ROUNDTABLE

Rethinking the Urban Landscape

Editors' Introduction

In 2022 it would seem a shame to need to argue that an enduring intellectual and perceptual rift divides the city from the natural world, both in scholarship and in the public imagination. And yet such a divide persists, despite the fact that in the past three decades humanities scholars working with social and natural scientists have challenged these assumptions by investigating the complex interactions and intersections of cultural and natural systems, and by exploring how cities and nature are inextricably woven together into what has come to be called the urban landscape. Just as the seminal work of urban historians such as William Cronon and Ari Kelman and the studies of environmental humanists such as Ursula Heise and Allison Carruth have advanced our understanding of the integration of the built and natural worlds, a range of pathbreaking scholarship—for example, Linda Nash on histories of disease and the environment, Laura Pulido on race and architecture, Matthew Gandy on urban waters, and Kim Stanley Robinson on the imagined cities of science fiction—draws new attention to the symbiotic relationship between cities and nature while also broadening and transforming our understanding of these categories. Most recently, historians such as Carolyn Finney, Dorceta Taylor, Alaina E. Roberts, and Lauret Savoy have made critical contributions to the discourse by examining how ideas of race, nature, and the built environment intersect in complex, ambiguous, and often concealed ways. The shift we are now witnessing in the framing of humanities scholarship on cities and nature offers a vital opportunity for historians of built environments to develop a broader and more inclusive approach to the ways that we teach and study architectural, landscape, and urban histories as well as urban and environmental studies.[1]

With this *JSAH* roundtable, we seek to promote within the community of historians a more complex understanding of how scholars conceptualize cities and nature—most specifically, in the context of questions of democracy, race, and identity—and to expand opportunities for collaborative thinking across the humanities and sciences. We hope this work might not only highlight new avenues of research but also frame how historians engage with public scholarship to offer counternarratives that build on the thick intersections of what we imagine as built and unbuilt, city and nature. The roundtable centers on three broad questions. First, in what ways and to what ends have scholars reframed the ways in which we read and understand the city/nature duality? Second, how has interdisciplinary scholarship across the humanities and natural sciences challenged and shaped research and teaching on cities and nature? Third, how can humanists push the boundaries of scholarship and teaching further to understand the implications of an increasingly urban world? Or, to quote Allison Carruth, how might we best "articulate the public engagements of the environmental humanities itself, that is to consider both the potentials and pitfalls for what we might call a *scholarly social practice*"?[2]

As Henri Lefebvre observed decades ago, and as Neil Brenner has more recently argued, the process of urbanization extends "through the uneven stretching of an 'urban fabric,' composed of diverse types of investment patterns, settlement spaces, land use matrices and infrastructural networks, across the entire world economy."[3] The urban landscape is the place of socioecological transformations of diverse communities who are increasingly tied to urban centers, expanding to include the periphery and the hinterlands, once imagined as rural or countryside. As Thaïsa Way and Ken Yocom have argued, even wilderness, often positioned as the opposite of the urban, can serve as part of the urban landscape.[4] Such affirmations challenge historians of the built environment to abandon traditional binaries such as built versus unbuilt, nature versus city, and nature versus culture, and encourage us to reimagine the language we use to describe and interrogate places of human engagement in and with the land.

The essays in this roundtable suggest the potential of reimagining our study of place and environments, in terms of

Journal of the Society of Architectural Historians 81, no. 3 (September 2022), 268–298, ISSN 0037-9808, electronic ISSN 2150-5926. DOI: https://doi.org/10.1525/jsah.2022.81.3.268.

both what we choose to examine and how we structure our inquiry and analysis. While there is far more to engage in this arena, including how scholars conceptualize urban landscapes in the context of race and racist ideology, these essays expand upon and challenge our conventional categories by opening up alternative ways of thinking and working. The authors explore how to bridge the long-standing divisions separating the study of cities from the study of land, architecture from landscape architecture, urban processes from natural processes. As their contributions demonstrate, we are in the midst of paradigm-shifting research that seeks to develop a spatialized understanding of the histories of places as they have emerged and changed over time. As scholars of the built environment, we, more than most, should appreciate and understand that history, with all of its complex layers and narratives, always takes place in place.

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Notes

1. For an introduction to the literature, see Linda Nash, *Inescapable Ecologies: A History of Environment, Disease, and Knowledge* (Berkeley: University of California Press, 2006); Laura Pulido, Laura Barraclough, and Wendy Cheng, *A People's Guide to Los Angeles* (Berkeley: University of California Press, 2012); Matthew Gandy, *The Fabric of Space: Water, Modernity, and the Urban Imagination* (Cambridge, Mass.: MIT Press, 2014); Kim Stanley Robinson, *New York 2140* (New York: Orbit, 2017); Carolyn Finney, *Black Faces, White Spaces: Reimagining the Relationship of African Americans to the Great Outdoors* (Chapel Hill: University of North Carolina Press, 2014); Dorceta E. Taylor, *The Rise of the American Conservation Movement: Power, Privilege, and Environmental Protection* (Durham, N.C.: Duke University Press, 2016); Alaina E. Roberts, *I've Been Here All the While: Black Freedom on Native Land* (Philadelphia: University of Pennsylvania Press, 2021); Lauret Savoy, *Trace: Memory, History, Race, and the American Landscape* (Berkeley: University of California Press, 2015).

2. Allison Carruth, "Urban Ecologies and Social Practice Art," *Resilience: A Journal of the Environmental Humanities* 1, no. 1 (Winter 2013), doi:10.5250/resilience.1.1.24.

3. Neil Brenner, "What Is Critical Urban Theory?," *City* 13, nos. 2–3 (June–Sept. 2009), 205; Henri Lefebvre, *The Urban Revolution*, trans. Robert Bononno (1970; Minneapolis: University of Minnesota Press, 2003).

4. Thaïsa Way and Ken P. Yocom, "Infrastructural Wilderness: Seattle and the Binding of City and Region," in *Urban Cascadia and the Pursuit of Environmental Justice*, ed. Nik Janos and Corina McKendry (Seattle: University of Washington Press, 2021), 72–90.

Rural Forest and Urban Factory: Architecture and the Cultural-Natural Landscape of a Region

Although environmental historians have long portrayed the city and the country as interrelated domains rather than dichotomous spheres, architectural historians rarely examine buildings in terms of the wider regional settings in which urban and natural environments intersect. William Cronon's depiction of Chicago as "nature's metropolis" provides a useful model for exploring the production of architecture at a broad environmental scale. Using methods adopted from economic geography, Cronon demonstrates how Chicago expanded rapidly as urban industrialists harvested lumber, grain, and meat from surrounding forests and farms and converted them into marketable commodities. By following the path of raw materials from the periphery into the city for processing and the flow of capital investment back to the hinterland, Cronon reveals how historians of the built environment can connect rural sites of natural resource extraction to processing, marketing, and management centers in the urban core.[1]

Though Cronon himself does not examine the built environment of town and country, his regional perspective on Chicago and the Great West offers architectural historians an effective way to identify interconnected cultural landscapes that span vast geographic distances. In my study of San Francisco's relationship to the California redwood forest, I follow Cronon's example by portraying the city's architectural development as the product of both the physical material of the forest and the financial capital produced by the harvesting of the West's natural resources, like lumber. I trace the path of lumber and industrial capital through the production chain from forest to city and examine the built environments associated with each site of lumber production across Northern California. This landscape approach allows us to survey the entire human and natural environment of the redwood region—from the mammoth trees themselves to company towns in the forest to San Francisco lumberyards, office buildings, and worker housing—as an interrelated landscape of lumber manufacturing spread across a hyperdispersed "city" of wood. From this point of view, for example, we can recognize the famously overwrought Victorian home of lumberman William Carson in the distant redwood forest and the modest homes of lumber workers in the metropolitan center as parts of a continuum of building activity connected by variable flows of capital across an industrial region (Figure 1).[2]

A view of architectural production across space—rather than the conventional focus of the architectural historian on the aesthetic influence of individual designers through time—offers insights that can help us to understand how architecture functions at various scales. At a basic level, a map that depicts how built environments develop along the contours of material and capital flows can expose architecture's dependence on the reciprocal extractive process linking urban development with hinterland exploitation.[3] Treating architectural production as part of these spatial flows also draws attention to the specific ways in which architecture can be

Figure 1 Samuel Newsom and Joseph Cather Newsom, Carson House, Eureka, California, 1884–86 (photo 1902; HABS CA-1911, Prints and Photographs Division, Library of Congress).

employed to support unequal power relations. This might be evident in the ways design can be used to differentiate economic classes in the spaces occupied by owners and workers, or to enforce discriminatory spatial segregation according to race, ethnicity, and gender. At a larger scale, an understanding of architecture as connected by capital and material flows might enable us to better recognize how widely dispersed landscapes operate as linked components in the globalized economy. For example, a multiscalar perspective allows us to connect coders in an industrial park in Bangalore with the offices of tech investors in Silicon Valley, or garment factories in Bangladesh with consumers in a shopping mall in suburban London.

A spatial perspective may also reveal how an architectural culture promotes an unsustainable demand for natural resources. Architects help commodify specific building materials by promoting certain aesthetic choices: in the American West, for example, lumbermen and designers helped to develop a regional design aesthetic, familiar from the pages of *Sunset* magazine, that encouraged the use of redwood as part of the "natural" living that California and the West offered to residents. The popularity of the Arts and Crafts movement's aesthetic simplicity helped architects and builders realize the potential of lightly stained or untreated redwood to achieve a sense of domestic rusticity in California homes. The importance of regional materials like redwood in the succession of Bay Area architectural styles continued to drive demand for these materials even as consumer tastes turned more modern. Unlike today's design professions, with their increasing focus on sustainability, California architectural culture through the mid-twentieth century made assumptions about redwood—its appearance, its availability, and its perceived connection to the native environment—that assured ongoing and intensive consumption of this limited resource.[4]

Finally, by interpreting the architecture of San Francisco and its forest hinterland together as a continuous regional landscape, we can more readily visualize the relationship between human and natural environments. The large-scale use of redwood lumber to construct the regional metropolis represented a colossal transfer of biomass from living forests in

California's northern region to inanimate buildings in towns and cities along its central coast. San Francisco builders depleted in a few decades the work that nature accomplished with sun, rain, and soil over centuries. By highlighting the furious pace at which city dwellers consumed the distant redwood forest, we can better envisage the increasing rate of "urban metabolism," or the continuous exchange of matter and energy through which cities operate, grow, and reproduce.[5]

As scientists search for responses to today's environmental dilemmas, architectural historians can reveal how certain architectural cultures have contributed to the degradation of our natural environment. The narratives constructed by lumbermen, architects, and builders about how we use natural resources have direct impacts on the natural environment, and the environmental humanities offer us a new perspective on the ways in which the history of architecture intersects with the history of the natural environment. A cultural-natural landscape approach that examines architecture in terms of a trans-scalar continuum of building activity, linked by capital flows between sites of natural resource extraction and manufacturing, offers a promising point of departure for future studies on building with nature.[6]

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Notes

1. William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York: W. W. Norton, 1991). For earlier examples of work by environmental humanities scholars, see in particular Leo Marx, *The Machine in the Garden* (New York: Oxford University Press, 1964); Raymond Williams, *The Country and the City* (New York: Oxford University Press, 1973).

2. James Michael Buckley, *City of Wood: San Francisco and the Redwood Lumber Industry, 1850–1929* (Austin: University of Texas Press, forthcoming).

3. Jane Hutton, *Reciprocal Landscapes: Stories of Material Movements* (New York: Routledge, 2019); Martín Arboleda, *Planetary Mine: Territories of Extraction under Late Capitalism* (London: Verso, 2020).

4. Leslie Mandelson Freudenheim and Elisabeth Sussman, *Building with Nature: Roots of the San Francisco Bay Region Tradition* (Santa Barbara, Calif.: Peregrine Smith, 1974); Sally B. Woodbridge, "The California House," *Wilson Quarterly* 4, no. 3 (Summer 1980), 83–91; Richard Longstreth, *On the Edge of the World: Four Architects in San Francisco at the Turn of the Century* (Berkeley: University of California Press, 1983). For architects' and builders' uses of redwood, see, for example, California Redwood Association, *Redwood Home Plans by California Architects* (San Francisco: California Redwood Association, 1925).

5. On urban metabolism, see, for example, Matthew Gandy, "Rethinking Urban Metabolism: Water, Space and the Modern City," *City* 8, no. 3 (2004), 363–79; C. Kennedy, S. Pincetl, and P. Bunje, "The Study of Urban Metabolism and Its Applications to Urban Planning and Design," *Environmental Pollution* 159 (2011), 1965–73. On the "work" of nature, see Richard White, *The Organic Machine* (New York: Hill and Wang, 1996); Inaki Iriarte-Goñi, "Forests, Fuelwood, Pulpwood, and Lumber in Spain, 1860–2000: A Non-declensionist Story," *Environmental History* 18, no. 2 (Apr. 2013), 333–59.

6. See Daniel A. Barber, "Architectural History in the Anthropocene," *Journal of Architecture* 21, no. 8 (2016), 1165–70.

Hostile Infrastructure: The Park Benches of the Bois de Boulogne

The explosion of green space construction in Paris that occurred during the second half of the nineteenth century hinged on the belief that everyone has a right to access light and air. This guiding principle permeated the planning of parks throughout the city under the direction of civil engineer Jean-Charles-Adolphe Alphand and represented a major component of Baron Georges-Eugène Haussmann's sweeping urban renewal of Paris. The redesign of the Bois de Boulogne, one of the largest Parisian parks and the first project in the city undertaken by Alphand, seems at first glance diametrically opposed to the urban renovations simultaneously carried out across the city in the 1850s. While Haussmann regularized the streets of Paris, making them more orderly and open, Alphand made the Bois appear more unruly by replacing its formal gardens with an irregular, untamed landscape. Yet I argue that these projects in fact mirrored each other, with the design of such parks and gardens playing a key role in the overall transformation of the nineteenth-century Parisian urban landscape, as part of a series of civic interventions calculated to reform and control public behavior.

Of the seventy green spaces developed or renovated under Haussmann and his team from 1853 to 1869, the Bois de Boulogne was the most audacious project undertaken, and it provided fertile ground for a rethinking of the urban landscape and the relationship between Parisians and public space.[1] The transformation of the Bois also had enduring ramifications for the way that visitors experience the parks and gardens of Paris, even up to the present. Chief among the interventions introduced were the new park benches designed by the architect Jean-Antoine-Gabriel Davioud. Prior to Haussmannization, Parisian parks provided public seating only occasionally, and then for a fee; thus the public viewed the freely accessible park benches as a surprising and even radically egalitarian novelty. But Davioud designed his benches to be used only for brief periods of time. They featured a designed discomfort, an early example of hostile design intended to promote particular kinds of behavior in the city parks and discourage others. Above all, this strategy targeted those who might stay longest in public parks, including the poor, the unhoused, and people of color. Through their restrictive designs, Davioud's benches helped ensure continued inequality in Parisian green spaces, despite the stated goal of improving access.

In 1873 Alphand published *Les promenades de Paris*, in which he documented the new designs for the city's green spaces, including Davioud's now ubiquitous green benches.[2] These benches are worthy of further attention, as they reveal the ways in which park infrastructure could be used both to attract visitors (by offering landscapes of sinuous and natural

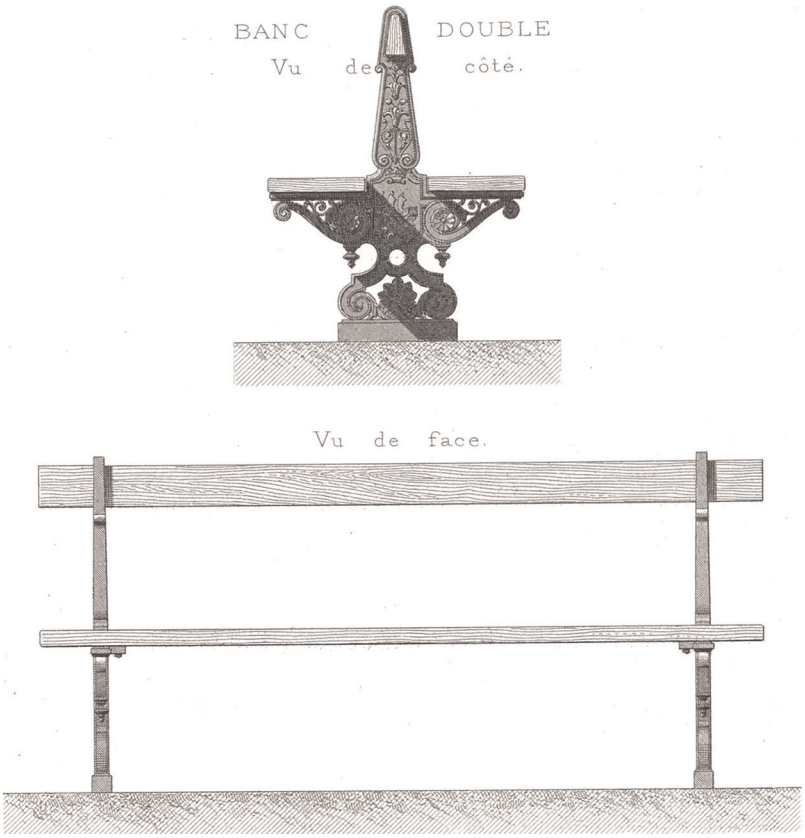

Figure 2 Jean-Antoine-Gabriel Davioud, double park bench design, engraving, 1873, detail (A. Alphand, *Les promenades de Paris* [Paris: J. Rothschild, 1873]; Bibliothèque Nationale de France).

appearance) and to limit the lengths of their visits (by providing awkward seating). The benches enabled lingering through their very presence in the park, yet they discouraged prolonged sitting through their form. Davioud, who planned most of the street furniture that came to characterize Haussmann's Paris, designed benches in three distinct styles, including the *double banc*, a bench with two planks of wood forming back-to-back seats, with a third plank upright between them for minimal back support (Figure 2). In addition, Davioud created two single benches, both of which forced the sitter to recline at an uncomfortable angle (Figure 3). One, the *banc gondole*, had a dramatically curved seat, while the other incorporated the single plank seat of the *double banc* style. The deep-green hue of all three designs echoed the verdure of the park. Supported on elegant cast-iron legs, they blended seamlessly into the urban landscape alongside Davioud's other street furniture. Despite the intentionally uncomfortable design of these benches, they were still an improvement over earlier amenities in terms of accessibility and availability, and, in fact, their hostile design was not immediately obvious to park visitors.

Nate Gabriel has explored how class struggles often play out in urban green spaces. In theory, parks are open to all, but authorities seek to control the public's behavior through designs such as Davioud's benches, meant to ensure that visitors' stays are limited. These strategies work to impose bourgeois social values on all park visitors; rather than offering egalitarian access to the outdoors, they create urban landscapes that are designed to compel visitors to inhabit carefully controlled urban spaces in specific ways.[3] The hostile infrastructure of the Bois de Boulogne revealed that although all Parisians might have a right to light and air, they could access that right only under specific conditions.

In Paris a combination of architectural interventions and surveillance achieved these goals. The Service des Promenades et Plantations employed park guards through the Garde du Service, which was charged with patrolling and maintaining order in the city's public spaces, following the example of the military.[4] Such surveillance would not have been unfamiliar to Davioud—in addition to designing the benches for the Bois du Boulogne, he drafted plans for the guardhouses found throughout the park.[5] Despite the vigorous efforts of this park management program, policing the sprawling and at times wild landscape of the Bois de Boulogne was difficult, and the park became notorious as a place of so-called deviant behaviors, particularly after dark. The infrastructure within the park, including the benches, helped to further the goals of the park guards by discouraging prolonged stays and illicit activities. Even though the benches did not include metal bars across the seats or armrests meant to restrict their occupants, the fact that they discouraged uninterrupted periods of sitting or lying down made them a form of hostile architecture long

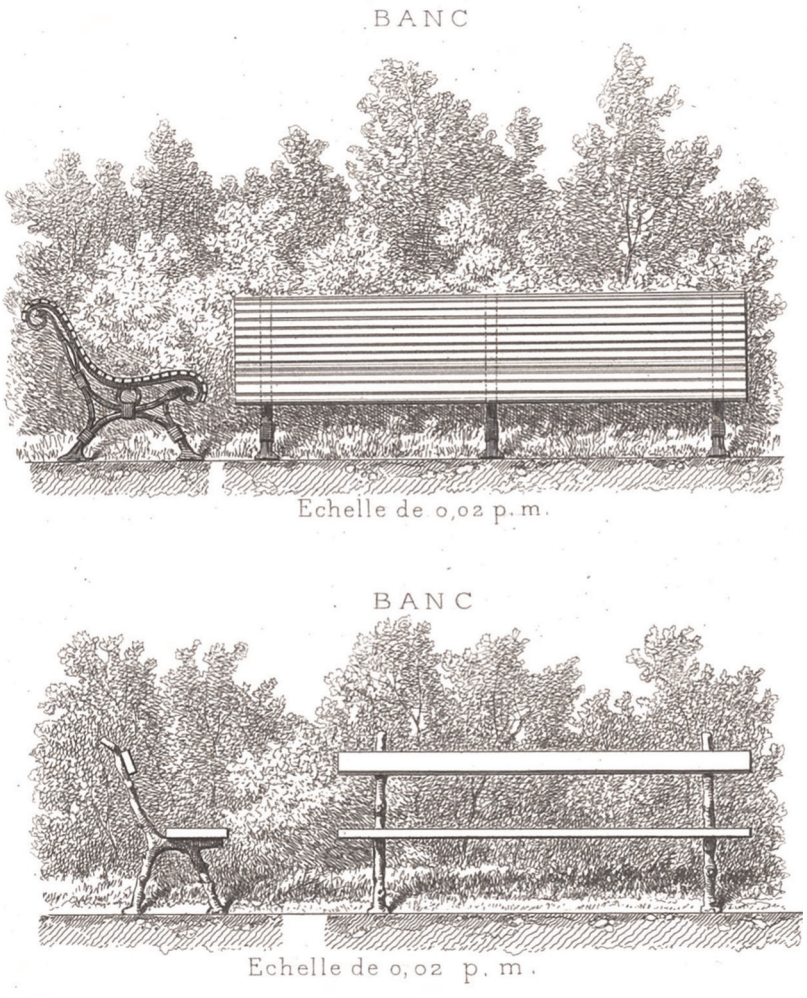

Figure 3 Jean-Antoine-Gabriel Davioud, park bench design, engraving, 1873, detail (A. Alphand, *Les promenades de Paris* [Paris: J. Rothschild, 1873]; Bibliothèque Nationale de France).

before that term entered the common vocabulary. This is, to borrow Gabriel's phrasing, the work that parks do.[6]

The innovative park system of Paris inspired similar campaigns to bring green spaces to other cities, both in France and elsewhere.[7] The modern park landscape developed alongside infrastructure that controlled behavior within green spaces. Beginning in the 1850s, the parks of Paris and their seating received wide praise as symbols of progress, introducing a major shift toward a more democratic experience of green spaces. And yet, when we consider the urban landscape of Parisian parks more carefully, it becomes clear that public access to these spaces was always highly conditional; park infrastructure that might have seemed to enhance access instead sought to control behavior, and thus laid the groundwork for even more dramatic examples of exclusionary urban design in the public parks of the future.

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Notes

1. Colta Ives, *Public Parks, Private Gardens: Paris to Provence* (New Haven, Conn.: Yale University Press, 2018), 66.

2. Baron Georges-Eugène Haussmann, *Mémoires*, ed. Françoise Choay (Paris: Éditions du Seuil, 2000), 868; A. Alphand, *Les promenades de Paris* (Paris: J. Rothschild, 1873), n.p.

3. Nate Gabriel, "The Work That Parks Do: Towards an Urban Environmentality," *Social & Cultural Geography* 12, no. 2 (Mar. 2011), 139.

4. Richard S. Hopkins, *Planning the Greenspaces of Nineteenth-Century Paris* (Baton Rouge: Louisiana State University Press, 2015), 62–63.

5. Haussmann, *Mémoires*, 868.

6. Gabriel, "Work That Parks Do," 123.

7. Charles Waldman, *Landscape as Urbanism: A General Theory* (Princeton, N.J.: Princeton University Press, 2016), 165.

Hans Scharoun, *Stadtlandschaft*, and the Chinese Werkbund

Architectural historians know Hans Scharoun (1893–1972) as a key proponent of expressionist architecture based on his contributions to the Crystal Chain correspondence, his visionary drawings, and his magnum opus, the Berlin Philharmonic Concert Hall (1963). Yet we oversimplify when we use this notion to categorize his entire career, given that Scharoun realized his most significant urban planning projects following World War II. Immediately after the Red Army entered Berlin

Figure 4 "Structural Plan of Berlin," displayed at the exhibition *Berlin Plant—Erster Bericht*, Berlin Royal Palace, August–October 1946 (Architectural Archive of the Akademie der Künste, Berlin).

in April 1945, Colonel Nikolai Berzarin, mayor of Soviet occupying forces in Berlin, appointed Scharoun director of the newly established City Council of Building and Housing. Charged with the preparation of a set of fundamental principles for the new planning of Berlin, Scharoun created a municipal planning office with his assistant Wils Ebert (1909–79).[1] The next year, Scharoun and Ebert, along with a group of young architects, landscape designers, and city planners, inaugurated a master plan for Greater Berlin called the *Kollektivplan* (Figure 4).[2]

Nothing produced by his planning office could be called "expressionist"; Scharoun's urbanist approach centered on the concept of *Stadtlandschaft*, or urban landscape, as an overarching strategy intended to break down the out-of-scale housing projects, or *Großsiedlungen*, of Berlin by rearranging them as manageable *Wohnzellen*, or dwelling cells, where "buildings, forest, meadow, mountain, and lake interact within a beautiful urban landscape."[3] While Scharoun embraced the *Stadtlandschaft* principle as a means of solving problems specific to reconstructing Berlin, nineteenth-century German geographers had already used the term in their work concerning the economic relations between Berlin and its immediate rural region. Scholars such as Johann Georg Kohl (1808–78), Max Eckert (1868–1938), and Siegfried Passarge (1866–1958) employed the term in their explorations of how human structures, natural elements, and economic identities could merge together to create a harmonious whole.

As Panos Mantziaras has argued, in the early 1930s the application of *Stadtlandschaft* expanded; where it had been a term used primarily in relation to economics and geography, it became a town planning concept.[4] Until the National Socialist Party seized power, Neues Bauen architects and planners implemented the ideas of *Stadtlandschaft* in their design and construction of residential settlements. Designers such as Bruno Taut (1880–1938), Martin Wagner (1885–1957), Ernst May (1886–1970), and Walter Schwagenscheidt (1886–1968) sought to dissolve the cities by loosening their urban configurations and dispersing their disaggregated parts across the natural landscape.[5] The next generation of German architects, notably Rudolf Schwarz (1897–1961) and Hans Bernhard Reichow (1899–1974), who viewed *Stadtlandschaft* as analogous to their organic town planning approach, dedicated their careers to promoting new urban forms that they hoped would bridge urban life and unspoiled nature.[6]

Scharoun and his *Kollektiv* colleagues also adopted the *Stadtlandschaft* concept in their postwar projects. But the background for Scharoun's advocacy is more complicated than existing accounts have led us to believe. Apart from its German origins, *Stadtlandschaft* particularly interested Scharoun because the approach shared fundamental affinities with the feng shui thinking that he encountered first in his collaboration with Chen-kuan Lee (1915–2003) and then again during his involvement in the Chinese Werkbund meetings held in Berlin from October 1941 through May 1942. A short-lived

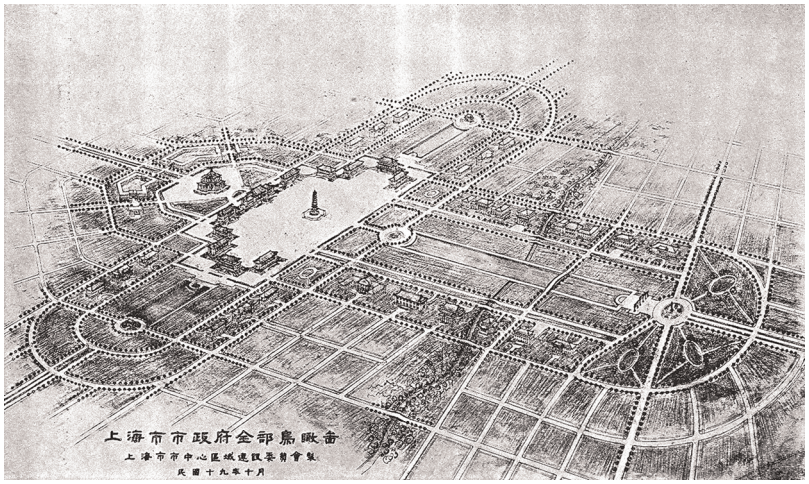

Figure 5 Dayou Dong, Greater Shanghai Civic Center, bird's-eye view, drawing, 1935 (*China Critic* 10, no. 5 [Aug. 1935]).

Figure 6 Dayou Dong, Mayor's Building, Greater Shanghai Civic Center, 1937 (courtesy of Zhongjie Lin).

organization, the Chinese Werkbund was initially convened by Hugo Haring (1882–1958), acting director of the Reimann School of Art and Design in Berlin. Other participants included Scharoun, Lee, John Scott, Thou Wu, John Woo, and Shaolin Woo.[7] In their review of a series of recently completed buildings in major Chinese cities, the Chinese Werkbund members identified a "great danger" in contemporary design projects in China. In particular, they noted, projects such as the Greater Shanghai Civic Center (1937), designed by Dayou Dong (1899–1973), one of many Chinese architects who had been exposed to Beaux-Arts aesthetics at American universities, represented "American-style architecture . . . partially covered with Chinese motifs" (Figures 5 and 6).[8] Arguing that architectural practice in China had been "completely disoriented," the Chinese Werkbund sought to alert the public in an effort to prevent Chinese building traditions from being "crushed by the destructive invasion of Western culture," as Haring stated in his "Memorandum on the Founding of the Chinese Werkbund."[9]

The Chinese Werkbund discussed not only contemporary architectural practice in China but also traditional Chinese architecture and urban culture, and in particular the Chinese geomancy concept of feng shui, consulting texts such as Rudolf Kelling's *Das chinesische Wohnhaus* (1935) and Heinrich Hildebrand's *Der Tempel Ta-chüeh-sy bei Peking* (1897), as well as the writings of Ernst Boerschmann (1873–1949).[10] As Boerschmann argues, feng shui not only offers a set of "fixed formulas" to guide the situation and orientation of a new structure in its urban or natural setting but even explains nature itself in terms of the ways that humans experience and perceive the outside world. First, feng shui acknowledges the internal spirit, formative force, or "soul" that connects all natural elements as a whole, and second, it unifies the "outer image" with the "inner being" of natural phenomena.[11]

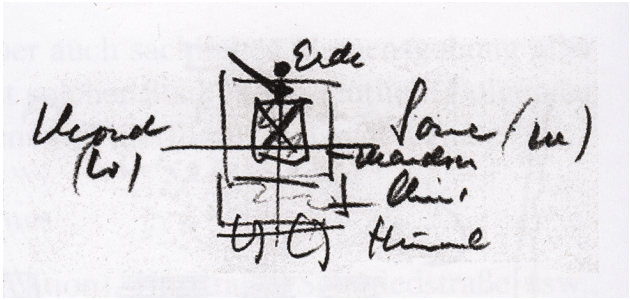

Figure 7 Hans Scharoun, sketch of the "cultural grid" of Beijing, 1947 (Architectural Archive of the Akademie der Künste, Berlin).

As attested by many analytical drawings related to the study of Chinese traditional cities, Scharoun extended this understanding of feng shui to his own town planning practice, where he strove to achieve "clarity" in the external "structural plan" (*Strukturplan*) and thereby to conform with the internal "living rhythm" of the city (Figure 7). Scharoun's encounter with Chinese town planning tradition, and especially with feng shui, thus played a decisive role in shaping his notion of *Stadtlandschaft*. This realization enables us to critically reassess Scharoun's understanding of the integration of landscape design in urban planning: his approach derived not only from German organicist urbanist thinking but also directly from his participation in the Chinese Werkbund. These studies, as well as his subsequent research with Chen-kuan Lee on Chinese town planning principles, had a profound impact on Scharoun's postwar urbanist schemes for the reconstruction of Berlin. Scharoun's turn toward Chinese precedents—wholly removed from European examples tainted by the National Socialist distortions of the tradition—provided him with an opportunity for rethinking the fundamentals of architectural and urban order.

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Notes

1. Hans Scharoun, "Berlin Stadtrat für Bau- und Wohnungswesen im Magistrat von Groß-Berlin Ausstellung," in *Hans Scharoun: Bauten, Entwurfe, Texte*, ed. Peter Pfankuch (Berlin: Gebr. Mann, 1974), 151.

2. While the Allied powers failed to acknowledge the *Kollektivplan* for political reasons, an exhibition based on this work titled *Berlin Plant—Erster Bericht* was held at the Berlin Royal Palace from August to October 1946.

3. Scharoun, "Berlin Stadtrat," 158, my translation. Unless otherwise noted, all translations are my own. Each intended *Wohnzelle* was to accommodate roughly four thousand to five thousand people, a size that corresponded to the units of the Siemensstadt settlement, with which Scharoun was involved in the late 1920s.

4. Panos Mantziaras, "Rudolf Schwarz and the Concept of *Stadtlandschaft*," *Planning Perspectives* 18, no. 2 (2003), 147–76.

5. Mantziaras, 159.

6. On Reichow and *Stadtlandschaft*, see Elke Sohn, "Hans Bernhard Reichow and the Concept of *Stadtlandschaft* in German Planning," *Planning Perspectives* 18, no. 2 (2003), 119–46; Elke Sohn, "Organicist Concepts of City Landscape in German Planning after the Second World War," *Landscape Research* 32, no. 4 (2007), 499–523.

7. Chen-kuan Lee was Scharoun's assistant and later played an important role in the single-family houses Scharoun completed during the 1930s; many of Scharoun's postwar projects reflected their joint research into Chinese architecture. We know very little about John Scott, though Peter Blundell Jones has speculated that he was a Germanized American architect who might have been invited to the meetings through his wife, Gerda, Haring's colleague at the Reimann School. Thou Wu and John Woo were architecture students from China attending the Reimann School. We do not know much about Thou Wu, either. Regarding John Woo, we know that he had just finished his dissertation about Chinese hall-type buildings and their wooden structures in July 1941, under the supervision of Ernst Boerschmann, around the time that Haring was organizing the Chinese Werkbund. Thou Wu and John Woo attended only the first meeting. Scott participated in four meetings, and Scharoun attended five times. Only Haring and Lee were active throughout all nine meetings. For the history of the Chinese Werkbund and reprinted meeting minutes, see Wen-chi Wang, *Chen-kuan Lee (1914–2003) und der Chinesische Werkbund: Mit Hugo Häring und Hans Scharoun* (Berlin: Reimer, 2010); Peter Blundell Jones, "The Lure of the Orient: Scharoun and Haring's East–West Connections," *Architectural Research Quarterly* 12, no. 1 (2008), 29–42.

8. Chinese Werkbund meeting minutes, 17 Oct. 1941, in Wang, *Chen-kuan Lee*, 287.

9. "Denkschrift zur Gründung eines chinesischen Werkbundes" (1941), in Wang, *Chen-kuan Lee*, 287–88.

10. Rudolf Kelling, *Das chinesische Wohnhaus* (Tokyo: Otto Harrassowitz, 1935); Heinrich Hildebrand, *Der Tempel Ta-chüeh-sy (Tempel des grossen Erkennes) bei Peking* (Berlin: A. Ascher & Co., 1897).

11. Ernst Boerschmann, *Die Baukunst und die Religiöse Kultur der Chinesen: P'u T'o Shan—die heilige Insel der Kuan Yin, der Göttin der Barmherzigkeit* (Berlin: De Gruyter, 1911), 190–92.

Arguments for a Critical Reading of Urban Landscapes

Landscape is clearly an interdisciplinary field of study. Although both academic and policy domains have increasingly emphasized the value of interdisciplinary research, these reconfigurations of knowledge have generated varying outcomes. In broad terms we can distinguish between "expansive" and "reductive" interdisciplinary approaches. On the expansive side we can point to a range of work within anthropology, geography, the history of science, and other related fields seeking to advance a conceptual synthesis between nature and culture. On the reductive side, however, the systems-based paradigms that have traditionally dominated urban ecology continue to rely on an "overextension" of models and metaphors derived from the biophysical sciences. Similarly, we encounter the application of positivist approaches drawn from the social sciences, including fields such as economics and social psychology. Whilst a critical reading of urban landscapes must of necessity be interdisciplinary in scope, it must also attend to different forms of conceptual and methodological complexity.

By "critical reading" I want to emphasize interactions with urban landscapes that draw on both the embodied experience of specific sites and an engagement with diverse sources of

knowledge. Here I want to stress two aspects in particular: first, a sensitivity towards multiple traces of human culture; and second, a heightened attentiveness to the realm of nonhuman nature. Examples of such critical readings might include explorations of the array of signs and symbols in street art or the use of botanical knowledge to study spontaneous assemblages of urban nature. In contrast to the masculinist realm of urban flânerie and other exclusionary topographies, I want to stress the possibilities for reading difference differently.[1]

How should we characterize an urban landscape? The definition of landscape involves questions of language as well as more prosaic concerns with design, engineering, and environmental policy. Marginal urban spaces in particular offer a rich lexicon that is open to multiple etymological excavations. The use of terms such as *fallow* and *commons*, which first emerged in a rural or premodern context, not only highlights differences between cultivable and uncultivable land but also suggests issues of intentionality and temporality along with contrasting patterns of rights and ownership. The identification of an "urban commons," for example, or the presence of other forms of vernacular public space, connects with histories of landscape formation as a zone of contestation.

The cultural significance of landscapes has been under sustained critical scrutiny since the 1980s, with contributions by John Barrell, Denis Cosgrove, Stephen Daniels, and other neo-Marxian scholars exploring the ways that power and ideology underpin landscape formation and its varied representations within literature and the visual arts. Clearly, these interventions went far beyond existing conceptions of "landscape morphology" à la Carl Sauer that struggled to make sense of landscape as a dynamic and historically constituted cultural interface. It is interesting to note, however, that by the late 1990s, Cosgrove was partially repudiating his earlier work in order to pursue more embodied and less narrowly Eurocentric approaches.[2] More recently, the field of neo-Marxian criticism has undergone a further set of significant changes marked by the rereading of relations between cultural theory and material artifacts, exemplified by Sianne Ngai's reworking of existing aesthetic categories and an expanded conception of the cultural archive.[3]

Another significant dimension to recent developments within neo-Marxian theory involves the interface between urban political ecology and critical landscape studies. Compelling new points of dialogue include the value of scientific advances within ecology for the development of interdisciplinary epistemologies that take account of epigenetics, toxicology, and other fields. A further field of conceptual deliberation is the use of aesthetic theory in relation to marginal urban landscapes. Important areas of neo-Marxian critique include the ideological terrain of ruination and landscapes of racialized abandonment in postindustrial urban settings, such as Baltimore and Detroit. At the same time, the critical reading of urban ruins has become increasingly global in scope, with innovative contributions on Shanghai, Tallinn, Turin, and many other cities.[4]

Of course, the technical appraisal of marginal landscapes may further encourage their erasure.[5] We encounter what the architectural theorist Ignasi de Solà-Morales terms a "violent transformation" as urban interventions under the aegis of architecture and landscape design forcibly incorporate and eliminate anomalous spaces such as *terrains vagues*.[6] Grassroots campaigns to protect specific sites that have acquired cultural or ecological value must contend with the speculative dynamics of the urban arena and attempts to revalorize urban space. In many cases one variant of nature is effectively replaced by another cultural formation that aligns more closely with the exigencies of capitalist urbanization, even if the staging of "new natures" may mimic preexisting socioecological constellations.

Some of the most distinctive urban landscapes have evolved in tandem with infrastructure systems. These include the linear ecologies associated with technological networks such as interstitial spaces of "wild nature" developing alongside roads or railway lines. The crushed stones used to hold railway lines in place are often carpeted in flowers associated with ruderal environments, while the use of salt to deice roads in urban areas can lead to the unexpected flourishing of species of plants associated with coastal ecosystems. These "interface ecologies" may disrupt existing conceptions of scale, site, and form in productive ways that enable diverse ecologies to enter the field of landscape studies.

A key challenge for the environmental humanities relates to questions of agency and subjectivity. Emerging strands of work now expanding the boundaries of current knowledge include postpositivist forms of evidentiary materialism and the development of forensic ecologies that incorporate more nuanced ethical approaches toward the nonhuman. An emphasis on other-than-human geographies intersects with postphenomenology, multisensory geographies, and intersubjective readings of affect theory. The destabilization of the universal human subject has also enriched the conceptual terrain shared by critical race studies, feminist epistemologies, and queer theory.[7]

What kind of environmental knowledge might enrich public cultures of urban nature? The urban arena provides a network of sites supporting radical pedagogy, grassroots forms of citizen science, and the articulation of collective memory in relation to vernacular landscapes.[8] The decentering of the human subject connects with emerging attention to the spontaneous dynamics of nature and new approaches to landscape design. The role of "nondesign" has become a distinctive component within innovative

approaches to landscape theory and wider discourses about the role of "wild urban nature" within public space.[9] The reconceptualization of nonhuman nature as an active presence in the shaping of urban space has altered the aesthetic, political, and ethical parameters of environmental discourse.

Emerging environmental discourses work against the projective ecologies of "generic urbanism" to build intricate engagements with local sites through, for example, the use of bioswales or cloudburst plans. Recent approaches to landscape design have begun to incorporate the unusual aesthetic and ecological characteristics of abandoned spaces. Scientists, artists, and environmental activists have recast various types of urban wastelands as "ecological refugia" for the protection of vulnerable species, including many organisms placed on the so-called Red Lists guiding organizations devoted to conservation biology and ecosystem management. This is not a narrowly utilitarian nature, but an alternative nature conceived as a complex patchwork of relational ecologies and cultural meanings.

The environmental humanities can contribute towards an understanding of urban ecological imaginaries as a series of shared social and cultural constructs, and yet these imaginaries may diverge dramatically in terms of conceptualizations of urban nature and approaches to the design and interpretation of urban landscapes. There is an evident degree of polarization, for instance, between dystopian and adaptive understandings of urban environmental change. Concerns with loss of control contrast with conceptions of nature as malleable and interchangeable. In this essay I have sought to articulate a different kind of ecological imaginary that can acknowledge both the independent agency of nature and our ethical relations towards nonhuman others in urban space. We need a critical reading of urban landscapes that is not only interdisciplinary in scope but also multispecies in its orientation. The idea of landscape offers us a multifaceted provocation for a dynamic reconceptualization of critical theory that can transcend the classic rendition of the bounded human subject as a passive observer.

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Notes

1. See, for example, Philippe Descola, "The Difficult Art of Composing Worlds (and of Replying to Objections)," *HAU: Journal of Ethnographic Theory* 4, no. 3 (2014), 431–43.

2. Denis E. Cosgrove, "Introductory Essay for the Paperback Edition," in *Social Formation and Symbolic Landscape* (1984; repr., Madison: University of Wisconsin Press, 1998), xi–xxxv.

3. Sianne Ngai, *Our Aesthetic Categories: Zany, Cute, Interesting* (Cambridge, Mass.: Harvard University Press, 2012).

4. See, for example, Lucilla Barchetta, *La rivolta del verde: Nature e rovine a Torino* (Milan: Agenzia X, 2021); Maroš Krivý," 'Post-apocalyptic Wasteland' or 'Digital Ecosystem'? Postsocialist Ecological Imaginaries in Tallinn, Estonia," *Geoforum* 126 (2021), 233–43; Xuefei Ren, "The Political Economy of Urban Ruins: Redeveloping Shanghai," *International Journal of Urban and Regional Research* 38, no. 3 (2014), 1081–91.

5. See, for example, Erik Harms, "Knowing into Oblivion: Clearing Wastelands and Imagining Emptiness in Vietnamese New Urban Zones," *Singapore Journal of Tropical Geography* 35, no. 3 (2014), 312–27.

6. Ignasi de Solà-Morales Rubió, "*Terrain vague*," in *Anyplace*, ed. Cynthia Davidson (Cambridge, Mass.: MIT Press, 1995), 118–23.

7. See Matthew Gandy, *Natura Urbana: Ecological Constellations in Urban Space* (Cambridge, Mass.: MIT Press, 2022).

8. On the creation of such communities of struggle, see bell hooks, *Teaching to Transgress: Education as the Practice of Freedom* (New York: Routledge, 1994).

9. See, for example, Matthew Gandy, "Entropy by Design: Gilles Clément, Parc Henri Matisse and the Limits to Avant-Garde Urbanism," *International Journal of Urban and Regional Research* 37, no. 1 (2013), 259–78.

Unlearning Colonial Dryness in Dhaka

The city is conceptualized in many different ways—as a body, a machine, an organism, a second nature, and now as a third or even a fourth nature.[1] All of these interpretations objectify the city, contrasting it as a stable physical environment with the unstable presence of water. Water always requires management and control: we define a city's relationship with water according to the ways the city imposes boundaries on water, whether the city borders a "river" or the sea, or whether the city encloses water within pipes, channels, or containment basins. Anuradha Mathur and Dilip da Cunha challenge this conventional paradigm of a "dual world of dry and wet," arguing instead for "wetness" as a "nondualistic moment in the world, a condition," and questioning why the ways in which we think and speak about and design habitation continue to reinforce the simplistic articulation of "land" and "water."[2] This essay calls attention to how more than two centuries of urban development in the Bengal delta (also known as the Ganges-Brahmaputra delta) sought to confine that region's innately shifting waterways to create "dry" land through an array of engineered infrastructures such as rivers, canals, and embankments—an approach toward water, land, and air that continues not only to physically shape modern cities of the delta but also to shape the ways their inhabitants conceptualize water and land within them.

Elsewhere in my research, I explore the discourse of "contained waters" in the making of the "dry" colonial city of Dacca (now Dhaka), located in East Bengal.[3] As in many other colonial cities, in Dacca a series of policies, practices, and interventions introduced as part of colonialism naturalized a discourse of "contained water" and "dry" or "permanent" ground.[4] The capital's frequent relocation and the numerous appearances of the words "washed away" in historical records highlight the difficulty of reconstructing an urban history in and of such a fluid, mobile landscape.[5] The British saw the dynamic landscape of the delta—its shifting rivers, its vanishing and reappearing landforms—as a hindrance to colonial territorialization, governance, and taxation.[6] Through mapping,

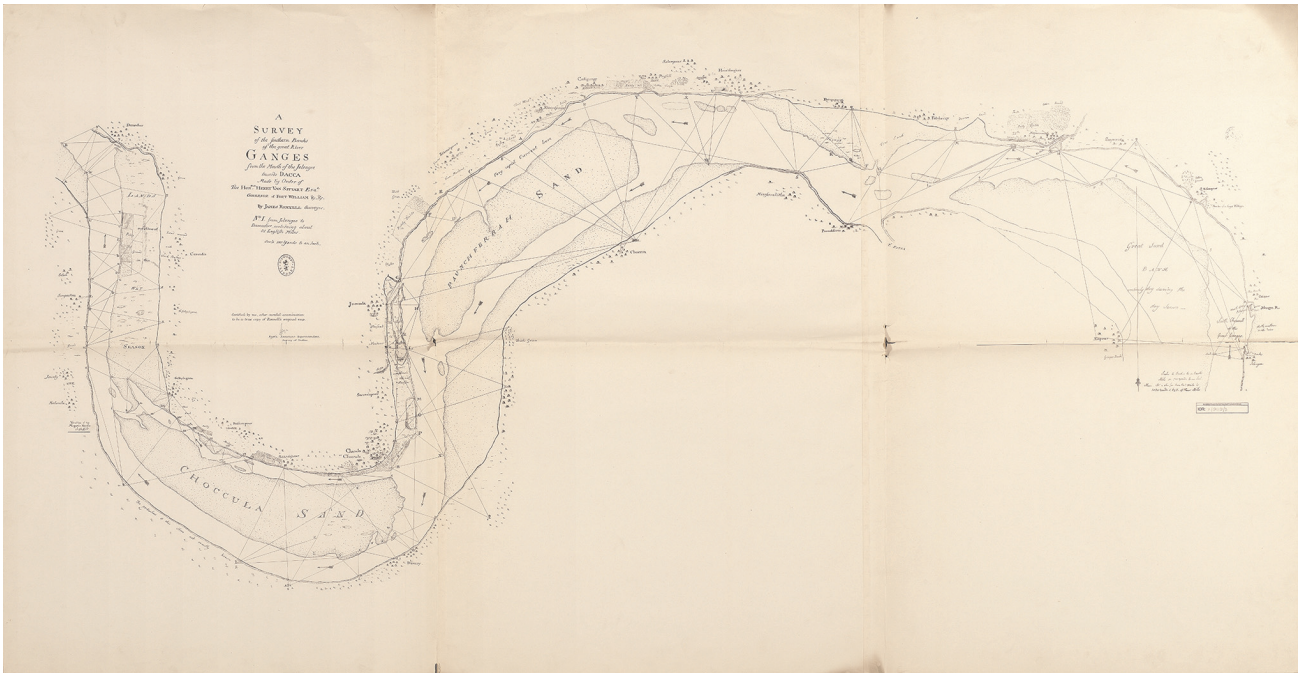

Figure 8 James Rennell, *A Survey Map of the Southern Banks of the Great River Ganges*, 1764–65; in this early application of trigonometric survey, Rennell, working for the East India Company, had to identify fixed objects (mostly trees) along the riverbanks to draw the imaginary line separating land and water (IOR: X/9119/3, British Library; © British Library Board).

legislation, and infrastructure, successive colonial administrations worked tirelessly to construe the deltaic environment as a dry one, creating ways of knowing it and modifying it as such in order to promote their own political agency, governmental legitimacy, and profit extraction (Figure 8). Some influential natives (such as merchants and zamindars) pursuing their own separate interests also became involved in these modernizing projects, which helped them consolidate their own political and cultural capital. As Debjani Bhattacharyya argues, in time these interventions led many urbanites to forget the "soaking ecology" long inherent to the delta.[7] Occurring in multiple locations and at varying scales, an array of foundational and infrastructural projects systematically separated land and water in decisive and definitive ways that made it almost impossible to question these categories and mediated a new way of perceiving and inhabiting the landscape that would be shared by both colonizer and colonized.

How did this colonial separation of land and water become a mode of exploitation, and how did this divide endure in both the postcolonial city and the urban imagination? Answering such questions requires reexamining the ways we inhabit and imagine cities as environments, as well as the ways we culturally think about and live with bodies of water. One historically relevant example of how understandings of wetness in inhabited environments are entangled with lived relations and afforded and encouraged by, particular environments is the local practice of muslin weaving. East Bengal's precolonial and colonial cities were famous for their muslin (Figure 9).[8] To produce this fabric, renowned for its extreme delicacy and thinness, a high moisture content was required. To keep the threads moist, muslin weavers spun when air humidity was high, usually early in the morning or in the late afternoon. For similar reasons they often placed bowls of water near their looms, or sited their looms and spinning wheels near flooded areas or on moored boats.[9] Such ambient moisture, another form of water, is not how we imagine water today.[10] The damp atmosphere conducive to the spinning and weaving of muslin resulted from the presence of forests, bodies of water, and a monsoon climate.

The clearing of forests and marshes that began even before the British arrived in Bengal accelerated rapidly under the revenue-hungry East India Company administration. Laws like the Permanent Settlement Act of 1793 and the Bengal Alluvion and Diluvion Act of 1825 played a critical role in formalizing the division of land and water and maximized the clearance of land for cultivation and revenue production. As the forest was cleared, and as the boundaries between water and land formalized, the moisture required for the production of muslin dissipated. Families who had woven muslin for generations were forced to adopt other professions for which they were not as well suited, and where they had less economic autonomy.[11] Many of these people died in the famines that struck Bengal in the late eighteenth and early nineteenth centuries. As Dilip da Cunha notes, the line that

Figure 9 Charles D'Oyly, etching depicting a muslin weaver of Dacca, 1827 (Charles D'Oyly, *Antiquities of Dacca* [London, 1827], plate 16; Antiquities of Dacca/X628[16], British Library; © British Library Board).

a mapmaker draws to separate land from water also functions as a "colonizing device" that tends to subjugate Indigenous people and create an "underclass."[12] The colonial introduction of categories of "dry" land and "contained" water represented one such mode of exploitation that caused, and continues to cause, "Indigenous people [to suffer] profound dissonance [as] their experience is grounded in one moment of the hydrologic cycle, while they are made to inhabit another."[13] The territorial transformations introduced by the colonial administration promoted profit-generating rice cultivation as the universal occupation for the "underclass," thus undermining diverse Indigenous artisanal practices. These colonial interventions not only dried the local ambience and supplanted muslin weaving along with other artisanal industries but also laid the foundations for further exploitation and discrimination.

The history of muslin material culture in the delta indexes how the colonial administration's promotion of various infrastructures that separated water from land not only helped facilitate governance and revenue collection but also remade ways of "living with water," as well as received ideas of "wetness," as part of urban modernization. Such interventions continued to receive support in the postcolonial context. As Jamie Linton observes, the promise of building more "dry" infrastructures in the name of development, or "hydronationalism," remains a powerful strand of contemporary politics.[14] The lines inscribed on the landscape by the embankments, which correspond to the dividing lines within the hierarchical, segregated, city-centric society that Bangladesh inherited from the British, perpetuate colonial hydrological imaginaries into the present.[15] The age of climate change and rising sea levels has exposed the underlying fragility of hard engineering projects as long-term solutions for the cities of the global South, especially those located in dynamic delta landscapes. Among the problems generated by hard-infrastructure thinking are destructive urban flooding and the loss of both structures and lives in semiurban and rural areas (Figure 10). By the same token, such hydrological infrastructures often harden social divisions. To begin to address these problems we must decolonize the way we think about both cities and landscapes. That is, we must begin by acknowledging not just our colonial histories but also, and more importantly, the persistent influence of colonial agendas and ways of thinking in postcolonial conditions.[16] Conversely, we need to recognize that the way we conceive urban land and waterscapes today tends to perpetuate colonial discourses and practices.

As scholars have noted, the decolonization project does not, and cannot, offer quick solutions.[17] On the contrary, it requires that we adopt fundamental changes in the ways we think and imagine, alongside the ways in which we perceive the nature of the city and the way we imagine water as distinct

Figure 10 Shibchor SESDP Model High School, Madaripur, Bangladesh, destroyed by the shifting of the Padma, the main distributary of the Ganges, 2020 (*Daily Star*, 23 July 2020).

from land. The call for the decolonization of cities challenges the effectiveness of creating "dry" ground and exposes the political agendas, marginalization, and discrimination that this serves. To meet these ambitious goals, we must strive for a more heterogeneous understanding of nature, human–nonhuman relations, and habitation that moves beyond human-centric ontologies.

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Notes

1. Vitruvius, *The Ten Books on Architecture*, trans. M. H. Morgan (New York: Dover, 1960); Leon Battista Alberti, *On the Art of Building in Ten Books*, trans. Joseph Rykwert, Neil Leach, and Robert Tavernor (Cambridge, Mass.: MIT Press, 1988); Le Corbusier, *The City of Tomorrow and Its Planning* (Cambridge, Mass.: MIT Press, 1982); 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), 32–75.

2. In questioning the separation of land and water, Mathur and da Cunha use the term "wetness" to refer to a mode of thinking (and also habitation) that acknowledges the ubiquitous condition of water. For example, water exists in air, soil, our bodies, and so on, and thus they question the concept of "the dual world of dry and wet." Anuradha Mathur and Dilip da Cunha, *Wetness Everywhere* (2017), Vimeo, https://vimeo.com/228719234 (accessed 18 Apr. 2022). See also Anuradha Mathur and Dilip da Cunha, "Wetness Is Everywhere: Why Do We See Water Somewhere?," *Journal of Architectural Education* 74, no. 1 (2020), 139–40.

3. Today known as Dhaka, the capital of Bangladesh, Dacca was one of the major cities in colonial Bengal. The city became the capital of the eastern province after the Bengal Partition of 1905.

4. On the different colonial projects that shaped Calcutta, currently known as Kolkata, the capital of India's West Bengal state, see Debjani Bhattacharyya, *Empire and Ecology in the Bengal Delta: The Making of Calcutta* (Cambridge: Cambridge University Press, 2019). See also Vera S. Candiani, *Dreaming of Dry Land: Environmental Transformation in Colonial Mexico City* (Stanford, Calif.: Stanford University Press, 2014).

5. The major cities that have existed in this region include Gangaridae, or Ganges Regia, mentioned in Ptolemy's account (ca. second century CE), Vikrampur during the Sen era (ca. tenth century), and Sonargaon during the Sultanate period (thirteenth–fifteenth centuries). Historian Syed Muhammed Taifoor mentions a town named Bangala where Dhaka is located now. Other Bengal towns such as Katrabo, Sripur, and Idilpur were completely washed away by the shifting courses of rivers. Syed Muhammed Taifoor, *Glimpses of Old Dhaka* (Dhaka: S. M. Perwez, 1965), 76.

6. Kuntala Lahiri-Dutt and Gopi Samanta, *Dancing with the River: People and Life on the Chars of South Asia* (New Haven, Conn.: Yale University Press, 2013); Iftekhar Iqbal, *The Bengal Delta: Ecology, State and Social Change, 1840–1943* (Basingstoke: Palgrave Macmillan, 2010).

7. Bhattacharyya, *Empire and Ecology*, 5, 202.

8. Muslin, a lightweight cotton fabric, was produced in Bengal in antiquity. Early references can be found in the *Rig Veda* (ca. 1000 BCE), Megasthenes's *Indika* (ca. 300 BCE), and Ptolemy's *Geographia* (ca. first–second centuries CE). See *A Descriptive and Historical Account of the Cotton Manufacture of Dacca, in Bengal* (London: J. Mortimer, 1851). On the water-based artisan economy in Bengal prior to the colonial period, see Willem van Schendel, *Three Deltas: Accumulation and Poverty in Rural Burma, Bengal and South India* (New Delhi: SAGE, 1991).

9. *Descriptive and Historical Account*, 1851; Saiful Islam, *Muslin: Our Story* (Dhaka: Drik Picture Library, 2016); Labib Hossain, "A Critical Reading of Dry and Permanent Grounds through the Practice of Muslin Weaving," in *Monsoon [+ Other] Grounds*, ed. Lindsay Bremner and John Cook (London: Monsoon Assemblages, School of Architecture and Cities, University of Westminster, 2020), 113–20.

10. On the transformation of "modern water" into "stuff," or a commodity, see Ivan Illich, *H_2O and the Waters of Forgetfulness: Reflections on the Historicity of Stuff* (Dallas: Institute of Humanities and Culture, 1985).

11. Following the Industrial Revolution, when the colonies began to supply raw products such as cotton and indigo to European markets, many Bengal weavers were coerced into producing indigo. According to an old saying, the colonizers cut off the thumbs of those weavers who refused.

12. Dilip da Cunha, *The Invention of Rivers: Alexander's Eye and Ganga's Descent* (Philadelphia: University of Pennsylvania Press, 2019).

13. Dilip da Cunha, "The Invention of Rivers," Daniel Urban Kiley Lecture, Harvard Graduate School of Design, 19 Feb. 2019, YouTube, https://www.youtube.com/watch?v=39qJ3DKnPkg (accessed 18 Apr. 2022).

14. Jamie Linton, *What Is Water? The History of a Modern Abstraction* (Vancouver: University of British Columbia Press, 2010), 148.

15. Labib Hossain, "Panir adhunikayon: Bonna o shohor bhabnar shonkot" [Modern water: Colonial legacy in flood and city thinking], *Sarbojonkotha* 7,

no. 1 (Nov. 2020–Jan. 2021), https://sarbojonkotha.info/sk-25-water-modernization-crisis (accessed 3 May 2022).

16. As postcolonial theorists have observed, colonial discourse encouraged colonized people to wish to become like Europeans, and it continues to generate such false desire in the postcolonial context. Frantz Fanon, *The Wretched of the Earth* (New York: Grove Press, 1963).

17. Walter D. Mignolo and Catherine E. Walsh, *On Decoloniality: Concepts, Analytics, Praxis* (Durham, N.C.: Duke University Press, 2018); Achille Mbembe, *Out of the Dark Night: Essays on Decolonization* (New York: Columbia University Press, 2021).

Visualizing Nature, Race, and Urban Landscapes through Warren Manning's "A National Plan"

In 1923, in response to the increased migration of Black Americans to northern U.S. cities, landscape architect Warren Manning wrote an essay for *The City Builder* titled "A Northern View of Negro Emigration," in which he argued for a "selective process" to control and prevent the introduction to the cities of those "that cannot be assimilated."[1] In that same year, *Landscape Architecture* (later *Landscape Architecture Magazine*) published a twenty-three-page brief of "A National Plan," an unpublished atlas developed by Manning that remapped the continental United States according to an analysis of soil, water, and agriculture; the atlas was intended to assist the federal government in the regulation and use of these resources.[2] Yet even at the time of the Plan's initial distribution in 1919, Manning's layered mappings deceptively depicted the American landscape as naturally suited for white settlers (Figure 11). In dialogue with his eugenic *City Builder* essay, Manning's purportedly objective analysis in "A National Plan" instead proved to be deeply entangled with nationalism and white supremacy. As this reading shows, the construction of urban landscapes in the United States used whiteness and racialized readings of nature to present inequity as an inevitable and natural condition.

Warren Manning (1860–1938), a founding member of the American Society of Landscape Architects, was a Progressive Era landscape architect and a student and employee of Frederick Law Olmsted. He was raised on a plant nursery, and horticultural knowledge shaped his understandings of nature. Manning developed planting strategies for Olmsted designs at the Biltmore Estate, the National Mall, and the World's Columbian Exposition in Chicago before launching his own successful practice in 1896, and in the first two decades of the twentieth century he designed more than one hundred built landscape projects. Throughout his career, Manning centered his professional practice on urban and environmental planning, using ostensibly benign strategies of resource management to respond to what he often described as natural site conditions. "A National Plan," was the culmination of this work, and its nuanced meanings deserve to be better explored and understood.

Throughout the text of "A National Plan," Manning connected the theme of nature with nationalism and white supremacy. He emphasized the "exactness" of the data used to create the maps and portrayed the project as purely objective, even as he wrote in the opening pages that the environmental qualities of the United States made it "especially fitted as the home for the white race" (Figure 12).[3] As he noted, the maps drew an ideal human body that "we [could] well compare our country to."[4] Manning's "ideal" body stood in for a vision of the United States that assumed both the whiteness of its original inhabitants and their natural right to citizenship.[5]

The racialized discourses of "A National Plan" identified landscapes such as swamps and deserts as inferior because they were understood as useless to and uninhabitable by white populations. For instance, Manning began the section titled "Swamps and Overflowed Lands" by observing that "areas of greatest rainfall mostly within tropical regions do not favor the development of a white race." Further, he argued that swamps posed the "greatest single menace to public health."[6] For Manning, swamps created dangerous social and ecological conditions that unsettled perceived notions of racial order. In ecological terms, white settlers often fell sick in swamps, while in social terms, swamps in the southern United States represented places of refuge, safety, and kinship for communities escaping white control and order.[7] Manning presented this dual reading in "A National Plan" by earmarking swamps for transformation into agricultural land and proposing to modify existing state boundaries to impose a system of federal control on swamplands across the country (Figure 13).[8]

By reducing the "menacing" qualities of swamps to promote agricultural productivity and thus better support the well-being of the general population, "A National Plan" misleadingly suggested that political and social concerns had no role in shaping regional environmental planning programs. Manning's proposal to manage swamps at the national level included restricting access to these lands by nonwhite communities—which, by extension, would prevent these communities from circulating freely within these situated, place-specific contexts. Such restrictions would have eliminated vital spaces of kinship not only for Indigenous people but also for Maroons and other communities who thrived within these landscapes.[9] Manning's emphasis on land productivity neglected the importance of swamps as lively landscapes for nonwhite communities. Indeed, for Manning these uses supported his arguments for their erasure. The framing of swamps as menacing to white populations in "A National Plan" rendered land disposable, not because of any of its inherent properties but simply because its eradication supported racialized discourses of land.

By defining nature in terms of whiteness, "A National Plan" projected a national body resting on racialized readings of nature. Here urban landscapes played a central role. In his

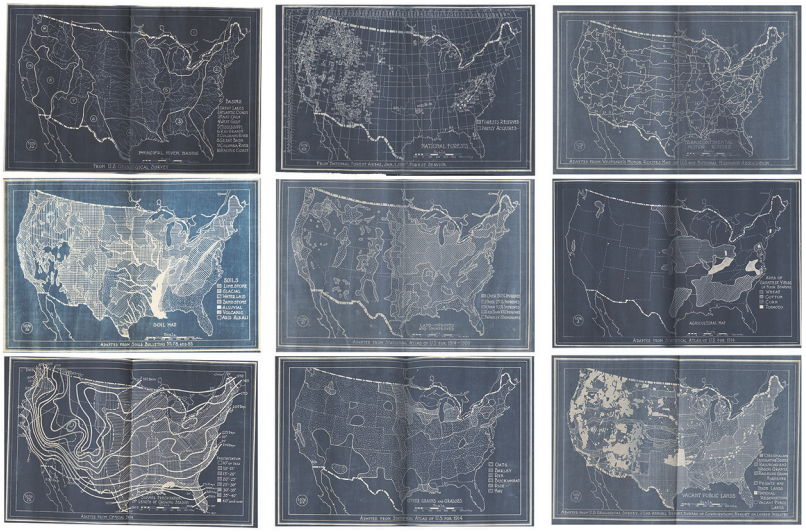

Figure 11 Selection of maps from Warren Manning, "A National Plan," 1919 (MS 218, Warren H. Manning Papers, Special Collections Department, Iowa State University Library, Ames).

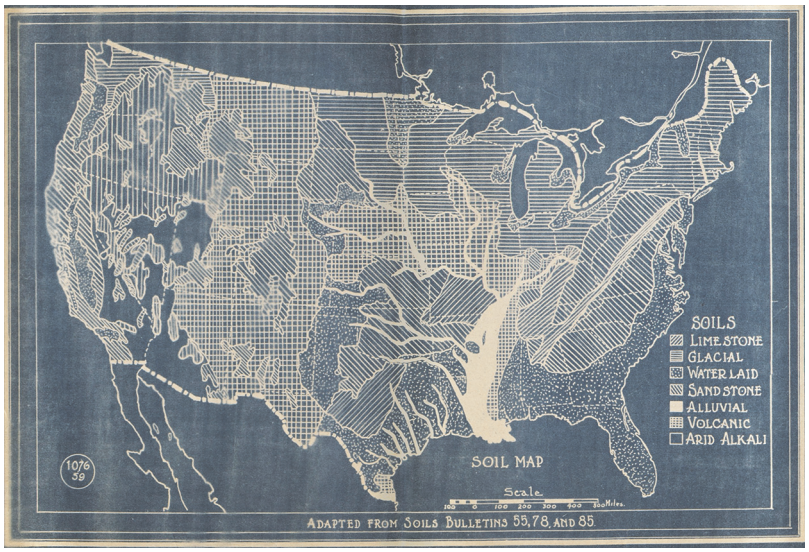

Figure 12 Soil map from Warren Manning, "A National Plan," 1919 (MS 218, Warren H. Manning Papers, Special Collections Department, Iowa State University Library, Ames).

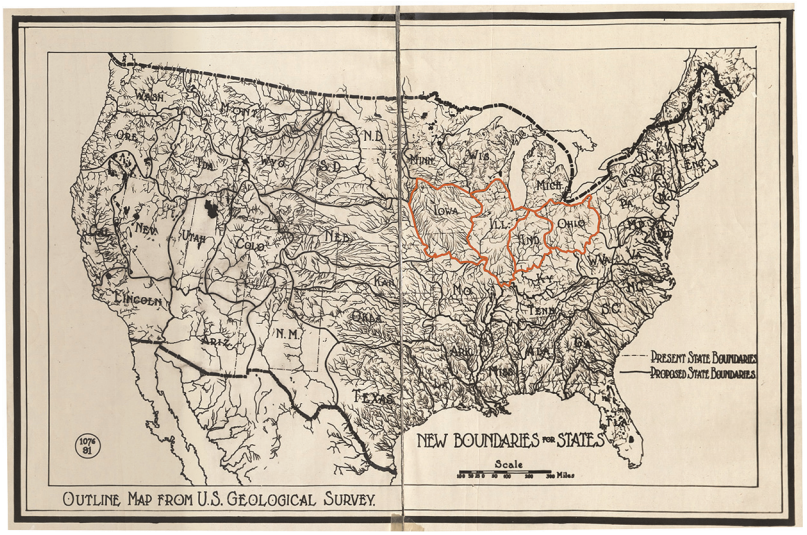

Figure 13 Map showing new state boundaries that would exist after the placement of swamps and other "menacing" landscapes under federal control, from Warren Manning, "A National Plan," 1919 (MS 218, Warren H. Manning Papers, Special Collections Department, Iowa State University Library, Ames).

essay in *The City Builder*, Manning indicated that a "possible final solution" for the "gradual elimination of the [Black] race" would be the "unsanitary living conditions" that Black people confronted in northern cities.[10] Disenfranchised and alienated by these hostile urban landscapes, Black Americans would want to go "back to the healthful outdoor life" and the "protection that the white people are in the habit of giving in the South."[11] With his proposed elimination of swamps in "A National Plan," Manning therefore not only sought to secure future agricultural resources for white populations but also introduced a form of landscape eugenics that leveraged the relationship between northern urban landscapes and southern agricultural lands to both naturalize and erase the presence of Black Americans, while at the same time ignoring a violent history of forced enslavement.

And yet, despite the overt racism of Manning's language, landscape historians have largely addressed "A National Plan" as an example of speculative environmental mapping that shifted attention away from political borders to biophysical features.[12] In other words, historians have analyzed these maps as natural systems, artificially isolating them from any discussion of cultural and social objectives. Nevertheless, the visual discourses that Manning created through "A National Plan" need to be evaluated against contemporary interest in eugenics and scientific racism, where water reclamation could function as a technology of power and dispossession, where soil anxieties could lead to worries about purity and hygiene, and where the identification of swamps and other "wasted" landscapes as racialized spaces that deserved to be erased could serve to construct a socioecological narrative identifying who did and did not belong to the nation.[13] In this context, Manning's white supremacist proposals in *The City Builder* and "A National Plan" did not represent his "tragic flaw" but instead revealed that his understanding of landscape was critically dependent on a concept of racialized socioecological improvement.[14]

This exploration of historical co-constructions of race and nature begins a much-needed reexamination of the ways in which scientific data, landscape visualizations, and claims of site neutrality have naturalized urban landscapes within design practices. The conflation of nature and whiteness in Manning's "A National Plan" reveals how nature has been racialized in the United States as well as how urban landscapes have been seen, designed, and planned as racialized spaces.

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Notes

1. Warren Manning, "A Northern View of Negro Emigration," *The City Builder*, 7 July 1923, 8–10, 56. The Atlanta, Georgia, Chamber of Commerce published *The City Builder* from 1916 to 1961. A longer draft of Manning's essay, titled "The Negro Problem," is included among his personal papers; see Warren Manning, "The Negro Problem," essay draft, 8 June 1923, box 10, Warren H. Manning Collection, Center for Lowell History, University of Massachusetts Lowell.

2. Warren Manning, "A National Plan Study Brief," *Landscape Architecture* 13, no. 4 (July 1923).

3. Warren Manning, "A National Plan," unpublished manuscript, 1919, 6, MS 218, box 1, folders 1 and 2, Warren H. Manning Papers, Special Collections Department, Iowa State University Library, Ames.

4. Manning, "A National Plan," 20.

5. This was a common strategy of settler colonialism, as explained by Sherene Razack, *Race, Space, and the Law: Unmapping a White Settler Society* (Toronto: Between the Lines, 2002), 2.

6. Manning, "A National Plan," 79–80.

7. On the role of landscape in shaping discourses of plantation histories, see Katherine McKittrick, "Plantation Futures," *Small Axe: A Caribbean Journal of Criticism*, no. 42 (Nov. 2013), 1–15. On how swamps in the southern United States served as spaces of Black kinship outside the white order, see Jessica Marie Johnson, *Wicked Flesh: Black Women, Intimacy, and Freedom in the Atlantic World* (Philadelphia: University of Pennsylvania Press, 2020), 153–86.

8. Manning, "A National Plan," 82.

9. Johnson, *Wicked Flesh*, 176.

10. Manning, "Northern View of Negro Emigration," 10.

11. Manning, "Northern View of Negro Emigration," 10, 56.

12. Previous research on Manning within landscape history has either overlooked his discussion of race or dismissed it as an anomaly distinct from his landscape career. See Konstantinos Alexakis, "Flight from Gardens Spanning Regions: Appreciating Landscape at a Regional Scale," *Landscape Journal* 36, no. 2 (2017), 1–13; Robin Karson, Jane Roy Brown, and Sarah Allaback, eds., *Warren H. Manning: Landscape Architect and Environmental Planner* (Athens: University of Georgia Press, 2017); Lance Neckar, "Developing Landscape Architecture for the Twentieth Century: The Career of Warren H. Manning," *Landscape Journal* 8, no. 2 (1989), 78–91.

13. For discussion of efforts toward civic improvement through landscape improvement, see Dorceta E. Taylor, *The Rise of the American Conservation Movement: Power, Privilege, and Environmental Protection* (Durham, N.C.: Duke University Press, 2016); Razack, *Race, Space, and the Law*. For discussion of the "Negro problem" as a eugenic trope, see P. Preston Reynolds, "Eugenics at the University of Virginia and Its Health Disparities," in *Charlottesville 2017: The Legacy of Race and Inequity*, ed. Louis P. Nelson and Claudrena N. Harold (Charlottesville: University of Virginia Press, 2018). Reynolds focuses on events that took place at the University of Virginia during Manning's employment there. On the relationships among land conservation, soil, national parks, and eugenics, see Thomas Robertson, *The Malthusian Moment: Global Population Growth and the Birth of American Environmentalism* (New Brunswick, N.J.: Rutgers University Press, 2012).

14. Robin Karson, "The Career of Warren H. Manning," in Karson et al., *Warren H. Manning*, 32.

Microgardens in Beijing's Historic Urban Landscape

In Beijing, residents have long used the expression "Canopies, fishbowls, and pomegranate trees; an old man, a fat dog, and a lovely little girl" to describe the slow-paced, enjoyable, and harmonious lifestyle of the inner-city historic neighborhoods featuring *sheyuans* (courtyard houses) and *hutongs* (narrow alleyways) (Figure 14). Microgardens with plants in pots and containers, trees creating a canopy, and vertical gardens of vines and small trees are integral elements of the Chinese

capital city's built heritage environment and urban landscape (Figures, 15, 16, and 17). Such small-scale gardens are not necessarily recognized as gardens, as they are often holistically integrated with the architectural elements of the neighborhoods, and yet they perform as intimate garden spaces within the urban fabric. The design, construction, and maintenance of such urban gardens, in both public and private spaces, have a history as long as that of the *hutong* neighborhoods themselves, dating to the Yuan dynasty (1279–1368). However, these microgardens and their trees are often overlooked in discussions of the heritage and artistic value of *hutong* historic neighborhoods, likely because these spaces are less magnificent than those surrounding the wood-framed, single-story courtyard house constructions that architectural historians, urban planners, and preservation professionals have long praised as outstanding examples of northern Chinese vernacular architecture. But as the preservation field has paid increasing attention to aspects of living heritage in the twenty-first century, preservation scholars and practitioners have begun to reframe such small-scale gardens and urban landscapes as essential components of historic cities. In this work they examine the human factor in the creation and maintenance of small-scale urban gardens and explore the ways in which these intimate places can facilitate public engagement in historic neighborhood preservation.

Figure 14 *Hutong* (narrow alleyway) with single-story *siheyuans* (courtyard houses) on either side, Beijing, 2018 (photo by Mingqian Liu).

Public health professionals and environmental designers have argued that the preservation of inner-city historic residential neighborhoods with small-scale gardens can be understood as a public health issue. Research has shown that in densely populated areas of megacities, the presence of walkable green spaces, with gardens and associated plants both scaled to humans and easily accessible, has a positive influence on the life expectancy of residents.[1] Researchers have also explored the ecological design values of *hutongs* and courtyard houses in terms of energy conservation, microclimate improvement, and the benefits to residents of the degree of exposure to the outdoor environment afforded by such vernacular landscapes.[2] The small-scale urban gardens

Figure 15 Microgarden set up as a social area in *hutong* public space, Beijing, 2018 (photo by Mingqian Liu).

Figure 16 Microgardens composed of vines, trees, and ready-made objects, Beijing, 2018 (photo by Mingqian Liu).

Figure 17 Microgarden created by courtyard house residents, Beijing, 2018 (photo by Mingqian Liu).

sprinkled throughout *hutong* neighborhoods are accessible, beneficial, and cost-effective agents of healthy living: they do not require extensive land area, and, sited at the residents' doorsteps, they are immediately available to residents for care and maintenance as well as use. The available evidence suggests that the sustainable maintenance of urban gardens and planted areas should be the subject of further study, and that the preservation of these gardens should be strengthened through policy formation.[3]

In addition to the public health aspect, such urban landscapes serve as spaces of community. Researchers and practitioners have argued that the creation and caretaking of small-scale urban gardens provide both physical spaces and occasions for historic neighborhood residents to socialize with each other and become better engaged in the community-building process. As designated historical and cultural conservation areas and as part of densely populated urban neighborhoods, *hutongs* and *siheyuans* are natural settings for preservation-related research. Landscape architectural historians point out that the microgardens in these neighborhoods offer effective supplements to the large-scale landscaping projects often initiated and funded by the government. In contrast, the grassroots-initiated caretaking of small-scale urban gardens can be achieved through the spontaneous participation of community residents. For example, neighborhood residents often form horticulture clubs and volunteer groups to study, grow, and prune the plants in their microgardens; through these connections they share both knowledge

and gardening materials, including equipment, containers, and seeds. Such preservation practices can take advantage of local wisdom related to landscape design and maintenance acquired by *hutong* residents through decades of inhabiting these environments.[4] Exploration of the organizing mechanisms used by these *hutong* residents to ensure the sustainable growth and maintenance of their gardens could yield results that would further support public engagement related to historic neighborhood preservation.[5]

The results of a phenomenological study that I conducted as a core element of my doctoral dissertation on *hutong* residents' perceptions of preservation policies and practices in Beijing's Dongsi historic residential neighborhood largely echoed the findings of the research noted above.[6] Through interviews, direct observation, and analysis of secondary materials, I found that residents perceived the accessible and easily maintained natural elements of their living environment as one of the most important heritage values of historic neighborhoods. The *hutong* and *sibeyuans* lifestyle, in which plants, gardens, and canopies formed key parts of the immediate living environment, made residents feel better connected to nature. Residents also recognized the social benefits of taking care of the small-scale urban gardens, as the design, planting, and maintenance of *hutong* spaces represent an important type of preservation practice that encourages both spontaneous participation and community organizing.

As previous studies have demonstrated, urban gardens are a vital element in the daily lives of the residents of historic urban landscapes and neighborhoods. The microgardens in Beijing's *hutongs* provide us with an interdisciplinary lens through which we can rethink the significance of preservation policy making and practices in historic urban landscape settings. Preservation not only provides a means to understand and protect the built heritage environment but also offers an engagement mechanism to promote the well-being and sustainable development of urban communities.

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Notes

1. T. Takano, K. Nakamura, and M. Watanabe, "Urban Residential Environments and Senior Citizens' Longevity in Megacity Areas: The Importance of Walkable Green Spaces," *Journal of Epidemiology and Community Health* 56 (2002), 913–18.

2. Z. Yang, "Ecological Design Values of Traditional Urban Courtyard Dwellings: A Two Phase Study at 1st to 10th Lanes, Dongsi Neighborhood, Beijing" (PhD diss., University of Newcastle upon Tyne, 2007).

3. See, for example, Dongcheng District Forestry and Parks Bureau of Beijing Municipality, *Beijing shi dongcheng qu hutong lvhua tisheng gaizao yanjiu he xingdong jihua (2017–2019)* [Research and action plan for *hutong* greenery improvement and renovation (2017–2019)] (Beijing, 2017).

4. X. Hou and Wei Shu, "Wei huayuan, wei gengxin, wei shengtai: Jiyu shequ yingzao de Beijing laochengqu hutong lvhua jingguan huanjing tisheng tujing tansuo" [Micro garden, micro regeneration, micro ecology: Exploring ways to improve the *hutong* green landscape environment in Beijing's old city on the basis of community building], *Chinese Art* 2 (2020), 24–29.

5. X. Hou and W. Guo, "Shequ wei gengxin: Beijing laocheng gonggong kongjian de sheji jieru tujing tansuo" [Community microregeneration: Approaches to the design intervention of old city public space of Beijing], *Landscape Architecture* 25, no. 4 (2018), 41–47; X. Jiang, X. Xu, X. Wang, and Q. Lin, "Jumin zifa gengxin shijiao xia de Beijing hutong lvse kongjian wei gengxin yanjiu: Dashilar pianqu de tansuo" [Research on microrenewal of green space in Beijing *hutong* from the perspective of residents' spontaneous renewal: Exploration in Dashilar area], *Landscape Architecture* 26, no. 6 (2019), 18–22.

6. M. Liu, "Public Perceptions of Preservation Policies and Practices in Historic Residential Neighborhood: A Case of Dongsi, Beijing, China" (PhD diss., Texas A&M University, 2021).

The Impact of an Increasingly Urban World on Places We Value

As the urban world expands, pushing into that other world of long-gone but still imagined "wildness and wilderness," a growing and dangerous tension between the sphere of human settlement and that of the natural environment is anticipated.[1] Yet this perceived (and artificial) tension fails to recognize how these two landscape types shape social and individual experience. This tension often assumes political dimensions, from the earliest incursions of nonnative settlements to the most recent (but only the most recent) displays of identity and the narrow politicization of home, place, and regional zones.[2] Our society seems to have forgotten the value, strength, and broad application of the concept of ecotones, the transitional regions between two biological communities, often richer in species than the separate communities themselves. It may be, perhaps, that we have never really learned that lesson. Suburban development, as a case in point, could be considered an ecotone, yet it too often fails to engage different perspectives and identities.

The contentious and sometimes conflicting overlapping of communities often accompanies a lack of consideration for the "otherness" of other people or communities, as well as a failure to appreciate the strengths of those others that can in fact illuminate the impact of a rapidly expanding urban world. We neglect and even destroy those nonurban attributes that we too often disparage as merely "rural."[3] But the world is not composed of solid-state urban and rural extremes. On the contrary, it is a continuous gray scale, with a multitude of variations, including integrated places that may seem "urban" but also respond to the human need for "nature" and "natural" places that engage human needs for comfort and convenience.[4]

The impulse to label and categorize places that are unfamiliar parallels the labeling and categorizing of people, customs, religions, and even food. The inclination to lump together these "other" places may result in implicit or explicit discrimination, threatening democratic practices and social

and cultural tolerance. This marks a striking parallel to discrimination based on race, religion, gender, sexual orientation, or national origin.

Often, the insistence upon the natural/urban dichotomy leads to the unintended consequence of failure to protect those landscapes and resources (both natural and constructed) that anchor us in both time and space.[5] The loss of temporal and geographic context further isolates communities, exacerbating misunderstandings, suspicions, and doubts.

Of course, landscapes change and evolve, regardless of whether they are urban or not, but this process may damage valued landscapes and attributes without resource documentation and assessment. Consider for example the impacts of Las Vegas (metro area population 2.2 million) and Phoenix (metro population 5.1 million), both expanding cities sited in extreme arid environments, both dependent on the declining waters of the Colorado River.[6] The voracious demands of these two metropolitan areas diminish and limit the water supply for downstream communities and residents. At the same time, their expanding footprints threaten Native American tribal sacred places.[7] We need to step back to recognize how honest and valid aspirations for human prosperity and health may also have negative impacts on others.[8] This also raises the dilemma of how the urban and the nonurban are defined. From a systems approach as well as one of capital and material flows, the urban extends beyond the city all the way downriver. Negative impacts also appear in the erosion of democratic practices, where those belonging to categories that are not valued are rendered invisible even in our very public society.

What can we do to offset this decidedly downhill trend? We can view the effects of increasing urbanity in many different ways. Urbanization brings benefits for many groups in our society, and we cannot ignore these benefits. However, uncontrolled urban development may result in dramatic, even fatal, losses of native species and species diversity.[9] The impacts of these losses can be measured not only in terms of genetics but also in terms of economic classes, political views, religious beliefs, and social and cultural traditions.

Among the great traditions of humanistic scholarship is the yearning to better understand unfamiliar people, places, and practices, returning this discussion to the question of the "otherness" of others.[10] The first step is to recognize that "otherness" is the basis for a humanistic and multilayered approach that seeks out what we know, what we don't know, and what we don't know we don't know. The last is the most difficult, of course, as it insists upon uncertainty in a society and culture that seek out and value certainty above all.[11]

This broader approach challenges traditional disciplinary and professional boundaries, recognizing that those artificial, institutional limitations emphasize simplicity and thus fail to acknowledge the complexity of our world. We cannot seek to understand cultural systems (such as urban communities) without also seeking to understand the intricacies of natural systems (such as ecological rhythms and diversity).[12]

Perhaps the best lesson of humanist scholarship is that we need to push the boundaries of traditional fields to learn what we don't know we don't know. In a recent research project at a national park in New Mexico, I worked very closely with a devout and revered ecologist. It did not take us long to realize that we spoke different languages, although it all sounded like English. We used the same words, but they had different meanings.[13] This experience reaffirmed my belief in the need for the diversity of knowledge and perspectives, and the need to listen very carefully to those we really do not fully understand, even when we think that we do.

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Notes

1. William Cronon, "The Trouble with Wilderness; or, Getting Back to the Wrong Nature," in *Uncommon Ground: Toward Reinventing Nature*, ed. William Cronon (New York: W. W. Norton, 1995).

2. Emily Badger, "How the Rural–Urban Divide Became America's Political Fault Line," *New York Times*, 21 May 2019, https://www.nytimes.com/2019/05/21/upshot/america-political-divide-urban-rural.html (accessed 20 Apr. 2022).

3. Daniel E. Coslett and Manish Chalana, "National Parks for New Audiences: Diversifying Interpretation for Enhanced Contemporary Relevance," *Public Historian* 38, no. 4 (Nov. 2016), 101–28.

4. Robert Z. Melnick, "Cultural Landscapes and Climate Change: Protecting Resources That Matter in a Future of Uncertainty," in *New Cultural Landscapes*, ed. Maggie Roe and Ken Taylor (New York: Routledge, 2014), 223–40. See also Mike Hulme, *Why We Disagree about Climate Change: Understanding Controversy, Inaction and Opportunity* (Cambridge: Cambridge University Press, 2009).

5. Robert Z. Melnick, "Considering Nature and Culture in Historic Landscape Preservation," in *Preserving Cultural Landscapes in America*, ed. Arnold R. Alanen and Robert Z. Melnick (Baltimore: Johns Hopkins University Press, 2000), 22–43.

6. Abrahm Lustgarten, "40 Million People Rely on the Colorado River: It's Drying Up Fast," *New York Times*, 27 Aug. 2021, https://www.nytimes.com/2021/08/27/sunday-review/colorado-river-drying-up.html (accessed 20 Apr. 2022).

7. Mark D. Spence, *Dispossessing the Wilderness: Indian Removal and the Making of the National Parks* (New York: Oxford University Press, 2000).

8. Dale G. Brockway, Richard G. Gatewood, and Randi B. Paris, "Restoring Fire as an Ecological Process in Shortgrass Prairie Ecosystems: Initial Effects of Prescribed Burning during the Dormant and Growing Seasons," *Journal of Environmental Management* 65 (2002), 135–52.

9. Philip Hunter, "The Human Impact on Biological Diversity: How Species Adapt to Urban Challenges Sheds Light on Evolution and Provides Clues about Conservation," *EMBO Reports* 8, no. 4 (Apr. 2007), 316–18.

10. Marion Shoard, "Why Landscapes Are Harder to Protect Than Buildings," in *Our Past Before Us: Why Do We Save It?*, ed. David Lowenthal and Marcus Binney (London: Temple Smith, 1981), 83–108.

11. Ella Lee, " 'Known Unknowns': Donald Rumsfeld's Most Famous—and Infamous—Quotes," *USA Today*, 20 June 2021, https://www.msn.com/en-us/news/us/known-unknowns-donald-rumsfelds-most-famous-%e2%80%94-and-infamous-%e2%80%94-quotes/ar-AALD9yR (accessed 20 Apr. 2022).

12. Justin Reich, "Re-creating the Wilderness: Shaping Narratives and Landscapes in Shenandoah National Park," *Environmental History* 6, no. 1 (Jan. 2001), 95–117.

13. Mark Woods, "Federal Wilderness Preservation in the United States: The Preservation of Wilderness?," in *The Great New Wilderness Debate*, ed. J. Baird Callicott and Michael P. Nelson (Athens: University of Georgia Press, 1998), 131–53.

Infrastructure as Design

At the end of 1872, the Municipal Council of Berlin suddenly and, from the historian's perspective, rather surprisingly replaced the Prussian state as the city's main urban institution by commandeering two water infrastructure projects. In mid-November, James Hobrecht's plan for Berlin's first sewer system was accepted, and at the end of December the German emperor forced the sale of the private, British-owned Berlin Waterworks Company to the municipality. The institutional and scientific restructuring needed to manage these projects drove Berlin to become, for the first time, a functioning, representative municipality.[1] Water was transformed into a public resource, its extraction and transportation via a networked infrastructure entangling bodies, cultural habits, pumping stations, sewage farms, sand filters, reservoirs, and hyporheic zones (sedimentary zones underlying waterways, where groundwater mixes with surface water). The sewage farms alone expanded the size of Berlin by 250 percent; human sewage was used as liquid manure for agriculture, and the sandy soil filtered wastewater before it returned to groundwater reserves. For the first time, the city owned a networked hinterland. Susanne Hauser and Matthew Gandy have productively explored the impact of Berlin's water infrastructure on the conception of the city-as-organism, as a metabolic or circulatory system.[2] But how might interrogating infrastructure in terms of design process, rather than metaphor, contribute further to our understanding of urban–environmental relationships?[3]

It is important to note that the designers of the Berlin water system did not employ the term *organic* as a metaphor, even though the concept of the city-as-organism later became a powerful influence on planning in Berlin.[4] However, the reports documenting years of preparatory investigations reveal how ideas about the human body and environmental resources informed each other. For example, the chemist responsible for evaluating water samples from various sources determined that "good" water contained only what was needed for the production of oxygen in the human body, comparing water with human blood at a molecular level.[5] Reservoirs were constructed to calibrate the speed at which hyporheic zones produced water with the variable water demands of households in Berlin, thus mediating between hydrogeological and social time. While it has long been recognized that technology is political rather than neutral, intentionally foregrounding the choices made in infrastructural design, across scales, enables us to see how the values placed on both nature and city were transformed into research methods and design principles.[6]

We can also see how the design of Berlin's public infrastructure explains the municipality rather than is explained by it. When the Municipal Council took over the two water projects, it became Berlin's primary urban institution, ushering in what many Berlin historians refer to as the golden years of self-management. William Cronon has argued that we cannot understand the city without considering the increasingly dense infrastructures that embed the city within hinterland ecologies: the grain elevator and the chilled meatpacking plant completely reorganized the agricultural hinterland.[7] In the case of Berlin, it was the construction of public infrastructure, and with it the creation of the public hinterland, that made the "public" city, not vice versa. As water was moved across the infrastructural network, it became many different waters—underground water, filtered water, aerated water, potable water, wastewater, "cleaned water." Each transformation was accompanied by concepts such as public "good" and public "trust," which said as much about the project of the municipality as it did about the redesign of the physical city. The public realm that developed in late nineteenth-century Berlin depended on this newly powerful and centrally positioned municipality.[8]

Finally, looking at the design of such projects complicates histories of how and why cities built water infrastructure. Despite long-argued narratives that expensive, large-scale sanitation networks represented responses to typhoid and cholera pandemics, the Berlin public water supply and sewer system was initially conceived as a project to manage urban waste. The very idea of a public service itself had to be designed. The published research, newspaper articles, and records of municipal sessions show that a change in the human–environmental relationship occurred over time and in stages: water was incrementally repositioned, from a luxury to a necessity and then to a right; doctors and administrators waged a public campaign insisting that Germans must bathe with water; workers on sewage farms were instructed not to drink the "cleaned" water runoff; human sewage itself had to be decommodified as manure to become expelled as waste; and in the Brandenburg countryside, the aesthetic and cultural resistance to the municipality's sewage evoked romantic ideas of lost nature. Before it became a solution to the contamination of groundwater by cesspits, the Berlin water closet in fact facilitated the political regulation of urban space.[9]

"The biggest metropolis cannot expand beyond the limits of its water supply," wrote Lewis Mumford in 1965, in a call for regional-scaled planning.[10] In identifying infrastructure as critical for defining regions, Mumford assigned technology an agency traditionally assigned to environmental and cultural narratives in defining place. More recently, infrastructure has

offered a way to approach assemblage thinking, posited as an ontological "descriptive lens or an orientation" or—engaging its cultural agency more fully—as "entangled ways of life" codesigned by people, machines, and nonhuman ecological agents.[11] Analyzing infrastructure as a regional driver, we recognize how it defines multiple physical and cultural urban–rural relationships beyond the binary "city/nature."

Looking at the complicated process of cultural and scientific decisions involved in infrastructure's design helps us to see the urban and nonurban simultaneously, not as one constructing the other. Analysis of infrastructure's design process reveals how functions and values are synthesized and materialized across scales: it places the terraforming of Brandenburg into industrialized sewage farms alongside histories of land reform, illuminates neo-Gothic architecture against the rise of municipal self-awareness, and shows the key contribution of sewers and toilets to a conflict involving technical expertise and cultural resistance.

By understanding infrastructure through its design, rather than assessing its results in terms of efficiency, or social impacts in terms of discursive reception, we can see how cultural narratives are brought to bear on all scales of intervention by a variety of actors otherwise invisible as designers. If we can teach architecture and architectural history through this broader and more complex material, social, and environmental infrastructure, we might decenter the art historical emphasis on the building and the individual architect. Intentionally foregrounding the choices made in infrastructural design might allow us to unlearn the repeated stories of the undesigned "natural" environment (or resource, or region) as subservient to the designed urban context and help us to think of infrastructural narratives beyond metaphors.[12]

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Notes

1. See James Hobrecht, *Die Canalisation von Berlin: Im Auftrage des Magistrats der Königl; Haupt- und Residenzstadt Berlin entworfen und ausgeführt* (Berlin: Ernst & Korn, 1884), 1–3; Rep. 77 Tit. 4005, Nr. 543: 81, Geheimes Staatsarchiv Preußischer Kulturbesitz, Berlin; A Pr. Br. Rep. 030, Nr. 20115, Landesarchiv Berlin.

2. Susanne Hauser, "Reinlichkeit, Ordnung und Schönheit: Zur Diskussion über Kanalisation im 19. Jahrhundert," *Die alte Stadt: Zeitschrift für Stadtgeschichte, Stadtsoziologie und Denkmalpflege* 19 (1992), 292–312; Matthew Gandy, "Rethinking Urban Metabolism: Water, space and the Modern City," *City* 8, no. 3 (2004), 363–79. In this last study, Gandy introduces the term "nondesign." By arguing that a wider category of acts can be considered design, I do not seek to oppose "nondesign," but rather see these as complementary positions that can help us to rethink design itself.

3. The few publications on the Berlin water supply and sewer system consider the pumping stations and the impact of the sewer system, as a whole, on urban planning. Although it is impossible to summarize work on infrastructure by field, the following provide a point of departure. On landscape history, see Ann Komara, "Concrete and the Engineered Picturesque: The Parc des Buttes Chaumont (Paris, 1867)," *Journal of Architectural Education* 58, no. 1 (Sept. 2004), 5–12. On urban history and theory, see Keller Easterling, *Extrastatescraft: The Power of Infrastructure* Space (New York: Verso, 2014); Reinhold Martin, *The Urban Apparatus: Mediapolitics and the City* (Minneapolis: University of Minnesota Press, 2016). On architectural history, see Peter Christensen, *Germany and the Ottoman Railways: Art, Empire, Infrastructure* (New Haven, Conn.: Yale University Press, 2017). On infrastructural design in terms of timber and timber architecture, see Irina Davidovici and Laila Seewang, eds., "Timber Constructed: Towards an Alternative Material History," special issue, *Architectural Theory Review* 25, nos. 1–2 (2021); Laila Seewang, "From Forest to Frame: Representation and Exception in the Regional Modernism of the Pacific Northwest," in Davidovici and Seewang, "Timber Constructed," 7–27.

4. In addition to the work of Gandy and Hauser, on the potent idea of the city-as-organism in Berlin's planning history, see Christa Kamleithner, *Ströme und Zonen: Eine Genealogie der "funktionalen Stadt"* (Berlin: Birkhauser, 2020); see also Liyang Ding's contribution to this roundtable. James Hobrecht used the metaphor in 1884 in just one paragraph and only after construction of the sewer system was well under way; see Hobrecht, *Die Canalisation von Berlin*, 59.

5. Rudolf Virchow, *Reinigung und Entwässerung Berlins: General-Bericht uber die Arbeiten der städtischen gemischten Deputation fur die Untersuchung der auf die Kanalisation und Abfuhr bezuglichen Fragen*, 13 vols. (Berlin: August Hirschwald, 1873). For the chemical analysis in a report summarizing investigations for a new Berlin water source, see Ludwig Veitmeyer, *Vorarbeiten zu einer zukunftigen Wasserversorgung der Stadt Berlin* (Berlin: Reimer, 1871).

6. Thomas P. Hughes, "The Evolution of Large Technological Systems," in *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*, ed. Wiebe E. Bijker, Thomas P. Hughes, and Trevor Pinch (Cambridge: MIT Press, 1987); Thomas P. Hughes, "The City as Creation and Creator," in *Berlin, New York: Like and Unlike*, ed. Josef Kleihues and Christina Rathgeber (New York: Rizzoli, 1993), 13–32.

7. William Cronon, "Pricing the Future: Grain" and "Annihilating Space: Meat," in *Nature's Metropolis: Chicago and the Great West* (New York: W. W. Norton, 1991), 97–147, 207–62.

8. Heinrich Tepasse, *Stadttechnik im Städtebau Berlins 19. Jahrhundert: Kompendium Stadttechnikgeschichte—Wasser und Abwasser, Gas und Strom* (Berlin: Gebr. Mann, 2001); Günter Richter, "Zwischen Revolution und Reichsgründung 1848–1870," in *Geschichte Berlins*, vol. 1, ed. Wolfgang Ribbe (Munich: C. H. Beck, 1988). Both Tepasse and Richter refer to the rise of municipal power in the period immediately following the handing over of water management from state to city. The institutional, scientific, and financial transformations required by the municipal government to execute these projects played a central role in this takeover of power. I am grateful to have had the opportunity to work through these ideas as part of the PhD colloquium at the University of California, Los Angeles, and I acknowledge both Michael Osman and student participants for their helpful input.

9. The research was published in thirteen volumes, beginning in 1871, as *Reinigung und Entwässerung Berlins* (Berlin: August Hirschwald). In 1857 the Prussian trade minister, August von der Heydt, wrote to the interior minister, Ludwig von Westphalen, that "the interests of the Berlin Water Company did not accord with the interests of the public." Quoted in Shahrooz Mohajeri, *100 Jahre Berliner Wasserversorgung und Abwasserentsorgung 1840–1940* (Stuttgart: Franz Steiner, 2005), 93, my translation. Nowhere in the initial contract, however, was it stipulated that this should be the case. The only obligation of the water company was to meet the city's demands for water for street cleaning and firefighting, along with supplying private customers. On water as a necessity rather than a luxury, see "Das Veit-Meyer'sche Projekt zur Wasserversorgung Berlins," *Deutsche Bauzeitung* (1870), 178–79. On attempts to encourage regular bathing in Berlin, see Laila Seewang, "Salubrious Berlin: Public Streets and Universal Bodies of the Modern Municipality, 1860–1909," in *Productive Universals, Specific Situations: Critical Engagements in Art, Architecture, and Urbanism* (Berlin: Sternberg, 2019), 124–59. On problems

related to distinguishing between clean and "cleaned" water for the working population, see *Untersuchung uber die vermuthete Entstehung von Abdominaltyphus in Folge des Trinkens von Drainwasser* (Berlin, 14 Nov. 1892), 28637, Geheimes Staatsarchiv Preußischer Kulturbesitz, Berlin. A local poetry group, the Friedrichshagener Dichterkreis, circulated poems lamenting the destruction of the forest to construct the waterworks. On "cholera forcing" in the Berlin case overall, see Kalle Kappner, " 'Cholera Forcing' and the Urban Water Infrastructure: Lessons from Historical Berlin" (European Historical Economics Society Working Paper 167, Sept. 2019). See also Maria Taylor's contribution to this roundtable, in which she discusses the sticky notion of public work as "goodness" and "construction" in relation to the hard-to-translate concept of *blagoustroistvo*.

10. Lewis Mumford, "A New Regional Plan to Arrest Megalopolis," *Architectural Record* 137 (Mar. 1965), 149. For literary definitions of critical regionalism, see also Douglas Powell Reichert, *Critical Regionalism: Connecting Politics and Culture in the American Landscape* (Chapel Hill: University of North Carolina Press, 2007), 23.

11. Colin McFarlane, "Assemblage and Critical Urbanism," *City* 15, no. 2 (2011), 206; Anna Lowenhaupt Tsing, *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins* (Princeton, N.J.: Princeton University Press, 2015), 4. The four 2011 issues of the journal *City* addressed assemblage as an ontological alternative to critical urbanism; see McFarlane's article, for example. But for this case the definition used by Tsing is more productive: "This idiom [unintentional cultivation] has allowed me to consider how landscapes more generally are products of unintentional design, that is, the overlapping world-making activities of many agents, human and not human" (152).

12. For two examples of histories told using infrastructure as a lens, see Gabrielle Hecht, "Interscalar Vehicles for an African Anthropocene: On Waste, Temporality, and Violence," *Cultural Anthropology* 33, no. 1 (2018), 109–41, which foregrounds the different scales at which urban–nature relationships are effected; and Timothy Hyde, " 'London Particular': The City, Its Atmosphere and the Visibility of Its Objects," *Journal of Architecture* 21, no. 8 (2016), 1274–98, which offers an urban history of London defined by concrete projects of environmental regulation. For the term "unlearning," I refer to a discussion published recently on the digital forum Platform, in which Ana María León, addressing "unlearning pedagogy," quotes Ariella Aïsha Azoulay: "Unlearning imperialism aims at unlearning its origins, found in the repetitive moments of the operation of imperial shutters. Unlearning imperialism refuses the stories the shutter tells." Ariella Aïsha Azoulay, *Potential History: Unlearning Imperialism* (New York: Verso, 2019), 7, quoted in Ana María León, Charles Davis II, and Lawrence Chua, "Unlearning, Part II," Platform, 31 Jan. 2022, https://www.platformspace.net/home/unlearning-part-ii (accessed 21 Apr. 2022).

Green Infrastructure or Civic Engineering?

An emergent vocabulary among anthropologists, scholars of environmental humanities, and scholars of science and technology studies foregrounds the hybrid and more-than-human: that is, ecosocial frameworks, green urbanism, ecological infrastructure, sociotechnical systems, and Donna Haraway's concept of "natureculture." In the adjacent domain of climate justice and environmental activism, projects of transformation and resilience seek to intervene simultaneously in the politics, economics, and culture shaping built environments and community well-being.[1] In this context, I want to direct attention to the history of landscape design and city planning in the Soviet Union. Despite the ecocidal reputation of the USSR, the "infrastructural thinking" of socialist cities incorporated nature in consequential ways. Today, when the threat of ecocide has gone global and large-scale infrastructural interventions are attacked as socialist, the Soviet experiment in urbanism merits critical consideration.[2]

Scholarship on state-socialist infrastructures is a growing field, much of it relevant to urbanists interested in thinking differently about low-budget city- and neighborhood-scale environmental planning, housing, and the politics of everyday spaces.[3] A broad international overview is provided by anthropologist Brian Larkin, who considers "modern infrastructures" as both political and poetical. In his definition, modern infrastructures are

> the built networks that facilitate the flow of goods, people, or ideas and allow for their exchange over space. As physical forms they shape the nature of a network, the speed and direction of its movement, its temporalities, and its vulnerability to breakdown. They comprise the architecture for circulation, literally providing the undergirding of modern societies, and they generate the ambient environment of everyday life.[4]

For Larkin, the makings of modern infrastructure are thoroughly technogenic: "iron, mud, concrete, fiber optic cables, plastic."[5] Urban planners in the Soviet Union, by choice or necessity, envisioned a socialist modernity built from different materials.

A key term that encapsulates the interdisciplinarity and distinct framing of city–nature relationships within Soviet urban planning is the infamously hard-to-translate *blagoustroistvo* (pronounced blah-ga-oo-STROI-stva). This capacious term evoked both an aspirational sociopolitical ideal and a field of practice. Variously rendered as "communal services" (Maurice Parkins, 1953), "arrangements for well-being" (Catherine Cooke, 1995), "civic improvement" (Richard Anderson, 2015), and "city planning" (Jean-Louis Cohen, 2021), *blagoustroistvo* is derived from the root words for goodness or welfare (*blago-*) and the word for construction (*stroi*).[6] Under the banner of *blagoustroistvo*, Soviet city builders incorporated ecological processes into public welfare, standardizing "urban greening" with other forms of municipal infrastructure as part of a broader transformative project of civic engineering.

Blagoustroistvo evolved in a centralized system with minimal divisions between "architecture," "landscape architecture," and "urban planning."[7] Owing to urban planners' limited or nonexistent control over industrialization driven by economic planning norms, interventions in "communal hygiene" centered prophylactic environmental measures. Public health and public space were treated by Soviet city builders as one task. Such blurring of disciplinary specialties, which predated the Bolshevik Revolution of 1917, resonated with the Marxist principle of eliminating the differences between town and country.

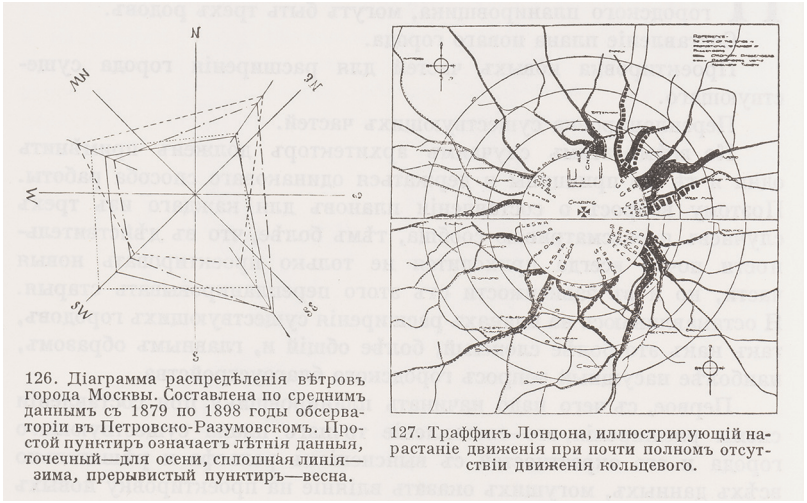

Figure 18 Vladimir Semenov, diagrams showing the circulation of winds in Moscow (left) and of vehicular traffic in London (right), 1912 (V. N. Semenov, *Blagoustroistvo gorodov* [Moscow, 1912]; courtesy of Canadian Centre for Architecture).

One of the first town planning textbooks written in Russian was Vladimir Nikolaevich Semenov's 1912 text *Blagoustroistvo gorodov* (Figure 18).[8] Semenov (1874–1960) embodied the transdisciplinary praxis of Russian-Soviet urbanism. After gaining direct experience of the British garden city movement, including the work of Richard Barry Parker and Raymond Unwin, Semenov returned to Russia in 1912. There he began his design of Prozorovka, a garden city for railroad workers. He later oversaw implementation of the 1935 "Stalin" General Plan for Moscow and developed plans for the postwar reconstruction of various cities.[9]

At the close of World War II, Semenov urged Soviet architects and allied specialists to aim beyond merely cosmetic or structural improvements to urban environments. In a 1947 essay titled "Spatial Planning Fundamentals for Cities Being Restored," Semenov argued:

> By *blagoustroistvo* we usually mean the provision of water systems, sewerage, and so forth. But this, logically, is not everything. We must understand *blagoustroistvo* more broadly. In the culture of settlements in Soviet countries [*sic*] this means, first of all, care for the individual, for his coziness, comfort, and conveniences. We consider a city to be *blagoustroitennym* if it is characterized by abundant light, air, and greenery, which gives a person maximal convenience for work, circulation, leisure, and entertainment.
>
> This defines our relations to greening [*ozelenenie*], and to transport, and to the organization of the residential block. Greenery is conceived by us not as decorative islets or flowerbeds scattered hither and thither, but as large green masses of gardens, boulevards, and parks, comprehensively covering the entire urban territory and incorporated as a fundamental element in a city's architecture.[10]

Looking past the obligatory nods to slogans such as the "Stalinist care for individuals," Semenov directly linked the Soviet dream of collective good living to green environmental infrastructure. Such urban "improvement" systems were expected to generate what Larkin would refer to as definitional aspirations of infrastructure: "material forms" intended "to create a sensing of modernity . . . to produce the ambient conditions of everyday life."[11] Yet unlike technogenic communication and transportation networks, *ozelenenie* (greening) and *blagoustroistvo* were not dedicated to the flow of either commodities or information (Figures 19 and 20).

The distribution of pleasant urban green space was not justified on the basis of improved property values for adjacent property owners. Instead, architect-planners touted the benefits of urban green plantings as essential components of healthy, convenient, and beautiful conditions for collective life. When those trees died as a result of the pollution they were meant to mitigate, their deaths fueled a popular environmental movement that shook the Soviet political landscape and "helped to ignite the transition from authoritarian to post-authoritarian regimes."[12]

The Cold War reinforced mutually antagonistic models of urban modernity. Understanding twentieth-century city–nature relations requires seeing the Soviet Union's urban landscapes more broadly, as the remnants of an experiment in city–nature fusion. The domain of *blagoustroistvo*—"the provision of all that is necessary for life and work"—exceeds the pragmatic realm of municipal utilities.[13] Its example challenges us to consider other precedents for the "Capitalocene" questions that confront us today.

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Notes

1. Examples include "Just Transition: A Framework for Change," Climate Justice Alliance, https://climatejusticealliance.org/just-transition (accessed 21 Apr. 2022); Janae Davis, Alex A. Moulton, Levi Van Sant, and Brian Williams, "Anthropocene, Capitalocene, . . . Plantationocene? A Manifesto for Ecological Justice in an Age of Global Crises," *Geography Compass* 13, no. 5

Figure 19 Boulevard with new tram line, housing, and park, Krasnoyarsk, Soviet Russia, 1950s (courtesy of Krasnoyarsk Krai State Universal Scientific Library [KKUNB]).

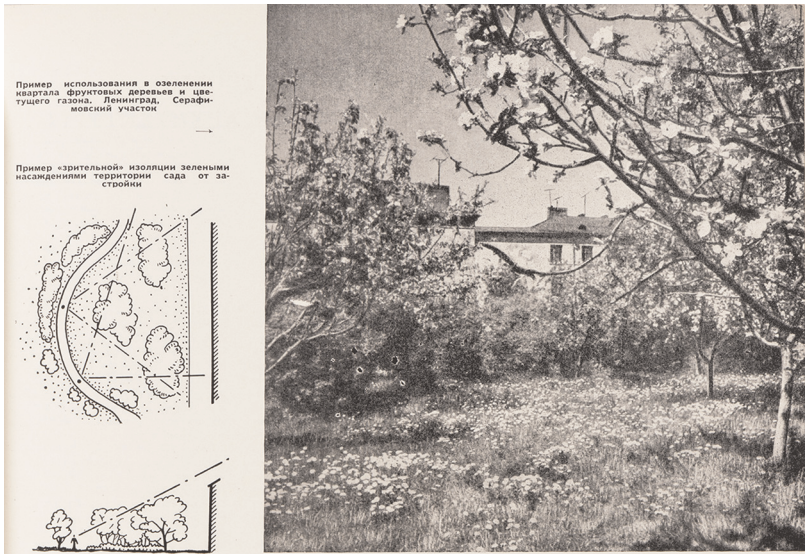

Figure 20 Examples from the Soviet Union of fruit trees and flowering lawns used to green a residential courtyard in Leningrad, with diagrams indicating how to screen buildings using plants, 1960s (Olga A. Ivanova, "Ozelenenie zhilye territorii," *Arkhitektura SSSR*, no. 6 [1962]; courtesy of Canadian Centre for Architecture).

(2019), doi:10.1111/gec3.12438; Sharachchandra Lele, Oliver Springate-Baginski, Roan Lakerveld, Debal Deb, and Prasad Dash, "Ecosystem Services: Origins, Contributions, Pitfalls, and Alternatives," *Conservation and Society* 11, no. 4 (2013), 343–58; Sibyl Diver, Mehana Vaughan, Merrill Baker-Médard, and Heather Lukacs, "Recognizing 'Reciprocal Relations' to Restore Community Access to Land and Water," *International Journal of the Commons* 13, no. 1 (2019), 400–429.

2. See, for example, Murray Feshbach and Alfred Friendly Jr., *Ecocide in the USSR: Health and Nature under Siege* (New York: Basic Books, 1992); Kimberly Elman Zarecor, "What Was So Socialist about the Socialist City? Second World Urbanity in Europe," *Journal of Urban History* 6 (2017), 95–117; Andy Bruno, "Climate History of Russia and the Soviet Union," *WIREs Climate Change* 9, no. 5 (Sept./Oct. 2018), doi:10.1002/wcc.534.

3. Caroline Humphrey, "Ideology in Infrastructure: Architecture and Soviet Imagination," *Journal of the Royal Anthropological Institute* 11, no. 1 (Mar. 2005), 39–58; Stephen J. Collier, *Post-Soviet Social: Neoliberalism, Social Modernity, Biopolitics* (Princeton, N.J.: Princeton University Press, 2011); Cristofer Scarboro, Diana Mincyte, and Zsuzsa Gille, eds., *The Socialist Good Life: Desire, Development, and Standards of Living in Eastern Europe* (Bloomington: Indiana University Press, 2020).

4. Brian Larkin, "The Politics and Poetics of Infrastructure," *Annual Review of Anthropology* 42, no. 1 (2013), 328.

5. Larkin, 338.

6. Maurice Parkins, *City Planning in Soviet Russia, with an Interpretative Bibliography* (Chicago: University of Chicago Press, 1953); Catherine Cooke, *Russian Avant-Garde: Theories of Art, Architecture, and the City* (London: Academy Editions, 1995); Richard Anderson, *Russia: Modern Architectures in History* (London: Reaktion Books, 2015); Jean-Louis Cohen, *Building a New New World: Amerikanizm in Russian Architecture* (New Haven, Conn.: Yale University Press, 2021).

7. In a search conducted in June 2017, the WorldCat library record database listed 248 works with *blagoustroistvo* in their titles, associated with subject headings from *city planning* (42 percent) and *landscape architecture* (16 percent) to *sanitation* (8 percent), *public utilities* (8 percent), *quality of life* (8 percent), and a host of others with lower percentages, including general terms like *social ethics* (4 percent), *police* (4 percent), and *melioration* (2 percent).

8. V. N. Semenov, *Blagoustroistvo gorodov* (Moscow, 1912). See Cooke, *Russian Avant-Garde*, 190.

9. V. N. Belousov and O. V. Smirnova, *V. N. Semenov* (Moscow: Stroiizdat, 1980).

10. V. N. Semenov, "Osnovy planirovki vosstanivliavaemykh gorodov," *Problemy Sovetskogo Gradostroitel'stvo* 1 (1947), 9, my translation.

11. Larkin, "Politics and Poetics of Infrastructure," 336.

12. John Czaplicka, Blair Ruble, and Lauren Crabtree, eds., *Composing Urban History and the Constitution of Civic Identities* (Washington, D.C.: Woodrow Wilson Center Press, 2003), 4. See also David L. Ransel, " 'They Are Taking That Air from Us': The Sale of Commonly Enjoyed Properties to Private Developers," in *Everyday Life in Russia: Past and Present*, ed. Choi Chatterjee, David L. Ransel, and Mary Cavender (Bloomington: Indiana University Press, 2015), 140–60.

13. *Bol'shoi tolkovyi slovar russkogo iazyka* [Great dictionary of the Russian language] (St. Petersburg: Norint, 2003), 82, my translation.

The Creation of an Urban Landscape in Rio de Janeiro

Rio de Janeiro is famous for both its astonishing natural beauty and its modern architecture.[1] To read the Carioca landscape closely, it is important to understand the dialogue between the city's settings and the architectural and urban projects that represent the "archetype of harmony with nature."[2] Among these projects is Parque do Flamengo, a park built in the 1960s along the edge of Guanabara Bay, adjacent to the neighborhoods of Glória and Flamengo; it was constructed over an existing land reclamation project dating from 1948 (Figure 21). This ambitious urban intervention, featuring architectural elements as well as gardens showcasing local species, fused natural features with historical urban layers and newly built components to create an innovative cultural landscape.

The task of reconciling nature and the built environment in the design of the new park fell to the architect and urban planner Affonso Reidy and the landscape designer Roberto Burle Marx, working as part of a commission led by the self-taught urban planner Lota de Macedo Soares. Travel, both in Brazil and abroad, inspired the intellectual development of all of these figures, enriching their individual visions and offering a vital source of ideas and knowledge. In addition to discussing the creation of the park as a space to experience the interaction of nature and the arts as shaped by the individual experiences of the creators, this essay examines how the park benefited in particular from Macedo Soares's unique perspective.

In 1960, Carlos Lacerda, the newly elected governor of the state of Guanabara, invited Macedo Soares to join his administration. While the local government initially proposed a speedway for the land reclamation area in Rio de Janeiro, along with a series of high-rise towers overlooking the bay, Macedo Soares persuaded the governor to turn the existing site into a public park instead, in order to preserve both Glória's historical layers and the natural landscape (Figure 22). Although the park would not generate the same kind of lucrative profits, Macedo Soares recognized that a unique opportunity existed to create a new public space with lasting significance for the city.

Although historians do not often address Macedo Soares's participation in the creation of Parque do Flamengo, it is clear that she played a critical role. For instance, Reidy had proposed a park for the same region while serving as municipal architect for the city of Rio de Janeiro, but the government rejected his proposal and he resigned his position. Later, Macedo Soares was able to use her close connections with important government figures to revive Reidy's proposal for the park.

In this study, I want to focus on Macedo Soares not only as a self-taught urban planner but also as a cultural liaison between the government and the design commission. As a leading figure in an elite cultural network, Macedo Soares encountered thinkers, intellectuals, and politicians through her family connections as well as through her social circles, and she led this new initiative, nominating the members of the official park commission in 1961. In a letter to Lacerda, Macedo Soares reported her chosen designers: "Burle Marx was the only person suggested [to design] the gardens. Reidy, who has thirty years of experience in city hall and urban planning, will be the urban planner."[3]

Inspired by her first trip to New York in the 1940s, Macedo Soares sought to create a new kind of environment in the design of Parque do Flamengo that would enhance the sensory experiences of the park's users and would also improve the quality of life for the local community. The park was planned to house cultural activities and thus to benefit the existing Glória neighborhood, ensuring that the area would not become merely a route used by through traffic but would emerge as a destination in and of itself.

Originally Burle Marx planned to design playgrounds for the park, but Macedo Soares, seeking to promote the well-being of park visitors, later decided to hire a professional educator, Ethel Bauzer Medeiros, to design these facilities. Despite Burle Marx's disappointment with this turn of events, he observed some years later, "Lacerda knew Lota had the general understanding to link art with city planning for the purpose of creating a park in which the cultural qualities would be accentuated."[4] In Burle Marx's designs there was an effort to combine social and ethical values with art and aesthetics. He believed that gardens play a key role in shaping people's lives and the urban environment. On the other hand, Reidy's projects integrated architecture with urban planning. His design for the Museu de Arte Moderna (MAM), sited in the park facing Guanabara Bay, also featured gardens by Burle Marx. The museum was completed before the park itself and became a prominent feature in the new landscape, as an architectural

Figure 21 Parque do Flamengo, Rio de Janeiro, ca. 1966, aerial view (photo by Marcel Gautherot; courtesy of Marcel Gautherot Collection/Instituto Moreira Salles archives).

Figure 22 Pedestrian bridge at Parque do Flamengo, Rio de Janeiro, ca. 1966; Outeiro da Glória (an eighteenth-century church) and Corcovado are visible in the background (photo by Marcel Gautherot; courtesy of Marcel Gautherot Collection/Instituto Moreira Salles archives).

Figure 23 Sculpture by Alexander Calder on the terrace of the Museu de Arte Moderna, Rio de Janeiro, ca. 1959; Guanabara Bay and Sugarloaf Mountain are visible in the background (photo by Marcel Gautherot; courtesy of Marcel Gautherot Collection/Instituto Moreira Salles archives).

design that not only contemplates its surroundings but also is a work of art itself (Figure 23).

As a creative worker, Macedo Soares frequently proposed innovative ideas to her collaborators, with the goal of reconnecting the city with its landscape and foregrounding the role of art and culture in enhancing the lives of local citizens. Although the long linear dimensions of the reclamation project posed difficulties in terms of developing a coherent program for the park, Macedo Soares seized the opportunity to highlight Rio de Janeiro's spectacular natural landscape. The park not only provided views showcasing the renowned mountains that symbolize the landscape of Rio de Janeiro, Sugarloaf and Corcovado, but it also protected existing historical features in the Glória neighborhood. The juxtaposition of the historic architecture of the neighborhood against the modern design of the park put the two landscapes into dialogue.

Macedo Soares was committed to the Brazilian modern movement, not only in terms of the arts but also in terms of developing this new urban project. She sought to create a project that would be a source of both education and leisure for the local population while simultaneously preserving an existing landscape, with a nexus of gardens, architecture, and the arts at the MAM. The design for Parque do Flamengo created a tropical synthesis of urban and landscape environments.

In 1965, Macedo Soares's efforts at Parque do Flamengo received official recognition as the park was designated a local cultural heritage site. Despite the fact that limited financial resources prevented the completion of the program as originally designed, the park still encompasses the key elements distinguishing Brazilian modern architecture, including aesthetics, ethics, and tropical features. Sited between two mountains, the famous natural landmarks that have framed Rio de Janeiro's sublime reputation, the sinuous park along Guanabara Bay offers visitors a unique combination of nature and culture. While the design resulted from the work of many, in many ways it deserves to be considered the gift of Macedo Soares, who stewarded the park to its fruition. Today Parque do Flamengo still plays an important role in the social life of Rio de Janeiro and in the safeguarding of its legendary landscape.

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Notes

1. This essay is based on my PhD dissertation, "Diálogos transnacionais: A construção do moderno como linguagem," developed at the Graduate Program of Pontifícia Universidade Católica de Campinas from 2017 to 2021. This study was financed in part by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior–Brasil (CAPES)–Finance Code 001.

2. Verena Andreatta, *Cidades quadradas, paraísos circulares: Os planos urbanísticos do Rio de Janeiro no século XIX* (Rio de Janeiro: Mauad X, 2006), 67, my translation. *Carioca* refers to the city of Rio de Janeiro and its inhabitants. In 2012,

the Carioca landscape was recognized by UNESCO as a World Heritage Cultural Landscape.

3. "O Roberto Burle Marx era a única pessoa indicada para os Jardins. O Reidy, que tem trinta anos de Prefeitura e Urbanismo, seria o urbanista." Lota de Macedo Soares, quoted in Carmen L. Oliveira, *Flores raras e banalíssimas: A história de Lota de Macedo Soares e Elizabeth Bishop* (Rio de Janeiro: Rocco, 1995), 98, my translation.

4. Roberto Burle Marx, quoted in Gary Fountain, *Remembering Elizabeth Bishop: An Oral Biography* (Amherst: University of Massachusetts Press, 1994), 196.

Building the Urban Landscape

In the late nineteenth century, New York City began to feel like an artificial place. The city's lofty skyline, elevated trains, busy waterfront, crowded tenements, and gridiron plan all confirmed that the growth of the metropolis threatened to overwhelm the natural world. Over the past several decades, scholars have analyzed how the modern urban landscape reshaped our relationship to nature, but studying the construction of the city can also tell us how urban growth wrought environmental change. While architects, builders, and workers celebrated their ability to transform the environment, they also respected nature's limits. No one knew better than people who worked in construction that city building was a dirty, difficult, and dangerous business.[1]

Building in New York mobilized a complex production process encompassing many different trades and depended on the steady supply of materials. On any of the city's skyscraper projects, for example, one could find workers in dozens of trades, including ironworkers, electricians, bricklayers, carpenters, and painters. Each of these workers used materials prepared in shops in the city, produced in the terracotta works, stone quarries, and brickyards throughout the region, or in steel mills, sawmills, and lime works hundreds of miles away. Downtown building sites represented the final stage in a process of production that stretched far beyond the city limits and began with nature's raw materials.[2]

City building also reshaped the boundaries between the built and natural worlds. Along the waterfront, dock builders reconstructed miles of wharves, bulkheads, and piers that transformed the shoreline. Street contractors ripped up the earth to install utilities, streetcar lines, and later the subway. All across the city, excavating contractors employed armies of laborers to dig down below grade and prepare the way for foundations, encountering soil conditions that varied from site to site. Close to shore, excavation workers had to contend with flooding, while soil below sea level turned into quicksand. Many building sites resembled mines, where workers blasted, drilled, and broke up granite schist.[3]

Bridge and tunnel construction represented New York's most dramatic efforts to transform the landscape to suit the needs of a growing city. Subaqueous tunnel construction, in particular, revealed how dangerous this work could be. In 1880, a blowout at the "Morton Street Tunnel," linking Manhattan and New Jersey, later known as the Uptown Hudson Tubes, killed twenty workers when the river flooded the tunnel, bringing the project to a halt for a decade. Working within compressed air was potentially deadly as well, and many workers developed the "bends" after experiencing decompression too quickly. Although later safety precautions improved, tunnel construction remained one of the most hazardous jobs in a dangerous industry.[4]

Yet even as city builders raised towers of stone, iron, and glass, reshaped the waterfront, and burrowed tunnels under the river, the climate limited what they could accomplish. As an activity that took place mostly outside, construction followed a seasonal pattern. Although well-capitalized builders might accelerate construction in the fall and invest in equipment to counteract freezing temperatures in the winter, most builders accepted the seasonal nature of construction. Building activity thus experienced a sharp spike from the spring to the late fall, and then slackened in the winter. At a time when a growing number of workers labored inside throughout the year, construction workers struggled with seasonal unemployment.[5]

As this brief survey suggests, the process of constructing New York City involved the continuous transformation of the natural environment. While city building consumed and transformed natural resources, builders also had to accommodate nature, and when they failed to do so, the consequences could be fatal. Whether people built carefully or not, the construction of the urban landscape involved a lot of hard work. As the historian Richard White argued decades ago, work is an excellent subject for environmental history because it is where human activity and the natural world collide.[6] In the late nineteenth century, city builders enjoyed the use of new technology and equipment, but construction remained labor-intensive. To understand building as a force of environmental change we have to study the kinds of work it involved and the people whose work turned the city into a vast building site.

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Notes

1. Recent works that look at the history of New York from an environmental perspective include Kara Murphy Schlichting, *New York Recentered: Building the Metropolis from the Shore* (Chicago: University of Chicago Press, 2019); Ted Steinberg, *Gotham Unbound: The Ecological History of Greater New York* (New York: Simon & Schuster, 2014); Matthew Gandy, *Concrete and Clay: Reworking Nature in New York City* (Cambridge, Mass.: MIT Press, 2002).

2. For an extended discussion of the need to analyze building activity in a regional setting, see the contribution to this roundtable by James Michael Buckley.

3. Kurt C. Schlichting, *Waterfront Manhattan: From Henry Hudson to the High Line* (Baltimore: Johns Hopkins University Press, 2018); Kevin Bone, ed., *The New York Waterfront: Evolution and Building Culture of the Port and Harbor* (New York: Monicelli Press, 1997).

4. James Morton Turner, "Digging Tunnels, Building an Identity: Sandhogs in New York City, 1874–1906," *New York History* 80, no. 1 (Jan. 1999), 29–70.

5. William B. Meyer, *Americans and Their Weather* (New York: Oxford University Press, 2000), 118–19; Richard B. Stott, *Workers in the Metropolis: Class, Ethnicity, and Youth in Antebellum New York City* (Ithaca, N.Y.: Cornell University Press, 1990), 108–20.

6. Richard White, " 'Are You an Environmentalist or Do You Work for a Living?': Work and Nature," in *Uncommon Ground: Rethinking the Human Place in the Nature*, ed. William Cronon (New York: W. W. Norton, 1996), 171–85.