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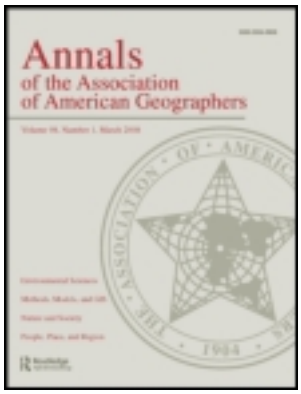

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Marginalia: Aesthetics, Ecology, and Urban Wastelands

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Marginalia: Aesthetics, Ecology, and Urban Wastelands

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Wastelands are a characteristic feature of many urban and industrial landscapes. Although the term *wasteland* has become widely subsumed within various utilitarian discourses concerning the redevelopment of ostensibly empty or unproductive spaces, the idea encompasses a multiplicity of meanings, material origins, and ecological characteristics. This article considers these anomalous spaces of urban nature as an interdisciplinary terrain that extends from renewed interest in urban biodiversity to alternative conceptions of landscape authenticity. It is suggested that a more theoretically nuanced and historically grounded conception of the intersections between critical cultural discourses and recent advances in urban ecology might provide a useful counterpoint to narrowly utilitarian approaches to urban nature. *Key Words: aesthetics, biodiversity, landscape, urban ecology, urban nature, wastelands.*

荒地是许多城市与工业地景中的典型特徵。儘管荒地一词被广泛地纳入众多有关明显閒置或不具生产力的空间再发展的功利主义论述, 此一概念实则包含了多重的意义、物质起源与生态特徵。本文考量这些城市自然的非常态空间做为跨领域的地带, 该地带从对于城市生态多样性復甦之兴趣, 扩展至地景本真性的另类概念。本文主张, 对于批判文化论述与城市生态晚近发展的相互交织, 进行理论上更为细緻、且更植基于历史的概念化, 或可对城市自然的狭隘功利主义取径提出有益的对照观点。 *关键词: 美学, 生物多样性, 地景, 城市生态, 城市自然, 荒地。*

Los espacios desocupados y en deterioro son un rasgo característico de muchos paisajes urbanos e industriales. Aunque la expresión *yermos urbanos*—"wastelands"—ha sido incorporada ampliamente en varios de los discursos utilitarios relacionados con el re-desarrollo de espacios improductivos u ostensiblemente desocupados, la idea abarca una multiplicidad de significados, orígenes materiales y características ecológicas. Este artículo asume estos espacios anómalos de la naturaleza urbana como campo interdisciplinario que se extiende desde el renovado interés por la biodiversidad urbana hasta concepciones alternativas de la autenticidad del paisaje. Aquí se sugiere que una concepción de las intersecciones entre los discursos críticos culturales y los recientes avances en ecología urbana, con mayor elaboración teórica y anclada históricamente, podría suministrar un útil contrapunto a los estrechos enfoques utilitaristas que se aplican a la naturaleza urbana. *Palabras clave: estética, biodiversidad, paisaje, ecología urbana, naturaleza urbana, yermos urbanos.*

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> It is not the parks but railway sidings that are thick with flowers.
>
> —Richard Mabey[1]

> Our generation—I was born in 1967—has very clear memories of our childhood, which today's youth don't have, because they no longer have the open spaces and wild nature of the *terrain vague*.
>
> —Community activist in Mantes-la-jolie, Île-de-France[2]

The British writer Richard Mabey's paean to the spontaneous exuberance of urban nature, inspired by the marginal landscapes of deindustrializing London in the early 1970s, presents an alternative sensibility toward nature that eschews either a narrow scientism or a neo-romanticist attachment to the idea of pristine wilderness. Mabey's observations connect with a heterogeneous ground of nature writing that draws together aspects of popular science, vernacular landscape culture, and a wider sense of curiosity or enchantment with everyday objects and spaces. At about the same time that Mabey was exploring the landfill sites, towpaths, and other hidden reaches of the London landscape, the French artist Paul-Armand Gette was studying the floristic diversity of wastelands in several European cities, the Japanese architect Arata Isozaki was creating collages for ruined cities, and teams of botanists were busy compiling some of the most comprehensive urban floras yet produced. The marginal spaces of Berlin, London, Montreal, and other cities were becoming a significant focus for cultural and scientific attention that reflected a series

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of developments such as the emergence of new art practices, increasing levels of ecological awareness, and the changing characteristics of cities themselves.

A focus on spontaneous forms of urban nature transcends the merely speculative or utilitarian potentialities of ostensibly empty spaces. By regarding nature differently, in both cultural and scientific terms, a set of counter discourses can be articulated that question the pervasive emphasis on wastelands as sites simply awaiting their erasure and redevelopment.[3] An engagement with the independent agency of nature enables intellectual threads to emerge between new understandings of urban ecology and philosophical developments within the epistemology of science. The sense of nature as active, dynamic, and constitutive of the cultural and material characteristics of urban space reveals the metropolis to be both unfixable and to a significant degree unknowable.

The word *wasteland* is defined by the *Oxford English Dictionary* as an "empty or barren area of land" and originates via French from the Latin *vastus* meaning "unoccupied" or "uncultivated." Yet this essentially practical rendition disguises a poetic undercurrent to the term, predating even T. S. Eliot's stanzas of 1924, that reveals a certain allure toward spaces of emptiness within the European cultural imagination. An interest in the "void" as a powerful scientific metaphor has undergone various architectonic and philosophical permutations since Blaise Pascal's original essay on "emptiness within emptiness" (Pascal 1647). Here, Pascal elaborates on the classical nostrum of the *horror vacui*, a preoccupation that created ripples through architectural thought as well as becoming an established focus for psychoanalytic ideas by the early decades of the twentieth century. "Pascal's resistance to the open transparency of rationalism," writes the architectural historian Anthony Vidler (2000, 21), "was seen as a way of symbolically and affectively exploiting the ambiguities of shadow and limit, remaining a sign of potential disturbance beyond and within the apparently serene and stable structures of modern urbanism." Yet this interest in "the void" is by no means restricted to European philosophical traditions—its counterpart exists, for example, in the Korean word *gong* (공) that combines the physical and metaphysical connotations of emptiness—and the idea has been repeatedly rearticulated in relation to the proliferation of "empty spaces" that litter urban and industrial landscapes.

The other widely used term, *brownfield*, which carries a more technical timbre, is similarly defined as a site that has been previously used and is especially associated with traces of industrial contamination, in contrast with the verdant connotation of "greenfield" sites at or beyond the urban fringe. Indeed, this rhetorical brown–green antinomy is intensified by patterns of intervention in urban land markets so that the precise cultural or political connotations of wastelands cannot be disentangled from the wider dynamics of metropolitan change, the history of planning, or the latest incarnations of urban boosterism. In addition to these widely used terms in an Anglo-American context we can add, for example, the German *Brache*, the French *friche urbaine*, the Japanese *arechi* (荒れ地 or 荒地), the Chinese *fei* (废) and *huang-di* (荒地), and the Korean *hwang-mooji* (황무지) and *gong-teo* (공터). Each of these terms contains elements of ambiguity: The Japanese word *arechi*, for example, harbors connotations of uncertain ownership and is used as a cartographic category for land use mapping, whereas the German *Brache* has acquired heightened significance in relation to the post-1990 *schrumpfende Städte* (shrinking cities) debate. These multifarious, and sometimes intersecting etymologies, belie a common emphasis on the "unproductive" characteristics of these sites in relation to agriculture, industry, or other former land uses. But these are often also places of unease and symbolic signification, less easy to categorize or identify, that connect with memories, inspire Ballardian psychogeographies, or function as spaces of autonomous social and cultural life.

Alternative vocabularies for wastelands that begin to move away from an emphasis on their utilitarian characteristics include "edgelands," "interim spaces," "interstitial landscapes," and especially the term *terrain vague* with its connections to radical architectonic discourse.[4] This diverse alternative lexicon for marginal spaces also intersects with emerging ecological insights that seek to valorize specific forms of biodiversity or the serendipitous aesthetic effects of "nondesign." More recently, for example, conservation biologists have sought to replace the term brownfield with "open mosaic habitat" as part of a scientifically driven effort to modify dominant attitudes towards void space in land use planning.[5] This recognition of the richness of urban biotopes owes much to the efforts of ecologists and urban nature conservationists to reveal the full complexity of "wild urban nature." Places that appear "useless" to the momentary glance of passing commuters might nonetheless be spaces of adventure, imagination, and self-discovery for artists, children, filmmakers, and other explorers of the urban realm.

The article begins by exploring how the presence of "weeds" and other spontaneous manifestations of nature

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in cities has served as a focal point for the emergence of urban ecology as a distinctive interdisciplinary subfield within the biological sciences. We then consider how the specific characteristics of wastelands have been incorporated into alternative conceptions of urban landscape and design as part of a new synthesis between nature and culture in the contemporary city. Next, the article examines whether we can build a workable aesthetic theory of urban nature that moves beyond neoromanticist antinomies and the ontological strictures of the bounded human subject. Finally, the cultural and symbolic complexities of wastelands are considered as a focal point for exploring the ideological ambiguities of urban nature.

City of Weeds

Interest in spontaneous forms of urban nature stems from early distinctions between the presence of wild plants growing in and around cities and cultivated plants largely confined to parks and gardens. Early studies of wild urban flora include, for example, Pitton Tournefort's treatise on the plants of Paris and its environs, published in 1698, which places particular emphasis on species with medicinal properties. Using a pre-Linnean nomenclature Tournefort meticulously recorded all of the plants that he could find, along with references to more than sixty other botanical works to provide a vibrant snapshot of the state of scientific knowledge at the time (Tournefort 1698). The seventeenth century also saw some of the first botanical "rambles" through semiwild places near cities such as London's Hampstead Heath, producing data that remain of significant ecological and historical interest (Fitter 1945; Sukopp 2002). During the nineteenth century we find growing scientific attention devoted to the distinctiveness of urban nature, including the botanical characteristics of walls and ruins. In 1855, for example, Richard Deakin compiled *The Flora of the Colosseum*, recording some 420 species of plants growing on the 2,000-year-old ruin, including "some plants so rare in western Europe that they may have arrived as seeds caught in the fur of gladiatorial animals from North Africa" (Mabey 2010, 219).

By the late nineteenth century several guides to "wild urban nature" had been published for European cities, reflecting factors such as improving transport connections and the burgeoning membership of scientific societies. In Eduard Bonnet's *Petite Flore Parisienne*, for example, he exhorts Parisians to delight in "the knowledge of spontaneous vegetation" (Bonnet 1883, v). It is botanist Paul Jovet, however, from the Muséum National de l'Histoire Naturelle in Paris, who is widely regarded as the first modern scientist to fully devote his attention to the spontaneous flora of cities (see Jovet 1940; Lizet, Wolf, and Celecia 1997). Jovet recognized that urban vegetation was a distinctive kind of ecological *mélange* (mixture) comprising a bewildering array of plants from all over the world that not only disrupted existing conceptions of plant associations but was itself in a state of constant flux through the impact of human activities such as construction or *piétinement* (trampling). He carried out a series of meticulous studies of the flora of urban wastelands during the 1930s and 1940s that were formative for a later generation of botanists, including Herbert Sukopp, who led the study of the island city of West Berlin from the 1960s onward and remains the most influential figure in the field. The studies by Sukopp and his colleagues, based at the newly created Institute of Ecology at the Technical University in Berlin, produced some of the most detailed surveys of urban flora that have ever been produced (see Sukopp 1990; Lachmund 2013). Not only did these studies rework existing phytogeographic approaches to botanical research, as elaborated by Josias Braun-Blanquet and others, but they also provided a welter of socioecological insights into the changing structure of urban space over time (Figure 1).

The emergence of urban ecology as a distinctive subfield within the biological sciences has developed significantly since the early 1970s. The ecologist Paul Duvigneaud, for example, defined urban ecology from a metabolic perspective, revealing continuities with organicist conceptions of the nineteenth-century metropolis as well as the systems-based engineering of Abel Wolman and his contemporaries (Duvigneaud 1974). Yet the uncertain relationship between the science of urban ecology and the nascent environmental movement revealed tensions between the modeling of biophysical processes and the production of space. In contrast to the more confident assertions of Duvigneaud about the coherence of urban ecology as a scientific field, other authors questioned the lack of any clear theoretical basis for the study of urban nature. In a provocative article for the journal *Capitalism, Nature, Socialism*, for example, Berlin-based ecologist Ludwig Trepl (1996) found that although knowledge of biophysical processes in cities had advanced significantly, the nature of ecological relationships with social, cultural, and economic processes remained in a state of flux and confusion. In particular, Trepl,

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Figure 1. Chausseestraße, Berlin. A typical urban wasteland (now lost) where the Berlin Wall once stood. Photo by the author (2007). (Color figure available online.)

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echoing Adorno, suggested that the presence of weeds and other spontaneous forms of urban nature posed a challenge for ecological thinking that was rooted in bourgeois conceptions of unintentional nature as the antithesis of urban space.[6]

During the 1990s, many critical counterpoints to mainstream ecological discourse coalesced around what would become "urban political ecology" (see Heynen, Kaïka, and Swyngedouw 2006). Yet the dynamics of urban nature itself remain relatively underexplored within these neo-Marxian formulations. In particular, key ecological insights into the distinctiveness of urban space and its characteristic forms of biodiversity have not yet been integrated into historically grounded studies of capitalist urbanization; there has been something of a divergence between these different yet potentially complementary fields of research (see Walker 2005). The reasons for this disjuncture lie both at the epistemological and ideological level in terms of the way in which different aspects to material "nature," and the evolving scientific practice of urban ecology, remain poorly differentiated in comparison with critiques of nature-based metaphors in urban discourse.

A distinctive aspect to the ecological dynamics of cities is the transitory or frequently disturbed characteristics of many sites that have long formed a focus for both cultural and scientific explorations of urban space. These marginal spaces are typified by an array of so-called "pioneer species" specially adapted for the colonization of new substrates, which can engender rapid and unexpected changes in the appearance of urban landscapes. Examples include the yellow-flowered crucifer known as London rocket, *Sisymbrium irio*, which spread quickly in the burnt spaces of London after the Great Fire of 1666, and the purple spikes of rose-bay willow herb, *Epilobium angustifolium*, a species that had hitherto been considered relatively scarce under natural conditions, which suddenly filled the bomb sites of London and other European cities in the 1940s.[7] "At the end of the war," writes Sebald ([1999] 2004, 39), "some of the bomb sites of Cologne had already been transformed by the dense green vegetation growing over them—the roads made their way through this new landscape like 'peaceful deep-set country lanes.'" In Hamburg, there was a "second flowering" of chestnuts, lilacs, and other trees in the autumn of 1943, just months after the devastating firestorm that had laid much of the city to waste (Sebald [1999] 2004, 40). In Sebald's hands, the term *natural history* invokes powerful connections between materiality, the production of meaning, and the limits to representation: precisely those elements that have yet to emerge within the field of urban ecology itself. Studies of the natural regeneration of damaged sites in cities such as Berlin, Bremen, and Kiel, and the emergence of new ecological patterns and assemblages, also began to reshape aspects of ecological science and the scientific classification of different vegetation types (Lachmund 2003). The idea of the cultural landscape, as a recognizable and regionally specific aesthetic unity, was irrevocably altered

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with both methodological and ideological implications for the study of nature and landscape. The emerging emphasis on the cosmopolitan ecology of cities, highlighting the role of adventitious or introduced species, served as an implicit critique of nativist approaches to landscape design and pervasive antiurban sentiments within conservative strands of environmental thought. Traces of spontaneous nature acquired a double significance as markers for an explicitly urban ecological paradigm as well as symbolic indicators for shifting ideological contours in the urban landscape. The geographer Gerhard Hard, for example, used studies of ruderal vegetation in the city of Osnabrück as part of his detailed critique of the aesthetic, epistemological, and ideological limitations of existing approaches to the interpretation of landscape (see Hard 1995, 1998). For Hard, a close engagement with both the ecological and ideological complexity of ordinary landscapes not only held implications for the understanding of the socioecological dynamics of urban space but also enabled a more broadly framed critique of the reactionary legacies of geography itself.

The intersections between ecological science and changing conceptions of urban nature are perhaps most strikingly illustrated by the emphasis on wastelands as the focal point for high levels of biodiversity in cities. Within urban ecology significant attention has been devoted to wastelands as "ecological refugia" or "islands of bio-diversity." These marginal spaces are now recognized as part of the "ecological infrastructure" of the city extending to roles such as flood control, water purification, and the mitigation of the urban heat island effect (see, for example, Savard, Clergeau, and Mennechez 2000; Rink 2009; Kowarik et al. 2011). An extensive survey of brownfield sites in the Hauts-de-Seine area of the Paris region, for example, found that they contain nearly 60 percent of all species recorded—far higher than parks, gardens, and other typical elements of urban "green space" (Muratet et al. 2007). Rather than clearly differentiated vegetation zones, as postulated by the pioneers of ecological science, the city comprises a lattice of micro niches varying by substrate, aspect, time, and other factors. Linear spaces such as roadside verges or railway embankments can form "eco-ducts," a term first used in a Dutch context, that allow small populations of vulnerable species to be connected and also play a role in the dispersal of new species so that plants, for example, can spread their seeds in a radial pattern across the city (Saint-Laurent 2000; Mabey 2010).

The concept of biodiversity contains elements of ambiguity between the idea of ecosystem diversity—which is high in urban areas—and species or genome diversity. Furthermore, as Takacs (1996) shows, the very idea of biodiversity is as much a mirror of entanglements between different cultural and scientific discourses than any putative representation of external nature. In an urban context, the concept of biodiversity becomes even more difficult to determine, especially when used in relation to wider conservation objectives such as the protection of rare species or vulnerable habitats. How, in other words, do we apply the concept of biodiversity to what Bernadette Lizet terms the "ordinary nature" encountered in cities? The production of inventories of rare or threatened species to influence policymaking dates from the first so-called Red List produced by the International Union for Conservation of Nature in 1963. Since that time the use of Red Lists has extended to encompass different tiers of government as well as an expanded range of life forms. An increasing number of cities now have their own Red Lists for plants, animals, and even invertebrates, as insights from urban ecology become connected with scientifically inflected strands of urban environmental discourse. Yet these emerging intersections reveal tensions between the role of technical expertise—in this case urban ecology—and the contested political exigencies of the urban arena.

Flux, Mimicry, and Nondesign

The emerging fascination with the aesthetic and ecological characteristics of spontaneous urban nature does not preclude any element of human design or intentionality. Indeed, the independent dynamics of nature have been an increasingly significant element in alternative approaches to urban design since the 1970s that seek to combine the enhancement of biodiversity with a less regularized or formulaic aesthetic experience. Whereas the eighteenth-century creation of "semiwild" aesthetic experiences, exemplified by a fascination with the picturesque, rested on a purely visual simulacrum of an idealized nature, recent interest in the design possibilities engendered by spontaneous forms of nature stems from a synthesis between a metropolitan "wasteland aesthetic" and developments in scientific knowledge. The somewhat elusive yet rhetorically powerful concept of biodiversity serves as an organizational focus for new approaches to urban design and the development of ecologically oriented approaches to the utilization of urban space. Leading exponents of natural design and nonintervention such as Gilles Clément and Louis Le Roy work within a conceptual framework of "guided"

landscape dynamics to produce specific aesthetic or ecological effects (see Dagenais 2004; Woudstra 2008; Gandy 2013). The innovative Irchelpark in Zürich, for example, completed in 1986, uses a minimal mowing regime and no herbicides to foster a high degree of seminatural biodiversity in the heart of the city. Despite its naturalistic appearance, however, the park is an intricately engineered landscape criss-crossed with walkways, water bodies, and other design features.

Many distinctive urban habitats mimic natural features: in the eyes of raptors, swifts, or other birds high buildings become mountain ledges or cliffs, derelict buildings may play the role of caves or hollow trees for bats and spiders, and "green roofs" may resemble flower-rich meadows.[8] Both horizontal and vertical urban surfaces can harbor high levels of biodiversity either by accident or design. In a recent study of "living roofs," geographer Jamie Lorimer explores a Deleuzian-inflected notion of ecological "striation" as a way to combine the spontaneous agency of nature with elements of conservation-oriented design. Lorimer (2008) identifies a "fluid biogeography" that combines an emphasis on a more self-reflective scientific practice with new understandings of materiality within urban ecological discourse. Urban botanists are often interested in enhancing the prospects for early-stage ecological succession that exhibits the highest levels of biodiversity, including many uncommon species or those that require highly specialized habitat niches (see Kühn 2006; Kowarik et al. 2011). The use of *temporal suspension* or *stilled time* is deployed for a combination of aesthetic and scientific reasons to modify aspects to ecological change.

The innate hybridity of urban landscapes challenges the pervasive emphasis on native species or landscape authenticity in design practices such as ecological restoration. Yet what is the historical reference point to which the objective of ecological authenticity relates? Is it a distinctive cultural landscape in the sense that Hansjörg Küster and others have described or is it an early Holocene state of nature with minimal human impact as evoked by "rewilding" enthusiasts? Is it an intervention to retain the species-rich early stages of ecological succession or the creation of some other type of specific habitat that has a more diverse cultural or scientific potential in comparison with traditionally managed green spaces? A recent study of the Chicago waterfront, for instance, reveals four different points of historical reference for ecological contestation ranging from pre-European nature before the 1830s to more recent modifications that have become "naturalized" within the public imagination (Gobster 2001). Specific cultures of nature have emerged over time, along with their distinctive combinations of aesthetic sensibility and human subjectivity, culminating in an emphasis on a seminatural aesthetic linked to more polyvalent conceptions of public culture.

In some cases urban wastelands have been transformed into spaces of leisure with multiple forms of nature ranging from *semiwild* landscapes to closely maintained elements of conventional park design. Yet this emphasis on the multifunctionality of *optimal landscapes* poses significant differences in emphasis and context. Recent examples such as Duisburg Nord in the Ruhr, Parc Andre Citroën in Paris, and the High Line in New York City display marked differences in terms of their continuity with earlier approaches to park design. The newly opened High Line, for example, which has been constructed along a disused section of elevated railway in Manhattan, has re-created aesthetic aspects to spontaneous vegetation through the replanting of birch trees to produce a distinctive kind of ecological simulacrum of what occurred on the derelict structure before its extensive landscaping. In this instance, the "wasteland as artifice" becomes a cultural motif that serves to underpin real estate speculation, and the boundary between private and public is reworked in the form of a neo-pastoral urban spectacle (Figure 2).[9] The park, in this context, is a designed fragment of nature that inscribes social and political power into the urban landscape. More rarely, however, the specific characteristics of an abandoned site have been retained to preserve aspects of spontaneous urban nature—examples include Berlin's former Tempelhof Airport and the Südgelände disused railway sidings—but these remain exceptional cases and have usually only occurred after years of intense political and scientific lobbying underpinned by extensive public support (Figure 3). The presence of a *wasteland aesthetic* shows that spaces that might appear superficially similar, even in biotic terms, might nonetheless owe their existence to markedly different processes.

The Search for an Ecological Aesthetic

But what kind of landscape aesthetics is invoked by a focus on spontaneous spaces of urban nature? Wastelands are not readily identifiable cultural landscapes in the conventional sense but something more ill-defined in relation to public culture. Indeed, their aesthetic appeal lies precisely in their cultural

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Figure 2. The High Line, New York. An ecological simulacrum has been created to resemble elements of what once existed on the site. Photo by the author (2011). (Color figure available online.)

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and scientific complexity, thereby raising questions concerning the relationship between knowledge and experience in the perception of landscape. The more detailed and engaged our knowledge of such spaces—and their ecological dynamics—the more sophisticated our grasp of their aesthetic characteristics. For the philosopher Allen Carlson (1993), we cannot reduce the aesthetic appreciation of nature to phenomenological or subjective experience alone: there is a synergy between scientific and aesthetic understanding that heightens our appreciation of nature whereby the aesthetic appreciation of nature is "informed and enriched" by advances in scientific knowledge (Carlson 1995, 393). Yet the idea that knowledge about nature requires years of patience and dedication lies in tension with a culture of immediacy where the science of biodiversity becomes subsumed within more vapid discourses of resilience, sustainability, or other fields. In such circumstances, how can cultural or scientific complexity be effectively communicated? What happens when more autonomous criteria for cultural or scientific evaluation conflict with externally imposed agendas for reshaping knowledge? The sociologist Pierre Bourdieu (1998, 65) calls for the defense of the "inherent esotericism of all cutting-edge research" yet he also insists on appropriate strategies for the scientific enrichment of the public realm. In the case of urban biodiversity, there is a disjuncture between specialized scientific understandings of urban space and mediated discourses of nature for consumption or recreation.[10] The political ramifications become apparent where science, in this case urban ecology, serves to both enhance and protect alternative social and cultural discourses about urban nature just as archaeological or art-historical insights might prevent the destruction of ostensibly esoteric or insignificant cultural artefacts. This is especially significant for urban biodiversity, where the most noteworthy concentrations of so-called Red List species and other categories of scientific interest might be little studied groups such as aculeate hymenoptera (wasps) and other biota that have little conventional aesthetic appeal.[11]

In what sense does urban nature engender a different set of aesthetic sensibilities to classic objects of contemplation such as cultural landscapes or wilderness? The geographer Natalie Blanc (2008) calls for an aesthetics of nature that is derived from a shared sensibility rather than a phenomenological emphasis on individual experience. For Blanc, the aesthetics of nature is inherently political because it fosters political dialogue and raises public awareness of environmental issues. But where does her normative reading of aesthetic experience leave the "useless," ineffable, or more esoteric realms of cultural engagement with nature? The recent emphasis on an ecological aesthetic is often marked by attempts to reconcile the irreconcilable,

Figure 3. Tempelhof Airport, Berlin. The dry grasslands between the abandoned runways have become important nesting sites for the skylark, *Alauda arvensis*, a bird that is now much diminished in its natural habitat of open country across much of Europe. Photo by the author (2011). (Color figure available online.)

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whereby insights from the biophysical sciences are simply grafted onto other fields such as behavioral psychology (see Daniel 2001; Ewald 2001).[12] Yet the idea of the aesthetic in these science-led reformulations rests on a cognitive or behavioral model of human interaction with landscape that lacks any clearly articulated engagement with the historical production of cultural meaning or the symbolic resonance of space within the social imaginary. A different approach is offered by philosopher Cheryl Foster (1998), who seeks to emphasize how sensuous aspects of nature have been downplayed in the face of a narrative dominance based on preexisting understandings of cultural value: she enlists Gaston Bachelard, John Dewey, and other figures to reengage with the "ambient" dimensions to human experience. A greater emphasis on the acoustic, tactile, or olfactory texture of space rather than fleeting visual encounters expands the critical scope of aesthetic theory in relation to marginal landscapes. The aesthetics of nature can be disentangled from associations with an existing view or vista so that sensory immersion in nature takes precedence over the enframing of nature as a space of spectacle (see also Berleant 1992).

The emphasis on pleasure in nature has recently been developed through the concept of vital beauty, drawing on nineteenth-century observations of plant life by Gustav Fechner, and especially John Ruskin, to build a phenomenological approach to the aesthetics of nature. These nineteenth-century attempts to identify an independent aesthetics of nature sought to transcend natural theology or "vaguely pantheistic celebrations of nature's mystical power" through corporeal immersion in the natural world (Frost 2012, 137). For Ruskin, the life force represented by the growth of vegetation was "a realm of strange intermediate being" (cited in Frost 2012, 151). Yet this search for inherent value differs from vitalist conceptions of agency that seek to dispel the ontological centrality of the bounded human subject. In this sense, nature is divested of a humanist reductionism so that it can be considered in terms of its own dynamics, albeit through the lens of human intuition or perception. Henri Bergson is arguably the key figure here in his emphasis on the "life force" as a structure of meaning independent of human intentions or values (see Bergson [1907] 2007). It is this inherent force that provides the philosophical lineage from Bergson to Deleuze and the opening up of new possibilities for the interpretation of material reality and nonteleological conceptions of nature (see Deleuze [1956] 1999; Grosz 2005). Under Bergson's positivism, distinctions between order and disorder are replaced by an affirmation of material processes of change within which humans beings are themselves an integral element. For Bergson materiality is bound up with human finitude and our perception of time: hence the poetic eloquence engendered by the independent dynamics of nature.[13]

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For philosophers such as J. Baird Callicott, the anthropocentric emphasis on aesthetic pleasure in nature produces a "natural aesthetic" that distorts priorities in nature conservation away from less spectacular or awe-inspiring places and serves to strengthen aesthetic values over ethical values (Callicott 1992). Similarly, historian Ronald Rees notes how the pervasive aesthetic emphasis on "wild" or remote spaces has served to undermine concern with "local environments" and the articulation of an environmental ethics that takes nature itself into consideration (Rees 1975). The difficulty, however, with the critique of an anthropocentric aesthetics of nature articulated by Callicott, Rees, and others is that a workable alternative cannot be located within nature as an autonomous realm lying beyond human interests. The ecocentrist position ultimately reiterates existing dichotomies between nature and culture through its search for external sources of "truth." This misplaced search for the *essence* of things, as Richard Rorty noted over thirty years ago, remains a critical undercurrent for much of what we might term *environmental aesthetics* articulated on behalf of a putatively autonomous nature serving as a repository of *truth* (see Rorty 1979). Yet Rorty's philosophical pragmatism, with its extensive deployment of irony, poses its own limitations in terms of the extent of possible dialogue between different cultural and scientific domains (see, for example, McCarthy 1990). If an innate incommensurability between fields of knowledge is accepted, then the possibilities for bringing an array of disparate ecological arguments closer together are rendered much more difficult.

The possibility of an *ecological aesthetic* remains complicated by the lack of any necessary relation between the scenic, or other forms of aesthetic delight, and what is ecologically significant (Gobster et al. 2007). As botanist Nick Bertrand points out, "aesthetics has nothing to do with conservation."[14] A rotting carcass swarming with maggots is integral to ecology but not ordinarily considered to be an aesthetic experience that has any relation to the culture of nature as a source of pleasure (see Saito 1998). Over time, however, ostensibly incongruous elements of urban nature such as fallen trees or rotting wood can become part of a scientifically enriched public culture where the enhancement of biodiversity becomes a more pervasive element in urban design. Equally, there are aspects of environmental change that by virtue of time, space, or scale lie beyond the realm of human perception: the experiential dimensions to nature are of necessity limited, partially prefigured, and open to multiple interpretations.

Spaces of Ambivalence

The aesthetic characteristics of spontaneous spaces of urban nature evoke complex associations because these can be sites of unease as well as places of freedom or creative expression. The multiplicity of cultural responses to wastelands is partly related to the diversity of such sites and their varied origins: whereas some spaces have developed spontaneously within ostensibly "empty" sites, others have emerged out of the neglect or abandonment of previously maintained spaces such as lawns, parks, or other degraded remnants of designed nature. These neglected spaces reflect a late-modern dislocation between designed landscapes and capitalist urbanization, as municipal parks in particular have been badly affected by the fiscal crisis of the state since the 1970s. Labor-intensive municipal landscapes have their origins in the nineteenth-century reformulation of metropolitan nature that encompassed developments in landscape design, infrastructure improvements, zoning law, and biopolitical interventions in the sphere of public health.[15] The intensified control of weeds, and the regularization of urban nature, forms one element in this distinctive interface between nature, science, and society that reached its apogee in the middle decades of the twentieth century. The partial unraveling of these relationships poses implications for the design, maintenance, and meaning of urban landscapes, yet at the same time suburban lawns or front gardens have become subject to greater degrees of control in North America and elsewhere from so-called weed ordinances (see Feagan and Ripmeester 1999; Valverde 2008). There is an apparent divergence between landscapes of tighter control (and surveillance) and new forms of "loose space" within which greater degrees of aesthetic, biotic, or social heterogeneity are tolerated or even encouraged (see Franck and Stevens 2007).

There is an "unfixed" dimension to the aesthetics of spontaneous nature that requires a greater degree of imaginative engagement or reflection than conventional components of metropolitan nature. These spontaneous spaces are characterized by a multiplicity of "aesthetic worlds" that are integral to the heterogeneous characteristics of urban space and the dissolution of an imaginary "landscape unity" (Nohl 2001, 224). The study of modern landscapes has been marked by a tension between the impetus toward various kinds of pattern-oriented analysis that downplay cultural and historical aspects of human experience and the inherited legacy of "landscape indicators" and other ideologically charged delineators of cultural landscapes (see

Cosgrove 1985; Hard 1985). The recent reworking of the sublime, most notably through the technological sublime in relation to urban and industrial landscapes, is difficult to disentangle from neo-romanticist readings of aesthetic disorientation as the cultural antinomy of beauty. These aesthetic formulations rest on the capacity of contemporary landscapes of marginality or technological excess to unsettle or even overwhelm the human observer. In the twentieth century the term neo-romanticism has been used to denote a combination of eighteenth- or nineteenth-century interest in awe-inspiring landscapes with more modern preoccupations with psychological unease or feelings of estrangement.[16] In terms of urban space, however, the sublime effectively displaces ecology with aesthetics: there is an implicit spectacularization of urban landscapes that is far removed from more tactile or direct forms of cultural or scientific practice. To disavow the neo-romanticist aestheticization of space is to demystify its production and introduce a different aesthetic register rooted in the scale of human experience.

Abandoned urban landscapes have frequently been venerated as places of reverie. In the case of London, for example, Patrick Keiller's film *Robinson in Ruins* (2010) and Chris Petit's collaboration with the novelist Iain Sinclair for *London Orbital* (2002) present marginal landscapes as estranged or mysterious. For Keiller's *Robinson in Ruins*, the narration (spoken by Vanessa Redgrave) follows the eponymous Robinson as he seeks out "marginal and hidden locations." Robinson, we are told, is suffering from an unspecified "malady" that he will purge by creating "picturesque views on journeys to sites of scientific and historic interest." An enlarged aluminum street sign reveals a cellular surface pattern encrusted with lichens and other traces of life so that the familiar is rendered mysterious. The largely deserted locales recall science fiction scenarios in which modernity has dissipated into a new kind of wilderness. There is a quasi-mystical emphasis on uncovering layers of meaning or ghostly traces of collective memory. Similarly, the cities of the North American rustbelt have recently come under the neo-romanticist gaze—most notably in the photographic depictions of Detroit by Marchand and Meffre (2010), which provide an eerie echo of earlier representations of urban ruins in the wake of the 1943 race riots (see Falck 2010). Buried beneath these representations, however, are significant dislocations in terms of class, gender, and ethnicity between the "deserted" characteristics of these spaces, as encountered by the figure of the late-modern flâneur or male wanderer, and those communities cut adrift within the marginal spaces of the contemporary city. This is not to argue that aesthetic interactions with wastelands are necessarily gendered—at least not in essentialist terms—but to underline the specific contexts in which they are encountered (see Wilson 1992).

Although wastelands often elicit a degree of ambivalence, their *cultural malleability* has enabled their appropriation into what the ecologist Oliver Gilbert terms the "urban commons" (see Gilbert 1992; Jorgensen and Tylecote 2007). This politically charged ecological formulation extends the "right to nature" beyond municipal park provision or Lefebvrian conceptions of public space to encompass a more broadly defined realm of cultural and scientific imagination. Furthermore, these vernacular spaces of "new wilderness" tend to be concentrated in precisely those areas that often have the least access to more formal elements of designed nature (see Keil 2005; Franz, Güles, and Prey 2008). In Andrea Arnold's film *Fish Tank* (2009), for example, we encounter a contrast between bleak landscapes on the eastern edge of London and an extraordinary interlude focused on a visit to a fenced-off space of wild nature by a lake: for a brief second the camera pauses on a blue damselfly, *Enallagma cyathigerum*, resting on a reed—a motif of entomological detail widely deployed by Arnold—which serves to introduce a momentary element of wonder for her cinematic protagonists. In *Fish Tank* we are reminded that marginal spaces such as wastelands form a fundamental element in public cultures of nature for the poorest urban communities: an association exemplified by the childhood recollections of the community activist from the French *banlieue* cited at the start of this article.

The ambiguous connections between nature, science, and public culture have been the focus for a variety of cultural interventions since the 1970s. With the Catalan artist Lara Almarcegui's photographs of marginal spaces, for example, there is an explicit connection made with the concept of *terrain vague* and the defense of space against the "excesses of architecture."[17] Her poignant photograph entitled *To open a wasteland, Brussels* (2000) depicts the blurred figure of a child in the foreground rushing into this newly opened space (Figure 4). In these instances close observation, or the "botanical eye," becomes a specific form of cultural-scientific practice that can reveal new insights into the production of space and the often arbitrary assignment of cultural or economic value. We can enlist the "botanizing" impulse of Walter Benjamin, himself a keen observer of urban nature, to evoke an alternative dimension to urban flânerie that eschews the

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Figure 4. Lara Almarcegui, *To open a wasteland, Brussels* (2000). Courtesy of the artist. (Color figure available online.)

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psychogeographic impasse of neo-romanticist detachment or late-modern masculinist malaise.[18] Imaginative interventions by artists, writers, and scientists remind us that looking, thinking, and representing the familiar in an unfamiliar way can also be a kind of radical cultural and political praxis.

Conclusions

Urban wastelands unsettle the familiar terrain of cultural landscapes, designed spaces, and the organizational logic of modernity. Much of the conceptual vocabulary we have available is geared toward idealized landscapes—with or without human influence—or stems from a neo-romanticist or phenomenological preoccupation with the aesthetic experience of the bounded human subject. To reframe marginal spaces of nature as a vibrant dimension to urban life introduces a different kind of complexity into the socio-ecological landscape of cities where questions of access, design, and land ownership are radically juxtaposed with insurgent forms of cultural and scientific practice. The recognition of *terrain vague* within the public realm introduces possibilities for cultural and scientific autonomy that invert or unsettle bourgeois conceptions of nature.

Yet what is "nature" anyway in an urban context? The distinction between the natural and the unnatural, in terms of landscape aesthetics, is historically produced: when Marx mocks Feuerbach's perception of the cherry orchard as a natural feature of the German landscape he is also questioning the limitations of philosophical idealism (Marx [1844] 1965, 62). A materialist reading of urban landscape makes the connections between aesthetics and the historical production of space explicit yet it also harbors its own lacunae in terms of the tensions between restricted readings of human subjectivity and the communicative ethos behind shared cultures of urban nature.

The term biodiversity, as a cultural construction of nature, holds similarly ambiguous implications in an urban setting. Although cities have high levels of biodiversity—in some cases greater than their immediate hinterland—the relationship between cities and nature becomes more problematic at wider scales of analysis. Urbanization is itself a major cause of habitat destruction at a global level so that any emphasis on urban biodiversity needs to be set in a wider context: this emerging paradox is marked by higher levels of regional biodiversity associated with increasingly diverse urban ecological assemblages but declining levels of global biodiversity as endemic, vulnerable, or yet to be even described species, associated with less disturbed habitat types, are lost at an increasing rate (McKinney 2006). In making this distinction, however, between urban and nonurban, we should be careful not to fetishize the city as a discrete entity because the process of urbanization is increasingly ubiquitous and encompasses spaces that lie far beyond the administrative confines of metropolitan boundaries.

An emphasis on *ecological cosmopolitanism* in terms of vibrant concentrations of global biodiversity in cities contains a double-edged aspect: It emphasizes the variety and vitality of urban ecosystems but might also downplay the wider ecological impact of urbanization. Indeed, ecologist Charles Elton's negative use of the term cosmopolitan in the late 1950s signals ideological tensions running through the historiography of ecology that persist today (see Clark 2002). Most contemporary ecologists would acknowledge a spectrum of "invasiveness" ranging from mere scientific curiosity to real threats to the well-being of existing ecosystems (see Kowarik 2010). For Ute Eser (1999), however, the core issue remains the relative lack of critical reflection within ecological discourse so that the "politics of neophytes" is as much an epistemological question as a practical challenge for nature conservation.

What does the radical elevation of ecological science within urban discourse infer? Are there ways in which urban ecology can enrich public culture on its own terms yet avoid the types of epistemological elisions that have marred previous attempts to build socio-ecological understandings of urban space? The decline of what Zimmerer (1994, 111) terms "ahistorical systems ecology" has shifted the analytical emphasis toward the dynamic and heterogeneous characteristics of biophysical systems (see also Zimmerer 2000). Leading urban ecologists such as Alberti, Marzluff, and Pickett have called for a "new ecological paradigm" that directly incorporates the "human dimension" into ecological processes (see Alberti et al. 2003). Running through these reformulations, however, is a continuing uncertainty about the analytical scope of contemporary ecology in relation to the specific cultural, historical, and material dimensions of urbanization. Despite the ambitious research agendas of post-Rio applied ecology to encompass the full gamut of social and ecological processes, the scientific underpinning for a unified socio-ecological model for the study of cities does not yet exist (see Evans 2011). Although a range of research has now been carried out on urban nature, there remain significant gaps in current knowledge for many cities where the status of nonhuman nature is especially precarious or little known. Within the field of urban ecology itself there are concerns that the predominance of observational studies risks placing ecological research outside the most significant developments within the biophysical sciences where emphasis is increasingly at the molecular or even submolecular level of analysis (see Gaston 2010). The "molecularization" of the life sciences holds analytical and methodological implications for ecology as a field science that might yet presage a new phase of distanciation between scientific practice and public culture.

But why should we be interested in urban wastelands? What is at stake culturally, politically, or scientifically when we argue for their appreciation or protection? We have seen how these spontaneous manifestations of urban nature connect with an array of cultural and scientific discourses but the political implications of these marginal spaces remain only partially explored. The promotion of urban biodiversity holds implications for the development of a scientifically enriched public realm that rests on a combination of greater affinity for nonhuman life in cities along with new forms of knowledge production. Furthermore, a closer engagement with the socio-ecological dynamics of urban space might help to dispel aspects to the ideological opacity of the urban arena itself.

In this article we have considered some possible points of intersection between urban ecology and other cultural fields that might work more powerfully in combination as an alternative to the dominance of functionalist or utilitarian perspectives towards marginal spaces of spontaneous nature. Wastelands exist in dynamic tension with human intentionality, whether in terms of their preservation—the slowing of time—or their erasure to make way for the new. As sites of discovery and experimentation, wastelands also challenge unified conceptions of the cultural landscape and other ideological motifs that pervade contemporary urban thought. These marginal sites of spontaneous nature allow cultural and scientific explorations of the city itself in contrast with the outward focus of much environmental discourse toward spaces and places that lie elsewhere. Above all, wastelands are "islands," in cultural, material, and political terms, which pose an ideological as well as practical challenge for the utilitarian impetus of capitalist urbanization. The "intrinsic worth" of the ostensibly useless is as much a political question as an aesthetic or scientific one.

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Notes

1. Richard Mabey, *The unofficial countryside* (1973), p. 12.
2. The quote is taken from Pierre Carles's documentary about Pierre Bourdieu entitled *La Sociologie Est un Sport de Combat* (2001) (author's translation).
3. Studies that emphasize the cultural richness of ostensibly "empty" spaces include Collin (2001), Edensor (2005), Hauser (2001), Huyssen (1997), Lévesque (1999), Lizet (2010), and Till (2011).
4. The expression *terrain vague* in particular has recently gained conceptual currency after its elaboration by the Spanish architect Ignasi de Solà-Morales Rubió (1993).
5. The term *open mosaic habitat* is now being extensively used in the United Kingdom in preference to the term brownfield for a variety of scientific studies and also in some local government documentation such as Biodiversity Action Plans. For a recent overview of developments in urban ecology see Gaston (2010), Kowarik et al. (2011), Savard, Clergeau, and Mennechez (2000), and Wittig (2010).
6. Theodor Adorno raises a similar point: "Even as bourgeois consciousness naïvely condemns the ugliness of a torn-up industrial landscape, a relation is established that reveals a glimpse of the domination of nature, where nature shows humans its facade of having yet to be mastered" (Adorno [1970] 1997, 61).
7. Richard Fitter's *London's Natural History*, first published in 1945, already lists 126 species of plants found on "extensive areas of open waste ground" (Fitter 1945, 230). See also L. Mellor (2004).
8. Those species most closely linked, or even dependent, on human settlements for food, shelter, and other needs, termed synanthropic, include a variety of pests as well as the benign ubiquity of many birds and insects such as the house sparrow, *Passer domesticus*, or the honey bee, *Apis mellifera* (see McKinney 2006).
9. I would like to thank Tom Baker for drawing my attention to the "neopastoral" dimension to the High Line.
10. Important exceptions include Berlin's "Langer Tag der StadtNatur" [The long day of urban nature], an annual event underway since 2006, which is a science-led program of public activities organized by the Berlin Conservation Foundation. See www.langertagderstadtnatur.de. On the changing relationships between public culture and scientific practice see, for example, Waterton (2002), Wolch (2002), Lachmund (2004), Ellis and Waterton (2005), Hinchliffe et al. (2005), Vaquin (2006), and Sadler et al. (2010).
11. Studies of wastelands have often revealed high levels of species diversity for aculeate hymenoptera and other warmth-loving insects adapted to sand dunes or coastal environments (see, e.g., Gibson 1998; Eyre, Luff, and Woodward 2003; Kadas 2006). In some cases, depending on soil conditions, there can be unique combinations of habitat mimicry, so that species associated with disparate ecotopes such as heathlands or chalk downland might occur together on the same site (Colin Plant, Consultant Entomologist, discussion with the author, 12 February 2012). For detailed studies of urban habitat diversity see, for example, Sukopp et al. (1979), Sukopp (1990), Rebele (1994), Zerbe et al. (2003), Filoche, Arnal, and Moret (2006), Muratet et al. (2007), Schadek et al. (2009), and Müller (2010). On the question of "charisma" in relation to nature conservation, see Lorimer (2007).
12. The attempt to articulate an ecological aesthetic marks a corollary of the wider "ecologization" of public policy through the enhanced role of scientific discourse in decision making (see Evans 2011).
13. In Merleau-Ponty's exegesis on Bergson's conception of nature, for example, he emphasizes the poetic dimension. "He [Bergson] stands both against Berkeley's idealism, for which everything is a representation, and against a realism that admits that the thing has an aseity, but which posits that this is other than what appears" (Merleau-Ponty [1957] 2003, 53). Elsewhere Merleau-Ponty seeks to distinguish his "phenomenal psychology" from what he terms Bergson's "introspective psychology" (Merleau-Ponty [1945] 1962, 59).
14. Nick Bertrand, botanist, discussion with the author, Creekside Centre, London, 13 November 2011.
15. In much of London, for example, specialist teams of municipal workers devoted to looking after urban trees have been partially or completely laid off since the 1980s, leading to a loss of arboriculture skills, premature death or damage to urban trees, and longer term implications for the character of urban green space (Russell Miller, arboriculturalist and chair of Sustainable Hackey, e-mail to author, 16 December 2011).
16. The term neo-romanticism has been most extensively deployed within art history and literary criticism. See, for example, D. Mellor (1987).
17. Lara Almarcegui, lecture given to the conference Art and the Environment, Tate Britain, London (30 June 2010).
18. Benjamin, for example, describes the "style of the modern flâneur as one who goes botanizing on the asphalt," drawing connections between natural history and the "poetic imagination" (Benjamin [1938] 2006, 68). His childhood recollections of urban nature in Berlin are to be found in Benjamin ([1932–1938] 2001). See also Clark (2000).

References

Adorno, T. [1970] 1997. *Aesthetic theory*, trans. R. Hullot-Kentor. London: Continuum.

Alberti, M. A., J. M. Marzluff, E. Shulenberger, G. Bradley, C. Ryan, and C. Zumbrunnen. 2003. Integrating humans into ecology: Opportunities and challenges for studying urban ecosystems. *BioScience* 53 (12): 1169–79.

Arnold, A. 2009. *Fish tank*, DVD. London: British Film Institute.

Benjamin, W. [1932–1938] 2001. *Beroliniana*. Munich, Germany: Koehler and Amelang.

———. [1938] 2006. The Paris of the Second Empire in Baudelaire. In *The writer of modern life: Essays on Charles Baudelaire*, ed. M. W. Jennings, 46–133. Cambridge, MA: Belknap.

Bergson, H. [1907] 2007. *Creative evolution*, ed. K. A. Pearson, M. Kolkman, and M. Vaughan. Basingstoke, UK: Palgrave Macmillan.

Berleant, A. 1992. *The aesthetics of environment*. Philadelphia: Temple University Press.
Blanc, N. 2008. *Vers uns esthétique environmentale* [Towards an environmental aesthetic]. Paris: Éditions Quæ.
Bonnet, E. 1883. *Petite flore parisienne* [Small Parisian flora]. Paris: Librairie F. Savy.
Bourdieu, P. [1996] 1998. *On television*, trans. P. P. Ferguson. New York: The New Press.
Callicott, J. B. 1992. The land aesthetic. *Renewable Resources Journal* 10:12–17.
Carles, P. 2001. *La sociologie est un sport de combat*, VHS. Paris: C-P Productions.
Carlson, A. 1993. Appreciating art and appreciating nature. In *Landscape, natural beauty and the arts*, ed. S. Kemal and J. Gaskell, 199–227. Cambridge, UK: Cambridge University Press.
———. 1995. Nature, aesthetic appreciation, and knowledge. *The Journal of Aesthetics and Art Criticism* 53 (4): 393–400.
Clark, N. 2000. Botanizing on the asphalt? The complex life of cosmopolitan bodies. *Body and Society* 6 (3–4): 12–33.
———. 2002. The demon-seed: Bioinvasion as the unsettling of environmental cosmopolitanism. *Theory, Culture and Society* 19 (1–2): 101–25.
Collin, M. 2001. Nouvelles urbanités des friches [New urbanities of wastelands]. *Multitudes* 6:148–55.
Cosgrove, D. 1985. Prospect, perspective and the evolution of the landscape idea. *Transactions of the Institute of British Geographers* 10 (1): 45–62.
Dagenais, D. 2004. The garden of movement: Ecological rhetoric in support of gardening practice. *Studies in the History of Gardens and Designed Landscapes* 24 (4): 313–40.
Daniel, T. 2001. Whither scenic beauty? Visual landscape quality in the 21st century. *Landscape and Urban Planning* 54:267–81.
Deakin, R. 1855. *Flora of the Colosseum of Rome; or illustrations and descriptions of four hundred and twenty plants growing spontaneously upon the ruins of the Colosseum of Rome*. London: Groombridge and Sons.
Deleuze, G. [1956] 1999. Bergson's conception of difference. In *The new Bergson*, ed. J. Mullarkey, 42–65. Manchester, UK: Manchester University Press.
de Solà-Morales Rubió, I. 1993. Terrain vague. In *Anyplace*, ed. C. Davidson, 118–23. Cambridge, MA: MIT Press.
Duvigneaud, P. 1974. Étude écologique de l'écosystème urbain bruxellois: 1. L'écosystème ≪urbs≫ [Ecological study of the ecosystem of urban Brussels: 1. The ecosystem 'Urbs']. *Mémoires de la Société Royale de Botanique de Belgique* 6:5–35.
Edensor, T. 2005. *Industrial ruins: Spaces, aesthetics and materiality*. London: Berg.
Ellis, R., and C. Waterton. 2005. Caught between the cartographic and the ethnographic imagination: The whereabouts of amateurs, professionals, and nature in knowing biodiversity. *Environment and Planning D: Society and Space* 23:673–693.
Eser, U. 1999. *Der Naturschutz and das Fremde: ökologische und normative Grundlagen der Umweltethik*. Frankfurt, Germany: Campus.
Evans, J. 2011. Resilience, ecology and adaptation in the experimental city. *Transactions of the Institute of British Geographers* 36:223–37.
Ewald, K. C. 2001. The neglect of aesthetics in landscape planning in Switzerland. *Landscape and Urban Planning* 54:255–66.
Eyre, M., M. Luff, and J. Woodward. 2003. Beetles (coleoptera) on brownfield sites in England: An important conservation resource? *Journal of Insect Conservation* 7 (4): 223–31.
Falck, Z. J. S. 2010 *Weeds: An environmental history of metropolitan America*. Pittsburgh, PA: University of Pittsburgh Press.
Feagan, R. B., and M. Ripmeester. 1999. Contesting natural(ized) lawns: A geography of private green space in the Niagara region. *Urban Geography* 20 (7): 617–34.
Filoche, S., G. Arnal, and J. Moret. 2006. *La biodiversité du département de la Seine-Saint-Denis. Atlas de la flore sauvage* [The biodiversity of the département Seine-Saint-Denis. Atlas of wild flora]. Paris: Biotope, Mèze (Collection Parthénone/Muséum national d'Histoire naturelle).
Fitter, R. S. R. 1945. *London's natural history*. London: Collins.
Foster, C. 1998. The narrative and the ambient in environmental aesthetics. *The Journal of Aesthetics and Art Criticism* 56 (2): 127–37.
Franck, K., and Q. Stevens. 2007. *Loose space: Possibility and diversity in urban life*. London and New York: Routledge.
Franz, M., O. Güles, and G. Prey. 2008. Place-making and "green" reuses of brownfields in the Ruhr. *Tijdschrift voor Economische en Sociale Geografie* 99 (3): 316–28.
Frost, M. 2012. Entering the "circles of vitality": Beauty, sympathy, and fellowship. In *Vital beauty: Reclaiming aesthetics in the tangle of technology and nature*, ed. J. Brouwer, A. Mulder, and L. Spuybroek, 132–53. Rotterdam, The Netherlands: V2 Publishing.
Gandy, M. 2013. Entropy by design: Gilles Clément, Parc Henri Matisse and the limits to avant-garde urbanism. *International Journal of Urban and Regional Research* 37 (1): 259–78.
Gaston, K. J. 2010. Urban ecology. In *Urban ecology*, ed. K. J. Gaston, 1–9. Cambridge, UK: Cambridge University Press.
Gibson, C. 1998. *Brownfield: Red data. The values artificial habitats have for uncommon invertebrates*. London: English Nature.
Gilbert, O. 1992. *The flowering of the cities: The natural flora of "urban commons."* Peterborough, UK: English Nature.
Gobster, P. H. 2001. Visions of restoration: Conflict and compatibility in urban park restoration. *Landscape and Urban Planning* 56:35–51.
Gobster, P. H., J. I. Nassauer, T. C. Daniel, and G. Fry. 2007. The shared landscape: What does aesthetics have to do with ecology? *Landscape Ecology* 22:959–72.
Grosz, E. 2005. Bergson, Deleuze, and the becoming of unbecoming. *Parallax* 11 (2): 4–13.
Hard, G. 1985. Vegetationsgeographie und sozialökologie einer Stadt [Vegetation geography and social ecology of a city]. *Geographische Zeitung* 75:125–44.
———. 1995. *Spuren und Spurenleser: Zur Theorie und Ästhetik des Spurenlesens in der Vegetation und anderswo* [Traces and trace readers: On the theory and aesthetics of trace reading for vegetation and other places]. Osnabruück, Germany: Universitätsverlag Rasch.

Downloaded by [89.247.101.16] at 14:29 19 October 2013

Downloaded by [89.247.101.16] at 14:29 19 October 2013

———. 1998. *Ruderalvegetation: Ökologie und Ethnoökologie, Ästhetik und "Schutz"* [Ruderal vegetation: Ecology and ethno-ecology, aesthetics and "protection"]. Notizbuch 49 der Kasseler Schule. Kassel, Germany: Arbeitsgemeinschaft Freiraum und Vegetation.

Hauser, S. 2001. *Metamorphosen des Abfalls, Konzepte für alte Industrieareale* [Metamorphoses of waste, concepts for former industrial spaces]. Frankfurt, Germany: Campus.

Heynen, N., M. Kaïka, and E. Swyngedouw, eds. 2006. *In the nature of cities: Urban political ecology and the politics of urban metabolism*. London and New York: Routledge.

Hinchliffe, S., B. Kearns, M. Degen, and S. Whatmore. 2005. Urban wild things: A cosmopolitical experiment. *Environment and Planning D: Society and Space* 23:643–58.

Huyssen, A. 1997. The voids of Berlin. *Critical Inquiry* 24 (1): 57–81.

Jorgensen, A., and M. Tylecote. 2007. Ambivalent landscapes—Wilderness in the urban interstices. *Landscape Research* 32 (4): 443–62.

Jovet, P. 1940. Evolution des groupements rudéraux 'parisiens' [Evolution of Parisian ruderal assemblages]. *Bulletin de la Société Botanique de France* 87:305–12.

Kadas, G. 2006. Rare invertebrates colonising green roofs in London. *Urban Habitats* 4 (1): 66–86.

Keil, A. 2005. Use and perception of postindustrial urban landscapes in the Ruhr. In *Wild urban woodlands: New perspectives for urban forestry*, ed. I. Kowarik and S. Körner, 117–30. Berlin, Germany: Springer.

Keiller, P. 2010. *Robinson in ruins*, DVD. V. Redgrave, narr. London: British Film Institute.

Kowarik, I. 2010. *Biologische Invasionen: Neophyten und Neozoen in Mitteleuropa* [Biological invasions: Neophyten and Neozoen in central Europe]. 2nd ed. Stuttgart, Germany: Ulmer.

Kowarik, I., L. K. Fischer, I. Säumel, M. von der Lippe, F. Weber, and J. Westermann. 2011. Plants in urban settings: From patterns to mechanisms and ecosystem services. In *Perspectives in urban ecology: Ecosystems and interactions between humans and nature in the metropolis of Berlin*, ed. W. Endlicher, 135–66. Heidelberg, Germany: Springer.

Kühn, N. 2006. Intentions for the unintentional: Spontaneous vegetation as the basis for innovative planting design in urban areas. *Journal of Landscape Architecture (Autumn)*: 46–53.

Lachmund, J. 2003. Exploring the city of rubble: Botanical fieldwork in bombed cities in Germany after World War II. *Osiris* 18:234–54.

———. 2004. Mapping urban nature: Bio-ecological expertise and urban planning. In *Experts in science and society*, ed. E. Kurz-Milcke and G. Gigerenzer, 231–48. New York: Kluwer.

———. 2013. *Greening Berlin: The co-production of science, politics, and urban nature*. Cambridge, MA: MIT Press.

Lévesque, L. 1999. Montréal, l'informe urbanité des terrains vagues: Pour une gestion créatrice du mobilier urbain [Montréal, informal urbanity of terrains vagues: For a creative management of urban furniture]. *Les Annales de la Recherche Urbaine* 85:47–57.

Lizet, B. 2010. Du terrain vague à la friche paysagée [From terrain vague to landscaped wasteland]. *Ethnologie Française* 40 (4): 597–608.

Lizet, B., A.-E. Wolf, and J. Celecia, eds. 1997. *Sauvages dans la ville: Actes du colloque, organisé pur le centenaire de la naissance de Paul Jovet* [Wild in the city: Proceedings of a colloquium to mark the centenary of the birth of Paul Jovet]. Paris: JATBA/Publications scientifiques du MNHN.

Lorimer, J. 2007. Nonhuman charisma. *Environment and Planning D: Society and Space* 25:911–32.

———. 2008. Living roofs and brownfield wildlife: Towards a fluid biogeography of UK nature conservation. *Environment and Planning A* 40:2042–60.

Mabey, R. 1973. *The unofficial countryside*. London: Collins.

———. 2010. *Weeds*. London: Profile.

Marchand, Y., and R. Meffre. 2010. *The ruins of Detroit*. Göttingen, Germany: Steidl.

Marx, K. [1844] 1965. Feuerbach: Opposition of the materialist and idealist outlook. In *The German ideology*, ed. K. Marx and F. Engels, trans. W. Lough, 39–95. London: Lawrence and Wishart.

McCarthy, T. 1990. Private irony and public decency: Richard Rorty's new pragmatism. *Critical Inquiry* 16 (2): 355–70.

McKinney, M. 2006. Urbanisation as a major cause of biotic homogenisation. *Biological Conservation* 127:247–60.

Mellor, D., ed. 1987. *A paradise lost: The neo-romantic imagination in Britain 1935–1955*. London: Lund Humphries and Barbican Art Gallery.

Mellor, L. 2004. Words from the bombsites: Debris, modernism and literary salvage. *Critical Quarterly* 46 (4): 77–90.

Merleau-Ponty, M. [1945] 1962. *Phenomenology of perception*, trans. C. Smith. London and New York: Routledge.

———. [1957] 2003. *Nature: Course notes from the Collège de France*, compiled by D. Ségland, trans. R. Vallier. Evanston, IL: Northwestern University Press.

Müller, N. 2010. Most frequently occurring vascular plants and the role of non-native species in urban areas—A comparison of selected cities of the old and new worlds. In *Urban biodiversity and design*, ed. N. Müller, P. Werner, and J. G. Kelcey, 227–42. Hoboken, NJ: Wiley-Blackwell.

Muratet, A., N. Machon, F. Jiguet, J. Moret, and E. Porcher. 2007. The role of urban structures in the distribution of wasteland flora in the Greater Paris Area, France. *Ecosystems* 10:661–71.

Nohl, W. 2001. Sustainable landscape use and aesthetic perception—Preliminary reflections on future landscape aesthetics. *Landscape and Urban Planning* 54:223–37.

Pascal, B. 1647. *Expériences nouvelles touchant le vuide* [New experiments with the vacuum]. Paris: Pierre Margat.

Rebele, F. 1994. Urban ecology and special features of urban ecosystems. *Global Ecology and Biogeography Letters* 4 (6): 173–87.

Rees, R. 1975. The taste for mountain scenery. *History Today* 25:305–12.

Rink, D. 2009. Wilderness: The nature of urban shrinkage? *Nature and Culture* 4:275–92.

Rorty, R. 1979. *Philosophy and the mirror of nature*. Princeton, NJ: Princeton University Press.

Sadler, J., A. Bates, J. Hale, and P. James. 2010. Bringing cities alive: The importance of urban green spaces for people

and biodiversity. In *Urban ecology*, ed. K. J. Gaston, 230–61. Cambridge, UK: Cambridge University Press.

Saint-Laurent, D. 2000. Approches biogéographiques de la nature en ville: Parcs, espaces verts et friches [Biogeographical approaches to nature in the city: Parks, green spaces, and wastelands]. *Cahiers de Géographie du Québec* 44:147–66.

Saito, Y. 1998. The aesthetics of unscenic nature. *The Journal of Aesthetics and Art Criticism* 56 (2): 101–11.

Savard, J.-P., P. Clergeau, and G. Mennechez. 2000. Biodiversity concepts and urban ecosystems. *Landscape and Urban Planning* 48:131–42.

Schadek, U., B. Strauss, R. Biedermann, and M. Kleyer. 2009. Plant species richness, vegetation structure and soil resources of urban brownfield sites linked to successional age. *Urban Ecosystems* 12:115–26.

Sebald, W. G. [1999] 2004. *The natural history of destruction*. New York: Modern Library.

Sukopp, H. 1990. *Stadtökologie* [Urban ecology]. Berlin, Germany: Dietrich Reimer.

———. 2002 On the early history of urban ecology in Europe. *Preslia, Praha* 74:373–93.

Sukopp, H., H. Blume, and W. Kunick. 1979. The soil, flora and vegetation of Berlin's waste lands. In *Nature in cities: The natural environment in the design and development of urban green space*, ed. I. Laurie, 115–34. Chichester, UK: Wiley.

Takacs, D. 1996. *The idea of biodiversity: Philosophies of paradise*. Baltimore, MD: The Johns Hopkins University Press.

Till, K. E. 2011. Interim use at a former death strip? Art, politics and urbanism at Skulpturenpark Berlin Zentrum. In *After the Wall: Berlin in Germany and Europe*, ed. M. Silberman, 99–122. Basingstoke, UK: Palgrave Macmillan.

Tournefort, P. 1698. *Histoire des plantes qui naissent aux environs de Paris, avec leur usage dans la Medecine* [History of plants that occur near Paris, with their use in medicine]. Paris: Paris de l'imprimaire Royale.

Trepl, L. 1996. City and ecology. *Capitalism, Nature, Socialism* 7 (2): 85–94.

Valverde, M. 2008. The ethic of diversity: Local law and the negotiation of urban norms. *Law & Social Inquiry* 33 (4): 895–923.

Vaquin, J.-B. 2006. *Atlas de la nature à Paris* [Nature atlas of Paris]. Paris: Atelier Parisien d'urbanisme/Le Passage.

Vidler, A. 2000. *Warped space: Art, architecture, and anxiety in modern culture*. Cambridge, MA: MIT Press.

Walker, P. 2005. Political ecology: Where is the ecology? *Progress in Human Geography* 29 (1): 73–82.

Waterton, C. 2002. From field to fantasy: Clarifying nature, constructing Europe. *Social Studies of Science* 32:177–204.

Wilson, E. 1992. The invisible flâneur. *New Left Review* 191:90–110.

Wittig, R. 2010. Biodiversity of urban-industrial areas and its evaluation: A critical review. In *Urban biodiversity and design*, ed. N. Müller, P. Werner, and J. Kelcey, 37–55. Oxford, UK: Blackwell.

Wolch, J. 2002. Anima urbis. *Progress in Human Geography* 26:721–42.

Woudstra, J. 2008. The eco-cathedral: Louis Le Roy's expression of a free landscape architecture. *Die Gartenkunst* 20 (1): 185–202.

Zerbe, S., U. Maurer, S. Schmitz, and H. Sukopp. 2003. Biodiversity in Berlin and its potential for nature conservation. *Landscape and Urban Planning* 62:139–48.

Zimmerer, K. S. 1994. Human geography and the "new ecology": The prospect and promise of integration. *Annals of the Association of American Geographers* 84 (1):108–25.

———. 2000 The reworking of conservation geographies: Non-equilibrium landscapes and nature-society hybrids. *Annals of the Association of American Geographers* 90 (2): 356–69.

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