Green Cities, the Search for Sustainability, and Urban Environmental History

Christopher Wells, Macalester College

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Urban environmental history is a field in full bloom. Since 1991, when William Cronon’s *Nature’s Metropolis* introduced the nascent field (or, perhaps more accurately, sub-field) to a broader audience, a steady flow of scholarship has established urban topics
as important concerns within the broader field of environmental history, particularly in the United States. More recently, the study of nature in cities has also generated work by scholars from a growing variety of disciplines who are increasingly focusing their attention on cities located outside the United States. The five volumes under review here, for example, assemble original scholarship on twenty-two cities spread across ten countries, contributed by historians of all stripes (including cultural, landscape, and women’s historians, along with historians of architecture, medicine, science, technology, and the American West). They also include historical work by authors from a wide range of disciplines, including anthropology, architecture, landscape architecture, urban planning, urban studies, geography, ecology, environmental science, and sustainability studies.

Given this diversity, it is not surprising that the topics and frameworks of each book under review here vary widely. Taken together, however, their interdisciplinary breadth, methodological variation, and geographical range accurately reflect the current state of the field of urban environmental history. On one hand, they reflect an ongoing commitment to well-established common concerns that have long animated scholarship in the area, including the importance of urban professionals like city planners, landscape architects, and public health officials in shaping urban environments; the influence of citizen-led environmental reform efforts; the environmental implications of various urban infrastructures and waste management practices; the profound ways that ideas about both cities and nature shape urban environments; and the environmental significance of city-country relationships. On the other hand, these books also reflect urban environmental history’s current ability to generate scholarship that challenges established boundaries,
examines under-explored subjects, and incorporates the insights of multiple disciplines. They are an eclectic mix, but reflect a vibrant, ongoing discussion.

As an interdisciplinary collection that mixes new scholarship on established areas of inquiry with essays that develop new approaches and consider underexplored subjects, Dorothee Brantz’s and Sonja Dümpelmann’s *Greening the City* exemplifies many of the trends in the current state of the field. Focusing on twentieth-century efforts “to bring about the large-scale greening of cities,” the editors are interested equally in the expansion and incorporation of urban green spaces themselves and in the growing influence that professionals in the then-emerging fields of urban planning, landscape architecture, and public health wielded to “improve environmental conditions in cities” (p. 2). Although the volume’s contributors come from multiple disciplines and focus on cities located across Europe, the United States, and Mexico, their common interest in the historical place of nature in cities places them in thoughtful and sometimes provocative conversation, making for a unity and coherence that is unusual among edited collections.

A majority of *Greening the City*’s chapters develop new approaches to familiar topics. Several authors, for example, analyze the influence of urban planners and landscape architects on the evolving shape of cities, including Sonia Hirt on planning debates in Sofia, Bulgaria, Alfonso Valenzuela Aguilera on adapting “modern” planning ideas for use in Mexico City, Gary McDonogh on “Mediterranean” identity in Barcelona, and Konstanze Sylva Domhardt’s analysis of planning debates within the Congrès Internationaux d’Architecture Moderne (CIAM). Others explore the histories of spaces within cities set aside for outdoor recreation, including parks (Stefanie Hennecke), sports
facilities (Peter Clark, Salla Jokela, and Jarmo Saarikivi), and playgrounds, swimming pools, and beaches (Lawrence Culver).

The authors offer interesting insights and new twists on familiar topics. The multi-authored chapter on sports facilities, for example, combines a comparative historical analysis of the evolving “landscape of sport” (p. 116) in London and Helsinki with an overview of recent ecological studies, which suggest that even the most intensively managed sports facilities compare favorably to agricultural land if evaluated in terms of biodiversity, habitat, and water runoff. Lawrence Culver, on the other hand, puts race and class at the heart of his analysis of recreational facilities in Los Angeles, examining how urban planners there consistently privileged private spaces over public ones—and in the process etched racial discrimination and class privilege into the basic structure of the metropolitan landscape.

*Greening the City* also includes several chapters that focus on interesting but underexplored topics. Zachary Falck, for example, examines the subject of weeds, using disputes over the place of wild plants in four American cities as a way to understand evolving social constructions of nature and the efforts of urban officials to create and maintain desirable urban environments. Jeffrey Craig Sanders focuses on a group of countercultural “urban homesteaders” in Seattle during the late 1960s and early 1970s, tracing the sometimes unanticipated effects of their attempts “to connect their city and their politics with nature” (p. 182). Finally, Jens Lachmund tells the story of West Berlin’s transformation into a breeding ground for urban ecological research, beginning when ecologists (along with the rest of the city’s residents) were walled off from the surrounding countryside, including their field stations. Their work then evolved in
unexpected directions as scientists translated their new ecological knowledge about cities into the realms of public policy, urban planning, and habitat/species protection programs.

This collection highlights the range of ways that green spaces have shaped the urban United States, Europe, and Mexico across the twentieth century. The volume’s mix of interdisciplinary approaches, wide geographical scope, and consistently high-quality scholarship stands out as a provocative, focused, and interdisciplinary starting point for historical discussions about the history of “greening the city.” The table of contents also provides an excellent starting point for a broader investigation of current urban environmental historiography, since the authors of more than half of the chapters have recently published extended monographs on their subjects.

If *Greening the City* provides an overview and starting point for thinking about the role of nature in the city, the other four volumes marshal interdisciplinary insights to address under-explored urban environmental topics. These topics include a history of citizen-led planning organizations in Australia (written by planning historians), a history of biological sewage treatment facilities in Britain and the United States (written by an ecologist and historian of science with a position in urban and regional planning), a comparative history of evolving governance strategies for dealing with urban water runoff in two cities (written by a community and regional planner drawing heavily on the fields of urban environmental history and Science and Technology Studies), and the first book-length environmental history of a Canadian city (bringing together a multidisciplinary slate of authors).

*Cities, Citizens, and Environmental Reform* takes the most unusual form. Originating in a grant dedicated to exploring the history of voluntary town planning
associations in six capital cities of Australia, three individual authors and three pairs of authors each contribute two chapters on their assigned city’s leading planning association. In each case the first chapter focuses on the period before World War II and the second on the period after. If the form is a bit unorthodox, the volume’s contribution is not. In contrast with other planning histories of Australia, which focus primarily on the activities of professional planners or on planning as a political process, this collection constitutes the first extended study of Australian “town planning associations”—voluntary organizations of “citizen crusaders” who championed urban planning causes from outside of established professional and institutional frameworks.

A strong introduction and conclusion by Robert Freestone, who edited the collection and collaborated with Margaret Park on the chapters about Sydney, identify the volume’s major themes and focus. How did voluntary civic organizations participate in the planning process before public participation was adopted in the basic rules of planning during the tumultuous years of the 1960s and 1970s? The authors demonstrate that at the “birth of modern planning at the beginning of the 20th century some of the key initiatives came from outside government through improvement societies, civic associations and professional bodies calling for new possibilities for collective intervention in cities in the interests of health, economy and beauty” (p. 2). In the period after World War II, on the other hand, as planning processes became institutionalized, civic groups interested in planning had to adapt and remodel themselves in relation to new circumstances.

The years before World War I marked a period of ferment and enthusiasm for planning ideas in Australia. Every capital city in the country, for example, saw the
formation of a voluntary town planning organization between 1913 and 1916, all of
which pushed for formal responses to newly emergent planning problems. Most of these
citizen-led organizations maintained their vibrancy in the late 1910s and early 1920s,
Freestone explains, by championing “the very idea of town planning” in the unfavorable
context of “hostile property owners, apathetic businesspeople, an innocent public, and
elected representatives who represented an array of community views” (p. 3). In these
circumstances, their “most conspicuous activities were educational: spreading the word
and raising awareness through lectures and publications, newspaper articles, radio
broadcasts, and exhibitions” (p. 16). Most of the groups also lobbied for enabling
legislation for planning activities and promoted a range of planning projects, including
“central city redevelopment, beautification schemes, civic centres, new open spaces, and
sundry improvement and landscape schemes” (p. 17). Most of these voluntary
organizations flourished into the 1920s but suffered waning enthusiasm in the late 1920s
or 1930s in the face of hostile political conditions and economic crisis.

World War II brought planning ideas into the mainstream, however, convincing
both politicians and the broader public that planning was “a necessary element of the
modern state apparatus” (p. 377). In this context, planning rapidly professionalized—a
process that divorced planners from the voluntary citizens groups that had championed
planning before the war. The voluntary town planning associations that survived or
reemerged after World War II, then, differed markedly in their goals, strategies, and
purposes from their prewar ancestors. Some groups, such as the ones in Hobart and Perth,
mobilized citizen support for “best practices.” Others, however, such as those in Adelaide
and Melbourne, pushed professional planners to incorporate ideas that were at least
initially beyond the bounds of typical practice, urging them to pay greater attention to environmental issues, historical preservation, housing provision, and, by the 1990s, sustainability.

This collection unearths the activities of voluntary citizen’s planning organizations in Australia, and as such constitutes a valuable contribution and corrective to existing literature on the history of Australian urban planning. The volume’s major insight derives from its treatment of the pre- and post-World War II histories of these civic organizations, which before the war acted primarily as cheerleaders for the idea of city planning itself, but after the war had to remake themselves in relationship to the institutionalized practices and priorities of professional planners. This conclusion, however—as well as the decision to focus on the history of these civic organizations—is tempered at least partially by the limited influence that the organizations actually exercised. Freestone’s own assessment concludes that their influence before World War II was “modest and piecemeal” (p. 19). On the other hand, the postwar voluntary organizations adopted “ever more specialised and usually sophisticated environmental agendas” (p. 378), which suggests that interpreting their activities in the broader context of environmental activism might be more generative than unpacking their relationships exclusively with professional planners. These minor reservations aside, the volume fills a significant gap in the historiography and lays the foundations for interesting new research.

If attention to planning ideas and planning professionals forges a common link between the first two books, a shared focus on urban water infrastructures, informed by ideas drawn from Science and Technology Studies and the history of technology,
provides a link between the second two: Daniel Schneider’s *Hybrid Nature* and Andrew Karvonen’s *Politics of Urban Runoff*. Their related subjects and approaches make them highly complementary. Both focus on a mundane and frequently overlooked infrastructural technology designed to control urban water: sewage treatment for Schneider, and surface runoff for Karvonen. Both reject the popular idea that culture and nature are binary categories, and instead explicitly invoke the idea of hybridity as a central idea in their analysis. Both take pains to understand the ways that both technology and nature are socially constructed, as well as how technologies, environments, and ideas have evolved over time. Finally, though neither is trained primarily as an environmental historian, both authors take a historical approach that is animated by what William Cronon has called the “special task of environmental historians[:] … to tell stories that carry us back and forth across the boundary between people and nature to reveal just how culturally constructed that boundary is—and how dependent on natural systems it remains.”

In *Hybrid Nature*, Schneider examines the underappreciated and understudied subject of biological sewage treatment facilities. In contrast to the major historical work on this subject for the United States, Joel Tarr’s *Search for the Ultimate Sink* (1996) and Martin Melosi’s *Sanitary City* (2000), both of which place urban wastewater systems in the broader context of industrialization, urban political conflict, and growing environmental concerns, Schneider begins by detailing how and why evolving sewage treatment technologies did and did not work. In this way, he “opens the black box” of sewage treatment technologies, peering inside the inner workings of treatment facilities in order to understand the methods that they employed to treat growing volumes of urban
sewage. This approach leads Schneider to focus on the creation of what he calls “industrial ecosystems”: specialized colonies of bacteria that sewage engineers cultivated and maintained on a massive scale that allowed them to quickly and continuously purify urban sewage.

Their techniques—which used in combination were called the “activated sludge process”—quickly transformed the ways that cities treated sewage. But they also generated fierce, contradictory debates: how could a process that was so obviously industrial also be biological, or “natural,” at its core? Was this new industrial ecosystem natural or artificial?

Schneider effectively frames his argument around these questions, basing subsequent chapters on a series of debates in which the natural/artificial binary informed the development of the design and operations of biological treatment facilities. If sewage treatment technology was developed with public funding and revolved around “Nature’s means or methods” (p. 45), should it belong to the public at large, or should it be patentable as the intellectual property of inventors? As an industry that rested on the effective management and manipulation of living organisms engaged in a complex biological process, should operations be governed by a craft approach or by more scientific management? Should managers adjust the treatment process to achieve maximum purification? Or should they attempt to wring a profit from the valuable nutrients contained in sewage? The debates over these questions, Schneider effectively demonstrates, consistently turned on ideas about what was “natural” and what was “artificial.” In the final chapters, Schneider makes a compelling case for the continuing relevance of the “contradictions” that inhere in industrial ecosystems, demonstrating how
they continue to shape the management and design of biological sewage treatment plants even after the Clean Water Act of 1972 transformed the legal landscape of sewage treatment.

Moreover, Schneider shows how these debates continue to exert a lasting influence in other areas, including the rise of biotech and the appeal of so-called “ecological” wastewater treatment facilities. Schneider attributes the rise of biotech, for example, to scientific and legal developments that originated in sewage treatment plants. Scientifically, Genentech’s announcement in 1978 that it had discovered how to produce insulin by splicing human genes into *Escherichia coli* bacteria rested on research within sewage treatment plants, which had long used the presence (or absence) of *E. coli* as an indicator of the relative effectiveness of water purification processes. Legally, the pioneering Supreme Court case *Diamond v. Chakrabarty*, which established the precedent that “a live, human-made micro-organism is patentable” (p. 206), built on a series of legal decisions about the patentability of the “industrial ecosystems” at the heart of biological sewage treatment operations. In the case of ecological wastewater technologies, on the other hand, Schneider demonstrates that much of their popular appeal originated in the idea that industrial-scale biological treatment methods are more “artificial” than those of facilities, like John Todd’s “Living Machines,” that include “natural” components, such as growing plants, in their design and operation, even though they rely on essentially the same bacterial processes as industrial-scale plants to purify effluent.

*Hybrid Nature* is a significant and noteworthy addition to the literature. Urban and environmental historians committed to more contextual, place-based analyses may at
times find Schneider’s approach frustrating, however, because of his almost exclusive emphasis on the interplay between particular technologies and evolving ideas about nature. This is by design and does not compromise the effectiveness of the book’s arguments, but it does mean that Hybrid Nature reveals much less about the urban context in which biological sewage treatment plants evolved than urban specialists might desire. Individual places like Manchester, England; Lawrence, Massachusetts; and Milwaukee, Wisconsin appear in the text, sometimes at length, but always as a backdrop for the real focus on subjects like the development of activated sludge, trickling filters, or marketable fertilizers derived from sewage. Those interested in the broader relationships between sewage treatment facilities and the cities they serve must look elsewhere, as must those who want to understand the implications of Schneider’s insights for particular places.

In contrast, Andrew Karvonen’s The Politics of Urban Runoff takes an explicitly place-based approach to analyzing another understudied, underappreciated technology for urban wastewater: controlling stormwater runoff. Like Schneider, however, Karvonen uses his underexplored subject as a way to advance the discussion about another major common concern in urban environmental history: the politics of sustainability.

Karvonen thoroughly grounds his paired case studies of Austin, Texas and Seattle, Washington, in the literature of Science and Technology Studies, drawing especially on the ideas of the geographer Maria Kaika to foreground “the central role of technology and technical experts in the mediation of human/nature relations” (p. 3). Like Schneider, Karvonen opens the technological “black box” of stormwater control infrastructure, taking pains to place it in the context of the complex managerial bureaucracies that have
built and maintained urban runoff control systems. As a result, Karvonen successfully demonstrates the technical and managerial challenges that have historically animated the design of urban runoff systems, paying particular attention to how each city attempted to abandon older ideas about “controlling nature” in favor of implementing new ideas rooted in the goal of “sustainability.”

For each of his two cases, Karvonen devotes a pair of chapters to the historical development of local runoff systems that attempted to exert complete control over nature, the complicated political, managerial, and water quality problems that these projects created, and how each city has emerged as a leader in experimenting with more sustainable strategies for managing stormwater runoff. These new strategies made greater use of multistakeholder input and citizen participation in both cities. They also embraced what Karvonen describes as “a relational perspective that rejects modernist dichotomies of city/rural, human/nonhuman, and culture/nature and instead focus on the indelible connections between urban residents in their material surroundings” (p. 17).

*The Politics of Urban Runoff* concludes with a political theory-building exercise that looks explicitly toward the future rather than the past. How can cities develop more “relational” political systems that will help insure a more sustainable future? Drawing on his historical analysis, Karvonen concludes that a “more sustainable urban future” will require “a new form of politics, one that can engage with both the human and nonhuman simultaneously” (p. 197). Although the unambiguously political, forward-looking analysis that comprises Karvonen’s final two chapters takes his arguments well out of the realm of historical scholarship, his commitment to grounding contemporary practice in deep historical analysis is both rare and refreshing. Karvonen also points to the ways that
urban environmental history addresses in direct and profound ways current political debates about sustainability.

Where Brantz, Dümppelmann, and Freestone share an interdisciplinary interest in planning and its related disciplines and Schneider and Karvonen share an interdisciplinary interest in wastewater technologies, Stéphane Castonguay’s and Michèle Dagenais’s *Metropolitan Natures* is at once more far-reaching in its interdisciplinarity, more promiscuous in its range of topics, and more focused on a single metropolitan area than any of the others. As the first book-length project about the environmental history of a Canadian city, *Metropolitan Natures* breaks new ground. Yet its coverage, which is organized in sections around three major themes in urban environmental history, is eclectic rather than comprehensive; most of the individual essays eschew canonical topics in favor of pushing established boundaries and scrutinizing underexplored subjects. Indeed, the editors are careful to characterize the volume—both in their introduction and in the book’s title—as “histories of Montreal environments, rather than an environmental history of Montreal” (p. 7).

The first unit, “Representations: Urban Cultures,” studies the central theme of cultural constructions of nature in the city, highlighting the significant role that ideas play in how residents have conceived, interpreted, experienced, and altered Montreal’s landscapes. The individual topics of the unit’s four chapters range widely, from an innovative interpretation of sensory perception as a component of understanding place (Victoria Dickenson) to the ways that the 1918 influenza pandemic prompted roiling debates about the relationship between urban environments and public health (Magda Fahrni).
The second unit, “Infrastructures: Socio-Technical Systems,” devotes four chapters to various types of water infrastructure and two chapters to street and highway infrastructure. Dany Fougères’s essay on early nineteenth-century methods of controlling water runoff offers a fascinating complement to Karvonen’s *Politics of Urban Runoff*, including an insightful discussion of the extensive problems of snow and snow melt. These were central issues in Montreal, but were nonissues for engineers designing systems in Austin and Seattle. Fougères also places questions of public health and disease centrally in his discussion that the more environmentally focused Karvonen mentions only in passing.

The final unit, “Hinterlands: City-Country Relationships,” considers a third important theme of urban environmental history conspicuously absent from the other four books under review. If this theme is the least represented in these five volumes, however, it also inspires the most consistently interesting and innovative scholarship in *Metropolitan Natures*. Stéphane Castonguay examines the rise and fall of metropolitan-area food production from the mid-nineteenth to the mid-twentieth century, analyzing the ways that changing urban land uses and demand for food affected the “changing agrarian structure” (p. 188) of the Island of Montreal and its adjacent regions. Darcy Ingram explains the changing and sometimes contentious relationships between urban elites and rural farmers across most of the nineteenth century as they negotiated the use of farmland for the Montreal Fox Hunt and Jockey Club’s annual hunt. Daniel Rueck narrates a fascinating story about the ways that bridges across the St. Lawrence River have connected Kahnawak Mohawk Territory to Montreal since 1887 for good and for ill, from opening economic opportunities to setting the stage for various power struggles and
territorial incursions. Finally, Louis-Raphaël Pelletier examines the massive Beauharnois hydroelectric facility that provides power for Montreal and beyond, the construction of which profoundly altered local rural landscapes in ways both anticipated and unexpected. Although Metropolitan Natures fails to deliver a cohesive overview of the environmental history of Montreal, Castonguay and Dagenais are clear that this is not their goal. Instead, the volume successfully unites a spirited and provocative set of essays that together provide ample food for thought.

These books under review illustrate the current direction of urban environmental history as a whole. Scholarship in this area is moving toward a broader geographical scope, the integration of diverse methodological and disciplinary approaches, and a balance between blazing new trails and recharting familiar territory. Above all, these five volumes demonstrate the vitality and heterogeneity of what is now a thriving area of scholarship.

Christopher W. Wells
Macalester College

For the “Notes on Contributors” section:

FIVE KEYWORDS: urban history, environmental history, planning history, science and technology studies (STS), urban infrastructure
ENDNOTES

1 If Cronon popularized the subject, Joel Tarr and Martin Melosi have been its “founders” and most important mentors, both in their own pioneering scholarship and through the University of Pittsburgh Press series that they edit, “History of the Urban Environment,” which has produced a long list of important monographs and edited collections. Other important works that have shaped the field include Joel Tarr, The Search for the Ultimate Sink: Urban Pollution in Historical Perspective (Akron, 1996); Mike Davis, Ecology of Fear: Los Angeles and the Imagination of Disaster (New York, 1998); Martin V. Melosi, The Sanitary City: Urban Infrastructure in America from Colonial Times to the Present (Baltimore, 2000); Adam Rome, The Bulldozer in the Countryside: Suburban Sprawl and the Rise of American Environmentalism (New York, 2001); Matthew Gandy, Concrete and Clay: Reworking Nature in New York City (Cambridge, 2002); Kathleen A. Brosnan, Uniting Mountain and Plain: Cities, Law, and Environmental Change Along the Front Range (Albuquerque, 2002); Matthew Klingle, Emerald City: An Environmental History of Seattle (New Haven, 2009); and Michael Rawson, Eden on the Charles: The Making of Boston (Cambridge, 2010).
