

Chapter 8

When Cities Host Parks: When Will Urban Frontiers Become Eco-Frontiers?



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8.1 Introduction

The issue of spatial, social or political encounters between cities and parks is central to the UNPEC research programme and more broadly to the future of biodiversity and the wellbeing of city dwellers in an increasingly urban world. The term “encounter” covers several forms, reflecting the diversity of encounters between urbanisation (urban space) and nature conservation (national park). Several meanings are given in an online dictionary (www.larousse.fr) for “meeting” (*rencontre*), including four which illustrate perfectly the relations between a city and a national park:

- “Meeting someone, finding oneself in someone’s presence without having sought him/her out” refers to the autonomy of the urbanisation process compared to the conservation process, involving a sometimes unplanned co-presence.
- “A meeting [as a] concerted conversation between two or several people” refers, on the contrary, to dialogue strategies used between urban and park actors in order to improve the conditions of the encounter.
- “An engagement or unplanned battle between two enemy detachments on the move” highlights the sometimes extremely conflictual character of relations between cities and national parks, fairly close to the frontier logics described hereinafter.

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- Finally, “two things meeting, coming into contact or colliding” shows that contact arising from an encounter can lead to a new diminished or increased state.

Urbanisation and nature conservation are not set processes fixing borders within the metropolitan structure. On the contrary, they are dynamic processes, underlain by ecological, political, social, economic and territorial logics. In order to account for the mobility and intentionality linked to these processes, it appears useful and pertinent, in this case, to use the concepts of eco- and urban frontiers.

Eco-frontier refers to the appropriation of real or imagined spaces by ecological discourses or practices, where such spaces benefit from environmental and aesthetic amenities usually perceived as being highly significant (Arnauld de Sartre et al. 2012; Belaidi 2015; Guyot 2009, 2011; Guyot et al. 2014; Guyot and Richard 2009; Héritier et al. 2009). The eco-frontier corresponds to the spatial extension of different forms of nature conservation (e.g., institutional as with national park authorities, or more spontaneous as with residents’ associations). These green appropriations tend to shape new spaces: nature enclaves for conservation, peri-urban environmental glacia, heritagisation of high places, etc.

The urban frontier (Legoix 2013) refers to the spatial extension of urbanisation, whether as urban sprawl or satellite cities, within areas considered as vacant in that they are not supposedly occupied, or in the form of recovery and renovation of already urbanised areas. The urban frontier seems to be determined by spatial, economic (real estate market), political (urban planning and development), cultural and social factors. In the context of urban national parks, eco-frontier inevitably refers to the urban frontier. This consideration is entirely in line with urban political ecology (Lawhon et al. 2013). Indeed, each one of these frontiers possesses a morphological substance, materialised by the advance of an urban artificialisation zone for the urban frontier (*urban edge*), and that of a suitable natural perimeter for the eco-frontier (*natural edge*, see Stephen 1998). This morphological substance is concomitant with a political substance: an urban development plan for the urban frontier, and nature conservation zoning for the eco-frontier.

In this chapter, we suggest the possibility that, in an emergent metropolitan context, eco-frontiers intertwine with urban frontiers. As a frontline between two processes that everything seems to oppose morphologically or, on the contrary, as a hybridisation space between naturalness and metropolitan-ness, as described in European or North American literature (Reymond 2007), eco-frontier and urban frontier cannot be dealt with separately. Hybridisation then becomes essential—as an explanatory notion—in trying to decipher the reality of the cooperation, reconstitution, domination or exploitation links between the two processes (Belaidi et al. 2011; Estabanez 2006; Kaufmann and Zimmer 1998; Zimmer 1998, 2004). Hybridisation can be construed differently at several levels, and spatialised within the park/city contact zone or at the upper level, particularly when the eco-frontier needs to legitimise its metropolitan membership, and conversely when the city needs to identify with its natural substratum.

What frontier dynamics are at play in the urban national park context in Rio, Cape Town, Nairobi and Mumbai? How is hybridisation produced? Who does it benefit?

8.2 From Frontier Dynamics to Hybridisation

The urban eco-frontier makes it possible to understand logics concerned with the spatial extension of nature conservation and the landscape, and entailing restrictions as well as a description of the urban frontier. In an emerging city endowed with a national park, the urban frontier is confronted with specific constraints. This meeting between emerging city and park entails divisions but also hybridisation principles that can lead to reconciling all or part of the urban populations with nature conservation, which is still sometimes perceived as being exclusive to certain residents.

8.2.1 *Urban Eco-Frontier*

Despite its late appearance (middle of the twentieth century, slightly earlier in Cape Town, see Chap. 2), the urban eco-frontier fits into wider generational logics (imperial, geopolitical and global) peculiar to the general eco-frontier working framework (Guyot 2015, 2011). Nairobi National Park (NNP), in Kenya, which was created in 1946 under British colonisation, is part of the imperial generation (conquest and nature conservation at the service of an imperialistic civilisation principle). The park exists because the British colonial power wanted to endow one of its colonial capitals with a protected “wilderness” area, leading to the creation of a buffer zone between the colonial city and the Maasai rural lands, and ensuring that the European colonial populations made the most of the wildlife nearby. Sanjay Gandhi National Park (SGNP) in Mumbai, which was created in 1950 after the country’s independence from the British, is part of the geopolitical generation (conquest and nature conservation at the service of its nationalisation). It ensured the Indian national power had control over water resources and the forest ecosystem in a large city which, at the time, was barely decolonised and little controlled up until that time by the central State. Tijuca National Park (TNP), which was created in Rio in 1961, is also part of the geopolitical generation. Indeed, shortly after the transfer of the country’s capital from Rio de Janeiro to Brasilia, the Federal State wanted to keep control of part of the city grounds (the *morros* in particular, i.e. the hills above the city) and the water resources. Lastly, Table Mountain National Park (TMNP) was inaugurated in 1998 in Cape Town, following the long and complex metropolitan eco-frontier progression. The national park is clearly part of the “global” generation of eco-frontiers (globalisation of conquest and nature conservation), because the park’s creation was partly financed by international money

lenders Global Environmental Fund (GEF) in the name of the international recognition of the fynbos ecosystem, but also meets a political objective by the African National Congress (ANC) in power, to control a substantial portion of the city's territory which is governed by the Democratic Alliance (DA), the opposition (Belaidi 2012). As such, during their creation, these four urban eco-frontiers met very different and sometimes interlinked objectives. Far from being set, these urban eco-frontiers subsequently experienced evolutionary cycles that made them (except for Mumbai) part of the global generation, in the image of the emerging global metropolises hosting them: highly developed international tourism, presence of the UN in Nairobi, major international sports events in Rio and Cape Town, etc.

These four metropolitan eco-frontiers embed two different logics. One is an “anti-urban” or “biodiversity logic” turned towards limiting the urbanisation of the most beautiful natural sites and endangered ecosystems. The other one is an “identification logic” from the city to the park, which can be named as “cultural logic”. The biodiversity logic has more to do with park managers as well as local and international environmental NGOs, while the cultural logic is led by residents' associations or collectives which are sometimes supported by metropolitan authorities. In this light, the presence of an urban national park entails a disjunction of the eco-frontier in two forms, inevitably consubstantial in that they are both united by the same goal of nature conservation, but often competitive in that they are motivated by different groups of actors and divergent interests (Guyot et al. 2014). The “cultural logic” corresponds to an eco-frontier shift and is undoubtedly going to be underlain by hybridisation processes.

In Cape Town, Rio de Janeiro, Nairobi and Mumbai (see Table 8.1), the two urban biodiversity and cultural eco-frontier logics are present in different forms, sometimes highly unevenly. In Cape Town, the biodiversity logic is mainly promoted by South African National Parks (SANParks) which has been trying to expand the boundaries of the national park on former agricultural lands or forests, and to extract invasive plants. In Tijuca (Rio), this biodiversity logic is little represented, probably due to the “artificiality” of the natural carioca landscape recently being recreated (see Chap. 2). In Nairobi, the same logic concerns in particular the management of wildlife outside the southern boundaries of the park, in the Maasai pastoral area. In Mumbai, it corresponds to the current concern for maintaining ecological links between the park and Tungareshwar Wildlife Sanctuary in the north, and the rural area of Aarey Milk Colony in the south.

The biodiversity logic sometimes clashes with the “cultural logic”, as in Cape Town, where certain residents' associations blame the national park for extending the park's boundaries without really restoring the damaged ecosystems, or for not properly managing the baboon issue or dealing with invasive plants. Likewise, in Mumbai, the recreation and urban cattle breeding area of Aarey Colony does not fit the park manager's objectives of fauna and flora protection. However, in Rio, with the project to reforest the buffer zone of TNP close to the *favelas*, and in Nairobi,

Table 8.1 Frontier dynamics in the four cities

	Cape Town	Rio de Janeiro	Nairobi	Mumbai
Urban frontier	<p>Processes:</p> <ul style="list-style-type: none"> – perimetropolitan gentrification on the Peninsula – Informal settlements and low-cost housing 	<p>Processes:</p> <ul style="list-style-type: none"> – Occupation by the police of the <i>favelas</i> nearby the park – Land speculation in the <i>favelas</i> in the south zone (restoration/construction houses) 	<p>Processes:</p> <ul style="list-style-type: none"> – Extension of peri-housing in the southern part of the park – Industrialisation in the northern part of the park – Encroachment of the park by railways and motorways 	<p>Processes:</p> <ul style="list-style-type: none"> – Informal housing within the park: 120,000 inhabitants – Real estate projects near the park
Eco-frontier	<ol style="list-style-type: none"> 1. Biodiversity eco-frontier extension of TMNP 2. Cultural eco-frontier: environmentalist + heritage activists 3. Global eco-frontier: World Heritage Site 	<ol style="list-style-type: none"> 1. Cultural eco-frontier: community reforestation in buffer zone <i>favelas</i> 2. Global eco-frontier: World Heritage Site, cultural landscape 	<ol style="list-style-type: none"> 1. Cultural eco-frontier: <ul style="list-style-type: none"> – Creation of conservancies – Compensation for wildlife attacks and financial encouragement to keep land unfenced 	<ol style="list-style-type: none"> 1. Biodiversity eco-frontier: Wildlife Sanctuary, northern part. 2. (possible) cultural eco-frontier: Aarey Colony
City/park frontline	Stabilised and pacified	Stabilised and relatively pacified	Stabilised and relatively pacified	Unstable and subject to infringements

Source: Authors

with various attempts at creating private conservancies inside Maasai lands, the cultural logic strengthens the residents' commitment to the ecological values conceded by the urban national park.

8.2.2 *Urban Frontier Close to the Park*

The urban frontier, unlike the eco-frontier, is the very essence of the city, its progression and spatiotemporal reconstitution. In the case of emerging metropolises, the issues of urban sprawl, of increasing population and of urban reconstitution are crucial. It is often the suburbs that are the most representative of the global city which are being developed by urban policies. As such, the urban eco-frontier can impede the spatial expansion of the emerging city, especially at the expense of the poorest, but it can also lead to a reinforced selectivity of urbanisation and population types living close to the park. The relationship between eco-frontier and urban frontier in emerging metropolis is paradoxical. The four examples show that different situations exist, from the extreme case of Mumbai where the urban frontier is clearly expanding at the expense of the eco-frontier, to the case of Cape Town where the opposite is taking place. The urban frontier generates as many representations as it is multiform in the history of its advance. The urbanisation image in Rio is impossible to dissociate from the *favelas* located on the *morros*, near the boundaries of the TNP, just as it is inseparable from the seaside suburbs of Copacabana and Ipanema. The urbanisation image in Cape Town refers invariably to the racial segregation generated by the colonial and apartheid regimes, just as it is linked to the image of the luxury properties located in the Peninsula, near TMNP. In Nairobi, the image of the African city seems to predominate, with a strong opposition between former colonial suburbs (such as Karen) and informal settlements (such as Kibera Slum). In Mumbai, the presence of many informal settlements, especially near or even inside the national park, is reinforcing the image of extreme poverty which is often associated with this metropolis.

The current urban frontier of the four cities under study, near urban national parks, involves a great diversity of processes that are all representative of the emerging metropolis (see Table 8.1). In Cape Town, except for few slums located inside the park's boundaries (on the fringes of Hangberg, near Hout Bay), a very specific over-densification of poor populations has been taking place in four distinct areas near the park (Imizamo Yethu near Hout Bay, Masiphumelele and Ocean View near Kommetjie, and Red Hill in the south of the Peninsula). This process, whereby social, economic, environmental and health issues are being concentrated, is in contrast with the generalised enrichment of the Cape Peninsula and the construction of many luxury properties (Guyot et al. 2014). In Rio de Janeiro, the main characteristic of the urban frontier near the national park concerns rather a dynamic of urban reconstitution, with the pacification of the *favelas* and their partial gentrification. In Nairobi, the urban frontier near the park, corresponds to the advance of the rural and peri-urban habitat in the south of the park (through the privatisation

and sale of former Maasai collective pastures), to industrial growth in the north and the east, and to railway and ring road projects that are denting the park. Lastly, in Mumbai, apart from the new luxury properties built near the park, informal settlements have been growing progressively inside the park since the 1980s–1990s.

Faced with these urbanisation dynamics, it is legitimate to question whether the boundary separating the urban edge and the natural edge is a conflictual, contested and often infringed frontier line, or whether it can lead to favouring hybridisation processes, of which the “cultural logic” of the eco-frontier seems to be a first variant.

8.2.3 *Frontier Line: A Third-Zone of Hybridisation?*

At first sight, the frontier-vs-frontier dynamics only seem to represent a problem in Mumbai (Chap. 4), while they are relatively pacified in Cape Town, Rio and Nairobi. In fact, in these three cities, recent current affairs have shown that the contact zone between the city and the park was the subject of recurrent conflicts, whether directly or indirectly. In Cape Town, a white ward councillor denounced the pollution of the wetland adjoining the park, by the poor residents of the township of Masiphumelele (interview dated 14/03/2013): “It’s a huge problem. And we work on it every single day and it’s just ... it’s a problem; I mean it’s a huge problem. That wetland there is a nightmare. [...] And it just ... the next day you’re back there and it’s the same bloody thing, you know. It’s all the night soil [that] goes into the canal and the nappies and ... It’s laziness I think. It’s education and laziness. [...] Because they’re too lazy to go to the nearest dirt-bin, or to put it into a dirt-bin and tie it up and then ... But they let their children play in it, that’s the terrible thing, it’s that those children go squish, squish, squish through that bloody stuff. That’s how... I have a huge disaster risk programme going on in there.” In Rio, *favela* residents carry out makeshift connections to retrieve the water resource which is found inside the park. In Nairobi, several urban development projects are threatening the very existence of the national park: a new ring road is to isolate the park entirely in the south, not to mention the railway line project which is to run through the middle of the park rather than cross the military zone of Langata Barracks and the suburb of Kibera Slum.

However, it seems that hybridisation dynamics prevail over “frontier-vs-frontier” conflicts, in that they enable the park to legitimate its presence within emerging metropolises. They also enable certain well-off residents to justify their control over land and real estate near the vast spaces of environmental amenities (greenification), and enable the metropolitan authorities to validate their integration into the club of world metropolises.

The hybridisation process (Fig. 8.1) is an immaterial (values, norms), material (landscape, territorial markers including neo-toponymy) and virtual (representations, web-based in particular) blend between the two a priori distinct or even contradictory processes of nature conservation and urbanisation. Hybridisation uses

<p>WHAT? Blending between eco-frontier and urban frontier.</p> <p>WHY? Acknowledgement by the stakeholders from either the urban fabric or the protected areas that “purity” is neither sustainable nor even desirable. Possible exploitation of this zone by stakeholders, in order to gain political power, and to use it as a territorial domination tool or as an economical resource.</p> <p>WHERE? Proximity [frontline/contact between the urban frontier and the eco-frontier]; Projection [inside the protected area, or inside the city, or outside both]; Connection [connecting various protected areas, and/or specific urban areas using corridors]</p> <p>HOW? Immaterial [discourses, philosophies, norms]; Material [landscape, territorial markers]; Virtual [web sites].</p> <p>WHO? Stakeholders from various spheres. Interesting to see how personal and professional lives are hybridised.</p> <p>WHEN? Genealogy of both urban and eco-frontiers.</p>

Fig. 8.1 Hybridisation working framework in a context of encounter between the park and the city. *Source* Authors

a sort of “third-zone” as support that groups, selects and transforms elements included in the eco-frontier and urban frontier processes. Third-zone is a geographic neologism directly inspired by notions of third-space (Viard 1990; Vanier 2000) and third-landscape (Clément 2004). A third-zone, within a space dominated by a metropolis and a national park, refers to a space of encounter, a space of mixing and therefore of hybridisation of values borrowed from the two previous spaces, i.e. naturalness and urbanity. This “naturbanity” is consubstantial with the third-zone and comes with different effects that will be developed further on. As such, a third-zone is not equivalent to the buffer zone of the national park, or to a potential zone of adherence: it includes but also exceeds them (philosophically and geographically), in that a third-zone describes a more subtle and successful blend, for both residents and park managers, between naturalness and urbanity.

Cities such as Rio or Cape Town, where the national park seems to be well integrated into the metropolitan logic, result in levels of hybridisation that are more important than in Nairobi or Mumbai. Three different third-zones can be described: third-zones of contact, of projection and of connection. In contact between eco-frontier and urban frontier, third-zones can be located within the buffer zone of the park. In projection, third-zones can be situated inside the national park, inside the city, or outside of both. In connection, third-zones are found at the level of biodiversity corridors, linking the park to other protected wilderness areas of the city.

8.3 Who Benefits from Hybridisation?

In order to understand who benefits from hybridisation between eco- and urban frontier, we compare here the four case studies, and then propose a typology.

8.3.1 Comparing the Four Case Studies

A gradient of high/low hybridisation goes from Cape Town to Mumbai, via Rio and Nairobi (Table 8.2).

In Cape Town, six forms of hybridisation attributable to three groups of actors co-exist: the City of Cape Town, SANParks, and the residents (rich and poor). They each produce differentiated third-zones. The first hybridisation process, supported by SANParks, tends to produce third-zones of contact (picnic areas near the park’s boundaries) and projection (recreational zoning inside the park). These third-zones sometimes have admission fees, which raises the issue of accessibility for all the residents, even though the motto of the park is “A park for all forever”. The second hybridisation process organised by SANParks is linked to the establishment of environmental education, meant for all the children of the metropolis (see Chap. 12; Belaidi 2016). This third-zone is projected in the south of the Cape Peninsula, near Cape Point, one of the most touristic spots of the national park. Not only does this initiative make it possible for all the young residents of the city to know one of the most beautiful sections of the park, but it also aims, in particular, to hybridise the way children think and reason (immaterial hybridisation), so that they can subsequently apply these principles at home (connection hybridisation). In Cape Town, two hybridisation logics related to the metropolitan authority can be described: hybridisation through biodiversity network connection, which makes it possible to create third-zones in the form of corridors between the different protected

Table 8.2 Hybridisation between eco-frontier and urban frontier in the four cities

	Cape Town	Rio de Janeiro	Nairobi	Mumbai
Possible hybridisation	<ol style="list-style-type: none"> 1. TMNP: park/city intertwined (leisure zones) 2. TMNP: environmental education (reconciliation ecology) 3. City: BIONET 4. City: Green Map 5. Rich residents: environmental “glacis” (rural sense of place, natural heritage, eco-estates) 6. Poor residents: urban gardens, green shacks 	<ol style="list-style-type: none"> 1. Park: religious use of the mountains/forest/waters 2. Park: environmental education of <i>favela</i> inhabitants near the park 3. Poor residents: ecotourism projects in <i>favelas</i> 	<ol style="list-style-type: none"> 1. NGO + park: Agro-ecology in the southern part of the park (Maasai) 2. Park: Green line 3. Park: Leisure areas inside the park 4. Richer residents: environmental glacis in Karen 	<ol style="list-style-type: none"> 1. Park: Cultural hybridisation: tribal artwork inside the park/religious use of the park 2. City: Aarey colony/ jungle, zoo project 3. Poor residents: embryonic hybridisation in the informal settlements inside the park 4. NGO: Mumbaikars for SGNP

Source Authors

metropolitan natural spaces and the national park (e.g., Constantia Green Belt, etc.), and hybridisation through projection, from the Green Map, which indicates all the ecological initiatives within the City of Cape Town. Hybridisation advocated by the park and that advocated by the metropolitan authority are not well coordinated, but show that the encounter process between the two urban and nature conservation logics is maturing.

Another hybridisation logic in Cape Town is sometimes confused with the cultural eco-frontier, which is about the formation of a third-zone through contact hybridisation in the form of environmental glacis, from well-off residents (Guyot et al. 2014). Finally, from the point of view of the most destitute residents, several initiatives as regards slum greening and multiplying urban (and sometimes organic) vegetable gardens, can be attributed to projection hybridisation, often instrumentalised by environmental associations grouping together well-off city dwellers, desirous of making certain forms of socio-racio-spatial segregation long-lasting.

In Rio, the two main hybridisation processes concern *favelas* with environmental education (see Chap. 12) and the development of ecotourism. This is essentially contact hybridisation which creates third-zones recognisable within *favelas* and near the Corcovado, with the development of hiking trails.

In Nairobi, two hybridisation processes are similar to Cape Town's: a projection process fulfilled by the conservation authorities, with picnic areas inside the national park, and contact process with the existence of an environmental glacis in several well-off residential suburbs near the park's boundaries, including those of Karen and Langata. A survey conducted by UNPEEC with members of the Friends of the Nairobi National Park (FoNNaP) association shows that most Western expatriates or Kenyans of European origin mobilised for the defence of the park and of wildlife, live in these suburbs. In these suburbs the landscape dimension (important vegetation), as well as the historical (colonial suburbs) and economic (many safari tour operators) identity, refer to proximity with the national park (Fig. 8.2).

Another contact hybridisation process in Nairobi seems to be active around the "greenline" project (<http://nairobi-greenline.org/>), which consists of planting trees on

Fig. 8.2 Behind the gate, a villa with garden: is the Karen district in Nairobi a symbol of hybridisation? *Source* Photo by Landy (2014)



the border between the national park and the city. Finally, a last hybridisation process, is taken up through agro-ecological initiatives involving the Maasai populations in the south of the Park. This concerns a programme that, at some stage, remunerated “ecosystemic services”, by giving money to the owners who undertook not to close their pastures. This is essentially projected hybridisation. Except for this last initiative, it seems that most hybridisation processes, in Nairobi, take place only by involving a fairly reduced fringe of the rather well-off and often white or expatriate population.

The few ecologisation processes mentioned in Table 8.2, concerning Mumbai, seem embryonic, except perhaps for MfSGNP (<http://www.mumbaikarsforsgnp.com/>). This association which emanated from civil society, managed to convince the Park Management of the importance of relying on city dwellers to help manage the park with regard to certain issues: animal census, renting bicycles, and working with the population towards better practices, with a view to protecting people from leopards—and vice versa (Landy, forthcoming). MfSGNP admits that it recruits from among the wealthy above all, a fact which is already presumed since the members are socially fairly powerful, are able to ensure that their actions are given a lot of media coverage, and are able to attract private funding. In fact, the policy of the Park Management goes in the same direction: the latter is thinking of reducing recreation areas for the general public (e.g., paddleboats, etc.) with more ambitious goals in mind in terms of environmental education, such as hiking with scientific guides, etc., with the same perhaps cynical but realistic principle: relying on the rich is simpler and more efficient in protecting the park.

However, other initiatives tend to integrate the poor, and “tribal” populations in particular: on the one hand, a group parallel to MfSGNP, founded by Krishna Tiwari, has been increasing the awareness of indigenous populations, and recognising the importance of their ecological know-how; on the other, a Warli painter living (illegally) in the park, has been commissioned to decorate the administrative buildings of the Forest Department (Chap. 5). Nevertheless, all this remains limited. Hybridisation appears particularly fragile as regards Aarey Colony, since the zoo project would undoubtedly have been more a victory of the urban frontier than an example of a “third-zone”, since ring road projects are on the increase, in order to ease the east-west crossing of the built-up area. Would the more costly (although certainly necessary) alternative of a tunnel under the national park, manage to prevent the destruction of this fragile area, increasingly eaten away by more or less legal real estate projects?

8.3.2 The Political Uses of Hybridisation

We would like here to provide an analytical framework in order to expose the major processes of park/city hybridisation. We will then see whether they can be exemplified in the four case studies (Table 8.3).

Table 8.3 The different effects of the park/city contact hybridisation: generalisation

Hybridisation by: Third-zone dedicated to:	Contact	Projection	Connexion	Social dynamics
Recreation (spreading the park space towards the urban space)	<p>“Gateway” effect: recreation areas located near the park’s gates Examples: TMNP (Oudkraal, Tokai Forest) NNP: Safari Walk SGNP: Tiger Safari, toy train TNP: picnic facilities, international tourism, ecotourism, sports</p>	<p>“Centre” effect: all areas accessible by city dwellers inside the park Examples: TMNP, TNP, NNP, SGNP. SGNP: trail with guide and prior permission</p>	<p>“Corridor” effect: Visitors spend more time in and around the park thanks to biodiversity corridors sometimes remote from the park’s boundaries Examples: Green Belt, Constantia (Cape Town), Bionet. SGNP: Aarey Colony NNP: Bomas of Kenya TNP: establishment of green corridors (Mosaic Corioca)</p>	<p>Often fairly exclusive TNP: not necessarily exclusive. The park contains fairly popular areas</p>
Education (spreading the park space towards the urban space)	<p>“All in the park” effect: environmental education centres located inside the park Examples: Rio, TMNP (Cape Point)</p>	<p>environmental education centres</p>	<p>“Park for all” effect: educating all young people wherever they live in the metropolis Example: Cape Town, bus dedicated to environmental education. Rio, initial workshops conducted in the <i>fvvelas</i> SGNP: awareness campaign on leopard hazards</p>	<p>Inclusive</p>
Glacis (dwelling) (urban space)	<p>“Greenitrification” effect: enrichment near the contact line related to the real estate development of environmental and landscape value until the formation of an environmental glaciis of whiteness (with potential ecotouristic function) Examples: Cape Town (Noordhoek, Constantia), Nairobi (Karen, Langata)</p>	<p>enrichment near the contact line development of environmental and landscape glaciis of whiteness (with potential ecotouristic function) Examples: Cape Town (Noordhoek, Constantia), Nairobi</p>	<p>Greenification effect: greening different suburbs or facilities sometimes remote from the park but benefiting from the prevailing ecological logic Example: Cape Town: green shacks, green map</p>	<p>Exclusive</p>
Production (spreading the urban space towards the park space)	<p>“Organic” effect: development of organic agriculture, biodynamic agriculture and permaculture in urban agriculture Examples: Cape Town, Nairobi</p>	<p>development of organic agriculture, biodynamic agriculture and permaculture in urban agriculture Examples: Cape Town, Nairobi</p>	<p>“Conservation easement” effect: transfer of part of pert-urban land properties to nature conservation</p>	<p>Inclusive</p>

Fig. 8.3 Silvermine Reservoir and Picnic Area (TMNP). *Source* Photo by Guyot and Dellier (2014)



Fig. 8.4 Hang-gliding from the national park above Barra de Tijuca. *Source* Photo by Landy (2012)



Four main functions of the third-zones can be brought out from the previous examples: recreation, education, housing-glacis and production. For most, they can be applied to contact, projection and connection spatial logics, denoting different forms of (inclusive and exclusive) social dynamics.

A dozen effects of park/city hybridisation can be brought out.

- the “**gateway**” effect indicates the importance of recreation areas, often the most used ones, located near the gates of the park in terms of the encounter between national park values and city dweller usage. Here hybridisation is high as it enables residents to identify with the park, and conservation actors to integrate sustained and diversified uses in their planning policy (Fig. 8.3).
- The “**centre**” effect refers to recreation areas that city dwellers can access inside the park, whether by car, bicycle or on foot. It transforms city dwellers into “naturban” dwellers who must adapt their equipment and habits to wilderness, and transforms the park that must host these populations by developing roads, paths or climbing routes (Fig. 8.4).

- The “**corridor**” effect relates to ecological corridors where connections allow inhabitants to experience naturban situations outside of the park. This effect sometimes makes it possible to connect several third-zones in the city together, and can lead to a high level of hybridisation beyond the park itself (Constantia Green Belt) (Fig. 8.5).
- The “**all in the park**” effect pertains to initiatives of environmental education centres inside the national park. It increases in situ hybridisation of urban populations that seldom visit the park (Fig. 8.6).
- The “**park for all**” effect offers environmental education to young city dwellers beyond the park limits, wherever they live on the metropolitan territory. As such, it projects hybridisation logics in the city, and connects in a functional and non-substantial manner several highly socially contrasted territories. This effect

Fig. 8.5 Green Belt Corridor (Constantia). *Source* Photo by Guyot and Dellier (2014)



Fig. 8.6 Environmental education, or simply recreation? School students in Mumbai park. *Source* Photo by Landy (2012)



Fig. 8.7 Baba in her garden created with the support of an NGO (Gugulethu Township, Cape Town). *Source* Photo by Landy (2014)



Fig. 8.8 Property towards Oudekraal (Camps Bay, Cape Town). *Source* Photo by Guyot (2013)



is borne by the national park institutions (and sometimes the metropolitan authorities) for environmental and social reasons (Fig. 8.7).

- The “**greentrification**” effect indicates the gentrification process of local residential areas in contact with the park, determined by the search for environmental amenities. Hybridisation takes place by transforming buildings in relation to the natural landscape (e.g., materials, rooms with a view, gardens with high biodiversity composition, toponymy, etc.) (Figure 8.8).
- The **greenification** effect follows a logic of environmental value projection inside the city, similar to greentrification but with different causes (Fig. 8.9).
- The “**organic**” effect refers to the multiplication of urban agricultural initiatives that have integrated environmental norms in their production. This effect generally concerns the same type of clientele as that visiting the national park.
- The “**conservation easements**” effect refers to the possibility given to some residents of the metropolitan outskirts to transform part of their property into a

Fig. 8.9 Hiranandani Gardens (Mumbai North): Despite the name, a derisory effort to greenify a middle class suburb. *Source* Photo by Landy (2009)



nature reserve. This effect leads to significant hybridisation through the naturalisation of residential areas.

Some effects concern most case studies (gateway, core), while others involve one example only (conservation easements). This typology (Table 8.3) offers a complete set of effects that can be used in other situations of park/city encounters, as in countries of the Global North.

At least four of these effects come mainly from the national park (gateway, core, endemic education and park for all), and concern third-zones situated inside and on the borders of the park, as well as in town. Four other effects are co-produced by city dwellers and the metropolitan authorities (corridor, greentrification, greenification, green edge), although rarely in collaboration with the park. The other effects relate to other economic dynamics at work in the city, such as organic production (although those dynamics may be more indirect effects related to the presence of environmentally friendly social groups living in the environmental glaxis).

Who does park-city contact hybridisation benefit? Third-zones and the different effects of hybridisation are multiform and concern more or less all urban actors. Nonetheless, this is a fragmented hybridisation which operates through enclave systems. The hosting theory can in fact make it possible to go beyond this fragmentation to propose more successful intermixing between the different logics.

8.4 Conclusion: From Theory to Practice: Towards a Theory of Hosts

What can we make of those different dynamics that range from conflictual encounters between eco- and urban frontiers to hybridisation? In particular, what could the theoretical analysis of the four cities offer to practitioners and policy-makers? When moving from science to policy recommendation, the balance

between scientific accuracy and governance relevancy is always hard to find. In such a context, the analytical framework that scientists sometimes want to promote may be at odds with the practical issues faced by park and city authorities, a partial misunderstanding that the programme UNPEC experienced and dealt with explicitly.

We suggest here that the understanding of nature/urban spaces relationships that underlies most institutions does not take into account all of the factors that actually make up a city with a park. This understanding of the interactions between the park and the city is largely informed by a narrow territorial comprehension of both the urban space and the ecological space. For parks, it ensures that conservation policies must be land-based, i.e. that large tracks of land have to be reserved for biodiversity conservation. For cities, it means that urban areas, because of their high population density living in a highly transformed environment, need more space for newcomers and new development. But this reading of city/park interactions is true as long as it concerns only two separate entities, the park on the one side and the city on the other side, which can live and function independently. Following on from this logic, the development of one side is seen as detrimental to the other side, e.g., the expansion of a national park can only happen at the expense of urban development. This “territorial trap” is partially a legacy of the fortress conservation ideology that has been predominant in rural biodiversity conservation for decades (Brockington et al. 2008), but is fuelled in the context of emerging cities by urban sprawl and real-estate speculation.

What the chapter shows, however, is a more complex picture of parks in cities. The concepts of eco-frontier, urban frontier and third-zone hybridisation illustrate the actual interwoven connections of nature and urban dynamics. If one sheds the territorial dimension of parks and cities and focuses on the different dynamics that shape their interrelationships, one will see networks and relational processes across various spaces (McCann and Ward 2010). Those networks are both material and ideal, ecological and social, as already detailed above. Because networks as a process are always more difficult to grasp than a material dimension of trunk of lands, science and practitioners alike have historically been prone to overlook networks. And when landscape ecology eventually reintroduced the structural and functional dimensions of habitat dynamics, it generally applied its results to conservation policies in rural areas (Merriam 1991; Bennett and Mulongoy 2006). In those spaces, ecological links are more obvious than in urban places. In the former the natural features of the connections are obvious while in the latter the naturalness is stuck among spaces of concrete and buildings. Hence the need to combine ecological and social networks. Because of the urban settings in which they exist, national parks cannot avoid the massive and diverse social thrusts that at the same time frame their management and justify their existence.

For these different reasons, the fortress mindset is not a rational answer to practical issues; it is rather a tapered view of city/park matters for the stake of management and administration. The bureaucratic division of authorities between the territorial park and the territorial city is thus a poor proxy of the actual connections that overflow and circumvent such divisions (a similar argument has been

developed for climate change urban governance, see Bulkeley and Castán 2013). Besides, this division is largely a legacy of and an importation from other contexts in which antagonistic views of nature and society can lead to the marginalisation or even the erasing of one of the sides, for instance by degazetting a park or resettling residents. There are no such political solutions in big cities with national parks, where the non-exclusivity principle rules (Chap. 1). And since those connections and the social and ecological networks they create between the park and the city will endure, it is rational to take that into account in the management organisation and decision-making bodies.

Our analysis of eco- and urban frontiers and hybridisation dynamics calls for a renewed understanding of city/park governance. When the fortress is not able to integrate all the components and processes that make up the city/park connections and as such is confined by a defensive stance from both sides, we suggest viewing the city and the park as mutual hosts, that is, to understand city and park not as idle lands, but as dynamic networks that may mutually benefit from their interactions. It implies that both institutions should extend beyond their boundaries. Not only to the edges, but also to distant areas and to distinct institutions, in order to reach and jointly manage the different frontier and hybridisation zones.

“Host” is an interesting concept, because it bears a social meaning (receiving a guest) as well as a biological meaning. In the latter signification, host describes not a parasitic process but a commensalism, an association between two organisms in which only one benefits, or even mutualism, where the association is beneficial to both organisms involved.

In sum, moving towards city and park institutions as mutual hosts implies two steps. One is to institutionally follow the networks that social life and ecological dynamics create, as described and classified above in this chapter as eco-frontier, urban frontier and third-zone of hybridisation. The second step is to remove the fence and become active partners in each other’s space. As the end of the day, one could imagine the national park managers becoming urban actors, and the city authorities becoming park managers. This may not be their respective mandate, but it seems the only way to fill the gap in institutional capacity (CBD 2012). Yet there is a last rational behind the host concept. As cities emerge as leading actors in politics, they manage to create their own political choices that are sometimes distinct from the neoliberal practices and discourses dominant at state and global levels and as such have a strong potential towards environment friendly policies, as experienced in the network of Agenda 21 European cities and the Aalborg Charter in Europe (Emelianoff 2007).

Forty years ago, the Stockholm Conference on the Human Environment brought together environment and development issues, but the conservationists missed this opportunity and remained marginal in the integrative policies. Conservation only started to articulate with development issues 10 years later with the promotion of the sustainable development agenda (IUCN et al. 1980). Today, as cities become “green”, conservation cannot miss its chance again. Conservation must become a host of this change.

References

- Arnauld De Sartre, X., Berdoulay, V., & López, R. S. (2012). Eco-frontier and place-making: The unexpected transformation of a sustainable settlement project in the Amazon. *Geopolitics*, 17, 578–606.
- Belaidi, N. (2015). Théorie du droit et front écologique: Apport à la (re)définition de la justice environnementale. *Développement durable et territoires*, 6, 1.
- Belaidi, N. (2012). Le Patrimoine mondial pour créer une identité commune dans l’Afrique du Sud post-apartheid? Exemple de la ville du Cap. In L. Bourdeau, M. Garavari-Barbas, & M. Robinson (Eds.), *Tourisme et patrimoine mondial* (pp. 269–284). Quebec: Presses de l’Université Laval.
- Belaidi, N. (2016). Ecologie & Réconciliation. Etude à partir des initiatives d’éducation à l’environnement sur Table Mountain National Park. In R. Porteilla et al. (Eds.), *Afrique du Sud: 20 ans de démocratie contrastée?* Paris: L’Harmattan.
- Belaidi, N., Berger, M., Houssay-Holzschuch, M., & Ninot, O. (2011). Cape Town, périphéries postapartheid, in Chaléard J.-L. (dir.). *Les métropoles des Suds vues de leurs périphéries*, Paris, PRODIG, coll. Grafigéo no. 34, 133: 79–92.
- Bennett, G., & Mulongoy, K. J. (2006). *Review of experience with ecological networks, corridors and buffer zones*. Montreal: Secretariat of the Convention on Biological Diversity.
- Brockington, D., Duffy, R., & Igoe, J. (2008). *Nature unbound: Conservation, capitalism and the future of protected areas*. London: Earthscan.
- Bulkeley, H., & Castán, Broto V. (2013). Government by experiment? Global cities and the governing of climate change. *Transactions of the Institute of British Geographers*, 38(3), 361–375.
- CBD. (2012). *Cities and biodiversity outlook. Action and policy: A global assessment of the links between urbanization, biodiversity, and ecosystem services*. Secretariat of the Convention on Biological Diversity/Stockholm University/ICLEI, Montreal.
- Clément, G. (2004). *Manifeste du tiers paysage*. Paris: Sujet-Objet.
- Emelianoff, C. (2007). La ville durable: L’hypothèse d’un tournant urbanistique en Europe. *L’Information géographique*, 71(3), 48–65.
- Estebanez, J. (2006). Les jardins zoologiques et la ville: Quelle nature pour le Biodôme de Montréal? *Annales de géographie*, 6, 708–731.
- Guyot, S. (2015). *Lignes de front: L’art et la manière de protéger la nature*. HDR dissertation, University of Limoges.
- Guyot, S., Dellier, J., & Cerbelaud, F. (2014). L’environnement au profit des plus riches? Construction et hybridation d’un front écologique métropolitain dans la Péninsule du Cap. *Vertigo - la revue électronique en sciences de l’environnement*, 14,1, online.
- Guyot, S., & Richard, F. (2009). Les fronts écologiques - Une clef de lecture socio-territoriale des enjeux environnementaux ? *L’Espace Politique*, 3 (online).
- Guyot, S. (2009). Fronts écologiques et éco-conquérants: Définitions et typologies. L’exemple des ONG environnementales en quête de Côte Sauvage (Afrique du Sud), *Cybergeo*, 471 (online).
- Guyot, S. (2011). The eco-frontier paradigm: Rethinking the links between space. *Nature and Politics, Geopolitics*, 16, 675–706.
- Héritier, S., Arnauld de Sartre, X., Laslaz, L., & Guyot, S. (2009). Fronts écologiques: Dynamiques spatio-temporelles et dominations multi-scalaires, *L’Espace Politique*, 9, 3 (online).
- IUCN, UNEP & WWF. (1980). *World conservation strategy: Living resource conservation for sustainable development*. IUCN/UNEP/WWF, Gland/Nairobi.
- Kaufmann, E., & Zimmer, O. (1998). In search of the authentic nation: Landscape and national identity in Canada and Switzerland. *Nations and Nationalism*, 4(4), 483–510.
- Lawhon, M., Ernstson, H., & Silver, J. (2013). Provincializing urban political ecology: Towards a situated UPE through African urbanism. *Antipode*. <https://doi.org/10.1111/anti.12051>.

- Legoix, R. (2013). *Sur le front: Pour une approche géographique du front d'urbanisation: Lotissements, voisinages, trajectoires*, HDR dissertation, University Paris 1 Panthéon-Sorbonne.
- McCann, E., & Ward, K. (2010). Relationality/territoriality: Toward a conceptualization of cities in the world. *Geoforum*, 41(2), 175–184.
- Merriam, G. (1991). Corridors and connectivity: Animal populations in heterogeneous environments. In D. A. Saunders & J. et Hobbs (Eds.), *Nature conservation 2: The role of corridors* (pp. 133–142). Chipping Norton: Surrey Beatty and Sons.
- Reymond, H. (2007). Une évolution urbaine émergente: De l'ancienne symbiose ville-campagne à la future synergie des parcs urbains. In A. Da Cunha & L. Matthey (Eds.), *La ville et l'urbain: Des savoirs émergents* (pp. 207–220). Lausanne: Presses polytechniques et universitaires romandes.
- Stephens, A. (1998). Co-managing the boundaries between urban and natural areas: A case study of scarborough (Cape Peninsula). *South African Geographical Journal*, 80, 101–107.
- Vanier, M. (2000). Qu'est-ce que le tiers espace? Territorialités complexes et construction politique. *Revue de géographie alpine*, 88, 105–113. <https://doi.org/10.3406/rga.2000.4626>.
- Viard, J. (1990). *Le tiers espace: Essai sur la nature*. Méridiens Klincksieck.
- Zimmer, O. (1998). In search of natural identity: Alpine landscape and the reconstruction of the swiss nation. *Comparative Studies in Society and History*, 40, 637–665.
- Zimmer, O. (2004). A unique fusion of the natural and the man-made: The Trajectory of Swiss nationalism, 1933–39. *Journal of Contemporary History*, 39(1), 5–24.