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Streets as new places to bring together both humans and plants: examples from Paris and Montpellier (France)

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Streets as new places to bring together both humans and plants: examples from Paris and Montpellier (France)

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Greening public city space is a growing issue in France. With examples drawn from Paris and Montpellier, this article seeks to understand what happens when city-dwellers green the public space outside their door and when policies encourage spontaneous flora on the street. Plants were already part of ancient cities and have been a tool for urban planning since the nineteenth century leading to the development of public green spaces and street-tree planting. Urban ecology sparked an interest for spontaneous flora in the 1980s. Public policies concerning water, climate, and biodiversity have been trying to take this unbidden vegetation into consideration since the beginning of this century. Besides, the social sciences have shown that city-dwellers are interested in plants to embellish their balcony, and in city gardens and parks. We tried to find out if this vegetation can be more than just a tool to plan, to green, to bring biodiversity, and to beautify urban space. We argue that letting planted and unbidden flora colonize sidewalks and allowing people to act directly on it brings residents and plants to co-inhabit and co-domesticate the streets, and challenges the timelessness of a city by introducing a life cycle.

Key words: city greening, street tree gardening, unbidden/spontaneous flora, urban flora, streets, France.

Introduction

Cities have often been considered as ‘against’ nature (Younès 1999) or as artificial, nature-less areas hostile to nature (Clergeau 2008). Yet, plants, trees, and animals have always been more or less present in the urban environment, whether uncontrolled and thus dispersed across the urban landscape, or through the intervention of humans and thus restrained in some defined or reserved areas.

In Western European cities, since the middle of the nineteenth century, special attention has been paid to plants as a means for innovation in town planning (Lawrence 2006; Stefulesco 1993). In France, public city parks and street tree plantations were promoted after the French Revolution; in addition to beautifying the city, they were supposed to enhance the well-being of city-dwellers and to change the practices of the lower classes by giving them access to outdoor spaces in which they could

engage in new types of activities (Beck 2009; Strohmayr 2006). This concern about introducing vegetation in cities has become more relevant nowadays, given the increasing urban population, which now represents more than half of the world population, 73 per cent of the European population (Starke 2007) and 77.5 per cent of the total French population in 2007 (Clanché and Rascol 2011). The sustainability of cities is thus a fundamental issue, resting, among other things, on the presence of green areas, in particular to counter ‘city heat islands,’ which make cities much warmer than suburban areas (Starke 2007). The presence of green spaces is still viewed as an environmental improvement in poor neighborhoods with poor green space provision, where residents cannot leave the city easily (CABE 2010; Wolch 2007).¹ Greenery is also considered a means to produce a livable city by providing access to creativity and possibilities to adapt to urban life through an esthetically-enhanced environment (Blanc 2010) and gardening activities (Baudalet, Basset, and Le Roy 2008; Seymoar, Ballantyne, and Pearson 2010). In addition, the emergence of urban ecology in the 1970s prompted an interest in urban biodiversity and ecosystem assessment (Francis, Lorimer, and Raco 2012; Head 2007). Thus, greening cities could also help to improve biodiversity.

While Bonnini and Clavel (2010) infer that it is difficult to conceptualize nature and cities together because of our dualistic thinking, Whatmore and Hinchliffe wonder how these ‘other city inhabitants [...] can be so routinely overlooked’ (2003: 137) and argue that since the UN Environment Programme expressed an interest in the introduction of greening in urban policies in the 1990s, this opposition between the built and natural environments has been challenged. In a similar way, Bickerstaff, Bulkeley and Painter remark that: ‘[...] it is no longer possible [...] to talk about the urban

and the natural as antagonists’ (2009: 595) and Heynen, Kaika, and Swyngedouw state that ‘the urban world is a cyborg world, part natural/part social, part technical/part cultural, but with no clear boundaries, centres, or margins’ (2006: 11). To deal with this urban complexity it then appears important for social scientists to follow Hinchliffe and Whatmore’s recommendation (2006) to focus on how citizens engage with plants. A pluridisciplinary ethnological–ecological research (2009–2012), aiming to describe and analyze the ecology, management, and uses of street tree pits in Paris and Montpellier, gave us this opportunity. These two cities were chosen because ecologists perform, on a yearly basis, a long-term study of the growth of spontaneous flora in 450 tree pits in Montpellier and 1,500 in Paris (Maurel et al. 2013). The City of Auxerre, well advanced in testing various kinds of plantings for tree pits maintenance, was also part of the study. Sixty-eight people were interviewed (43 in Paris and 25 in Montpellier) in the form of very short street interviews. Thirty-six semi-structured long interviews (29 in Paris, 5 in Montpellier, 2 in Auxerre) were carried out with the managers of the cities, associations, and residents. In addition, we focused on how citizens interacted with plants, and we attended and took part in the planting and maintenance of street tree pits. A historical investigation was also carried out in order to underline changes in the ways of dealing with vegetation in these cities.

The article is the outcome of this research and seeks to analyze the impact on residents, city officials, and plants when a green issue is introduced in a city. It aims to show, on the one hand, that vegetation is more than just a tool to plan, green, bring biodiversity, and glamorize urban space. Through their greening practices, residents are domesticating public space by turning streets into more than mere

anonymous spaces of mobility, making them actual dwellings and inhabited spaces (Ingold 2005, 2008). This domestication leads also to resident control of other uses of streets considered less acceptable, such as drinking, shouting, sleeping, urinating, etc. Besides, the City² is learning to share with citizens its role as a producer of public space. On the other hand, the article aims to underline how streets are producing their own flora—taking advantage of various policies and human practices—and previously unbidden flora³ is becoming urban nature, challenging the timelessness of a city by introducing a life cycle in its densest core.

The various phases of the relationship between city planning and vegetation are described in the first part of the article.⁴ We point out how trees and gardens have been included as part of urban furniture and services in town planning and management since the middle of the nineteenth century. We also highlight the rise of a larger consideration for spontaneous vegetation since the end of the twentieth century. This helps to clarify the function and the status of greenery throughout these two last centuries. As vegetation colonizes streets, it moves from being a mere tool to being an integral part of the city, and from being viewed as unbidden flora to being valued as urban biodiversity. Streets are then thought of as possible greenways. Therefore, this evolution affects street management as streets are very complex to deal with, considering first the number of city departments involved in their management and maintenance, second the number and the flow of city-dwellers, visitors, pedestrians, drivers, cyclists, etc., and third the different uses of and behaviors on streets. The consequences of this complexity are analyzed in the second part of the article. We emphasize how street management tries to take into account both the spread of urban biodiversity and sidewalk safety and cleanliness. Finally, based

on various observations of citizen practices, the third part of the article focuses on two consequences of this greening of public space for streets, people, and plants. On the one hand, this greening leads to an empowerment of residents in public space and to the taming of the city institutions. On the other hand, greening participates in creating urban nature. This urban nature cannot exist without citizen and municipal institution interventions, and thus cannot be considered as either natural or wild. Streets are thus transformed from spaces of mobility into dwelling places where passers-by and residents interact beyond the usual urban ‘civil inattention’ (Goffman 1963), and plants become part of the street, transformed in an urban greenway. In conclusion, we emphasize that urban greenways should be questioned not just as a way to introduce nature in cities but also as a way the city, citizens, and other living beings may interact. This interaction produces an urban-specific flora, neither entirely dependent on external green resources provided by the greenway, nor solely planted by residents or the City. Finally, this flora—considered as part of the city and not just as a tool—contributes to introducing a life cycle in streets which questions city institutions and citizen acceptance of signs of decay in the streetscape because Western cities appear as a metaphor of eternal youth, always operational, cleaned-up, and green.

Trees and plants, from town planning to urban biodiversity

Usually, urbanization is seen as the sealing of soil, transforming it into hard surfaces, but vegetation has always been an integral part of cities. In ancient cities, plants and trees were introduced for various reasons: to protect against the sun, rain, and hot air; to enhance religious temples; to provide wood in case of a

siege; or as war treasures (Faghih and Sadeghy 2012; Gleason 1994). If European medieval cities contained vegetation, it was in private gardens, and trees began to be introduced in public spaces in the middle of the sixteenth century mainly on top of or along fortifications in Italian cities such as Lucca, Siena, Florence (Lawrence 2006). These military zones became then attractive places for citizens to walk. Later, fortifications were replaced with tree-planted boulevards like in Paris in the middle of the seventeenth century (Lawrence 2006). More recently, two great achievements can be identified that have been favorable to the growing of plants in French cities. The first one is the Haussmannian urbanization—driven by the influx of people into cities due to the industrial revolution, whose needs had to be taken into account (Lawrence 2006)—which placed trees on wide streets and promoted the development of green areas during the nineteenth century. These policies have been continued throughout the twentieth century. The second achievement is the rise of policies dealing with climate, biodiversity, and urban greenways at the beginning of the twenty-first century, which emphasized, among other things, the role of spontaneous flora. We will highlight two main consequences of these turning points: the introduction of vegetation in the dense city center, and a consideration of unbidden flora transformed into a desirable spontaneous one, part of urban biodiversity.

Trees and gardens as tools for town planning

In the nineteenth century under Napoleon III, Haussmannian urbanization rapidly and deeply modified the city, especially regarding mobility: ‘During the 19 years of its existence,

the Second Empire transformed its capital from a (largely) medieval city into a modern metropolis, chiefly by facilitating flows of various kinds to improve the circulation of goods, people and capital’ (Strohmayer 2006: 559). By organizing the city around major routes, this new type of urbanism turned the open spaces left in-between buildings, previously considered merely as voids used for various purposes, into channels mainly to facilitate pedestrian and vehicular traffic (for trade and troop movements), referred to since the 1970s as public space (Fleury 2009). As the various *arrondissements*⁵ were renovated and the bordering cities were annexed, the organization of vehicular and pedestrian circulations was facilitated by the creation of sidewalks, whose total length reached 1,000 km at that time (Landau 1993) and 2,900 km today (Road and Transport Department Internet Website). Although considered as unbuilt space, the sidewalk is filled with diverse objects characterized as urban furniture: benches, fountains, street lamps, etc. The trees, planted along boulevards and avenues, were part of this furniture to the point of becoming national landmarks: ‘Perhaps the strongest association with a national culture is that of the formal tree-lined boulevard with France’ (Lawrence 2006: 8). Following the French Revolution, people obtained access to the big aristocratic parks such as the Tuileries and the Luxembourg gardens, but it was street tree planting together with the creation of new green spaces which provided them with opportunities for rest and recreation in their own neighborhoods. Just like planted avenues, these public parks aimed at getting the working class acquainted with the art of strolling (Beck 2009; Montandon 2000) and other codes belonging to the elite (Byrne and Wolch 2009) rather than spending time drinking in ‘the *guinguettes* or cabarets with

their morally suspect qualities' (Strohmayer 2006: 564). Besides being places where people could get some fresh air and relax in a manner considered as healthy, these spaces were designed to be areas of social exchange and of moral benefit for the lower classes (Beck 2009). Therefore, the Buttes Chaumont park opened in 1867 in the north of Paris, the Montsouris park in 1878 in the south, and various smaller public gardens were created in each *arrondissement*.

Plants have thus been granted a role in French urban settings, alongside built elements; they must, among other things, contribute to the beautification of the city, to the well-being, health and education of the public, and to keeping peace in social relations. Vegetation has also become a sort of enhancement for buildings and thus a source of added-value, a capital gain on real estate (Choumert and Travers 2010). Its distribution in the city is well thought-out and its presence has become a criterion to measure the quality of urban living. Since the 1970s, France has defined the livability of cities according to a certain inhabitant-to-green area ratio: 'the ministerial circular letter of February 8, 1973 [...] stipulated the surface area of green spaces: 10 m²/inhabitant in the centre of the city and 25 m²/inhabitant on the outskirts' (IAU 2009). This led to a second wave of garden creation in Paris in the 1980s (APUR 2011). Rows of trees were also planted both in newer neighborhoods such as Antigone in Montpellier, whose construction started in 1977, and on those Parisian streets which were deprived of trees due to their narrowness and for which smaller tree species are now selected.

In addition to trees, since the 1970s, the City of Paris has been installing large flower boxes to beautify avenues. Nowadays, smaller flower boxes are built on streets, mostly following requests from residents who want

to restrict public behavior they deem as inappropriate, such as ball games, loitering, sleeping, urinating, and littering. Moreover, since 2011, Parisians have been able to vote for projects they want their *arrondissement* to implement in public spaces.⁶ Fleury argues that 'Public spaces are increasingly planned *for residents* [...] and *by residents* themselves, who are now involved in the decision process at the expense of transient users or of those considered as 'undesirable' (homeless, 'drunk,' 'drug addicts,' etc.)' (2009: 539). The strategies residents use to control their immediate living environment and impose their own vision of proper uses could be compared to those of the nineteenth century, when green parks and tree planted boulevards were used to educate people. They also contribute to the introduction of vegetation in the streets and to plants being thought of, like trees, as tools to manage streets, to beautify the neighborhood and to encourage street users to be mostly passers-by or transient users.

Plants and cities are linked together, therefore creating the idea that plants, like buildings, can be calibrated according to the plan of the city and used as an instrument to fulfill its needs and those of its citizens. The trees are planted at a certain distance from the buildings and pruned so as not to interfere with buildings, pedestrian, or car traffic as they grow. They are considered, along with green spaces, as added beauty, offering moral value, shade, and freshness, and contributing to better air quality, through the absorption of CO₂ (Forrest and Konijnendik 2005; Stefulesco 1993; Tzoulas et al. 2007).⁷ Still, Paris remains very dense, with only 5.8 m² of green space per inhabitant today, 14.5 m² when the two forests on the outskirts of the city are included. In comparison, other French and European cities provide many more green public areas: Montpellier offers 37 m² of green space per inhabitant; London, 45 m²; Vienna, 131 m²;

and Rome, 321 m² (APUR 2004). Some *arrondissements* in Paris provide less than 1 m² of green space per person. Thus, finding additional room to increase the potential greening of a city is still an important issue and a challenge.

Street trees and flower boxes contribute to the urban architectural design as much as buildings. There is also a type of uncontrolled vegetation which grows in the cracks of the asphalt, between the cobblestones of sidewalks, in street tree pits and flower boxes, on walls and in all the places where seeds can lodge themselves and grow (Lundholm 2011). Urban ecology is increasingly interested in this unbidden flora. Drawing attention to it through scientific and participatory inventories for data collection, urban ecology contributes to making its presence visible and to giving it a value as urban biodiversity.

The emergence of urban biodiversity

Vegetation has always grown in cities, not only in a domestic form as a tool for town planning but also unbidden. This is a long-standing phenomenon. Wall flora has been recorded since the seventeenth century on church or monuments walls, in streets in various cities of Europe (Lundholm 2011; Sukopp 2002) and is now studied as an urban ecosystem (Francis 2011). In France, the Parisian botanist L'Héritier identified more than a hundred species in 'Flore de la place Vendôme' in the 1790s (Cuvier 1861). This observer established a link between urban plant growth and the frequency of street use, the neighborhood having been deserted after the French Revolution (D.A. 1882: 237). Similarly, the nineteenth century engineer of the City of Paris, Bechmann, observed that little maintenance and infrequent street circulation allowed one to see

'grass growing between the joints of the cobblestones or on the stone-paved sides of the streets' (Bechmann 1898: 22). This relationship is still observed today; if people stop frequenting a given space, vegetation will start to grow and flourish, as observed by the French landscape architect Gilles Clément in an interview in 2011 ('Ville Fertile' exhibition, Cité de l'Architecture, Paris). Some authors pointed out the evolving status of this flora through time for various categories of observers (naturalists, politicians, residents) (Lizet 1989) as well as the evolving terminology used to qualify species diversity in an urban context (Sukopp 2002). The development of urban ecology since the 1980s (Adams 2005) has given a nobler status to this unbidden flora, emphasizing the fact that 'wild'⁸ life exists in cities, identified today under the name of urban biodiversity (O'Connor 1981; Sukopp and Werner 1982), and should be protected even if it is not directly useful to urbanites.

At the end of the twentieth century, European and French preoccupation with water protection, climate, and biodiversity issues, triggered debates about vegetation in public spaces. The European Water Framework Directive (2000), implemented in 2004 in France, prompted cities to reduce and even stop herbicide use to decrease water pollution. The City of Rennes in Brittany was one of the first to commit to this, reducing its herbicide use in 1996 and stopping it completely in 2005. Montpellier began to reduce its use of pesticides in 1992 without stopping totally and so did Paris in 2002. Climate plans aiming to reduce city heat islands, and biodiversity plans, aiming to make cities harbors for indigenous species (adopted respectively in 2007 and 2011 in Paris and in 2009 and 2010 in Montpellier), consider plants as efficient temperature regulation tools, and, at the same time, entities to be protected or favored.

The presence of this growing vegetation no longer goes unnoticed. It has been legitimized by public policies and some landscape architects have extolled the esthetic virtues of these unkempt elements in the cityscape (Fazio 2008). A city biodiversity index was created in 2009 to 'assist cities in the benchmarking of cities' biodiversity conservation efforts over time.⁹ Observatories of urban biodiversity are being established in order to register which species live in the area, and where. In France, the first one was created in 2005 by the Department of Seine-Saint-Denis.¹⁰ In 2012, Paris initiated its own observatory (Plan Biodiversité de Paris 2011). Because spontaneous flora has been granted value as an element of biodiversity these previously unkempt spaces may now be seen as valuable.

In addition, at the end of the 1990s, cities, in their search for more sustainable forms of development, integrated the notion of green networks (Ahern 2004) as a town and country planning tool which allows the simultaneous planning of both built and unbuilt spaces. Yet, in 1987, a recommendation was made by the US President's Commission on American Outdoors Report which advocated for 'a vision for the future: A living network of greenways ... to provide people with access to open spaces close to where they live, and to link together the rural and urban spaces in the American landscape ... threading through cities and countrysides like a giant circulation system' (President's Commission on American outdoors 1987: 142). In 1995, the European environmental ministers validated the elaboration of a pan-European ecological network. Cities then implemented the notion of 'habitat corridor' used in landscape ecology (Dramstad, Olson, and Forman 1996; Ménard and Clergeau 2001), a field of ecology which studies the connectivity between natural spaces. A subfield of landscape ecology which

focuses on urban habitat emphasizes the role of cities in reducing biodiversity because of habitat fragmentation and thus the importance of the creation of an urban greenway, which could contribute to both biodiversity and recreation (Clergeau and Blanc 2013; Timmer and Seymoar 2005). This idea has slowly been incorporated in urban planning through the urban green network, and cities might now be viewed by urban ecologists no longer as a problem but as part of the solution to ecosystem fragmentation. In this context, streets and street trees represent an important medium. Thus, greening the streets would meet not only the urban biodiversity requirements but also the more general biodiversity ones by 'hiding'¹¹ the city with greenways.

Under the influence of urban and landscape ecologies and policy planning, therefore, two changes occurred. The first change is that unbidden flora is now known and studied as spontaneous flora, and hard surfaces are considered as real ecosystems. The second change is that streets are becoming important in a greening scenario. In the second part of the article, we describe the consequences of this greening of streets thought of as possible habitat corridors, drawing examples mainly from the City of Paris. We question whether both city requirements and urban biodiversity issues can be managed simultaneously on streets and how.

Streets for the city and urban biodiversity

In the preface to the 2007 edition of the 'State of the world,' Christopher Flavin, the president of the Worldwatch Institute, underlined the importance of these urban spaces which are usually not thought of in terms of their impact on the rest of the world: 'It is particularly ironic that the battle to save the world's remaining healthy ecosystems will be won or

lost not in the tropical forests or coral reefs that are threatened but on the streets of the most unnatural landscapes on the planet' (Flavin 2007: xxiv). Even with increasing attention to the presence of spontaneous vegetation in cities, it is not easy to introduce green issues in the management of streets, the busiest and largely paved part of the city. As pointed out by the historian H.W. Lawrence (2006), if it seems normal to see street trees today, their introduction on sidewalks was not self-evident in the nineteenth century because of the inconvenience they represented. But the advantages they provided led to their lasting presence. To conciliate tree survival, tree beauty, street cleanliness and street safety, many adjustments were made (mainly in the pit) during the nineteenth century (Pellegrini 2012).

We first describe the pressures suffered by streets due to their main function as facilitators and regulators of traffic, ensuring safe mobility. This is why every element must be in its right place, and plants on sidewalks, not being perceived as such, tend to be considered weeds. As streets are also becoming a subject of interest for urban ecology, we follow by focusing on street tree pits which are now thought of as potential shelters for vegetation under the condition that street maintenance be adapted and coordination between city departments be enabled.

Streets as a safe and clean space of mobility for all citizens

In Paris, as in many large cities, streets are dedicated to traveling and moving from one place to another through various means (Soulier 2012; Terrin 2011). Streets are rarely planned to provide resting or meeting areas even if this is an emerging concern in Paris. The French urban anthropologist Colette

Petonnet describes public spaces as producers of anonymity 'because they are transient spaces in which people are constantly renewed and where social constraints are weak' (1987: 5). She explains that because the homeless harm this anonymity, as they can observe the comings and goings of people as they remain in the street, their presence is not tolerated (*id.*, p. 6). Nowadays on Paris sidewalks, there are fewer and fewer benches to sit on, to rest for a while, because they might be used at night by youths who talk loudly, laugh, quarrel, or by the homeless who drink and sleep on them, which is considered as a source of nuisance by some residents (Dablanc and Gallez 2008; the Environment and Green Spaces Department of Paris, personal communication, 2011). Inserting small flower boxes on sidewalks, as described in the previous section, is part of this strategy to prevent people from resting on streets and to give more say to residents in the planning of the neighborhood. This is a widespread tendency in large cities: while Whyte (2001) argued that the quality of urban life is best measured by the availability of comfortable places to sit, Davis (1992) has shown how city governments discourage forms of dwelling they consider as inappropriate through 'the architectural policing of social Boundaries' (1992: 193), including the installation of impractical urban furniture (1992: 198). In contrast, green spaces are dedicated to providing rest or picnic areas, leisure walking trails, playgrounds, places to escape from the street and to meet people. There, city residents can benefit from plants, animals, and green and peaceful landscapes. While people are allowed to do what they want in their own home and to practice some private activities in public parks such as eating, playing games, drinking alcohol, sleeping, etc., streets must serve one single

purpose for all citizens: safe mobility. And according to Petonnet, in public spaces ‘nobody has any obligation to anyone, and everyone is equal’ (Petonnet 1987: 5). Streets thus have to guarantee an equal treatment for all and it is admitted, as an informal rule, that they should not be used for private purposes.¹² Forms of individual appropriation are largely associated with lower classes and a faulty upbringing.¹³ As recounted above, city governments tend to institute laws and rules aiming at eradicating such behaviors from public space (Mitchell 1997; Smith 1998).

The City is an important actor, as it owns public right-of-ways and is therefore responsible for user safety and security and public space maintenance. In Paris, four departments are responsible for streets and sidewalks. Historically, the Roads and Transport department carries the main responsibility. It is in charge of making sure that the sidewalks are

accessible to everyone, including the blind and the otherwise disabled, and of providing a safe and easy pedestrian walkway for all. Even today, providing street access to everyone, including the disabled, brings forth a certain number of problems which force city planners to adapt. A law concerning accessibility was passed in 2005. For new street tree plantings, this specified that a 1.40-m wide path be left for pedestrians, and that the canopy growing over this path be at least 2.20 m high. In 2006, a decree forced the city to reduce the size of the holes in grilles placed over new tree pits, so that canes, especially for the blind, would not get stuck in them.¹⁴ The use of ‘stabilisé,’ a new protective stabilizer (Figure 1) made mainly of sand and of four per cent cement to cover tree pits, has become more common in Paris in recent years, promoted by the Roads and Transport Department. This material is permeable to air and water, which are vital to the

Figure 1 ‘Stabilisé’ used to prevent weed growth, to facilitate cleaning and to ensure unimpeded mobility.

tree roots, and creates a smooth cover leveled with the rest of the sidewalk, which ensures the safety of all pedestrians and disabled. This cover also makes cleaning easier, which is an important concern, by preventing the growth of unbidden flora, thus reducing the high cost for the City of tree pit maintenance.¹⁵

Indeed, growing vegetation is often blamed on a lack of care by the City (Bickerstaff, Bulkeley and Painter 2009) and sparks off complaints by local residents relayed in newspaper articles and other media. This phenomenon seems quite common in Western cities, some of which even offer the possibility of filing a complaint about the very precise subject of weeds on their website.¹⁶ In France, the website of the City of Auxerre has a section on its front page entitled 'Hello, City Hall at your service,' with information on how citizens can phone the City for free. It is more difficult to find a phone number on the website of Montpellier, and Paris only allows complaints in writing, regardless of the subject. This could imply that weeds are not perceived as a problem. In the case of the French capital, street cleanliness, including the systematic removal of weeds, has long been one of the main preoccupations of the Water and Sanitation Department (personal communication, 2011). The lack of a specific forum to express complaints about weeds could then reflect the lack of this kind of concern because weeds are largely absent from the most frequented neighborhoods, but also the fact that the City is unwilling to let these concerns be voiced so as to protect its image. The Water and Sanitation Department, which is responsible for keeping the sidewalks safe, must remove all types of garbage and the autumn leaves which render the ground slippery. Moreover, the presence of vegetation on sidewalks raises issues

because everything must be under control and at the right place. Plants that are growing freely are not in their proper place on streets,¹⁷ and they prevent street cleaners from easily removing sidewalk garbage to the curb because litter tends to remain stuck in vegetation. Even if urban ecology values this vegetation as urban biodiversity, its presence can be seen as proof of weak maintenance—because plants are not cared for—and then be assimilated to trash, especially when litter gets stuck in it, or reported as weeds (Menozzi 2007)—because plants are not expected to grow there. The Environment and Green Spaces Department, the third one to be involved in street management, takes care of trees and street tree pits for the first three years after plantation in order to ensure tree watering. Last, the Urban Planning Department must make sure that the national heritage is respected, for example the nineteenth century street tree grilles must remain intact and safe and cannot be changed, and that urban rules are enforced by controlling, among other things, the seating arrangements on bar and restaurant terraces (Terrin 2011). In Montpellier, the city is not in charge of the street; it is the responsibility of the urban community, composed of thirty-one towns. However, the City Department of Landscape and Biodiversity is in charge of street trees. In the hope of limiting its cleaning costs, it chose tree pit coverings that, like in Paris, make cleaning easier and prevent the development of vegetation (a convention was signed between researchers and the town to leave 450 tree pits without maintenance for scientific purposes). Given this complex intermingling of City Department responsibilities, cleanliness and strict safety criteria, how can plants find a place in the street?

Streets as a haven for urban greenery

As outlined previously, there is a positive context in France which encourages cities to become more broadly welcoming towards plants, not only those in gardens, parks, and street flower boxes. It is very important in the case of Paris, a dense and enclosed city where finding new places to expand public green infrastructures is difficult. Besides roofs, streets represent such a possibility because they already host trees, are free from buildings and are shaped like corridors. For a few years, some factors have encouraged the presence of this unbidden flora on streets despite street cleaning. First, there is an increase in urban garbage in the streets due to the growth of fast food consumption and to the ban, since 2007, on smoking in buildings. The city cleaning staff, which remains numerically constant in spite of the increasing load of work, do not have the necessary resources to deal both with garbage and weeds. Second, because of the prohibition of the use of herbicide, city gardeners must remove weeds manually, which is more time-consuming and explains why they tend not to eliminate them all. Third, considering the number of street trees in Paris (around 100,000), their pits are viewed by ecologists as a possible habitat (Dornier and Cheptou 2012; Dornier, Pons, and Cheptou 2011). The linear series of these small patches of permeable soil are therefore seen as a possible urban greenway. The Environment and Green Spaces Department, in charge of street tree pits for the first three years after plantation, lets flora grow there, stemming from the seeds already present in the soil brought into the city when planting a tree, as well as from the ecological process of colonization by various means (for example, wind, birds, pedestrians) (Dornier, Pons, and

Cheptou 2011). Even if the street tree flora is not seen as very rich and diverse (Wittig and Becker 2010), urban ecologists have described some trampling-tolerant taxa (e.g. *Plantago major*, *Poa annua*, *Polygonum aviculare*) ‘considered to have no native habitats’ (Lundholm 2011: 99), or a fragmented plant population (*Crepis sancta*) that adapted its reproduction pattern to street tree pits by producing a higher proportion of nondispersing seeds (Cheptou, Carrue, Rouifed, and Cantarel 2008). This shows that cities can create their own flora. Inventories performed in the context of this research listed 200 spontaneous species in Paris, and 115 species in Montpellier hosted respectively in 1,500 and 450 tree pits (less than 2 m² each). On the average, 3.5 species are present per tree pit, but up to 25 species can be found—mainly in gardened tree pits—with *Poa annua* being present in 80 per cent of the tree pits listed (Maurel et al. 2013).

The City of Paris organized the hosting of this street flora in the name of urban biodiversity as this flora lives in the densest parts of the city. Its presence is challenged by the use of ‘stabilisé’ to cover tree pits and which the Road and Transportation Department would like to expand. This material contradicts the new policy of the City in terms of street biodiversity and urban green network because it is made up of sand and cement to prevent the growth of plants. To solve this problem, a coordinator was hired in 2010 by the City for each of the twenty *arrondissements*. His role is to promote communication between the various City departments and the *arrondissement* governments in order to facilitate a compromise. This led to the development of a typology of the different kinds of streets according to their main use (touristic, commercial, business, residential) in 2011 in order to facilitate decision-making

regarding which streets, or which part of them, vegetation should be removed from and which tree pits should be covered with ‘stabilisé,’ and where it could be left to grow freely in tree pits and along buildings. It was then decided that vegetation could grow mainly in the residential parts of the city. At the same time, the Environment and Green Spaces Department has been testing solutions to enable plants on sidewalks. Its aim is to find a type of plant which could be used to green the large strips of land where trees are sometimes planted (Figure 2). The difficulty is that a ‘super’ plant is needed, adapted to the very dry environment of the street and which bears trampling, a ground creeper which can

cover the pavement, possibly hiding litter, and will not grow on the trees (technical documents, Environment and Green Spaces Department, and personal communication, 2011). The city also gave urban designers the opportunity to test a patch of vegetation they designed, composed of fifteen species, in order to trial a new kind of tree pit covering.

In Paris, street trees, helped by environmental policies and lobbying from the Environment and Green Spaces Department, ensure the settlement of urban flora in the street. Urbanites and residents, who are traditionally only seen as mere users of sidewalk, have not been involved in this evolution of the streetscape, even though residential areas were

Figure 2 Ground creeper tested by the City of Paris to green the large strips of land between street trees.

chosen to let the vegetation develop freely. However, the *arrondissement* authorities that are more concerned about the opinions of their citizens are willing to encourage them to be more concerned about street management. Because tree pits are small spaces, they are seen as manageable by residents and thus easy to appropriate. It is in accordance with the French architect and town planner Nicolas Soulier's suggestion to collectively find a way to stop street sterilization and to allow citizen initiatives (2012: 7). The question is to identify what kind of people and for what kind of initiatives.

In the following part, we describe how planting on street signals the empowerment of residents and leads to the production of an urban nature being neither wild, nor spontaneous nor planted, but resulting from the 'network of interwoven processes that are both human and natural, real and fictional, mechanical and organic' (Swynedouw 1996: 66).

Greening, from citizen empowerment to the settlement of urban nature

Streets have become an important place for urban flora because they are affected by a variety of challenges: climate, water and biodiversity policies, urban and landscape ecology, town planning, and public space maintenance. Nicolas Soulier contrasts roads, which he argues separate people, to streets, which can bring them together and thus play a social role (2012: 280–281). According to him, streets are not alive when people walk or drive on them but when they can also dwell, a process in which plants can take part (Soulier 2012: 6). Using the example of a new neighborhood in Fribourg, Germany, where inhabitants are in charge of gardening the space between their houses and can plant and

care for trees on public space, he claims that 'plants are at home in the streets' (2012: 86). Until recently, citizens have been considered by city managers as mere users of, and not as possible actors in, their living environment. Adding to this the fact that lingering in the street is not part of most Parisians' upper middle-class education, streets were mainly used as a channel for transit. The greening practices are bringing citizens out in the streets. Do these citizens, in particular residents who are not usually involved in the management of public space, want to act on the street, and does flora play a role in this new claim to the 'right to the city' (Lefebvre 1968), leading for instance some people to be more citizens than others? In the next section, we will describe how citizens have started planting on the street, thus domesticating it, and negotiating with City departments, while allowing urban nature to be at home on the sidewalk.

Greening the street, a citizen empowerment

Public consultations regarding public space management, especially through decentralization laws and the creation of neighborhood councils in 2002, are becoming more numerous in French cities (Dablanc and Gallez 2008; Fleury 2009). Citizen action in relation to public space remains a fairly marginal practice in Paris as in other cities (Baudry 2012), partly due to the fact that public space is governed by the public domain code, so that all types of permanent land use are forbidden and all temporary uses must be authorized. However, these decentralization laws lead to simultaneous changes, by giving the *arrondissement* authorities more responsibilities in their own territory, by involving residents in decisions

concerning their neighborhood and by creating a tighter relationship between City departments and citizens.

At the beginning of the 2000s, two experiments of flower plantations in tree pits were held simultaneously in the eleventh and nineteenth *arrondissements* of Paris. In 2004, one of the neighborhood councils of the tenth *arrondissement* (which provided less than 1 m² of green space per person in 2001) decided to install small wooden flower boxes on the sidewalk (Figure 3) and to grow plants in three tree pits. To mark these actions in public space started by citizens, the Environment and Green Spaces Department drew up an agreement for the gardening of street tree pits in 2004, and a year later for the street flower boxes. According to one elected official (personal communication, 2012), the low number of signed agreements (only two have been signed so far) is a result of their excessive requirements. They are also not well known by the public, even those individuals already engaged in gardening tree pits. In order to bypass the convention, the twentieth *arrondissement* authorities decided to accept a simple phone registration of any street planting, without requiring any official authorization. This registration would allow gardeners to post a sign provided by the *arrondissement* authorities, which would advertise the action so that the Water and Sanitation Department employees of the City would not mistake the gardened plants for weeds and thus remove them.

Most citizen initiatives in tree pits remain unpublicized. They indicate a willingness on the part of citizens to improve their streetscape without necessarily wanting to engage in a structured and registered action, but they also show a lack of communication between residents and local institutions. In the twelfth *arrondissement*, four artists from the same neighborhood started managing street tree pits

in 2008 because one of them, from North America, already knew about some experiments in New York City. Another, from Chile, created a Land Art workshop with children in a tree pit. They tried to involve the neighborhood and the *arrondissement* authorities because they wanted authorization to enclose the little space but they could not find anyone interested in their action. In recent times, the situation has evolved. The city's current environmental policy, following the acceptance of the 2011 Biodiversity Plan, includes street greening. However, as its manpower and budgetary resources are limited, relying on citizen engagement is now perceived by the French capital as an efficient policy among others for expanding biodiversity. For instance, in 2010, declared the International Year of Biodiversity by the United Nations, the *Main Verte* (green thumb) program in charge of Parisian *jardins partagés*¹⁸ within the Environment and Green Spaces Department launched a call for biodiversity projects. They selected a project that proposed to act on public space and not on gardens by greening several streets located in the twentieth *arrondissement* (which only provides 2.5 m² of green space per person). Initially called the 'Green corridor' and then named the 'Flowery crossing,' it offered to help nature spread outside of the gardens by gardening tree pits and installing flexible flower boxes (named 'bacsacs,'¹⁹ Figure 8) along the sidewalks in order to create a walkway linking three *jardins partagés*. The challenge was also for the project managers to make people who do not garden or care about plants more aware of them and to involve a wider section of the population such as new migrants or non-native French speakers.²⁰

Still, these operations are not always favorably viewed by the other residents mainly for three reasons. First, taking care of trees and tree pits is supposed to be the task of the city

Figure 3 Paris 10th arrondissement: citizen flower boxes in wood.

Figure 4 Paris 12th arrondissement: street tree pit garden destroyed.

for which city-dwellers pay taxes. Second, they feel concerned by the long-term consequences of this kind of empowerment because when street gardeners stop their activity for holidays or permanently, the tree pits become weedy or filled with dried-up flowers due to the lack of watering and caring. This happened in the eleventh *arrondissement* where only two or three gardened tree pits still remain instead of thirty at the beginning of the 2000s. The twentieth *arrondissement* authorities did not encourage any extension of the ‘flowery crossing’ in 2012 mainly because of the concern of having to deal with neglected ‘bagsacs’ and with the subsequent discontent of citizens. Finally, city-dwellers see these street actions as a privatization of a public good that they might use. The four tree pits

gardened in the twelfth *arrondissement* highlight that situation: some neighbors participate by providing plants or small objects to install in the tree pits and feel happy to see them from their window, but the everyday care is always undertaken by the same four women artists who initiated the action. Moreover, a dog-owner and her dog regularly destroy one of the gardened tree pits even though there are other trees in the street, as this person considers tree pit gardening as the privatization of a previously public space she used for her dog. Indeed, street tree pits are rarely identified as actually usable spaces except for dogs and their owners.²¹ The four gardeners decided to enclose their little gardens with a wooden fence, running the risk, they said, of making the collective aspect of the operation even

more unclear. However, the gardened tree pit is still destroyed (Figure 4). Indeed, some citizens engage in these operations also to compete with other already existing street occupations (littering, sleeping, eating, squatting, etc.), and to fight what they consider an inertness of the City. For example, the greened tree pits and the installed flower boxes in the tenth *arrondissement* were used to prevent specific behaviors like the bar's customers and the owner's dog urinating in them. These uses did not stop but residents managed to grow a Japanese Aucuba (Figure 7), a plant known for its robustness, which requires little maintenance so residents do not have to touch the soil. This choice underlines that greening the neighborhood can be motivated by other

reasons than the desire to garden. In this case, it is used to cope with some behaviors and to beautify a neglected place.

These operations also result in a taming of city institutions. In spite of the decentralization laws, citizens have little room on the street because leaving things on the sidewalk or transforming it is still not allowed. Thus, installing the boxes for the 'flowery crossing' required dealing with and convincing, at the City level, the city department representatives in charge of road management and of cleaning. City department officials were invited to take a look at the proposed trail in April 2011. The first result was to bring together these two managing authorities and to require them to engage with citizens. There were negotiations in order to

Figure 5 'de-paved' sidewalk and roadway with planting in a residential street, Montpellier.

Figure 6 Paris 20th arrondissement: test of tree pit cover: patch of 15 species.

decide where the ‘bacsacs’ could be positioned. It was important to ensure that the residents’ recommendations would be taken into account because the plants had to be close to their residence for easy access and maintenance. This arrangement produced a ‘taming’ of these managers, in particular those of the Road Department who had not previously negotiated with citizens. Although they agreed on where to place these flower boxes, the Road Department categorically refused to let people post signs on the roads and the sidewalks, road signposting being only allowed, in public space, for driving or safety rules. In Montpellier, gardening street tree pits is not encouraged by the City. Since 2009, Semilla, an association of young landscape architects, has been experimenting with street tree planting but face many problems such

as theft of flowers or trampling. Semilla used another kind of public planting called ‘micro-floral implantation,’ which was first used in Lyon in the mid-2000s. Micro-floral implantation is carried out with the authorization and help of the City and consists of breaking the asphalt on the sidewalk along the wall of a building, close to the door, where people have agreed to take care of plants. The hole is then filled with compost and seeds or plants. The flora is provided by the town plant nursery which chose Mediterranean plants, easy to grow in a dry environment and requiring only minimal care. Semilla considers this kind of operation a better option for citizen appropriation because these small spaces along their own wall are closer to their own personal living space than tree pits and cannot be walked on by

passers-by. Moreover, being individual projects, they bypass many of the hurdles inherent to group actions because even when several neighbors participate, each is in charge of one portion of the ‘de-paved’ sidewalk (Figure 5). By choosing residential streets without any bars or shops, they minimize the risk of conflicting uses.

Through relying on citizen engagement, City governments engage with inhabitants, sharing with them the difficulty of daily street maintenance (even if the responsibility remains that of the City) but also supporting their actions which leads to introducing new objects, plants, and ways of doing and being in public space. This evolution tends to discriminate the users of public space between, first, simple transient users of the street and residents, and second, residents who engage in action and those who do not, and thus challenges the scopes of anonymity and equality described by Petonnet (1987) that public space is supposed to guarantee. Small flower boxes, tree pits, and cracks in the asphalt could then be seen as ‘intermediaries that embody and mediate nature and society and weave a network of infinite transgressions and liminal spaces’ (Swyngedouw 1996: 66). They also produce a new way to connect with the street by dwelling on it instead of being only transient users, and a new kind of flora.

The settlement of urban nature and of street dwellers

The decentralization laws, by giving the *arrondissement* authorities and citizens the possibility to act on streets, produced a new kind of urban flora, neither structured as the urban green from town planning nor wild or spontaneous as the flora on which urban ecology focuses.

A short street (around 600 m) of the twentieth *arrondissement* can be seen as emblematic of this urban nature. It combines interventions at various levels—local planning, city experiment, and citizen action—which create a very peculiar flora assemblage. At the city level, the City of Paris set up an experiment on 18 tree pits on this street as part of its search for the best plants to use in order to green the streets. A landscape architect created a patch for tree pits seeded with 15 species partly coming from cultivation and partly from gathering (the precise mix is protected by a privacy agreement) which are supposed to bloom at different times of the year in order to keep the patch always green without any intervention from the city gardeners. This patch is made of a mix of soil and recycled plastic bottles, also tested as a repellent for dogs (Figure 6). At the local level of the *arrondissement*, the street was defined as a greenway. Following the approval of the biodiversity plan in 2011, the *arrondissement* established a street tree pit ‘cutting and mowing’ map for technical staff, showing where vegetation had to be removed regularly, and where it would only be cut twice a year. This short street was spotted as a possible corridor because it links a very old cemetery (the ‘Père Lachaise’) to a wasteland (the ‘Petite Ceinture’), both interesting from a biodiversity point of view. As a consequence, tree pits are not weeded by decision of the mayor of this *arrondissement*. At the citizen level, four tree pits were enclosed and maintained by neighboring residents without any authorization by the City. This mix of local planning (the decision not to weed tree pits at the *arrondissement* scale), City experiment (patch seeded), and guerrilla gardening (tree pits gardened without permission or registration) might be emblematic of what urban greenways could be, a complex sociotechnical

Figure 7 Paris 10th arrondissement: Japanese aucuba ‘growing in a tree pit.

object (Akrich 1989)²² which enables the socio-environmental (Swyngedouw 2006) co-production of the street and its vegetation through

biological and social processes. The vegetation of the street is a combination of seeds coming from plants both grown and gathered by the

Figure 8 One of the bacsacs of the Flowery crossing.

private plant nursery, seeds already in the soil used to plant the tree, seeds from the environment, planted flora, etc. favored by the law, by the lobbying of the Green Space Department, and taking advantage of gardening practices of interested citizens. At the opposite end of the spectrum of complexity, in a hard-surfaced street of the tenth *arrondissement*, a singular plant, the Japanese Aucuba mentioned earlier, was used to green the pit of the only three trees of the street (Figure 7). Because these tree pits are in front of bars, dogs and humans use them as toilets. No plant grows there except for the Aucuba, which does not need to be gardened and remains green all year round.

Small flower boxes are also part of the street greening. Various kinds of plants are planted

in them, for different reasons. In the tenth *arrondissement* plants were chosen by the initiators of the project. They were culled to stay green all year long, which in turn was intended to prevent humans from sitting on the flower boxes or leaving garbage in them, among other behaviors (Figure 3). In the 'Flowery crossing' project, the various participants were free to plant what they wanted into the gardened tree pits and into the 'bacsacs' (Figure 8) installed along treeless streets. Caretakers, according to their know-how, chose some precise species, or plants that are known to remain green in winter or are adapted to survive in their location (for instance in the shade). Since the beginning of the 'Flowery crossing' project, unbidden flora

has not been removed. If residents, in this project, want to garden tree pits and basins and take care of plants, unbidden flora is seen to make greening easier because it is more resistant to street conditions, able to survive even without human help. Thereby, residents do not have to spend time and energy to take care of this flora and its presence can help prevent those places from being seen as neglected. Moreover, in order to avoid the various places being empty, or only filled with unbidden flora, residents had to adapt their planting to the weather, becoming more aware of climatic and seasonal variations. In Montpellier, besides the Mediterranean plants chosen by the municipal plant nursery, because they can withstand dryness and heat, Semilla also selected plants not easy to steal, such as cacti.

This settlement of urban nature goes together with that of residents in streets and has a variety of consequences. First, by engaging in greening activity outside their door, residents created an extension of their dwelling place up to the street. Except for the four women artists in the twelfth *arrondissement* who were already used to resting on the sidewalk, for instance installing a table to have lunch or a drink and to spend time together, the majority of the inhabitants involved in these operations experimented for the first time with the use of the sidewalk as a dwelling space, as their upbringing forbade them to play in the street as children, and to linger in it as adults. Second, caretakers became more aware of street conditions, learning that planting on streets requires daily commitment. As litter gets easily stuck in plants, it is then important to remove it regularly in order for tree pits and flower boxes not to be end up as a garbage can. Third, this led caretakers to be more present on the sidewalks and thus more visible to passers-by. Some passers-by now stop to greet the caretakers when they see

them. They also became more visible to neighbors and have learned to control their own image: one of the caretakers of the 'Flowery Crossing' was aware that her continued presence on the sidewalk to remove litter stuck in the plants led neighbors to see her as a clean freak. Fourth, greening streets created a synergy between residents—because the caretakers need to be replaced when they plan to be away—and brought more residents onto the sidewalk. Finally, the image of sidewalks slowly changed, as they appeared to be socialized by people from a higher social class.

Beyond their original intent, the various projects created a synergy between the citizens' homes, the street, neighbors, as well as passers-by and involved citizens and authorities in a competition for urban space, public space uses and the city's image, leading to the domestication of the street. Vegetation plays a role in this domestication, helping citizens to control behavior and to make urban space more pleasant and homely, to make their voices heard by the City, and to green their grey environment. Conversely, streets help in creating a specific urban flora that cannot anymore be defined according to dualistic categories. The introduction of life in streets 'must deal not with the relations between organisms and their external environments but with the relations along their severally enmeshed ways of life' (Ingold 2008: 1807).

The presence of residents on public space may be seen as a desire to have an impact, to count in their neighborhood. It seems to be a pattern already used in the past, when owners planted individual trees 'to beautify, to dignify, and to personalize the public space in front of a house, for the pleasure of the owner but also for the public, assuming they were not inconvenienced by the tree, as some were' (Lawrence 2006: 280). If the street has then been domesticated by

some residents we may wonder if, conversely, it has not been wilded for other users. Indeed, these practices create a difference between citizens who do want to engage on the street and can do it and those who do not or cannot, and may drive other users to feel out of place or foreigners in the street. Different strategies have been employed by gardeners or 'greeners' to have their engagement adopted as a collective action. In some cases, this engagement is anyway viewed as the exclusion of other practices or an incitement to change behavior. It is then assimilated to a privatization of public space and may lead to conflicts. In other cases, a kind of cohabitation may set in between previous and new uses.

Conclusion

In a dense city like Paris, public space and, above all, streets have been given an important role in planning the urban green network. From an ecological theoretical point of view, the concepts of greenways or habitat corridors are usually used to think about ways of linking natural spaces separated by unnatural elements such as urban areas, as well as channels able to bring biodiversity into cities. The intent is to minimize the habitat fragmentation caused by cities, but one can wonder if it does not also aim at concealing, or even denying, the urban phenomenon. Yet, in the end, the idea that the urban greenway could use nature to hide the city and its unnaturalness (Calenge 1995: 14) has failed in the face of reality. If some biologists still see the city as an inhospitable environment for species, for others, 'recent investigations into the role of gardens and diversity of habitats for biodiversity in urban areas question the image of urban areas as an impermeable and hostile matrix' (Kazmierczak and James 2008: 129). Geogra-

phers also ask that these areas are no longer considered 'second-rate ecosystems' (Francis, Lorimer, and Raco 2012: 188). This can point to the beginnings of a new perspective allowing for the possible existence of urbanized vegetation, not brought from outside the city, neither spontaneous nor 'wild' or cultivated. Moreover, this urbanized flora introduces a living cycle in the street which, up to now, has been more or less hidden. Western cities are a metaphor of eternal youth where green spaces and green walls are ever green, and where streets, buildings, and monuments are not damaged through time, but rather keep running efficiently under all circumstances. Letting urban flora develop brings cities to manage this living cycle and to cope with signs of natural decay. Urban nature is then challenging cities in their timelessness. Pincetl proposes to go even further 'acknowledging that cities have their own novel nature [by] recognizing that the built environment of cities is nature too [a recognition that is] critical to linking the city to hinterlands and to natural processes' (Pincetl 2012: S36) as the project of urban landscape ecology intends to do.

In our field study, the urban context of greening streets allows urban flora to take advantage of the presence of humans, of hard-surfaced structures like streets, and of more horticultural plants. Because this flora is mixed with more ornamental plants, it benefits from the care put into their growing, such as soil amendments and watering; it thus cannot be considered as entirely spontaneous, a category which implies a lack of human intervention. In addition, the mere physical proximity to this urban flora leads humans to feel more connected to it and thus questions the very term 'wild,' sometimes used to qualify the urban spontaneous flora. From a citizen's point of view, the distinction between planted and wild or unbidden flora rests upon the

possibility for humans to play a role in their presence. For gardeners, the ‘wild’ flora is the one which does not need them; yet, they do notice it as part of their daily landscape. It is not necessarily considered as undesirable, for instance in the case of esthetically pleasant species or because it is more resistant to urban conditions, it does not run the risk of dying when no one is around to take care of it, and helps to maintain the place not looking neglected. If these urbanized plants do not fit in the dichotomous categories of wild/cultivated, spontaneous/planted, it is because they are given the opportunity to be ‘active agents’ (Whatmore and Hinchliffe 2003) in the making of the city, besides people and city authorities. Street greening is also producing new interactions between people. In Paris, by bringing citizens as well as the Environment and Green Spaces Department out on the sidewalk, urban greening is forcing the Roads and Transport Department to cope with these new actors. The City is also sharing with residents the power of designing their neighborhood and the task of maintenance. Relying on citizens may help to maintain the places greener, taking into account that some of them and city authorities are searching for the ideal urban plant, which would be able to grow on sidewalks, in cracks of asphalt and would stay green in all situations, a way to thwart the effects of the living cycle. Even though these initiatives are not very widespread in French cities, they may express changes in the way citizens want to live and inhabit the city and the way public space is evolving toward a more resident-controlled space, where behaviors such as loitering, graffiti, or waste disposal are challenged.

Thus, greening cannot be seen simply as a new way to use the street or to occupy it. More than being simply in the street, or in contact in and with the street, residents, neighbors,

passers-by, city departments, plants, and animals inhabit that public place, thus challenging its anonymity and its already-existing condition. As Ingold argues, ‘A world that is occupied [...] is furnished with already-existing things. But one that is inhabited is woven from the strands of their continual coming-into-being’ (Ingold 1997). As cities and citizens have started to, reasoning in terms of places (for example, buildings, streets, and sidewalks), that could be seen as ecosystems, is being replaced by reasoning in terms of uses (to work, to inhabit, to visit, to buy, to grow, to hind, to hinder) in order to allow the presence of vegetation with other uses and users of the street. This way of reasoning challenges the helpfulness of the concept of ecosystem when applied to urban areas. This interweaving of social and biological processes needs ‘boundary crossing research’ (Francis, Lorimer, and Raco 2012: 183) for a better understanding and confirms the relevance of Swyngedouw’s insistence ‘on the need to transcend the binary formations of ‘nature’ and ‘society’ and to develop a new ‘language’ which maintains the dialectical unity of the process of change as embodied in the thing itself’ (1996: 70).

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Notes

1. However, some authors like Whitehead (2009) point out that large-scale urban greening initiatives often fail in addressing simultaneously questions of social and ecological injustice. For Swyngedouw, it seems unavoidable that 'in the process, a socio-spatial fabric is produced that privileges some and excludes many, that produces significant socio-environmental injustices [...] Urbanizing nature, though generally portrayed as a technological-engineering problem is, in fact, as much a part of the politics of life as any other social process' (2006: 35).
2. City is capitalized when we refer to the management authorities.
3. Here the term 'unbidden flora' (Whatmore and Hinchliffe 2003) is used to designate unwanted plants, a notion which cannot be defined separately from a given context and point of view. For instance, it can designate all types of 'weeds' which make streets look unkempt or only invasive species, as opposed to 'spontaneous flora,' considered by some ecologists as more desirable for biodiversity.
4. In each part of the article, the analysis leans on the combination of data collected through various sources: scientific and institutional literature, newspaper articles, websites, and empirical data such as interviews, observations, informal conversations, participation.
5. Paris is now constituted of twenty *arrondissements* (districts), each with a municipal government.
6. This was also implemented in 2014 for projects carried out at a City level. Participatory budgeting is used in various cities and viewed as a way to empower residents, for instance in New-York City: 'Participatory budgeting is a gateway to greater civic participation and leadership in our communities, encouraging collaboration between residents and local elected officials to find creative solutions to neighborhood needs' (<http://pbnyc.org/> accessed 8 September 2014).
7. Recent research has shown that lines of trees, while contributing to lowering the temperature can also maintain polluted air particles in the streets due to a lower air flow. As hedges allow air renewal, they are considered even more efficient than lined trees are in narrow streets (Wania 2007).
8. A national observatory, founded in 2011 by urban ecologist in France, was named 'wild things of my street,' (*sauvages de ma rue*) (Machon and Motard 2011). See also Lizet, Wolf and Celecia (1999).
9. City Biodiversity Index <http://www.cbd.int/authorities/gettinginvolved/cbi.shtml> (accessed 20 May 2014).
10. <http://parcsinfo.seine-saint-denis.fr/spip.php?rubrique4> (accessed 20 May 2014).
11. In its literal meaning of to place out of view. See for example pictures on the website of the passed exhibit 'la Ville fertile' <http://www.exponaute.com/expositions/585-la-ville-fertile/> (accessed 20 May 2014).
12. Actual legislation exists only for commercial or collective uses such as restaurant terraces, open markets, or demonstrations, etc. Some behaviors are also entirely prohibited, like urinating, feeding pigeons, and littering.
13. Several interviewees who garden flower boxes or street trees explained spontaneously that when they were young, playing in the street was forbidden by their parents because it was considered, among other things, as the dwelling place of the lower classes. Thus, they felt that, through this act, they could claim a space which had been out of bounds in their childhood.
14. <http://unionnationaledesmoinsvalides.org/unmjugement%20paris.htm> (accessed 20 May 2014).
15. A team of four workers spends fifteen minutes per tree pit. Several teams have to work at the same time.
16. The New York City website includes a section entitled 'Overgrown Grass or Weeds Complaint,' as does that of the City of Edmonton, Canada. <http://www1.nyc.gov/nyc-resources/service/2166/overgrown-grass-or-weeds-complaint> (accessed 20 May 2014). http://www.edmonton.ca/bylaws_licences/bylaws/tree-and-plant-complaints.aspx (accessed 20 May 2014). In Italy, the same type of online system exists, for example the website of the City of Pescara (in the Abruzzo region). The regional newspapers seem to be good complaint relays for weed news in cities and weeding solutions experimented on by city dwellers. <http://www.cityrumors.it/pescara/politica/via-monte-camicia-pescara-residenti-tagliano-erbacce-35331.html#.UDJZacjPwfV> (accessed 20 May 2014).
17. According to Douglas (1966), trash is what is out of place, a definition which seems to be relevant in the context of the street.

18. 'Shared gardens;' these are the equivalent of community gardens, but the term 'community' being often deemed in France as restrictive and leading to exclusion, the emphasis has been put on the idea of shared space and activity (Baudeflet, Basset, and Le Roy 2008).
19. <http://www.bacsac.fr/en/press/> (accessed 20 May 2014).
20. Since the twentieth *arrondissement* has the second highest population density (more than 300 inhabitants per hectare (10,000 m²), the average being 250), and a wide cultural diversity (25 per cent of people born outside of France with a foreign nationality, the average in Paris being 20 per cent). The socio-cultural center, Archipelia (which aims at promoting social life in the neighborhood, www.archipelia.org (accessed 20 May 2014), in charge of one 'bacsac,' organized children workshops to involve new immigrants and their children in the project, to learn about the various species of birds nesting in the city and to build and install in trees appropriate feeders and nests as well as insect shelters.
21. Tree pits do not seem to be an important subject for citizens. In the context of this research 68 passers-by were interviewed (43 in Paris and 25 in Montpellier) about their vision of an ideal street. If 44 per cent spontaneously mentioned an interest in street trees, plants and green spaces (51 per cent after we introduced the topic), none of them referred spontaneously to tree pits. After being asked about them, 25 per cent said they were concerned by street tree pits mainly for negative reasons and looked at them only to avoid walking through them.
22. The concept of socio-technical device, as defined by Akrich (1989), points out how technical objects cannot be understood and described separately from their context (or culture) of creation.

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Abstract translations

La rue comme nouvel endroit où réunir humains et plantes à la fois: exemples de Paris et Montpellier (France)

Ajouter de la verdure dans les lieux publics des villes est un sujet qui prend de l'ampleur en France. Avec des exemples tirés de Paris et de Montpellier, cet article cherche à comprendre ce qui se passe quand les habitants des villes ajoutent de la verdure à leurs portes et quand les politiques encouragent la flore spontanée dans les rues. Les plantes faisaient déjà partie des villes de l'Antiquité et sont un outil d'aménagement urbain depuis le dix-neuvième siècle, ce qui a entraîné le développement d'espaces verts publics et la plantation d'arbres dans les rues. L'écologie urbaine a provoqué un intérêt pour la flore spontanée dans les années 80. Les politiques publiques concernant l'eau, le climat et la biodiversité tentent de prendre cette végétation spontanée en considération depuis le début du siècle. D'ailleurs, les sciences sociales ont montré que les habitants des villes s'intéressent aux plantes pour embellir leurs balcons ainsi qu'aux jardins et parcs. Nous avons essayé de déterminer si cette végétation peut être plus qu'un outil d'aménagement, de verdure, de biodiversité et d'embellissement pour l'espace urbain. Nous soutenons que laisser la flore plantée et spontanée coloniser les trottoirs et laisser la possibilité aux gens d'agir directement sur cette flore permet aux résidents et aux plantes de cohabiter et de co-domestiquer la rue et remet en cause l'intemporalité d'une ville en y introduisant un cycle de vie.

Mots-clefs: verdissement de la ville, jardinage d'arbres de ville, flore spontanée, flore urbaine, rues, France.

Las calles como nuevos lugares para reunir a seres humanos y plantas: ejemplos de París y Montpellier (Francia)

Reverdecer los espacios públicos en la ciudad es un problema creciente en Francia. Con ejemplos extraídos de París y Montpellier, este artículo trata de comprender lo que sucede cuando los habitantes de la ciudad crean un espacio verde fuera de su puerta y cuando las políticas estimulan la flora espontánea en la calle. Las plantas ya formaban parte de las ciudades antiguas y han sido una herramienta para la planificación urbana desde el siglo XIX dando lugar al desarrollo de espacios verdes públicos y a la plantación de árboles en la calle. La ecología urbana desató un interés por la flora espontánea en los años ochenta. Las políticas públicas relacionadas con el agua, el clima y la biodiversidad han estado tratando de tomar en cuenta a esta vegetación espontánea desde el comienzo de este siglo. Además, las ciencias sociales han demostrado que los habitantes de la ciudad están interesados en las plantas para embellecer su balcón, y en jardines y parques. Se trató de averiguar si este tipo de vegetación puede ser algo más que una herramienta para planificar, para crear un espacio verde, para traer la biodiversidad y para embellecer el espacio urbano. Se argumenta que dejar que la flora plantada y espontánea colonice aceras y permitir a la gente actuar directamente sobre ella hace que residentes y plantas cohabiten y co-domestiquen a las calles, y desafía a la intemporalidad de una ciudad mediante la introducción de un ciclo de vida.

Palabras claves: reverdecimiento de la ciudad, jardinería de arboles en la calle, flora espontánea, flora urbana, calles, Francia.