

Studies in the History of Gardens & Designed Landscapes

An International Quarterly

ISSN: 1460-1176 (Print) 1943-2186 (Online) Journal homepage: <https://www.tandfonline.com/loi/tgah20>

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To cite this article: Barbara Boifava (2020) The fourth nature of the contemporary city: from Rio de Janeiro to Seattle, Washington, *Studies in the History of Gardens & Designed Landscapes*, 40:2, 128-145, DOI: [10.1080/14601176.2019.1706893](https://doi.org/10.1080/14601176.2019.1706893)

To link to this article: <https://doi.org/10.1080/14601176.2019.1706893>



Published online: 20 Feb 2020.



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The fourth nature of the contemporary city: from Rio de Janeiro to Seattle, Washington

BARBARA BOIFAVA

Introduction

The concept of ‘fourth nature’, intended as the nature of the city, will be developed through an examination of the urban forest projects of two important experiences in modern landscape design: Roberto Burle Marx’s Aterro do Flamengo in Rio de Janeiro, and the Seattle Freeway Park by Lawrence Halprin & Associates. These works suggest an entirely new project for public space — intended as the transposition of an original landscape and a native ecology, such as the Floresta da Tijuca in Rio de Janeiro, and the original ‘old growth’ forest of Seattle.

The definition of ‘fourth nature’ is added to the three different categories of nature as described in the literature of landscape studies: a ‘first nature’, seen as wild, luxuriant and uncontaminated, is connected to a ‘second nature’ identified by Cicero as the cultural landscape that is productive and shaped by human activity (agriculture, urban development, roads etc.). To these two definitions the garden can be appended as a ‘third nature’, shaped for aesthetic purposes and designed as a combination of nature and culture.¹ The urban question is thus enhanced with a new poetic that, following the idea of ‘fourth nature’, promotes a harmonious growth of the city wherein its natural dimension bestows a new and more effective meaning in the form of open public space. This is evidently not the same idea of ‘fourth nature’ as described by John Dixon Hunt, regarding the symbolic and ideal spaces in landscape design generated by literature on gardens, and his considering it as the ‘verbal,

conceptual existence beyond its practical aspects’.² Connected to the definition of ‘fourth nature’, there is also the ‘four natures approach’ that is applied to urban reality by Ingo Kowarik as a conceptual framework in which to structure and communicate a variety of green spaces within urban borders.³ In this case the ‘fourth nature’ identified by the German landscape ecologist includes the spontaneous plant-life that develops in brownfield sites in abandoned areas of the postindustrial cities, which is different from an image of nature incorporated in the city and from the city that I intend to present with this article. What distinguishes this new poetics of nature is its basis in a recognized ecological paradigm, and its capacity to shed light on a new functional aesthetic that can be applied in the urban landscape.

My research centers on a renewed relationship between the city and nature starting with the evaluation of the effective natural scale of an urban project, as a specific model in the development of the contemporary city based on an awareness of Ecology’s role in the processes of urban planning.⁴ The urban scene becomes a field of experimentation of strongly innovative approaches that are capable of evoking natural processes, while validating formal and ideological reflections of a profound ecological significance. In particular, the Parque do Flamengo in Rio de Janeiro at the beginning of the 1960s and the Freeway Park in Seattle one decade later, both introduce unprecedented categories of places that become episodes of exceptional relevance for the originality of their formation, their particular amplification of the effects of nature, and the value they hold in the culture of the landscape project.

Rio de Janeiro: a city forest

In the Brazilian landscape of Rio de Janeiro, the Floresta da Tijuca that covers the green morros hills surrounding the city penetrates into the urban fabric, representing an indispensable *cadre* natural framework for the environmental balance of the city itself (Figure 1).⁵ Today the Floresta da Tijuca — declared the Parque Nacional Floresta da Tijuca since 1961 — is the largest urban forest in the world and a fragment of the remaining *mata atlântica* (Atlantic rainforest) biome that extends along the entire Atlantic coast of Brazil.

The Brazilian landscape architect Roberto Burle Marx (1909–1994) developed an in-depth knowledge of the tropical forest, and, fascinated by its exuberant vegetation, he came to appreciate the indigenous cultures living there (Figure 2).⁶ This was a South America where, up until the middle of the 19th century, nature was often perceived as dangerous and forbidding, and where the most important public parks and gardens were populated by botanical species mainly imported from Europe. Much of the forest had been cut back during the colonial period to establish extensive coffee and sugar plantations, and by the 1820s, it was also almost completely devastated by a massive urban expansion that followed the arrival of the Portuguese royal family. As a result of the serious problems connected to Rio's water supply that followed, in 1860 the Emperor Dom Pedro II was responsible for the first successful restoration of the Floresta da Tijuca. Almost 100,000 native tree seedlings were planted between 1862 and 1887 in recognition of the benefits and potential for ecological-environmental interactions between the city and its surrounding nature, and the forest was appointed as a veritable large-scale public park.⁷ Also participating in these efforts was the French hydraulic engineer and botanist Auguste-François-Marie Glaziou,⁸ with a cultural and ecological plan for *embellissement* that aimed to bring the fertile forest to the *cariocas* and transform it into an urban *promenade*.⁹ The idea of such direct contacts with the beauty and exuberance of a native forest that defied monotony later urged Glaziou to redesign some of the most famous public gardens of Rio de Janeiro, such as the *Passeio Público*, the *Paço de São Cristóvão*, the *Quinta da Boa Vista*, and the *Campo de Santana* in which 'the feeling of a synthesis between the presence of form and the right of nature to show itself in its exuberance is fully revealed'.¹⁰

The work of Roberto Burle Marx inserts itself within the development of this 'cultural landscape' while also adhering to a sense of historical process as well as an ecological respect for the natural environment. The copies of certain letters written by Glaziou in 1873 and kept in the personal library of

Burle Marx at the *Sítio Santo Antônio da Bica*,¹¹ bear witness in particular to the Brazilian landscape designer's interest in projects for the improvement and beautification of the *Campo da Aclamação* in Rio de Janeiro (today known as *Campo de Santana*), conceived as 'a serious work, simple in its large scale, beautiful, and durable as nature, which will act as its model'.¹²

Precisely in reference to the landscape practices of Glaziou, Burle Marx's work identifies the relevance of the forest = city equation and recognizes it as an inalienable principle. In 1962, Burle Marx declared: 'We shall never again find the peace of Eden, but we can try to get closer to it by creating restful and uplifting environments'.¹³ Through an act of inclusion of the primordial landscape and a return to the forest, the landscape architect discovered a significance in practicing landscape design in Brazil that was not autonomous or derivative; rather it reflected a deep historical and cultural understanding of the society and environment in which he lived.¹⁴

In response to the first Forestry Code of Brazil of 1934, which established the concept of protected forests and reserved lands, and to which Roberto Burle Marx always aimed to give justice through his professional career and his heartfelt 'environmental depositions',¹⁵ the Brazilian landscape architect developed a landscape design plan for the *Parque do Flamengo* (1961–1965) with a wide strip of *aterro* (landfill) as an arborized parkway along the Guanabara Bay (Figure 3). This 300 acre waterfront park was built over a vast area subtracted from the Atlantic Ocean's coastline and reclaimed thanks to an extraordinary engineering project, using materials from the excavation and demolition of a hill in the historic center, the *morro do Santo Antônio*, thus the area's name *aterro*. In doing this, he was able to confirm a unique ecological wealth and to celebrate a rich biodiversity, transforming, as noted by Catherine Seavitt Nordenson, 'a conservationist spirit into a prescient environmentalist position that constructed Brazilian modernity as inseparable from an ecological positioning of nature'.¹⁶

Burle Marx's *arborização* (afforestation) of this newly reclaimed sea-side terrain, developed in collaboration with the botanist Luiz Emygdio de Mello Filho, comprised a numerous species of shrubs and trees (Figure 4). 'I took plants that grow on the streets and hills of Rio de Janeiro and combined them in a cohesive whole',¹⁷ Burle Marx wrote in describing the planting plan for the design of the park. A new forest was formed, and it took life in



FIGURE 1. *Aerial view of Rio de Janeiro from the Floresta da Tijuca that covers the green morros hills surrounding the city (Photograph by Rodrigo Soldon).*



FIGURE 2. Roberto Burle Marx, *Mata Atlântica*, 1991 (© Sítio Roberto Burle Marx / IPHAN).

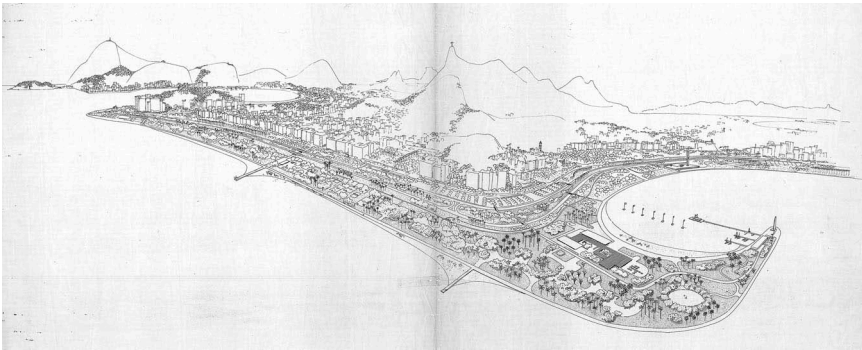


FIGURE 3. Perspective drawing for the Aterro do Flamengo, Rio de Janeiro, *Escritório Técnico Roberto Burle Marx*, 1961 (*Fundação Parques e Jardins, Prefeitura da Cidade do Rio de Janeiro*/© Burle Marx Landscape Design Studio).

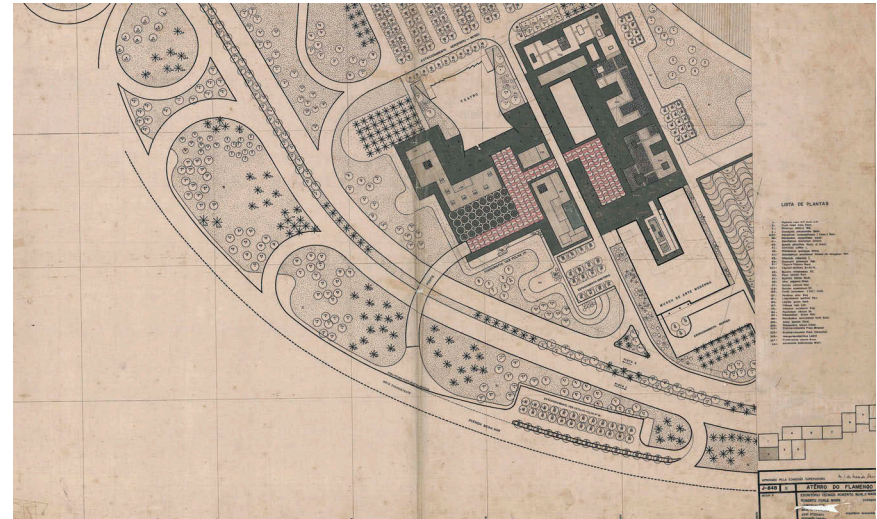


FIGURE 4. *Aterro do Flamengo, Rio de Janeiro*, plan relating to the tree-planting project for an area of the park near to Museum of Modern Art, *Escritório Técnico Roberto Burle Marx*, 1961 (*Fundação Parques e Jardins, Prefeitura da Cidade do Rio de Janeiro*/© Burle Marx Landscape Design Studio).

the city: 'The park has therefore many different functions. Yet, given its urban context and its social utility, I believed that my priority there was to design a landscape that would likely have existed there', declared the landscape architect in describing the project design for the large public park requested by the municipality,¹⁸ which he carried out in collaboration with the *Grupo de Trabalho para a Urbanização do Aterro*, as coordinated by the architect and urban planner Maria Carlota Costalat de Macedo Soares (Lota).¹⁹ Lota was convinced that 'the area of the *aterro* required particular attention in order to preserve its landscape and sea breeze, in order to transform itself from a simple roadway corridor to a monumental wooded area, which could soon become a city landmark'.²⁰ In this way, the *Parque do Flamengo* became a precious ecological tableau of botanical species, of which some were introduced in public spaces for the first time. The program and the layout of the park was developed by a team put together by Burle Marx also on the basis of the in-depth experiences of design for a new topography applied to the *Parque del Este* of Caracas.²¹ The architect Affonso Eduardo Reidy²² designated the

surrounding part of the project area which was subdivided into 11 sectors whose landscape design was conceived starting from a detailed and rich list of botanical species both native and exotic (including more than 240 different species of shrubs, trees, and palms) that were grouped together by ‘artificial associations’ based on specific landscape and botanical criteria.²³ The project also included a study of vehicular traffic circulation, proposing two high-speed roadways, instead of the four that were planned by the Superintendence of Urbanization and Sanitation which would have evidently obstructed the creation of a public park (Figure 5).

The *Aterro do Flamengo* is a public park for recreation and free-time, located between the mountains and the sea in Rio de Janeiro, and it also clearly functions as a roadway connection between the southern and northern parts of the city, from Botafogo to Copacabana. There, one can find such features and urban amenities as a museum complex, monuments, parterres, gardens, playing fields, parkway routes, pedestrian walkways, and a pedestrian bridge crossing the parkway, which all characterize a new landscape that is destined and purposed to recompose the contrasts of urban life. Mindful of the lessons of Frederick Law Olmsted prescribing a new cultural status of nature in the metropolis and the organization of public space as a system, the project design for the *Parque do Flamengo* was conceived as a continuous dialogue between the city and nature in light of a new awareness of the role of ecology in urban planning processes. However, in Rio de Janeiro, Burle Marx went beyond

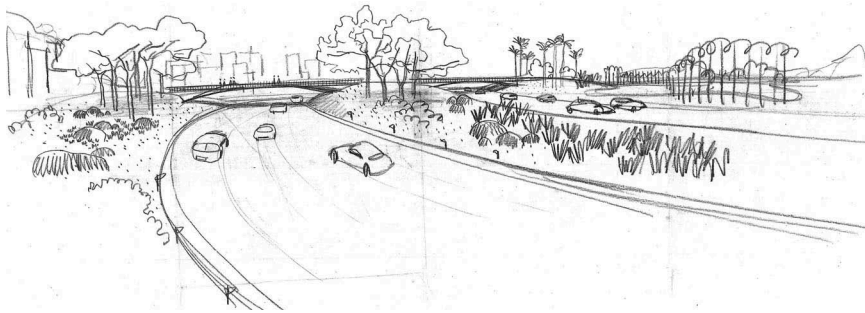


FIGURE 5. *Aterro do Flamengo, Rio de Janeiro, study perspective of the pedestrian bridges crossing the parkway, Escritório Técnico Roberto Burle Marx, 1961* (© Burle Marx Landscape Design Studio).

the model set by Olmsted: as noted by Matteo D’Ambros ‘more than a just a simple greensward, the *Parque do Flamengo* rather takes on the characteristic features of a ribbon park’.²⁴

A linear system of open spaces that can be crossed is overlapped with a ‘green matrix’, as suggested by Central Park, to become the new prototype for a modern ‘green infrastructure’ in which differentiated flows — from automobiles to pedestrians — can coexist within a recreated natural environment as the transposition of the original landscape and the native ecology of the *Floresta da Tijuca* (Figure 6). ‘One of the most restful things in life is to look at a tree-covered island, surrounded by the blue of the sea’ Burle Marx declared. And he went on to explain: ‘We cannot reproduce the exact proportions of nature in a city, but in our parks we can transpose and symbolize some of the features of nature that give us such satisfaction. In the middle of the city we can create ponds with green islands, and shelter them from the surrounding harshness, bustle and noise with belts of vegetation, as Olmsted did in Central Park’.²⁵

Burle Marx conceived of the park’s design as a didactic landscape to benefit the residents of the city, in a fruitful dialogue between City and Nature that can also be found in the work of the landscape architect and environmental designer Lawrence Halprin (1916–2009), one of the most significant American Landscape Architects of the last century. There are some archival documents that testify an open dialogue between Burle Marx and Halprin on the themes of ecology, city planning and social needs of urban dwellers. In addition to the documented written exchange between the two landscape designers,²⁶ a typed manuscript of a public lecture held by Burle Marx at the North Carolina State College School of Design, located in the *Lawrence Halprin Collection*, stands as a confirmation of the interest Halprin had regarding certain ideas expressed by Burle Marx: especially the effectual aesthetic quality of a landscape design plan that could ‘produce in the spectator a constant state of exaltation and surprise’ and in the creation of these effects ‘the artist must use every means at his command’.²⁷ The same principle was also highlighted at a conference held by Burle Marx in the same school and dedicated to the presentation of the landscape design plan for São Paulo’s Expo Park of Ibirapuera, which was destined to host the festivities for the fourth centennial celebrations of the city’s founding.²⁸ The landscape project for the large-scale park that was conceived to complete an

THE FOURTH NATURE OF THE CONTEMPORARY CITY



FIGURE 6. *Aerial view of the Parque do Flamengo, Rio de Janeiro, 1961–1965 (Photograph by Alicia Nijdam).*

articulated architectural system including buildings, pavilions and service facilities designed by architect Oscar Niemeyer and his team is relevant as a verification of the ongoing debate on modernity and the efforts made by Brazilian culture to maintain values of tradition in a perspective of strong renewal. The project also raises some profound questions regarding mainly the value of landscape design in the dynamics of the metropolis and its unexpected innovative strength (Figure 7). For the Ibirapuera Park project — which unfortunately did not pass its preliminary stages and was only partially completed — Burle Marx designed a convincing sequence of gardens envisaged with unusual accents.

The gardens with sinuous profiles follow one another and alternate with public spaces defined by geometric shapes and water gardens. The green spaces were freely linked together and conceived as diversified spatial and sensorial experiences of an extraordinary ensemble, studied as a corollary of the park's architectural unity. Their formal variety is rendered through a



FIGURE 7. Roberto Burle Marx, Oscar Niemeyer, Ibirapuera Park project, São Paulo, Brazil, Site plan, 1953 (© Burle Marx Landscape Design Studio/Digital Image © 2020, The Museum of Modern Art, New York/Scala, Firenze).

brilliant chromatic array of native plants and a rich diversification of mosaic covered materials (polychrome glass and stones), further enhanced by the use of water in its various possible forms, including floating *parterres*, fountains and water spouts. The heterogeneity and contrast of the materials used in the park design are sealed by the geometric shapes exhibited in the detailed representations of some of its gardens, on the border between painting and landscape design: Burle Marx stated 'It is not just as a gardener that I think of gardens'; and he added: 'I was trained as a painter, so questions of color contrast and harmony, of structure and form, are just as important for a two-dimensional painter as they are for me in the three-dimensional garden'.²⁹ It is precisely in that exceptional difference between the two-dimensional painter and the three-dimensional landscape architect that Halprin recognized Burle Marx's extraordinary capability 'to transfer a pattern to a landscape and have it seem right'.³⁰ The vivacious and multiformed design plan proposed by Burle Marx for Ibirapuera Park — as the result of a creative process that was capable of yielding modern and surprising spatial arrangements — represents the outcome of the evolution of a compositional frame and recognizable design orientations also seen in the repertoire of previous urban experiences. There always seemed to be a focus on 'the recovery of space at all costs, so that Man might regain his communion with Nature',³¹ as a clear reflection of Le Corbusier's school of thought. Le Corbusier was in fact invited to Rio de Janeiro in 1936 by Lucio Costa to act as a consultant for the *Palaço Capanema* project, the main seat of the Ministry of Education and Health in Rio de Janeiro (1937–1943);³² and it was there that the acclaimed architect formulated his idea of a *ville verte*, which included a necessary recovery of urban greenery and open space in the metropolis for a more balanced urban condition. Through the renewed spatial and perceptive effects validated by the two *jardins en l'air* of the Ministry headquarters, with the extension of the building's main block to a secondary wing for exhibitions, and with the open surface on the ground floor obtained by the use of massive pilotis supports, one could regain their strong relationship with the indomitable and omnipresent nature of the Carioca City.

In the case of Rio de Janeiro, the suggested image of a vertical garden city is laid out in the modern expression of a *park-system*, as developed by Burle Marx in the wake of an ongoing discussion on the urban landscape started in the USA by Olmsted, who was the first to highlight the

importance of new functional relationships and a renewed cultural status with nature in the construction of the city.³³ This axiom for modern landscape architecture clearly also concerns Halprin's project designs for open public spaces because of their strongly recognized social, ethical, and moral involvement, which always carry a significant ecological component as well.³⁴ Such project visions connected to nature are also attributed to the ideas of the inspired ecologist Ian McHarg and to the systematic method of ecology, which 'offers emancipation to landscape architecture'.³⁵ McHarg affirmed that natural elements should take on the value of limits or restriction in town planning, and maintain a strong reference for any project-design of the city, where the tension between temporality and control of the urban landscape emerges; such views and concerns were also shared in particular with Halprin.³⁶ The processes of Burle Marx and Halprin, developed over time by a deep-set cultural vision established in the lessons and work experiences of Olmsted, demonstrate a similar and shared drive to enhance urban life aesthetically, emotionally and psychologically through environmental experience. Their designs are meant both to offer a sense of *genius loci*, or spirit of place, to a public that felt uprooted by the vast destruction of what it had developed over generations.

The awareness of a solemn nature — which in the urban park model introduced by Olmsted becomes the very essence of the idea of landscape — is enriched in the contemporary era through a comparison with unheard of design themes that became an unprecedented groundwork for landscapes and landscape design. For example, the enchantment with nature's magnificence and exuberance was combined with the disruptive force of large metropolitan infrastructures to stage original greenway projects, which aimed to rebalance urban systems that were ecologically and environmentally in distress, just as in the case studies of Rio de Janeiro and Seattle.

The hanging urban forest of Seattle, Washington

In the story of the origins of a recognized landscape design in the USA, set forth mainly by Frederick Law Olmsted at the end of the 19th century, on the occasion of the Chicago World Fair (1893), the case of Seattle, as compared to other urban realities such as New York, Boston, and Buffalo, represents an emblematic example.

Here the original Olmstedian legacy was renewed in the proposal for *A Comprehensive System of Parks and Parkways* (1903) first drafted by the Olmsted Brothers firm of Brookline, Massachusetts, within the framework of the City Beautiful Movement ideals and following the fruitful experience of the Portland parks report. 'Seattle possesses extraordinary landscape advantages in having a great abundance and variety of water views and views of wooded hills and distant mountains and snow-capped peaks. I do not know of any place where the natural advantages for parks are better than here. They can be made very attractive and will be, in time, one of the things that will make Seattle known all over the world':³⁷ with these words, the landscape architect John Charles Olmsted (1852–1920) — nephew and then stepson of Frederick Law Olmsted, Sr. as well as partner of the Olmsted Brothers firm with his younger half-brother Frederick Law Olmsted, Jr. (1870–1957) — described the rich and varied components of Seattle's urban landscape, which could further benefit the proposed system of interlinked parks that would provide a diversity of experience (Figure 8).³⁸ A founding member and the first president of the American Society of Landscape Architects, the wilderness visionary John Charles Olmsted was an advocate both for the emerging profession of landscape architecture and for the value of comprehensive planning to develop healthful and attractive cities, by means of ecological and social processes.

The central feature of the Olmsted Brothers plan was a 20 mile-long parkway that ran from Bailey Peninsula (Seward Park) to Fort Lawton (Discovery Park) and linked a series of parks and boulevards connecting the existing and planned green spaces across the city. The Olmsted design philosophy was based on the idea of using the naturalistic landscapes to frame dramatic mountain and water views, thus creating 'a modern arcadia'.³⁹ For this reason, many of the parks conceived of by the Olmsted brothers along Seattle's modern 'pleasure drive' were designed with clear reference to the virgin forest that once covered the area's terrain and that was razed to the ground for the most part after the arrival of the Denny Party (a bumbling group of Midwesterner yokels) in 1851 at Alki Point, with the foundation of the region's Municipality. However, as pointed out by Matthew Klinge, 'building new parks did not end the cutting, because urbanization had splintered the original city forest, leaving the remaining shards vulnerable'.⁴⁰

In line with such an in-depth awareness regarding the ecological preservation of urban biodiversity⁴¹ — as held by Burle Marx himself in retracing the objectives of the reforestation project set forth for Rio de Janeiro by Glaziou



FIGURE 8. *The landscape of Seattle Parks, photograph by Charles Olmsted, 1903 (Seattle Municipal Archives image 172575, Courtesy of the National Park Service, Frederick Law Olmsted National Historic Site).*

THE FOURTH NATURE OF THE CONTEMPORARY CITY

— in Seattle, the Lawrence Halprin & Associates firm ‘created spaces that recalled the history, the prehistory, the native ecology and the essence of the individual place, evoking a sense of *genius loci* and re-establishing a sense of order’.⁴² The size of the forest is hence reflected in the architectural order of the metropolis. Already in 1963, in his book dedicated to cities, Halprin had given voice to a critical reading of urban spaces and materials starting from the awareness that ‘a city, like a forest, is a delicately balanced ecosystem, always in transition’ (Figure 9).⁴³ This equation had taken shape from a lecture entitled *Disclimax in the city* presented the previous year, in which Halprin suggested a biological approach to the urban ecosystem, ‘where processes of growth, elements of chance, discriminating chaos, and natural methods of esthetic evolution produce new forms for our time’.⁴⁴ Through this biological-aesthetic experience in the

city, clearly also inspired by the environmental psychology of the urban planner Kevin Lynch,⁴⁵ it would become possible to reach a more favorable ‘disclimax’ as ‘an urban environment geared to life in our time’.

The project for Seattle’s Freeway Park should be investigated precisely in light of the declared necessity for a ‘situation of disruption’ that was to be arranged as a strong project intervention for urban renewal, in response to the growing metropolitan scale, which was clearly starting to transform the regional city’s skyline with sudden modifications to the urban fabric at a growing rate that risked leading to inexorable circumstances.

Seattle’s Freeway Park was developed over a surface of about five acres in the heart of the city and over Interstate 5, the West Coast high way route built in 1966, which runs from Canada to Mexico and cuts through Seattle

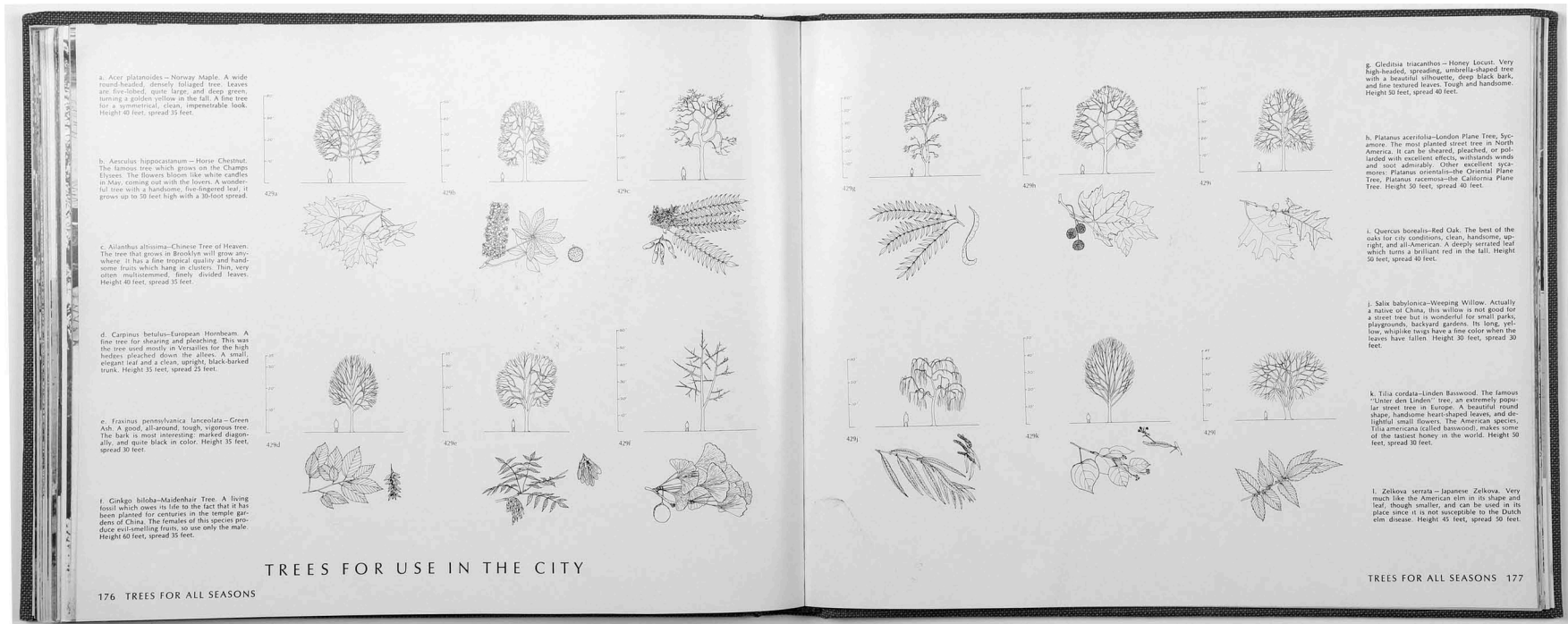


FIGURE 9. *Trees for use in the city*, sketches by Denis R. Wilkinson of Lawrence Halprin & Associates (Lawrence Halprin, *Cities*, Reinhold Publishing Corporation, New York, 1963, pp. 176–177. © Lawrence Halprin Collection, The Architectural Archives, University of Pennsylvania).

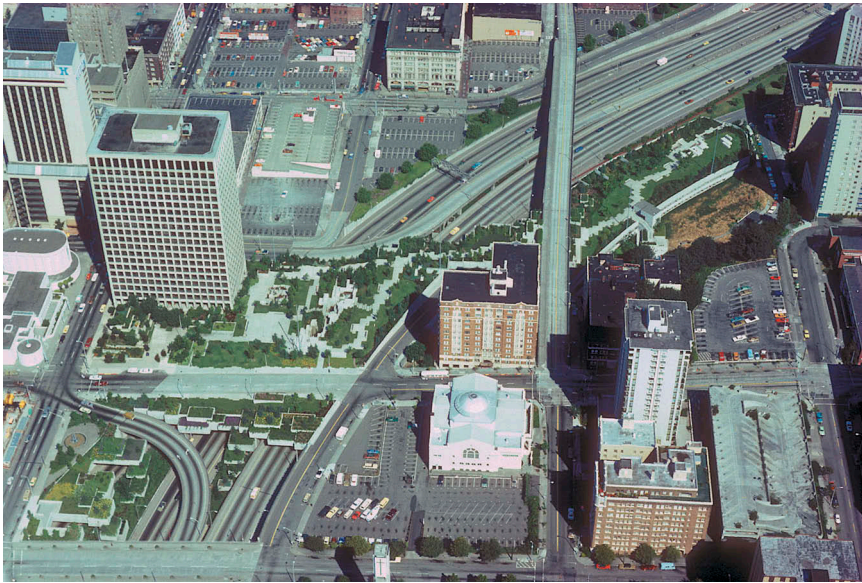


FIGURE 10. *Aerial view of Seattle Freeway Park, 1978 (Photograph by Norman Johnston, Courtesy of the College of Built Environments, Visual Resources Collection, University of Washington).*

creating a North-South corridor (Figure 10).⁴⁶ The fortuitous intuition to utilize previously ignored air rights and to enhance the Freeway surroundings by building a concrete ‘lid’ above the huge urban artery between Seneca and University Streets was an integral part of a series of creative principles established by Halprin, which were to underpin urban freeway design.⁴⁷

It was the first time that a public park literally took form from directly above the interstate highway, referencing in part prototypes such as the Brooklyn Heights Promenade over the Brooklyn-Queens Expressway and the United Nations complex over Franklin D. Roosevelt Drive, both in New York City. These examples were testimony of the difficulty faced in the early 1950s with attempts to resolve the ‘problem of weaving transportation and transit lines into the metropolis in an amenable manner’ following the ‘megastructural fantasies’ of urban visionaries such as Sant’Elia, Le Corbusier, Chambless, Archigram, and Geoffrey Jellicoe.⁴⁸ ‘As a result, design for movement becomes a function of safety, and not only a matter of aesthetics’ Halprin pointed out in a section of the book *Cities*, dedicated to

the automobile and highways; however, he elaborates ‘what highway designers have yet to take adequately into consideration is the relation of road design to the environment, the visual images seen and felt beyond the road, the road’s impact on the surroundings through which it moves’.⁴⁹ These reflections were reiterated some years later in another book by Halprin that was dedicated specifically to Freeways, recognized as ‘art-form within the city’, being the extraordinary, monumental and impactful feats of engineering that they are, as well as an important part of the energizing reality of the contemporary urban experience. Mindful of the positive and negative effects of the automobile and roadways on the city, in the introduction of his book Halprin explained ‘The engineering principles are extremely precise for the design of these roads but the character and qualities of the new structures in the context of their urban setting, their sociological as well as physical impact on the communities through which they pass, their alignments and forms, depend on value judgements of the most intuitive kind’.⁵⁰

The study of the impact of transportation infrastructure on cities, starting with the awareness that ‘the transportation mechanism we must build in order to move people about to use and enjoy the city cannot be allowed to destroy the very amenities that give cities their purpose’,⁵¹ and the possibilities for the mutually beneficial integration of freeways into the urban setting — dealt with at first by the Lawrence Halprin & Associates studio in the case-study for the city of San Francisco (1962–1964) and represented in the pages of *Freeways* — became an excellent curriculum for the Seattle Park Commission that was aiming to give a new and different dimension to the freeway. The construction of two covered parking lots at the sides of the highway provided the occasion to use the tops of the new garages as supports for the extraordinary park-bridge that was designed for above the highway, proposing ‘a really innovative way of dealing with this apparently lost and alien space to return it to people’s use and make of it an immensely positive part of the urban landscape rather than a negative wasteland’.⁵² As Halprin specified ‘The trick is to perceive the freeway as part of the cityscape and tame it, rather than complain about it’ adding a new quality of experience in the collective perception of the city that could also lead to suggesting a new series of possible relationships between man and nature (Figure 11).⁵³

The project for the Seattle Freeway Park illustrates an unprecedented and modern ‘choreographic method’ adopted with the purpose of staging a new and autonomous order of movement in the city, ‘offering the chance’ — as Alison Bick

THE FOURTH NATURE OF THE CONTEMPORARY CITY

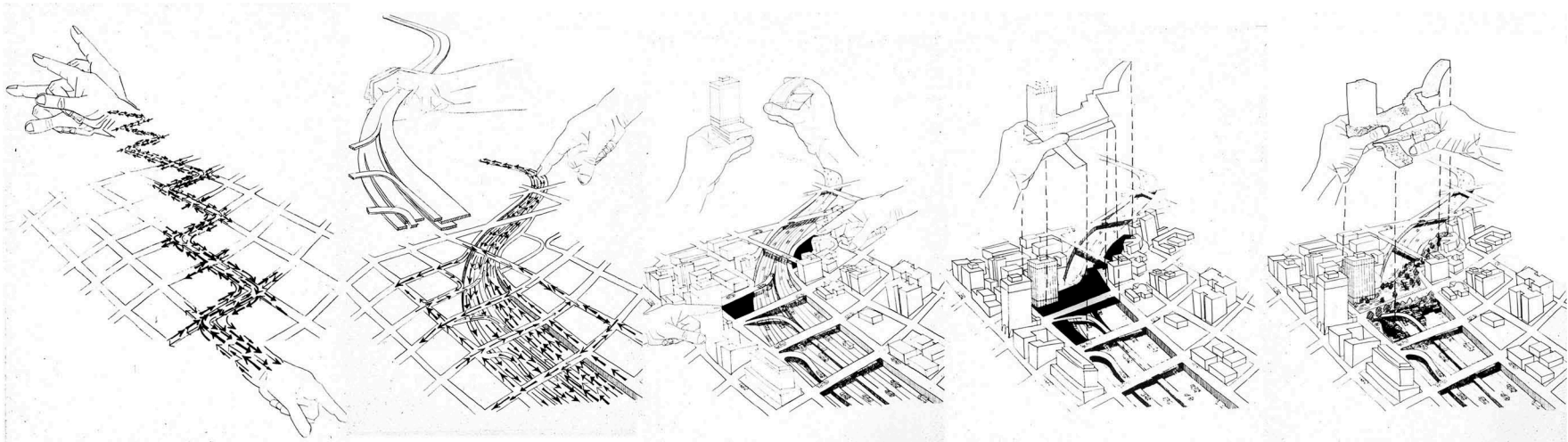


FIGURE 11. *Concept drawings for Seattle Freeway Park (Lawrence Halprin & Associates, early 1970s), show how the tracks of the freeway, of the covered parking lots, of the new buildings, of the metropolitan transport and of the new Freeway Park, combine to provide an unprecedented and large public space that links the center of Seattle to the rest of the city (© Lawrence Halprin Collection, The Architectural Archives, University of Pennsylvania).*

Hirsch points out — ‘to enact new and embedded rituals with enhanced awareness and experience the drama and mystery of forces abstracted from Nature reintroduced in the city’.⁵⁴ The choreography adopted by Halprin is firstly expressed through a concept of ‘wilderness’, whose preservation can be seen in the design and planning of the city. This principle may seem contradictory, however it takes on a more profound meaning through the explicit expression of Halprin’s unprecedented proposal: ‘to separate out the true wilderness experience and differentiate from the need to experience nature — to be quiet at times on a woodland trail or even to go fishing. These needs should be taken care of in our cities’.⁵⁵

In the specific case of the Freeway Park — drafted by the design team coordinated by Halprin and by Angela Danadjieva, who was designated project designer⁵⁶ — the ‘wilderness’ of a hanging urban forest took form over an interstate highway as a primordial expression of the old growth forest of the First Hill neighborhood, which was cleared and milled in the late nineteenth century when first settlers arrived on Elliot Bay. As in the case of the project for the Portland Open Space Sequence (1965–1970), Seattle’s Freeway Park landscape architects also deal with the need to invent a new

idea of nature and institute an effective category of public space: a park of hanging gardens that surmounts an urban highway in downtown, presenting itself as a brand new section of urban topography with a multiplex internal structure (Figure 12).

The creation of a modern urban scenario in the city through an in-depth interpretation of certain elements in nature’s morphology is associated with the project design experience of rapid movement that dominates two different scales of urban perception (pedestrian and vehicular) that are rendered in the effective and expressive drawings by Angela Danadjieva, supported by her experience as a set designer and art director for the Bulgarian state film industry (Figure 13).⁵⁷ The park takes on the forms of a ‘kinetic sculpture’ that becomes a privileged stage for all citizens by encouraging creative involvement while living the exaltation of the image and views of the urban freeway below as ‘a brilliant kaleidoscope of motion’.⁵⁸

The refined design of the park project is developed on different levels, bringing to light the organic quality of landscaping and the changeable mobile nature of water shapes relating it to the indigenous ecology of the region. As

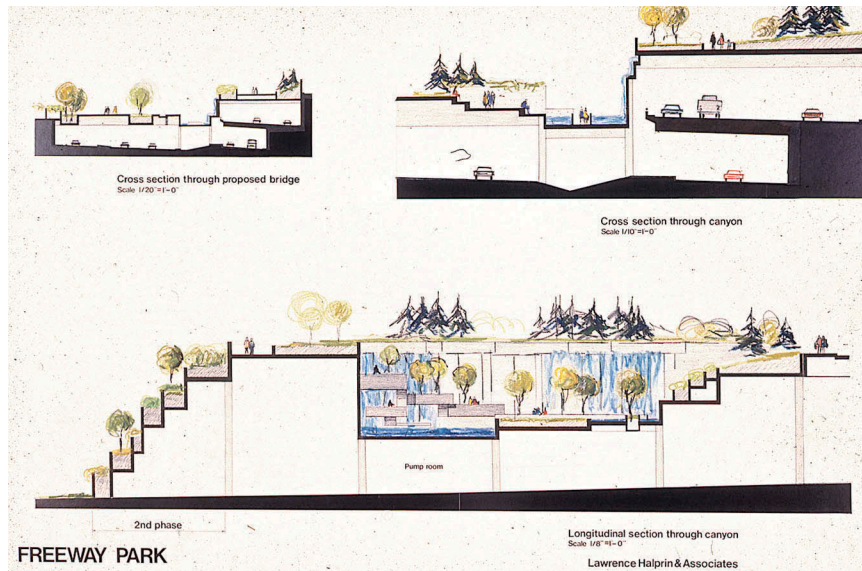


FIGURE 12. *Seattle Freeway Park, Longitudinal section through the Canyon, Lawrence Halprin & Associates* (© Lawrence Halprin Collection, The Architectural Archives, University of Pennsylvania).

Angela Danadjieva stated in her *Design Notes on Freeway Park* the new park was to reflect the distinct features of Seattle's topography 'characterized by strong changes in elevation, both natural and man-made forms'.⁵⁹ Pedestrians were to have enjoyed the possibilities of experiencing 'a dramatic environment of greenswards, play spaces, fountains, escarpments, and gardens'⁶⁰ that refers to the Olympic Mountains and Cascade ranges, while always keeping in close connection to the rapid movement of the freeway passing underfoot. The drama escalates with the surprising addition of a Canyon feature made up of an assembly of giant concrete blocks with waterfalls and plant life, which was built in the median strip between the Freeway lanes and descends all the way to the level of the interstate roadbed, where the sound of falling water can guarantee an area for the people that is almost completely cut from the noise of the Freeway traffic (Figure 14). Landforms and water features integrate through opulent plantings recalling the primordial experience of the Pacific Northwest's ancient forests,⁶¹ and in addition to a variety of textures and colors

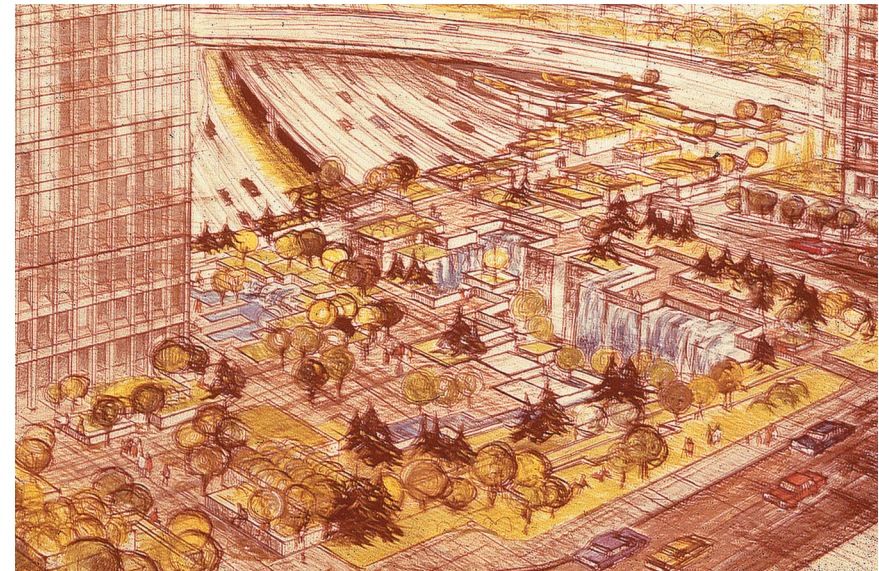


FIGURE 13. *Drawing by Angela Danadjieva of Seattle Freeway Park, c. 1970* (© Lawrence Halprin Collection, The Architectural Archives, University of Pennsylvania).

the vegetation presents throughout the four seasons, the plant list was selected also for its pollution tolerance.⁶²

The project of this suspended urban forest presents a definitive reversal in the relationship between the city and nature; nature takes over the city, bypassing a massive motorway junction and effectively neutralizing it, while enhancing a public park with the wild and majestic features of the Alta Sierra Region's terrain.

Conclusion

The 'New Dimension for Freeways' takes shape in the two analyzed case-studies as emblematic examples of endeavors in landscape project planning and as models of 'ecologies of form' designed to stimulate human participation starting from the linking of the two different scale impressions that coexist in the metropolis: one scale connected to vehicular perception, and the other scale connected to a pedestrian



FIGURE 14. *The Canyon Fountain, Seattle Freeway Park, c.1976* (© Lawrence Halprin Collection, The Architectural Archives, University of Pennsylvania).

level perception. ‘The frame of the park is a heavy form (vehicular perception), while the scale of the configuration of the park elements in the interior of the park is smaller in scale (pedestrian perception)’⁶³ as specified in this regard by the project-designer Danadjieva. The tension between these two different scales of perception brought about the birth of a new kind of urban geography, a new sense of place, but above all a ‘new aesthetic’, through which, as Burle Marx pointed out, ‘the parks of our era must be intimately connected with the technological problems of our time’.⁶⁴

An equal value attributed to the aesthetics and kinesthetic urban experience connected to the city’s transportation program suggests a new type of environmental history recognizable in the ‘fourth nature’ of the city. However, the suspended forest of Seattle and the green waterfront design of Rio de Janeiro have a far greater scope and vision than a simple environmentalist postulate. This projects reintroduce drama and mystery of forces abstracted from Nature to the city, thus emphasizing the importance of conserving and valorizing the biodiversity of

the environment, while also developing an ecologically positioned defense of public landscape as an integral component of cultural heritage in the USA and Brazil.

Such exemplary cases present a new Renaissance for the contemporary city and for the field of landscape design. In this sense, the research conducted for this essay allows for the opening of a series of significant paths of analysis that can provide in depth inquiry and tell us more about the methods and results of two of the most inventive project-interventions in the culture of 20th century landscape design. Public space in fact separates itself from buildings and affirms its strong formal and functional autonomy. Therefore the resumption of a profound reflection on the concept of wilderness — whose preservation could only be guaranteed by urban planning schemes aimed at creating an ecologically valid and creative metropolitan environment — is accompanied by the search for a new ‘fantasy environment’ that seems to echo the *Architecture of Four Ecologies* of the English historian and cultural architecture and design critic Reyner Banham,⁶⁵ as well as the alternative and fantastic architecture of Los Angeles. As Halprin wrote in the early 1970s, ‘Not only don’t [cities] provide adequate housing and transportation and clean air; but they lack a sense of fantasy [...] they do not give us a chance to dream, to search out mysteries, to adventure, to imagine the most wonderful things, to fantasize. They lack places to hide, to play, to enjoy’.⁶⁶ And if, in Seattle’s Freeway Park, the theme of participation becomes a determinant stage in the city for acts of a collectively experienced fantasy, in the case of Burle Marx, the research for a ‘sense of fantasy’ in open public space is instead arranged through new dimensions of colors, forms, textures, and volumes.

The two evaluated projects ultimately exemplify the full awareness of the role of ecology in planning processes and particularly in the design for freeway systems, considered not simply as inactive material environments, but as active spaces which must be carefully designed, scored and choreographed to produce movements, experiences, emotions and effects for motorists and pedestrians alike. The Greenway of Rio de Janeiro and the urban forest of Seattle, albeit in different times and contexts, are a beginning to a break-through momentum in the evolution of Urban Planning and Landscape Design. Through this modern reversal of the relationship between city and nature a new urban geography comes to life as identifiable in the large-scale development of an urban environmental system that Angela Danadjieva defined as a fantastic ‘green necklace floating over the Freeway’⁶⁷ as a viable image of the city of the future, and as tangible model of ‘fourth nature’ development that should become a priority objective for all of humanity. As Burle Marx affirmed in

discussing the necessary plants–man iteration, above all in metropolitan areas, ‘It is our mandate as landscape architects to make the public aware of their need for plants, and to see that governments and town planners set aside sufficient areas for green spaces. As much as feasible, the spaces should be linked in their design with the surrounding landscape and include the local vegetation. Our responsibility extends not only to our fellow man, but to the plant world as well. In this age of hectic expansion, of a terrifying increase in world population — in an age when sighted exploitation and development, we must stand as the guardians of a natural patrimony, upon which ultimately rests the survival of the human race!’⁶⁸

Disclosure statement

No potential conflict of interest was reported by the author.

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NOTES

- 1 Alessandro Tagliolini, *Storia del giardino italiano: gli artisti, l'invenzione, le forme dall'antichità al XIX secolo* (Firenze: La casa Usher, 1988), pp. 226–229; John Dixon Hunt, ‘The Idea of a Garden and the Three Natures’, in *Greater Perfections. The Practice of Garden Theory* (Philadelphia: University of Pennsylvania Press, 2000), pp. 32–75. Starting from some reflections of Alessandro Tagliolini on the history of the Italian garden, John Dixon Hunt declare that Cicero’s formulation would have been in the mind of Jacopo Bonfadio when he wrote in 1541 to a fellow humanist that gardens make a ‘third nature, which I would not know how to name’. Later in the century, another humanist Bartolomeo Taegio also used the term ‘terza natura’ in describing gardens.
- 2 John Dixon Hunt, ‘La quarta natura. La variegata presenza dell’architettura paesaggistica nella recente letteratura / La quarta natura: the mixed advocacy of landscape architecture in recent literature’, in Francesca Bagliani (ed.), *Comunicare il paesaggio / Transmitting Landscape* (Milano: Marsilio, 2010), p. 26.
- 3 Ingo Kowarik, ‘Wild Urban Woodlands: Towards a Conceptual Framework’, in Ingo Kowarik and Stefan Körner (eds), *Wild Urban Woodlands: New Perspectives for Urban Forestry* (Berlin: Springer, 2005), pp. 1–32.
- 4 The hypotheses developed in this research were also presented on the occasion of the International Conference *World Forum on Urban Forests*, 27 November — 1 December 2018, Politecnico di Milano, Mantova.
- 5 Louise Lézy–Bruno, ‘La forêt au cœur de la ville. Le parc national de Tijuca, Rio de Janeiro’, *Géographie et cultures*, 62, 2008, pp. 27–42.
- 6 For more details on the work of Roberto Burle Marx see Ana Rita Sá Carneiro, ‘Roberto Burle Marx (1909–94): Defining Modernism in Latin American Landscape Architecture’, *Studies in the History of Gardens & Designed Landscapes*, 39/3, 2019, pp. 255–270; Lawrence Fleming, *A Picture of Roberto Burle Marx* (London: Art Books International Ltd., 1996).
- 7 Catherine Seavitt Nordenson, *Depositions. Roberto Burle Marx and public landscapes under dictatorship* (Austin: University of Texas Press, 2018), p. 27.
- 8 Auguste-François-Marie Glaziou (1828–1906) worked in Brazil between 1858 and 1897, after a training period in Paris as a collaborator of engineer Jean-Charles-Adolphe Alphand. In 1858 he was invited to Rio de Janeiro by Pedro II to carry out the role of *Diretor General de Matas e Jardins* and, in January 1869, he was appointed as *Diretor de Parques e Jardins da Casa Imperial*, a position he held until 1897. See also Carlos Gonçalves Terra, *O jardim no Brasil do século XIX: Glaziou revisitado* (Rio de Janeiro: Universidade Federal do Rio de Janeiro, Escola de Belas Artes, 2000).
- 9 Isabelle Guillauc, ‘Tijuca: a floresta obra de arte do Rio de Janeiro a atualidade da obra de Glaziou’, in Anna Paula Martins (ed.), *Glaziou e os jardins sinuosos* (Rio de Janeiro: Dantes Editora, 2011), pp. 65–87.
- 10 Jacques Leenhardt, ‘O jardim: Jogos de Artíficos’, in Jacques Leenhardt (ed.), *Nos jardins de Burle Marx* (São Paulo: Editora Perspectiva, 1994), p. 14.
- 11 The *Sítio Santo Antônio da Bica* is Roberto Burle Marx’s *chácara* (country property), located in Guaratiba, close to Rio de Janeiro, where, starting in 1949, the Brazilian landscape architect created a large-scale ecological experimental laboratory that still today hosts a most extraordinary collection of systematically gathered Brazilian plant life. See Giulio Gino Rizzo, *Il giardino privato di Roberto Burle Marx. Il Sítio. Sessant’anni dalla fondazione. Cent’anni dalla nascita di Roberto Burle Marx*. (Roma: Gangemi, 2009).
- 12 Copy of the letter by Auguste-François-Marie Glaziou addressed to João Alfredo Correa de Oliveira, Minister and Secretary of State for Negócios do Império, Rio de Janeiro 7 gennaio 1873, Archive of the Sítio Roberto Burle Marx, Barra

- de Guaratiba, Rio de Janeiro. This phrase was emphasized by Burle Marx. In the copy of a subsequent letter, dated Rio de Janeiro 8 July 1873, Burle Marx highlighted certain phrases relating to the prayer by Glaziou so that the Minister João Alfredo Correa de Oliveira could intercede with the Minister of Agriculture in order to ask the people in charge of the Floresta da Tijuca's conservation and preservation to supply 'saplings and seeds of the trees that they have available' so that they could proceed with the planting of the *Campo da Aclamação*. In other copies of the letters by Glaziou preserved at the Sítio, Burle Marx also pointed out many details relating to the gate design of the *Campo da Aclamação*, defined by its author as "a unique monument in the horticultural world". Part of these gates, which were removed following the opening of the Avenida Presidente Vargas, were later reused in the landscape project curated by Burle Marx for the lake *Açude da Solidão*, which was part of a larger project coordinated by Raymundo Ottoni de Castro Maya (administrator of the forest-park from 1943 to 1946) and that made it possible to recover the Glaziou design plan for the Floresta da Tijuca thanks to the collaborations and contributions of the architects Vladimir Alves de Souza and the landscape designer Burle Marx.
- 13 José Tabacow (ed.), *Roberto Burle Marx, Arte & Paisagem. Conferências escolhidas* (São Paulo: Studio Nobel, 2004), p. 67.
 - 14 On the Roberto Burle Marx's model for the city park, the *cidade-parque*, see Barbara Boifava, "The fourth nature of Roberto Burle Marx", *Journal of Landscape Architecture* (forthcoming).
 - 15 Roberto Burle Marx was a member of the Conselho Federal de Cultura and advisor to the military regime from 1967 through 1974. During this period, he wrote a series of environmental position pieces for the journal *Cultura*, a publication of the Brazilian Ministry of Education and Culture. See Seavitt Nordenson, *Depositions*.
 - 16 *Ibid.*, p. 12.
 - 17 Tabacow (ed.), *Roberto Burle Marx, Arte & Paisagem*, p. 64.
 - 18 *Ibid.*
 - 19 The Work Group (*Grupo de Trabalho para a Urbanização do Aterro*) included engineers, botanists, designers and a team of architects coordinated by Jorge Machado Moreira and Affonso Eduardo Reidy, architect of the del Museum of Modern Art, located in the area of the *Parque do Flamengo*. The *équipe Roberto Burle Marx e Arquitetos Associados* was also part of this group with the landscape architects Maurício Monte, Júlio Pessolani, John G. Stoddart and Fernando Tábora. This *équipe* started in 1956 on the occasion of the project design for the *Parque del Este* in Caracas, Venezuela.
 - 20 Carmen L. Oliveira, *Flores raras e banalíssimas: a história de Lota Macedo Soares e Elisabeth Bishop* (São Paulo: Rocco, 1995), p. 80.
 - 21 Anita Berrizbeitia, *Roberto Burle Marx in Caracas: Parque del Este, 1956-1961* (Philadelphia, University of Pennsylvania, 2004); Fernando Tábora, *Dos parques un equipo: Parque del Este, Caracas Venezuela : Aterro do Flamengo Rio de Janeiro Brasil* (Caracas, Embajada de Brasil em Venezuela, 2007).
 - 22 As Fernando Tábora points out, 'The initial project for the *Aterro do Flamengo* was a concept developed by Affonso Eduardo Reidy. He was in fact the one to draw up the current form of the *aterro* as a favorable solution to the port's intended use'. See also the interview by Ana Rosa de Oliveira with Fernando Tábora in Ana Rosa de Oliveira, *Tantas vezes paisagem* (Rio de Janeiro: FAPERJ, 2007), p. 52.
 - 23 Guilherme Mazza Dourado, *Modernidade verde. Jardins de Burle Marx* (São Paulo: SENAC, 1996), p. 312.
 - 24 Matteo D'Ambros, 'Topografie armoniche', in Barbara Boifava and Matteo D'Ambros (eds), *Roberto Burle Marx. Verso un moderno paesaggio tropicale* (Padova: Il Poligrafo, 2014), p. 117.
 - 25 Roberto Burle Marx, *Plants and Man*, typewritten text, without date, p. 6, Archive of the Sítio Roberto Burle Marx, Barra de Guaratiba, Rio de Janeiro. This is an unpublished text by Burle Marx which most likely dates back to the years immediately following the Copacabana Beachfront project (1970).
 - 26 Guilherme Mazza Dourado, 'Leaves in Movement: The Letters of Roberto Burle Marx', *Journal of Landscape Architecture*, 12/3, 2017, p. 13. It wasn't possible to verify the written correspondence of Roberto Burle Marx preserved at the Burle Marx Landscape Design Studio Archives of Rio de Janeiro and to investigate the contents of the written exchanges between Halprin and Burle Marx, which were quoted by Guilherme Mazza Dourado. In Burle Marx's library at the *Sítio Roberto Burle Marx*, there is a letter by Lawrence Halprin dated 24 February 1994 and addressed to the Brazilian landscape architect, at the end of which we read: 'I always remember with joy the few wonderful times we have had together. Our walk through Levi Plaza was a special time!'. Halprin refers to a meeting that took place in the 1980s in San Francisco, which was also mentioned in another letter, preserved at the *Sítio* and written by Dee Mullen (19 April 1989), who managed the office and Halprin's affairs for many years: 'I have warm memories — Mullen wrote — of your last visit to Lawrence Halprin's office in San Francisco. After lunch you and Larry and I walked through the Levi Park and Plaza which Larry had recently completed. It was inspiring to hearing you both talk about your art!'.
 - 27 Public Lecture by Roberto Burle Marx, May 10, 1954, School of Design North Carolina State College, Lawrence Halprin Collection, The Architectural Archives, University of Pennsylvania, 014.I. A.4867, p. 9. As specified by Gareth Doherty who published a copy of this conference with the title 'Finding a Garden Style to Meet Contemporary Needs', in 1986 Burle Marx delivered the same lecture at the Harvard University Graduate school of Design. See Gareth Doherty (ed.), *Roberto Burle Marx Lectures. Landscape as Art and Urbanism* (Zürich: Lars Müller Publishers, 2018), p. 177.
 - 28 Seminar by Roberto Burle Marx, May 12, 1954, School of Design North Carolina State College, Lawrence Halprin Collection, The Architectural

- Archives, University of Pennsylvania, 014.I.A.4867. The contents of this conference were also presented in Boston in the following month (28–30 June 1954) on occasion of the annual reunion for the American Society of Landscape Architects. See also Roberto Burle Marx, 'A Garden Style in Brazil to Meet Contemporary Needs with Emphasis on the Paramount Value of Native Plants', *Landscape Architecture*, 44/4, 1954, pp. 200–208. Regarding the project for Parque Ibirapuera, see also Fernanda Curi Araujo, 'Burle Marx e o Parque Ibirapuera: quatro décadas de descompasso (1953–1993)', *Anais do Museu Paulista: História e Cultura Material*, 25/3, 2017, pp. 103–138.
- 29 Burle Marx, 'A Garden Style in Brazil to Meet Contemporary', p. 200.
- 30 Marc Treib and Dorothée Imbert (eds), *Garrett Eckbo: Modern Landscapes for Living* (Berkeley: University of California Press, 1997), p. 94.
- 31 Seminar by Roberto Burle Marx, May 12, 1954, p. 3.
- 32 Henrique E. Mindlin, *Arquitetura moderna no Brasil* (Rio de Janeiro: Aeroplano, 2000), p. 31.
- 33 Charles E. Beveridge, Paul Rocheleau, *Frederik Law Olmsted: Designing the American landscape* (New York: Rizzoli, 1995).
- 34 William J. Thompson, 'Master of Collaboration', *Landscape Architecture*, 82/7, 1992, p. 64.
- 35 Ian L. McHarg, 'An Ecological Method for Landscape Architecture', *Landscape Architecture*, 57/2, 1967, p. 105.
- 36 Margot Lystra, 'McHarg's Entropy, Halprin's Chance: Representations of Cybernetic Change in 1960s Landscape Architecture', *Studies in the History of Gardens & Designed Landscapes*, 34/1, 2014, pp. 71–84.
- 37 Joan Hockaday, *Greenscapes: Olmsted's Pacific Northwest* (Pullman WA: Washington State University Press, 2009).
- 38 Regarding the historical development urban design and planning in Seattle by the Olmsteds, and comparisons with the city engineer R.H. Thomson see also Matthew Klinge, 'Out of Harmony with the Wild Beauty of the Natural Woods. Artistry Versus Utility in Seattle's Olmsted Parks', in *Emerald City. An Environmental History of Seattle* (New Haven & London: Yale University Press, 2007), pp. 119–153.
- 39 Sonja Dümpelmann, 'Three Men in Search of a Modern Arcadia: Landscape Architecture, Planning, and Conservation Between Tradition and Modernism', *Journal of Planning History*, 6/2, 2007, pp. 166–186.
- 40 Klinge, 'Out of Harmony with the Wild Beauty of the Natural Woods', p. 144.
- 41 Rutherford H. Platt, Rowan A. Rowntree, Pamela C. Muick (eds), *The Ecological City: Preserving and Restoring Urban Biodiversity* (Amherst: University of Massachusetts Press, 1994), p. 279.
- 42 Alison B. Hirsch, 'Lawrence Halprin's Public Spaces: Design, Experience, and Recovery. Three Case Studies', *Studies in the History of Gardens and Designed Landscapes*, 2006, 26/1, p. 2.
- 43 Lawrence Halprin, *Cities* (New York: Reinhold Publishing Corporation, 1963), p. 216.
- 44 Lawrence Halprin, *Diclimax in the City*, A.I.P. Lecture, Santa Rosa, February 10, 1962, Lawrence Halprin Collection, The Architectural Archives, University of Pennsylvania, 014.I.A.6161.
- 45 Kevin Lynch, *The Images of the City* (Cambridge, Mass.: MIT Press, 1960).
- 46 For a more detailed history of the project, see Alison B. Hirsch, *City Choreographer. Lawrence Halprin in Urban Renewal America* (Minneapolis: The University of Minnesota Press, 2014), pp. 155–172.
- 47 In 1962 Halprin was appointed by the San Francisco Board of Supervisors to draw up a study on the impact of freeways in cities. One year later, the California Department of Highways commissioned Halprin to prepare a plan for the Panhandle Freeway linking the Golden Gate Bridge and the Central Freeway. The resonance of such appointments and Halprin's planning principles contributed in 1965 to his being nominated Head Advisor to the US Government's Federal Highway Administration. Nel 1965 this team made up of landscape architects, planners, engineers and architects produced a fundamental report entitled *The Freeway in the city* (Urban Advisor 1968) in which the main part of the design principles for minimizing the impact of freeways took inspiration from those ground rules that had been adopted and advocated earlier by Halprin. See Peter Merriman, *Roads: Lawrence Halprin, Modern Dance and the American Freeway Landscape*. In Tim Cresswell and Peter Merriman (eds), *Geographies of Mobilities: Practices, Spaces, Subjects* (London: Routledge, 2011), pp. 99–117.
- 48 Seattle Freeway Park. New Dimensions for Freeways', Lawrence Halprin & Associates Design Team, Lawrence Halprin Collection, The Architectural Archives, University of Pennsylvania, envelope outside of folders, 014.box.70.
- 49 Halprin, *Cities*, p. 199.
- 50 Lawrence Halprin, *Freeways* (New York: Reinhold Publishing Corporation, 1966), p. 5.
- 51 *Ibid.*, p. 279.
- 52 Jim Burns, 'The Hanging Gardens of Seattle', 1976, p. 2; Lawrence Halprin Collection, The Architectural Archives, University of Pennsylvania, 014.I. B. 1251.
- 53 Lawrence Halprin and Jim Burns (eds), *Lawrence Halprin: Changing Places, exhibition catalog* (San Francisco: San Francisco Museum of Modern Art, 1986), p. 139.
- 54 Hirsch, *City Choreographe*, p. 182.
- 55 Lawrence Halprin, 'Wilderness and the city', p. 2, Tomorrow's Wilderness, The Eight Biennial Wilderness Conference, March 8–9–10 1963, Sheraton Palace Hotel San Francisco, Lawrence Halprin Collection, The Architectural Archives, University of Pennsylvania, 014.I.A.6146.
- 56 Angela Danadjieva (1931–) is a Bulgarian architect trained at the State University of Sofia and then in Paris, who was part of Halprin & Associates' studio between 1967 and 1976. During that period, Danadjieva led over 20 urban design and city-planning projects with the firm, including the Washington State Capitol in Olympia, the Jewish Home of San Francisco, and the Virginia Museum of Fine Arts in Richmond. Her first large-scale project with the firm was the Ira Keller Fountain in Portland, Oregon (1970).

THE FOURTH NATURE OF THE CONTEMPORARY CITY

- 57 In describing the project, Danadjieva specified: 'In the design of the Freeway Park I also used my film experience. As an art director for movies I composed the sets for the motion of the camera. For the Freeway Park I attempted to relate the design to the motion of the city traffic (pedestrian and vehicular'. See Angela Danadjieva, 'Seattle's Freeway Park II: Danadjieva on the Creative Process', *Landscape Architecture* 67/5, 1977, p. 405.
- 58 Halprin, *Freeways*, p. 23.
- 59 Lawrence Halprin Collection, The Architectural Archives, University of Pennsylvania, 014.I. A.4655a.
- 60 Burns, 'The Hanging Gardens of Seattle', p. 1.
- 61 Peter Walker and Melanie L. Simo, *Invisible Gardens. The Search for Modernism in the American Landscape* (Cambridge, MA: MIT Press, 1994), p. 160.
- 62 Iain M. Robertson, 'Replanting Freeway Park. Preserving Masterpiece', *Landscape Journal: Special Halprin Issue*, 31/1-2, 2012, pp. 77-99.
- 63 Danadjieva, 'Seattle's Freeway Park II', p. 405.
- 64 Gareth Doherty (ed.), *Roberto Burle Marx Lectures. Landscape as Art and Urbanism*, p. 119.
- 65 Reyner Banham, *Los Angeles. The Architecture of Four Ecologies* (London, A. Lane, 1971).
- 66 Lawrence Halprin, 'Fantasy Environments', typewritten document, p. 9, Lawrence Halprin Collection, The Architectural Archives, University of Pennsylvania, 014.I.B.2032. This text is part of the unpublished manuscript 'The Environment as Art Experience', 1974.
- 67 Danadjieva, 'Seattle's Freeway Park II', p. 406.
- 68 Burle Marx, *Plants and Man*, typewritten text, without date, p. 9.