments: The Work that Makes Urban Parks

Complicating mainstream narratives of urban parks as generous compensation for capitalist driven urban change, the last ten years have seen the development of an interdisciplinary *park politics* scholarship. Often drawing on a Foucauldian governmentality framework, work in this field has shed light on urban parks’ role in structuring social relations and producing subjectivities (Gabriel 2011; Certoma 2013; Sevilla-Buitrago 2018). Other important pathways opened by this scholarship have revolved around the impacts of political economic transformations on what parks are and who they should be for. These works have included critiques of the “eventification” of park management and funding (Ernwein and Matthey 2019; Smith 2019), of the role of parks and other green spaces in “green gentrification” and private value generation (Krinsky and Simonet 2011; Kotsila et al. 2020), and of the rise of volunteering and the private sector (Perkins 2009; Gabriel 2018) in parks provision, and their impact on parks design and landscape (Gabriel 2016).

Within such scholarship, the experience of those who, through their daily maintenance work, “[bring] to life” (Strebel 2011, 244) public parks, is increasingly coming under scrutiny. The distribution of work and expertise within Milwaukee’s Bureau of forestry, for instance, was shown to be shaped by racial discrimination, leading to a comparatively diminished ability of

black and other minorities to shape the urban canopy, including in predominantly black neighborhoods (Heynen, Perkins, and Roy 2007). Parks also work as magnifying lenses for investigating the impacts of the neoliberalization of urban services on the rights and working conditions of urban service workers. Whether it is through mobilizing a “volunteer” workforce to “beautify” areas, maintain flowerbeds, and perform conservation (Rosol 2012; Gabriel 2018), resorting to workfare agents to pick up litter, clean toilets, and perform all kinds of “dirty jobs” (Krinsky and Simonet 2017), contracting-out specific tasks to private landscaping and garden service companies (Dempsey, Burton, and Selin 2016), or off-loading park management altogether to third-sector organizations and their privately employed workforce (Krinsky and Simonet 2017), the figure of the publicly employed park worker is under attacks from all sides. Such fragmentation of public service work dramatically increases workers’ precarity, and reproduces class-, gender-, and race-based patterns of inequality (*Ibid.*).

Together, these publications raise attention to the way in which the labor required to produce and maintain urban space, including apparently “benign” spaces such as parks – in contrast with more explicitly “toxic” or “degraded” types of infrastructural work (Fredericks 2018) – reproduces and reinforces patterns of inequality and discrimination; they also show how the neoliberalization of urban services further reinforces them. Of course, none of the processes described here are entirely specific to parks; they are experienced by urban service workers across the board, from garbage disposal workers (Miraftab 2004; Fredericks 2018) through to librarians (Hitchen 2019). However, the boundary nature of park labor – associated here with the *leisurely* activity of gardening, there with the *dirty job* of maintenance and cleaning, and there with *highly-skilled*, technical labor – seems to render park workers particularly vulnerable to the fragmentation of their statuses, work conditions, and available protections.

One aspect which merits further investigation is the role of specific horticultural, arboricultural or landscaping paradigms in engendering different types of inequalities within the workforce

– shaping, for instance, the distribution of rights, agency, and expertise among workers. Specifically, as parks, which used to fall under the category of “horticultural” or “decorative”, are reframed through the lenses of “urban biodiversity” (Legrand 2015), “green infrastructure” (Wilson and Hughes 2011) or “nature-based solutions” (Nesshöver et al. 2017), new management paradigms are emerging, which put greater emphasis on ecological knowledge and data, and rely on an ecological, rather than horticultural, skillset. Working in close conversation with anthropological scholarship on enskillment (e.g. Ingold 2000; Peltola and Tuomisaari 2015), an emerging body of literature is shedding light on the ways in which, in order to adapt to ecological norms pertaining, for instance, to the banishment of pesticides, urban horticulture professionals are having to integrate new modes of feeling and sensing their workplace (Arpin, Mounet, and Geoffroy 2015). Focused as it is on the experiential dimensions of urban environmental work, such work has paid little attention to the way in which structural institutional transformations – including service restructuring, new management practices, and budget cuts – shape the ability of different segments of the workforce to, for instance, gain the required new skills. In other terms, an important avenue lies in understanding how the entanglement of new ecological understandings of parks with neoliberal approaches to service delivery –captured by the term eco-managerialism– shapes the politics of work within urban park services, and, ultimately, the “metabolization” of urban environments.

Eco-managerialism, work collectives, and the non-human: A political ecology of urban ecological labor

In his work on agri-environmental policies in the Netherlands, environmental sociologist François-Joseph Daniel argues that the “simultaneous emergence of environmental policies and of injunctions to performance [has tended to] naturalize the idea that environmental conservation has to be achieved through managerial techniques”^{iv} (Daniel 2010, 160). In the Netherlands specifically, eco-managerial techniques take the shape of contractualisation and

performance monitoring: environmental action is contracted out to farmers, who are bound to environmental performance targets set and monitored by the state. In his work, Daniel “investigat(es) the nature of new social configurations that such injunctions contribute to generate” (2010, 161)^v, focusing in particular on the establishment of farmers’ cooperatives and their relation to the state’s managerial framework. The present paper presents parallels with the Dutch case discussed by Daniel. In Geneva too, (urban) environmental policies (specifically: urban biodiversity policies) co-emerged with, and are deeply shaped by, the adoption of managerial administration techniques. Following Daniel, the paper investigates how the managerial scripting of ecologisation (re)shapes the social configurations within, and the boundaries of, the work collective.

My approach to analysing the politics of urban ecological work is shaped by political ecological engagement with Marxist labor theory of value (see e.g. Swyngedouw 2006). Work in this area examines the ways in which different modes of organization of labor underpin the metabolic transformation of nature and allow or disallow its commodification (Smith 1984). A key topic in this literature is the (re)production of structural inequalities through the production of “nature”, including through apparently environmentally progressive processes of reforestation (Ekers and Sweeney 2010) and urban afforestation (Heynen, Perkins, and Roy 2007). In this paper, however, I show that the neoliberal-managerial scripting of urban ecological management does more than reinforcing exogenous social categories (such as race, class, and gender) within the workforce: it is also productive of new *endogenous* categories within the work collective. Here, the paper focuses on the re-articulation and re-hierarchization of skills, gestures, and ways of looking among workers. It highlights forms of inequalities and unevenness in the distribution of expertise, autonomy, and capacity within work collectives, which emerge from the managerial scripting of ecologization.

The paper, however, does not take the work collective as a stable object. Instead, it shows how it is actively re-made to include new, non-human actors. By discussing the role that urban eco-managerialism assigns to non-humans in the work collective, the paper offers a stronger problematization of the role of “nature” in work relations. Here the paper takes inspiration from the more political-economically informed strands of more-than-human geography (e.g. Braun 2015), particularly around the concept of non-human labor (see e.g. Barua 2017; Porcher 2017; Besky and Blanchette 2019), to conceptualize urban ecological work as more-than-human. Whilst informed by a range of different theories, the notion of non-human labor sheds a renewed light on Marxist labor theory of value, which it criticizes for restricting non-humans to the role of passive resources or instruments of production. Circus, laboratory, hunting, or cinema animals, critics argue, are in fact much more than passive capital: they are patiently put to work, whether through coercion or collaboration. Such scholarship remains mainly mostly, if not exclusively, focused on animals (though see: Hetherington 2018; Paxson 2018; Palmer forthcoming). Following Harold Perkins (2007), in this paper I extend this conversation to the plant realm. I discuss the implications of new forms of valuation of plant life, as they are shifted from *undead commodities* to *lively laborers*. The paper discusses the implications of such an idea by engaging specifically with the concept of “hybrid labor”. Advanced by political theorist Alyssa Battistoni (2017), this concept serves to counter the “new conservation” vocable of ecosystem *services* and natural *capital*. Valuing non-human activities as *work* instead of *services* or *capital*, Battistoni argues, raises questions about the appropriate social relations of compensation, care, and value that should be preserved to set up and nurture non-human labor-power; it also opens up new avenues for thinking about modes of collective bargaining or “demand[ing] collective deliberation and negotiation over how nature should be valued” (Battistoni 2017, 23). Yet, whereas Battistoni uses the concept to stimulate a more imaginative mode of collectively deliberating over the valuation of non-humans’ activities, I argue that it

can also serve to highlight how attention to modes of putting non-humans to work can help renew our understanding of the production of social inequalities. Acknowledging explicitly the more-than-human character of labor, I argue, could inspire modes of bargaining and collective action that both celebrate decommodified, livelier urban ecologies *and* politicize the ways that different types of labor are (in)visibilized and (de)valued.

Gestion différenciée à la Genevoise : ecologically-minded, management-oriented

In the francophone green space sector, *gestion différenciée* has become a shorthand for more “ecological” approaches to park management and the production of more biodiverse or “lively” urban parks (see Menozzi 2007; Le Crenn-Brulon 2011; Arpin, Mounet, and Geoffroy 2015; Ernwein 2016). In contrast with the high degree of standardization (of species, design, and maintenance practices) that characterizes horticultural approaches to green spaces, the guiding principle of *gestion différenciée* is diversification. Its core principle is the attribution to each municipal site of a code: in Geneva, grade 1 spaces are characterized as “intensive”, grade 2 as “functional”, and grade 3 as “extensive”, following a gradient from the more intensive, or horticultural, to the more ecological, forms of care. These codes are the result of a process of aggregation and prioritization of information pertaining to the site’s history (e.g. a park’s role in local heritage), its usage (e.g. intensive or not, for leisure or sports), and its aimed ecological value (protecting a species, enhancing a biotope). Each code, in turn, informs landscape architects about the types of plants they can include in the site’s vegetal design, and workers about the maintenance practices they must adopt – for example, planting perennials on “functional” plots, or cutting the grass using a scythe (instead of a lawn-mower) on “extensive” ones.

The Swiss city of Geneva was something of a late adopter of *gestion différenciée*: whilst her neighbor Lausanne adopted it as early as 1992, Geneva did not follow before 2004. The catalyst

then was the coming implementation of the Federal Ordinance on the reduction of risks linked to chemical products (ORRChim 2005). This bill, which was to come into force across the country in 2005, was to introduce stricter regulation of the usage of chemicals – its Appendix 2.5, for instance, explicitly forbids the usage of herbicides on most public spaces. With their monospecific lawns, horticultural flowerbeds, and intolerance towards so-called “weeds”, horticultural green spaces had until then been highly reliant on chemical inputs. While, in the years leading to the adoption of ORRChim, alternative weeding techniques had been experimented with (including burning undesirable plants with either a flame or steam), Geneva’s green space service eventually gave up on their relentless fight against weeds; instead, they resorted to rethinking the spatial allocation of human resources, leaving some spaces to non-human processes, focusing time and energy on weeding in others. At about the same period, green space professionals noted the vulnerability of the then relatively standardized and poorly biodiverse green spaces to parasites and invasive species (Fall and Matthey 2013; Ernwein and Fall 2015). The diversification of species of trees, shrubs, and hedges and of their maintenance appeared again as a solution. *Gestion différenciée* was seen as the right medium through which to implement a systematic approach to both ecologization (of maintenance practices) and bio-diversification (of species of trees, flowers, and shrubs).

In order to design the city’s *gestion différenciée* plan, a new head of service was appointed in 2004. In the previous years, she had built a regional reputation by designing the *gestion différenciée* plan of a town in the nearby region of Haute-Savoie (France). In Geneva, she oversaw the systematic classification of all plots of land under the responsibility of the green space service and the definition of what each should be for – an increase in biodiversity, intensive use by families, or the preservation of heritage, for instance. The resulting plan comprised six classes of plots, each subdivided into two, totaling twelve different types of plots. Depending on what one plot was to be for, maintenance instructions would differ,

indicating for instance whether the grass would be cut six, nine, or fifteen times a year. The plan was received rather coldly by the employees, and after a highly conflictual four years, a new head of service was nominated, with the mandate to revise this initial *gestion différenciée* plan. There was now a sense that more work had to be done on the workforce itself – the organization of the labor force, the distribution of expertise, and the valuation of existing and new skills – for *gestion différenciée* to be accepted by workers. The new head of service focused the first four years of his mandate on restructuring the strategic office of the service and preparing a version 2.0 of *gestion différenciée*, which he would later describe as “management-oriented”. Importantly, in Geneva, and perhaps in Switzerland more broadly, service management is *not* performed by a generic *management* profession. All of Geneva’s green space service directors to date have been trained in landscape architecture. This might account for the fact that the recipes and discourses characteristic of new public management did not radically come to restructure the governance of public services as early on and with the same force as in other contexts.

The managerial re-scripting of *gestion différenciée* also owed to the election, in 2012, of a new magistrate at the head of the administrative department in which the green space service sat. Through his personal trajectory, he had become particularly influenced by what he deemed to be “American” modes of governing urban services (Ernwein 2017). Together, the new head of service and head of department started transforming the service in such a way that *gestion différenciée* became the angular stone allowing more flexibility to be built into workforce management. The new magistrate also introduced project-based and event-based management, increased private-public partnerships, and introduced new modes of thinking about the potential contribution of corporate social responsibility to the maintenance and upkeep of parks.

In 2012, the elected head of department was also at the origin of a larger-scaler urban service overhaul, which gave a final new framing to the new *gestion différenciée* plan: the transfer of 23 posts to the road maintenance service. For the first time since its creation, the green space service was to have its workforce cut down. Ultimately, between 2010 and 2016, due to new acquisitions the total land surface maintained by the service increased by 10 percent, while between 2011 and 2016, the workforce decreased in the same proportion, dropping to 204 (fte) from 228. These workers are in charge of the 310 hectares of parks, 40 hectares of forests and 40,000 trees within the city boundaries. The need to manage increasing surfaces of green spaces with a decreasing workforce was therefore at least as crucial to the elaboration of the second, more managerial version of *gestion différenciée*, as ecologization had been to the first.

So, managerial *gestion différenciée* was not the simple, straightforward result of a generic management consultancy work. But as importantly, neither was it the first ever attempt at rationalizing green space management. Although often described by current managers as the era of reactive “maintenance” instead of proactive “management”, the previous decades had in fact been subjected to a series of “rationalization” efforts. In the 1980s for instance, the service had conducted an active policy of mechanization and standardization, which consisted in buying larger tractor mowers, increasing the capacity to chemically treat parasites and plant diseases, and planting “homogenous series” of trees and plants^{vi}. In the 2010s, the new wave of “rationalization” that came under the guise of *gestion différenciée* was in some ways also driven by a modernist agenda of objectivation and quantification, embodied in the categorization and cartography of all surfaces. However, it reversed many of the previous principles of rationalization, suspending for instance chemical treatments and replacing standardization with diversification. Importantly, a greater emphasis was put on the workforce as the locus of rationalization, which a new discourse of targets, optimization, and evaluation illustrates.

Methodology

This paper draws on three types of sources. The central piece of the fieldwork was a four-month participant observation conducted within one of Geneva's green space service's units. The unit included fifteen staff – trained horticulturalists, landscapists, and arboriculturalists, as well as grounds maintenance staff and cleaners. This part of the research aimed to gain an in-depth understanding of how the new approaches to urban green space management were being embodied in instruments, modes of organizing labor, and work practices. Many of these observations were filmed as part of a reflexive, collaborative project; a 20-min research film was produced, which was discussed during two focus groups -- one with members of the direction of the service, and one with the workers within the field crew. Secondly, twelve individual, semi-structured interviews were conducted with administrators, managers, and elected representatives within and at the head of the service (n= 6), as well as workers within the team that had hosted me for four months (n= 6; average experience in the service: 12 years; minimum: 4 years; maximum: 20). These helped to generate further in-depth discourse on the evolution of policies and management practices, and on the ways in which such evolutions were experienced across different categories of workers. These semi-structured interviews covered the interviewees' professional trajectories and histories in the service, and the changing nature of relations to non-human nature, work tools, colleagues, and the public; the interview structure left room for individuals to bring in their own interpretations and additional topics. Interviews with staff were conducted towards the end of the participant observation period, and therefore drew on tacit understandings and connections developed during the long period of time I had shared with my interviewees. Finally, the analysis draws on paper and digital materials (including for instance PowerPoint presentations and brochures), either given to me by interviewees or collected on the service's website. These were analyzed using critical discourse analysis, which pays attention not only to contents, but also to stylistic effects, the

situated position of enunciation, and the performative dimension of speech and text. Most of the material was collected between 2012 and 2014, with some also additionally collected in 2016 whilst doing follow-up research. In order to help the readers to situate the social position of interviewees, I indicate the position held by each within the service. Field workers are given pseudonyms, and members of the direction are differentiated with a letter – a difference which reflects the different natures of my relations with these research partners.

Eco-Managerialism in Action

The elaboration of a city-wide *gestion différenciée* plan transformed the distribution of agency within Geneva's green space service. Whilst previously described as “highly decentralized”^{vii}, the service underwent a wave of recentralization. The latter entailed a radical shift in force between hierarchical levels, as the “office”^{viii}, where planning is conducted, saw its workforce increase by 18.5 percent between 2011 and 2016, at the very time the field personnel underwent an 11 percent decrease^{ix}. This quantitative shift underpins deep qualitative transformations in modes of planning and designing parks and green spaces and managing the workforce. As this section shows, *gestion différenciée* was enrolled in producing new endogenous distinctions among the workforce, resulting in a more fragmented collective and a disintegrated workplace.

Shifting Forces, Recentralizing Agency

Prior to *gestion différenciée*, frontline workers had typically been working on the basis of tables, elaborated by unit foremen, listing the tasks that *should be done* week by week within any given park. *Gestion différenciée*, on the other hand, was conceived in the perspective of replacing this tick-box approach with a target-based one. Starting with defining what each plot of land *should be* and mapping what *should exist* – as a target against which work could then be monitored –, planners identified the steps that would lead to these prefigured objectives taking actual shape. The rigorousness and exhaustiveness of such work was pitched against the

informal decisions among the field workforce which had thus far largely been informing maintenance:

[The workers] consider all tasks to be a priority. They are fundamentally almost too conscientious. It is our duty to tell them “look, this is not a priority; this, and that, are the priorities. And secondarily that and that. And only thirdly that”. Because, intuitively, they don’t set the priorities where I would. So, a good management tool helps us to orient the workers in the right logic, at the right moment, in the right place. (Member of the direction a, 2013)

The vocabulary used to describe the workforce suggests how different types of knowledges and experience are pitched against each other, within a framework that valorizes management-informed views at the expense of more experiential, place-based knowledge. The formulation of the management plan required an intensive work of surveying, diagnosing, mapping, and design. Articulated with the standards, diagrams, and jargon borrowed from management science, the data produced helped office employees to “creat[e] management tools and maintenance plans”, which would allow workers to make informed decision as to the “right moment” and the “right place” for each intervention.

In order to monitor such achievements and make workers’ *individual* and *collective* efficacy measurable and visible, the service introduced a new set of instruments. At an individual level, a tablet-based app monitors work. At a collective level, the efficacy of the different crews of gardeners is monitored, both through site visits and through monitoring the means used by each team to achieve similar targets:

With a management tool, I can gain a precise sense of the workload of each team, and show to the heads of teams: “here we have a problem: if we compare your

domain with that of your colleague, how come there is such a discrepancy in the number of hours or the cost of tasks?” (Member of the direction a, 2013)

Prior to the adoption of *gestion différenciée* in 2004, many *design* decisions had also lied in the hands of unit foremen. The design of flowerbeds, for instance, would have been their responsibility: they would have picked among and combined different varieties of annual flowers provided by the service’s horticultural production center, to produce site-specific designs. With *gestion différenciée*, the category in which a given plot falls dictates what can or cannot be done within its boundaries – including what kind of arrangement of plants a flowerbed could or not include. Office employees therefore also took on flowerbed design, and foremen are now merely tasked to supervise the layout of sequences that they don’t contribute to designing. For field workers, the task has little by little become restricted to setting up.

Producing a Specialized and Stratified Workforce

The need to perform new techniques, informed by ecological management, also justified the deepening and multiplication of differentiations within the field workforce itself. The ecological understanding of green spaces that underpins *gestion différenciée* – more diverse in species, less reliant on intensive forms of care – informed the replacement of many horticultural, annual plants with perennials and grasses, particularly in grade 2 and 3 spaces. With them came the need for maintenance techniques requiring skills other than purely horticultural: new grassy meadows were to be cut using scythes instead of mowers, and the conventional end-of-season uprooting of annual plants was replaced by the pruning and multiplication of perennials. Within a predominantly horticultural profession, many of these skills signified a radical rupture in professional identities.

Insert Figure 1

Figure 1: The return of the scythe, a novel approach to grass maintenance in Geneva's parks.
Photo SEVE/Magali Girardin.

Taking stock of the resistance of workers towards the first version of *gestion différenciée*, which had been imposed uniformly upon the whole workforce, service managers instead split the workforce into specialized segments, so only *some* of the workers would be concerned with changes. The 27 existing crews, focused on each of the city's larger parks, were re-grouped into 13 larger units, within which “[the service could] now have an increasing logic of *métier* and competency” (Member of the direction a, 2013). Field workers, which had thus far been expected to be polyvalent and generalist, were now to specialize: some would perform ecological tasks, others horticultural work, others yet, grounds maintenance and cleaning. These new distinctions helped to make the workforce more manageable but were also instrumental in producing consent – specifically by ensuring that some employees would still have horticulture and maintenance at the core of their work and not feel alienated.

This specialization-oriented approach reshaped power relations amongst field workers. What each worker gets to specialize on depends on whether one is a *gardener*, and holds a degree in either horticulture or landscaping, or a *help-gardener*, and doesn't. Among the former, some have been offered the possibility to specialize in more ecological management, while others keep taking care of the more conventional horticultural plantations. The new “ecological” practices have thus produced new distinctions within the field teams, and these are met with ambiguity. Indeed, whilst many horticulture specialists cherish the possibility to keep working within the remits of their initial discipline, some feel that the emergence of new “experts” within the field teams, specialized in the more “innovative” ecological practices, has left them in an inferior position, where, in order to learn and keep up with the changes, they depend on the willingness of their new “expert” colleagues to share their knowledge and skills:

There is more knowledge required for the care of perennials, so it's rather more for people who are specialized. If you don't have specialized knowledge, you have doubts [...] Annual plants are more or less all the same in terms of maintenance, and we know them better and have been dealing with them for longer. Perennials, on the other hand, sometimes have specific needs, there are things you can do to some and not to others [...] But we aren't told, we aren't trained, so even if we had time and were keen, it's difficult to know what to do. (Gaetan, Gardener, 2013)

The less qualified category of help-gardeners, meanwhile, saw its work refocused on the more maintenance-oriented aspect of work, e.g. mowing lawns, clearing paths, and sweeping walkways. Yet within this category of workers, too, a new distinction was produced, between *maintenance* workers and *cleaners*, in charge of waste removal and all other tasks not directly linked with the vegetal. In addition to the difference in status, cleaners were to work on shifts disconnected from the rest of the workers' working hours:

[...] our idea is to create, within the service, cleaning specialists, who are only tasked with cleaning, whose responsibility it is to ensure parks are clean throughout the day. This way, qualified workers, horticulturalists, can do their professional work from the morning on [...] [These cleaning specialists] will perhaps work in shifts: someone who works from 6am until 2pm, and then another one who starts at 2pm until 8 or 9pm, so that strategic sites remain clean until late in the evening, including weekends. (Member of the direction a, 2013)

In other terms, whilst *gestion différenciée* introduced a wider range of designs, and allowed for more ecological forms of care towards plant life to find their place, it simultaneously rigidified boundaries among the workforce between that which relates to the ecological, the horticultural,

maintenance, or cleaning, and created new endogenous sources of distinction and inequalities among the workforce.

Fragmenting Work

Now working within larger areas, the specialized workforce is increasingly fragmented, both *spatially* and *temporally*. Within the *gestion différenciée* plan, not only is each park being attributed a general orientation – intensive, functional, or extensive –, but within each, plots are also differentiated. This means that workers are now required to come back to any given area any number of times to attend specifically to some plots, and not others – because they require different types of or height of blades for instance:

To sum up, in earlier times we would have gone to a school, mown all lawn patches, and left. Now we go to a school, we have to ... mow the universal lawn one week, and two weeks later, whereas we could have done everything in one go, we need to come back to mow the flower-lawn. Which means we need to come back two or three times to the same place. But then, it allows us to have flower meadows, so perhaps it's a necessary evil. (Pierre, gardener, 2012)

Because they now work within several parks at once, workers are also increasingly required to walk or cycle greater distances between similar work stations, for instance between flower meadows scattered across three parks. In the face of increased mobility requirements, the service has invested in e-bikes and small electric vehicles, allowing the time spent travelling to decrease. However, the issues identified by workers can't all be solved by fluidifying mobility. Many of them had developed an understanding of their work as a set of holistic interventions on a specific place. With *gestion différenciée*, this sense of spatial wholeness decreases: when a day's labor is dispersed across four different parks, in which work is

fragmented into small plots, workers struggle to visualize their achievement, and sense a lack of continuity and legibility of their own work:

For us it's not easy to have small zones left to grow into meadows, and other small zones intensively maintained. It would make it easier, from what I hear from my colleagues, to have one large area of flower meadow, and then a park entirely well maintained, with no events, to have a well-structured park. Because we always want to turn our work into an art piece! That's what makes it enjoyable. Currently it's not the case. (Igor, gardener, 2013)

Therefore, workers might be more specialized and have a greater knowledge of how to perform a specific and limited set of tasks, but many of them report losing a sense of the overall picture.

Insert Figure 1

Figure 2: Differentiated grass management in one of Geneva's cemeteries. Photo Marion Ernwein.

Ultimately, the paradigm shift, away from horticulture and towards ecological management, offered ground for restructuring the service and implementing a series of new endogenous differences, distinctions, and hierarchies. The horticultural tradition relied on a standardized approach to park planning, but allowed incremental adaptation and some degree of creativity within a decentralized service; it also afforded staff with a generalist, holistic view of “their” park. With *gestion différenciée*, a much more diverse, and to a large extent ecological, mode of management is introduced; yet it is predicated on the recentralization of decision-making and the increased specialization and mobility of staff, and the fragmentation of their tasks – resulting in a lesser sense of ownership of the place and lesser cohesion.

“Optimizing Resources” through “Vegetal Intelligence”

In August 2016, during a press conference, the green space service’s adjunct director described the other facet of *gestion différenciée*: its recourse to “vegetal intelligence”:

“On the one hand, we are optimizing resources and materials. On the other hand, we are now giving more room to vegetal intelligence [...] [which] contributes to the reduction of our maintenance tasks” (in de Weck 2016)

In recent years, plant intelligence has gained traction both across a range of natural and human sciences and in popular “science-” and “nature-” writing. Research into plants’ sensory capacities and communication modalities has pointed to the problematic anthropocentrism of current understandings of intelligence, cognition, and agency in human sciences, and has called for an extension of their meaning beyond the animal realm (Marder 2013). In Geneva, the “vegetal intelligence” the adjunct director refers to is constructed around the recognition of specific plant capacities (see also Atchison and Head 2013; Head, Atchison, and Phillips 2015). In this section I show that under the umbrella of “plant intelligence”, plants are increasingly recognized as *laborers*. In the following section, I then highlight how the harnessing of their labor is tied to the transformations of work previously discussed.

20th Century urban greenery had predominantly been conceived as a *still life* (Arpin, Mounet, and Geoffroy 2015), with annual and biannual flowers among its most important features. Purchased by green space services from horticultural firms at various stages of their life (from seedling to adult plant), these flowers are watered, fed, repotted, re-repotted, and trimmed, until they reach their adult stage. At that point, referred to as “finished” plants, they can be transferred outside of the polytunnel, and into their final destination: a flowerbed. Once planted, these flowers are expected to stay in the same stable state the whole season through, before being removed, composted, and replaced with new, and just as still, flowers, purchased

again from the same companies. They are *undead* commodities: while, like other lively commodities, their value is derived from their “remaining alive for the duration of their inclusion in the commodity circuit” (Collard and Dempsey 2013, 2684), it in fact resides in their capacity to stay alive *without showing too much liveliness*. An interviewee explains how flowerbeds made of such plants are designed as *compositions*:

We would create grids, so we would make lines, and plant 1-2-3-4-5-6, 1-2-3-4-5-6, 1-2-3-4-5-6, then the next line we plant 3-4-5-6, 3-4-5-6, 3-4-5-6, and so on, so we would get a bed with structure, with volumes and depths. (Marc, manager, 2013).

With *gestion différenciée*, only grade 1 spaces still include such static lines of “finished”, stable plants. In grade 2 and 3 spaces, the concept of composition is replaced by that of *association*, and perennial and grassy plants are favored over horticultural, annual plants, in order to produce “livelier”, “lighter”, and more interactive designs:

Ten years back, we were still doing very Swiss flowerbeds, with straight borders, with marigold and geranium. Those were very strict beds. Now, we are starting to design much livelier, much lighter ones. And this year, as a novelty, we have changed the conception of the Wilson bank, with two thirds of perennials. (Olaf, foreman, 2013).

Commenting on this evolution, the service’ adjunct director told me that: “time ha[d] come to stop using flabby plants and instead adopt perennials” (Member of the direction c, 2016). The French word for perennial is “vivace”, with the prefix “viv-” referring to “life”. The contrast between “living” perennials and “flabby” horticultural plants highlights the new hierarchy between plants capable of expressing lively characters, and those that (apparently) aren’t.

Insert Figure 3

Figure 3: Perennial flower bed. Photo SEVE.

Horticultural greening equally relies on a dichotomy between desired undead horticultural commodities and less-desirable, proliferating “weeds”. With *gestion différenciée*, this view shifts, as the spatial capacities of spontaneous plants start to appear valuable. “If we call them spontaneous plants, we can rethink how we live with them”, Pascal, a gardener, tells me; and a large-scale convivial experiment in Geneva’s cemeteries illustrates this. In 2010, the green space service decided to green the 25 hectares of cemeteries owned by the City Council. There was a long way to go, as most of cemetery surfaces were then covered with gravel. “Greening” in such a situation would conventionally consist in removing most of the gravel, adding in vegetal soil, and sowing lawn. However, a botanical survey revealed that rare varieties of lichens were thriving in these gravel-covered cemeteries. It recommended that greening be made compatible with the preservation of lichen life, in particular that no soil be added, or gravel removed. Forced to respond creatively to the challenge, the service studied the spontaneous flora that was growing in the more remote, and less maintained, areas of its cemeteries. Based on these observations, it designed a mix of species deemed able to green the cemetery while respecting lichen life. Some areas were seeded with such a mix, while in others, maintenance of the gravel was simply put to an end, and spontaneous grasses and flowers were allowed to *reclaim* surfaces – at their own pace^x.

Insert Figure 4

Figure 4: Spontaneous plants are allowed to reclaim the paths in Geneva's cemeteries. Photo Marion Ernwein.

In sum, *gestion différenciée* marks a shift from valorizing “finished”, stable plants and pictorial approaches, to acknowledging and using plants’ capacities. The recognition of plants’ capacities is resulting in them not being seen as mere *undead commodities*, bought to retailers, and replaced at the end of each season, but as capable *lively beings*. The animate, interactive character of the ground-covering, spontaneous, and perennial plants becomes the target for discourses and interventions that exploit not just these plants’ *being* but their lively *embodied potential*. I suggest that plants’ embodied potential is in fact another name for their labor power – “the aggregate of those [mental and] physical capabilities existing in a [plant] being, which [they] exerciz[e] whenever [they] produc[e] a use-value of any description” (from Marx 1937[1867], 186). Looking at the social and economic role of elm trees in the development of capitalist cities in 19th Century US, Harold Perkins (2007) suggests that while exploited via the “social labor” of tree surgeons, trees are not just “dead labor” (Kirsch and Mitchell 2004); rather, as living organisms they also perform the “‘work’ of growing”. Such work, he argues, is key to the creation of a green “consumption fund”, in the form of shade and cool air, for the reproduction of urban workers’ capacities – in other terms, of capitalism’s means of production (Perkins 2007, 1157). Not all trees and plants, however, are asked to perform the “work” of growing in the same way, as I have just demonstrated. Extending to plants Tim Ingold’s contention that “animals are not inherently laborers, and they are sometimes enrolled in a work situation as something else than a laborer’ (Ingold 1983, 147), I suggest a distinction between two modes of enrolment of plant metabolism: as *undead commodities*, and as *lively laborers*. These two forms of enrolment constitute two singularly distinct modes of extraction of value from planty non-humans. Each requires different types of interventions and care and fits differently within existing divisions of labor, as the following section will suggest.

Resocializing Non-human Labor

If plant intelligence is valorized and plant capacities harnessed, it is in the singular context of “resource optimization” heralded by the service’s management team – a point illustrated by the adjunct director’s combination, in a single sentence, of “we are optimizing resources and materials” and “we are now giving more room to vegetal intelligence”. With its dichotomy between the “social labor” of tree surgeons and the purportedly “non-social” labor of trees, Perkins’s conceptual proposal offers little ground for problematizing such an intricate relation between modes of exploitation of the labor of humans and non-humans^{xi}. Alyssa Battistoni’s (2017) notion of *hybrid labor* is more apt to shed light on the place of the work of plants within a wider more-than-human division of labor. “Scholars are beginning to highlight the human labor and care that go into maintaining ecosystems, granting these often invisible forms of work critical recognition”, Battistoni writes, “but we must also recognize the generative, productive forces of ‘nature itself’ as part of this labor” (2017, 20). In this final section, I show that placing non-human labor not as “nonsocial” but “as part” of a labor process that is always-also social allows shedding a new light on the production of discipline, order, and consent in the workforce. Whilst the concept of hybrid labor might help to highlight the “collective, distributed undertaking of humans and non-humans acting to reproduce, regenerate, and renew a common world” (Battistoni 2017, 5), attention to the “distributed undertaking” of labor in the urban environment also helps to renew our understanding of the way in which unequal work relations are produced.

In a context of decreasing field workforce, Geneva’s green space managers expect perennials’ living and reproductive force to allow gardeners to spend less time doing *maintenance* work. Annual horticultural plants are commonly pulled out and replaced at the end of every season, a task which involves pulling out plants and their root systems, piling them up, picking the piles, and transporting them to a composting center, and plowing, fertilizing, and raking the

soil to prepare the ground for new plantations. With perennials, these labor-intensive tasks are spared – which workers link explicitly to the concomitant reduction in workforce:

This is now the first year that we introduce perennials into flowerbeds. Big novelty. So let's see what comes out of it. We'll observe the changes. But it also contributes to the reduction of work. A planted perennial doesn't require to be planted anymore. You have to take care of it, of course, but you don't need to plant it anymore. [...] Clearly, we need to do our job with fewer people. So solutions have to be found. After optimizing the workforce, our tasks are now changing. (Igor, gardener, 2013).

The emphasis on planting is not anecdotal. For several weeks, at the start of June, teams pause their maintenance work to focus all their energy on uprooting and replanting flowerbeds. For the new annuals to be delivered in the right place, and at the right time, foremen also need to coordinate with the service's production unit, to book lorries, and to schedule the transfer of plants from the polytunnels – located outside of town – to flowerbeds. With perennial-based flowerbed design, the labor of changing flowerbed appearance at the start of each season is largely devolved onto plants themselves, some of which might be grassy one part of the year, and flowery during another, but all of which will ultimately come back to life after the winter months. Furthermore, the human labor required to nurture perennials – pruning, multiplying – requires much less logistics; and instead of disrupting the normal flow of labor, it can be *built into it*. In that sense, labor is not simply *devolved* onto perennials. Rather, perennials' lively capacities are utilised to decrease disruptions in the workflow and render work more fluid.

Because perennial plants are expected to stay in the ground for several years, great care is required when picking and choosing where they should be installed. Data collection and observation is required, so as to schedule the right intervention at the right time and optimize

the plants' life conditions. Cut a flower meadow too early, and it won't reseed itself. Cut it too late, and you risk rot and disease. In both cases, the meadow will need reseeded, a labor- and resource-intensive process that the service attempts to avoid as much as possible. In other terms, nurturing these ecologies requires cultivating a certain type of worker subjectivity – the attentive, mobile, flexible worker, who will render themselves available when and where needed, rather than tick the types of boxes that caring for highly standardized taxa allows. By adopting these new planting practices, therefore, managers ensure that the new ecomanagerial ethos is not just nurtured through new workforce management instruments, but also cultivated through the specific demands that carefully chosen plants place upon the workforce.

On the ground, the enrolment of plants' capacities within the new version of *gestion différenciée* has sparked a crisis of visibility. On the one hand, the tools and instruments developed by management to distribute work and monitor gardeners' labor – specialization, increased mobility, monitoring, comparison of teams' performances – render the latter hyper-visible to their hierarchy. On the other hand, the more-than-human expansion of the work collective is deemed by some to render gardeners' and plants' work alike paradoxically *invisible*. Whatever it is that plants do within this new framework, most park users are not equipped to see it as such. As for human workers, not only does their specialization increase their travels and decrease their visibility in specific sites, but the labor they deploy to accompany plants' work is itself felt to be little tangible to park users. An employee reflects on the increased observation work required:

We used to plant flowers in lines, with specific distances. Now lines are over. We had to change our mental program. It was difficult at first not to make lines anymore, it took us some time. Then, it happened that a plant would take over another one, that some plants would die asphyxiated. At the beginning, there were some reactions, our colleagues said: 'that's not possible, it won't work', but that's

just how nature works. If one plant risks taking over another one, we let them do.

And we wait to see what happens. (Igor, gardener, 2013)

Such work is less visible to lay observers than the physical labor involved in pulling out weeds or adding compost to the soil. Speaking of a park he used to work in, another employee shared his fears that his and his colleagues' labor was being made invisible by flourishing flower meadows and extensive grass areas:

We should be careful that it does not all go feral (*sauvage*), because honestly, in [that park], with the high grasses, I haven't heard many positive things. First, it saddens me, because having worked in that park when it was all well mowed and nice, or at least in general all well mowed and nice, I think it's a bit of a pity to let it be like this. It really looks abandoned. There was also a time when it wasn't being watered, and it looked like all the gardeners had died. (Gaetan, gardener, 2013)

Thus, many workers fear that *gestion différenciée*, its renewed aesthetics, and its reliance on plants' capacities, renders them even less visible to the public than they already feel they are, which adds up to a general feeling of only being seen when labor fails.

Together, the empirical materials discussed in the section highlight the need to understand *jointly* emerging modes of extraction of human labor and new understandings of what nature *does*. To highlight how plant life is used to fluidify the workflow. To identify how optimizing plant performance entails transforming workers' subjectivities. To illustrate how the expanding boundaries of the work collective cause anxiety about work's visibility. That is, to understand the production of eco-managerialism from the roots up.

Conclusion

Using *gestion différenciée* in Geneva as a case study, this paper put the politics of labor at the center of an analysis of efforts to “ecologize” the design and maintenance of urban parks and green spaces. The paper highlights how the neomanagerial scripting of an “ecological” mode of managing urban parks both reshapes social configurations of work and redefines the boundaries of the work collective itself by expanding it into the non-human realm. It advances an understanding of urban ecological work as more-than-human.

Empirically, the paper worked in three stages. First, it examined the way in which structural institutional transformations shape how ecologization is performed. It highlighted forms of inequalities and unevenness in the distribution of expertise, autonomy, and capacity within the work collective, which emerged from the managerial scripting of urban ecological management. It demonstrated that understanding the politics of labor in green urban infrastructures requires taking seriously both the role of horticultural/landscaping paradigms themselves and that of the broader political discourses and political-economic forces that shape their application.

Second, the paper argued that the work collective itself should not be taken as a stable object, as the renewed work relations discussed are in fact predicated on a new understanding of the role of non-humans in the work collective. The shift from *green* to *ecological* understandings of parks grounds new understandings of what urban nature is capable of doing. With the re-scripting of non-human capacities as valuable contributions to the design and maintenance of urban parks, the apprehension of urban plants shifts from undead commodities to vegetal laborers.

Finally, the paper shed light on the role played by this new way of harnessing non-human capacities in reshaping the work collective and work relations. The more-than-human politics of urban ecological labor are examined in the light of an expanded concept of hybrid labor

(Battistoni 2017), to argue that understanding the politics of urban ecological work requires attentiveness to the implications on human labor of the enrolment of plants as capable beings. Neoliberal managerialism, the paper argued, is performed through and with plants, some of whose behaviors are used so as to produce new working subjectivities.

Ultimately, the paper demonstrates that even apparently celebration-worthy changes in modes of maintaining urban space, namely the ecologization of park maintenance, are shaped by modes of thinking about and governing urban services, which are highly uneven and hierarchical in nature. Dwindling public budgets, the traction of neoliberal-managerial modes of government, and increasing expectations of a more ecological approach to maintenance coalesce and produce eco-managerial tools like *gestion différenciée*.

The paper highlights the importance played by understandings of what urban nature should be, how it can be known, and what it can do, in producing and justifying new divisions in the workplace. Clearly, the role of new understandings of urban ecology in reshaping labor conditions needs a stronger acknowledgement and ambitious research agenda. Research should contrast modes of urban ecologization that emerge out of different political economic conditions – from the entropy by design (Gandy 2013) and cultivated ferality (Rosenberg 2018) of the neoliberal city to austere logics of abandonment – and the implications that has for workers' agency. More political-economically informed examinations of the more-than-human politics of cities are also needed. Particularly, whilst plants and their politics are increasingly recognized by cultural ecology/geography (Head et al. 2016), the contribution of vegetal lifeforms to uneven urban political economies still largely remains to be examined. This paper suggests one avenue for doing so.

For Battistoni, naming the activities and functions of ecosystems *labor*, and not, say, *services* or *capital*, opens up pathways for gaining collective bargaining power over modes of valuing

these activities. Acknowledging explicitly the more-than-human dimension of labor in Geneva's green space service could inspire modes of bargaining and collective action that both celebrate urban ecologies and politicize the way they are valued and used to govern human workers. Geneva's public workers' union's strategy to lament the "de-greening" of public parks might in that sense not be the strongest. Instead questions could be asked about whether the *other*-greening that is performed hinders or else enhances freedom, creativity and empowerment, of both human and non-human workers.

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ⁱ SSP-VPOD, CP SEVE, SIT (2014) *Communiqué de presse: Service des Espaces Verts (SEVE), vers un déverdissement de la ville?*.

ⁱⁱ Union Suisse des Services des Parcs et Promenades (USSP).

ⁱⁱⁱ Ville de Genève (2016) *La gestion différenciée au SEVE*. Presentation at the Journée Technique Suisse Romande USSP, 01/12/2016.

^{iv} Original: "L'apparition plus ou moins simultanée des politiques environnementales et des injonctions à la performance tend à naturaliser l'idée selon laquelle la gestion de la nature s'incarne invariablement dans ce cadre managérial" (Daniel 2010).

^v Original: "il convient d'interroger (...) la nature des nouvelles configurations sociales que ces injonctions contribuent à générer" (Daniel 2010)

^{vi} Archives de la ville de Genève (2017) *Notice d'autorité - Service des espaces verts et de l'environnement (SEVE)*, p. 5.

^{vii} *Ibid.*, p. 8.

^{viii} The service is divided into three units: the "office", which is the strategic organ of the service; the production unit, made up of the horticultural production center and the tree nursery; and the maintenance unit, made of park-based teams.

^{ix} In absolute terms, the "office" underwent an increase from 8.6 to 10.2 fte employees, whilst admin staff decreased from 12.1 to 9.5 fte, and field staff from 207.3 to 184.6 fte. Source: Ville de Genève, *Organigramme du Service des Espaces Verts*, 2011 and 2016.

^x This idea of living "with" weeds in a new way has one exception: species deemed "invasive". As I have written elsewhere, these are the only exception to the "zero-herbicide" rule (Ernwein and Fall 2015; Ernwein 2016). In Geneva, the mobilisation of plants' capacities is not explicitly made in the perspective of biological pest management; however similar discourses and processes are found where that approach is adopted – see Ernwein and Tollis (2017) for a comparison of *gestion différenciée* in Geneva and biological pest management in Grenoble.

^{xi} This critique extends beyond Perkins's work. By focusing on a demonstration of animals' capacity to labour, most existing work (e.g. Barua 2017) does not engage with the intricate relation between the exploitation of human and non-human labor.