Chapter 6

Landscape and Infrastructure in the Late-Modern Metropolis

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Introduction

If we extend our understanding of landscape to encompass the interconnectedness of space and of infrastructure to encompass the experience of space it is clear that these two domains are closely related. The spaces that have emerged from the intersection between landscape and infrastructure range from designed spaces such as parks or gardens to an array of incidental spaces that co-exist alongside utilitarian structures such as canals, power plants, and railroad tracks. Added to this range of material intersections we also encounter a diversity of imaginary or virtual explorations of urban space. Both landscape and infrastructure are now the focus of a renewed wave of urban analysis marked by themes such as the adaptive capacity of cities to climate change, the application of ecological ideas to urban design, or the reuse of former industrial spaces. Yet much of this emerging literature lacks historical perspective: an overriding emphasis on "policy relevance" has ironically precluded many possibilities for critically rethinking the role of landscape and infrastructure in the contemporary city.

The term "landscape," derived from the sixteenth-century Dutch word *landschap*, was originally used for the demarcation of land but has subsequently become associated with a way of seeing space from a distance. This sense of landscape as a visual panorama – developing initially through landscape art – has subsequently expanded and diversified in the modern era to include a variety of urban and industrial spaces and their representations in art, cinema, and literature. In analytical terms there has been a shift from an emphasis on the relationship between landscape and the idealized human subject – a genre closely associated with nineteenth-century romanticism – to a more nuanced and dynamic interpretation of the precise contexts within which landscapes are produced and experienced.[1]

The term "infrastructure" has been used since the 1920s to refer to the basic physical and organizational structures such as roads, power lines, and water mains needed for the material and organizational aspects of modernity. In analytical terms the study of infrastructure ranges from technical and engineering challenges facing the construction, maintenance, and functional characteristics of vital networks to neo-Weberian insights into the organizational capacities and legitimation challenges facing the modern state. More recently, the study of infrastructure has been extended to include multi-dimensional analysis of the horizontal and vertical composition of space, the interrelationships between visible and invisible domains, and the transition from integrated modes of service provision to more socially and spatially differentiated systems.[2]

Excavations

The use of stratigraphic metaphors depicts urban space as a succession of layers or traces. The presence of Victorian suburbs in London or Wilhelmine-era apartment blocks in Berlin, for example, attests to characteristic phases in city building. Yet the cultural and ideological contexts within which these urban forms emerged is harder to discern and provides a shadowy corollary to the physical structures themselves. At one level, therefore, the outward appearance of cities can clearly be related to historical developments such as legislative or political efforts to modify processes of capitalist urbanization and in some cases facilitate the reorganization of urban space itself.

Contemporary turbulence in the global economy invites a reassessment of the role of economic factors in the development of cities. The influential writings of Aldo Rossi, for example, emphasize the centrality of political and economic history to urban analysis and the complex dialogue between past and present. Drawing extensively on the ideas of Hans Bernoulli, Maurice Halbwachs, and Werner Hegemann, Rossi turns our attention towards "urban artefacts" and the degree to which urban form reflects incipient trends that may be realized under precise historical circumstances. He shows how the reconstruction of nineteenth-century Berlin, Milan, and other cities emerged through a combination of changes in land ownership and new patterns of political power.[3]

Urban form can be interpreted as an accumulation of the past viewed through the concerns of the present. For the Durkheimian sociologist Maurice Halbwachs, social beliefs have a "double character" derived from this interplay between past and present. "They are collective traditions or recollections," writes Halbwachs, "but they are also ideas or conventions that result from a knowledge of the present."[4] How are we to make sense of the role of memory in urban culture? Halbwachs makes a distinction between autobiographical memory and historical memory: the first is directly experienced whereas the second reaches the individual only through written records, photographs, festivals, or other forms of commemoration.

Urban landscapes present an accumulation of collective memory interspersed with the private realm of individual experience. In W. G. Sebald's novel *Austerlitz*, for example, we follow the main protagonist through a series of European cities as we grapple with the problem of memory. We enter a world where "everything is

lapsing into oblivion with every extinguished life, how the world is, as it were, draining itself, in that the history of countless places and objects which themselves have no power of memory is never heard, never described or passed on."[5] Sebald poses the dilemma that no one individual can possibly grasp the full human significance of the objects or spaces that surround them; the emotional space of the city must remain largely impenetrable beyond the limited scope of our experience. We are constantly encountering things that we were not looking for so that urban landscapes take on a serendipitous quality of unexpected connections. Arriving in Antwerp, for example, the central protagonist of *Austerlitz* is transfixed by the bizarre architectural eclecticism of Louis Delacenserie's design for the city's main railway station, completed in 1905. The mix of colonial, Byzantine, and Renaissance symbols induces a kind of profound unease or historical vertigo that provokes associations between his fragile psychological state and hidden dimensions to Belgian history.[6]

The problem of memory, sentience, and the surfeit of information is explored in Mamoru Oshii's animation *Ghost in the Shell* [*Kōkaku Kidōtai*] (1995) where we are told that the "advent of computers and the subsequent accumulation of incalculable data has given rise to a new system of memory and thought." These cyborgian encounters with urban space unsettle distinctions between "living" and "non-living" through the autonomous and self-organizational capacities of technical networks. We are confronted by a series of tensions between technophile readings of the emerging body–technology nexus and more skeptical and critical accounts that question the social and political implications of the enhanced role of technological networks in everyday life.[7]

The rise of the networked city marks one of the critical technological mediations of urban space; an emerging dynamic that binds the human body to the city and at the same time reorganizes distinctions between private and public space. The gradual integration of networks presents one facet of the evolving relationship between urban infrastructure and the public realm. The term "public realm," which is repeatedly invoked in relation to both landscape and infrastructure, is rooted in the evolving relationship between politics and the urban arena.[8] The rationalization of space reflects in part the desire of the modern state to acquire some degree of political legitimacy but also the need to facilitate capitalist urbanization itself as cities anxiously jostle for competitive advantage. The emergence of legislative and institutional innovations such as eminent domain or new forms of municipal finance enabled the building of large-scale infrastructure projects and marked a radical extension of the coordinating capacities of the state.[9] Established relationships between technological networks, urban form, and the modern state are now undergoing a further phase of adjustment in response to the neoliberal impetus towards spatial disaggregation and emerging security discourses of resilience and control.

Whilst technological networks in the global North have been marked by a high degree of organizational and technical integration – notwithstanding more recent counter-trends observable in many cities – they are nonetheless structurally related to the more fragmentary patterns and relationships that have characterized the global South through both colonial and postcolonial phases of development. It makes little sense to regard dysfunctional infrastructure networks in terms of their

regional context alone: nineteenth-century Bombay and Glasgow, for example, form part of a larger urbanization process. Current debates over the "adaptive capacity" of cities to flooding and other threats pose questions regarding the global interconnections between capital and investment: just as the threat of disease exposed the political dynamics of the industrial city, we are now encountering new intersections between "landscapes of risk" and differential capacities to respond.

Ideologies

Contemporary cities have generated a wealth of cultural representations often reworking long-standing themes such as alienation, questions of identity, or the use of multiple narrative structures to simultaneously uncover different facets of urban life. In the writing of Paul Auster, Don DeLillo, or Jonathan Raban, for example, the city often takes the form of a code to be deciphered. In DeLillo's *Underworld* (1997) it is waste that reveals the city in its full complexity and abject materiality: a garbage dump is described as "medieval-modern, a city of high-rise garbage, the hell reek of every perishable object ever thrown together."[10] Similarly, in films such as Robert Altman's *Short Cuts* (1993) or Alejandro González Iñárritu's *Amores Perros* (2000) different facets of the city are revealed through the dramatic intersection between ostensibly unconnected worlds. In Iñárritu's Mexico City a car crash creates a moment of violent collision between wealth and poverty whereas in Altman's Los Angeles it is an earth tremor that momentarily connects the city.

Among the most acute observers of late-modern landscapes is the writer J. G. Ballard who is fascinated by seemingly mundane spaces such as airports or shopping centers. In *Concrete Island* (1973) Ballard explores the consequences of a bizarre accident in which a bleary-eyed driver is inadvertently hurled from an elevated highway onto a patch of waste ground surrounded on all sides by busy roads from which he cannot escape:

> Gasping at the night air, he no longer tried to control himself. He leaned helplessly against the embankment, hands deep in the cold soil. A faint dew already covered his torn suit, chilling his skin. He looked up at the steep slope, for a moment laughing aloud at himself.[11]
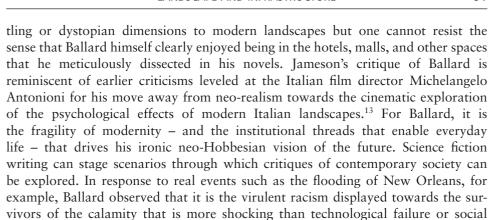
Yet Ballard's repeated focus on middle-class anxiety has aroused the suspicion of neo-Marxian critics such as Fredric Jameson:

> Let the Wagnerian and Spenglerian world-dissolutions of J. G. Ballard stand as exemplary illustrations of the ways in which the imagination of a dying class – in this case the cancelled future of a vanished colonial and imaginary destiny – seeks to intoxicate itself with images of death that range from the destruction of the world by fire, water and ice to lengthening sleep or the berserk orgies of high-rise buildings or superhighways reverting to barbarism.[12]

What does Jameson's reading of Ballard tell us about the ideological parameters of late modernity? The adjective "Ballardian" is now widely used to refer to unset-

tling or dystopian dimensions to modern landscapes but one cannot resist the sense that Ballard himself clearly enjoyed being in the hotels, malls, and other spaces that he meticulously dissected in his novels. Jameson's critique of Ballard is reminiscent of earlier criticisms leveled at the Italian film director Michelangelo Antonioni for his move away from neo-realism towards the cinematic exploration of the psychological effects of modern Italian landscapes.[13] For Ballard, it is the fragility of modernity – and the institutional threads that enable everyday life – that drives his ironic neo-Hobbesian vision of the future. Science fiction writing can stage scenarios through which critiques of contemporary society can be explored. In response to real events such as the flooding of New Orleans, for example, Ballard observed that it is the virulent racism displayed towards the survivors of the calamity that is more shocking than technological failure or social breakdown.[14]

What, if anything, is distinctive about the contemporary urban landscapes that Ballard, along with other artists, writers or film-makers, has attempted to respond to? If we try to characterize contemporary cities the term "postindustrial" is potentially misleading since various types of industrial cities are still emerging, especially in regions experiencing very high rates of economic growth, whilst some of the fastest growing cities of the global South were never significantly based on industrial production but owe their size to other factors such as trade or accelerated rates of migration. At a global level we encounter a striking contrast between fast-growing cities where every available space is used and the phenomenon of shrinking cities where economic decline and depopulation have left an oversupply of housing and infrastructure. In parts of east Germany, for example, these empty or emptying spaces are so expensive to maintain that whole districts have been scheduled for demolition.[15] Similarly, in Russia, Ukraine, and other parts of the former Soviet Union, defunct urban-industrial complexes have also experienced widespread abandonment.[16]

Where cities are undergoing processes of reconstruction landscapes are often at the forefront of political conflict over urban iconography. These disputes range from "heritage" based attempts to recreate an imaginary past to "nativist" preoccupations with the restoration of ecological assemblages that might correspond with previous periods of environmental history or landscape design.[17] At the heart of these disputes are rival interpretations of historical "authenticity" and resistance towards social and cultural change. Recent objections to non-Christian religious symbols in parts of Europe, for example, form part of a wider ideological dispute over social and cultural diversity.[18] We can find historical parallels with the emergence of new forms of nationalism in the twentieth century culminating in the forcible erasure of Jewish culture through much of Europe so that the heterogeneous character of many European cities was destroyed. The historian Mark Mazower shows how the city of Salonica, now Thessaloniki, lost a fifth of its population in a matter of weeks during 1943 as the entire Jewish population were sent to Auschwitz: a city which had enjoyed a prenationalist medley of Christian, Muslim, and Jewish culture for centuries was, during the twentieth century, violently and irrevocably transformed.[19]

An uncertainty surrounding the relationship between landscapes and the historical present pervades many cultural explorations of cities in cinema, photography,

and other art forms. The neo-romanticist fascination with ruins or abandoned spaces has featured prominently in European cinema and reveals a lineage between early explorations in Italian neo-realism such as Roberto Rossellini's *Viaggio in Italia* [*Journey to Italy*] (1953) to more recent examples in Andrei Tarkovsky's *Stalker* (1979) or Wim Wenders's *Der Himmel über Berlin* [*Wings of Desire*] (1987). These cinematic explorations of space and memory also extend to the global South through films such as Jia Zhang-ke's *Sanxia hoaren* [*Still Life*] (2006) and *Wuyong* [*Useless*] (2007). In the cinema of Zhang-ke the unsettling characteristics of landscape serve as a subtle critique of the political impetus towards accelerated modernity and urbanization: in the case of *Sanxia hoaren* it is the eerie landscapes of abandoned towns to be flooded by the construction of dams, whilst the documentary *Wuyong* culminates in a Paris fashion show by a little-known designer of women's clothes Ma Ke. Ma Ke's paradoxical arrival in the rarified world of *haute couture* is contrasted with the marginal zones within which Chinese workers undertake the mass production of clothes for export.

The visual saturation of urban space by new advances in materials science and digital technologies invites a re-examination of landscape aesthetics. Of particular interest is the emergence of neo-Kantian readings of urban and industrial landscapes where an emphasis on the "technological sublime" has developed as part of a wider attempt to expand our understanding of landscapes that appear to fall outside of, or in some cases contradict, established genres of interpretation.[20] The sublime has historically been used primarily in relation to the aesthetic experience of nature but the concept has been gradually extended to encompass the scale of human artifacts in the landscape such as machines or vast industrial installations. The application of the sublime to artificial or manufactured landscapes has become linked with the "technological sublime" yet the application of the term has been mainly restricted to specific national contexts or focused on large-scale transformations such as opencast mining or the construction of dams.[21]

Another aesthetic concept that has diffused through recent urban discourse is the "pastoral." Unlike the sublime, and its relation to an "interior landscape" of cognitive disorientation, the pastoral originates in cultural depictions of idealized rural settings. The pastoral genre has been closely associated with attempts to portray the lives of the poor – principally peasants and agricultural laborers – to social and economic elites. An early critique of the pastoral is provided by Raymond Williams, who distinguishes between the classical pastoral of bucolic harmony and the existence of "counter pastoral" representations of landscape wherein the relationship between the experience and representation of material landscapes is radically reconfigured to allow the authentic voices of those who work or produce landscapes to be acknowledged.[22] More recently, the idea of the pastoral has been extended to urban and industrial landscapes in three main ways: first, an "urban pastoral" has emerged out of "a degraded form of the *rural* pastoral" produced by cultural parodies of working-class life in a context of art-led processes of gentrification;[23] second, we find connections between the representation of postindustrial landscapes that combine the aesthetic qualities of the sublime with a new kind of synthesis between nature and culture in the late-modern metropolis;[24] and third, the ideological dimensions to the urban pastoral can be extended to touristic settings such as colonial

appropriations of idealized landscapes.[25] In all these cases it is the disjuncture between the production, representation, and consumption of landscapes that is of interest. The presence of the "urban pastoral" is not restricted to the global North but extends to luxury developments in Buenos Aires, Mumbai, Shanghai, and a host of other cities that use the pastoral idyll as a means to create elite refugia that betoken rarefied forms of social and cultural separation. The idea of the urban pastoral helps to elucidate the cultural dimensions to global gentrification in new ways and at same time offers points of conceptual dialogue between neo-Marxian political economy and the latest developments in architecture and urban design.

The challenge to nature-based metaphors has been an integral element in post-positivist strands of urban analysis since the early 1970s yet there has been a recent resurgence of "scientism" in urban thought.[26] A welter of nature-based metaphors ranging from neo-Malthusian concerns with urban growth to new bio-physical conceptions of urban space are filtering through contemporary urban discourse. The current upsurge of nature-based metaphors deployed in urban design can be criticized as a regression towards pre-Kantian forms of mimetic adaptation and a loss of architectural nerve.[27] Equally, the expanding role of nature in urban design – especially for quasi-public spaces such as hotel atria, storefronts, and other features – reveals how artful arrangements of nature can serve as little more than elaborate architectural masks.[28] These shifts in the metaphorical reading of urban space reflect several interconnected developments: the increasing influence of biomorphic design facilitated by the growing sophistication of modeling techniques; the diffusion of ecological sensibilities – however ill-defined– through urban discourse; and the impetus towards "ecological modernization" and various attempts to subsume cities within the parameters of an ecological utilitarianism.

Conclusions

A critical engagement with landscape and infrastructure reveals our own subjectivities: we are not dispassionate observers but are actively engaged in the creation of meaning through thinking, talking, and writing. The meaning of urban space is always in a state of flux but its interpretation is not beyond our grasp: the questions raised in this essay are not a prelude to neo-romanticist mystification but rather an invitation to engage with the cultural and material aspects of urban experience through a renewed theoretical synthesis. The combination of landscape with infrastructure necessarily brings questions of aesthetics and cultural representation into our analytical frame and immediately unsettles a narrowly social scientific approach to the study of cities.

The material and conceptual intersections between landscape and infrastructure pose a range of issues that transcend disciplinary boundaries. Unresolved tensions include the status of the human subject in the contemporary city; the need to navigate between the realm of individual experience and the accumulation of collective memory; and the ideological uses of nature under contemporary processes of capitalist urbanization. Above all, these themes remain highly political: the choice of specific concepts or metaphors about urban space holds implications for acting as well as thinking.

Notes

1   The period since the mid-1980s has seen a resurgence of landscape as a focus for inter-disciplinary study. See, for example, Denis Cosgrove, *Social Formation and Symbolic Landscape*. Madison: University of Wisconsin Press, 1998 (1984); Stephen Daniels, Marxism, culture, and the duplicity of landscape. In Richard Peet and Nigel Thrift (eds.), *New Models in Geography*. London: Unwin Hyman, 1989, 196–220; W. J. T. Mitchell (ed.), *Landscape and Power*. Chicago: Chicago University Press, 2002; Antoine Picon, Anxious landscapes: from the ruin to rust. *Grey Room* 1 (2000): 64–83; and Simon Schama, *Landscape and Memory*. New York: Alfred A. Knopf, 1995.

2   New approaches to the study of urban infrastructure include Sabine Barles, *La ville délétère: médecins et ingénieurs dans l'espace urbain XVIIIe–XIXe siècle*. Seyssel: Champ Vallon, 1999; Matthew Gandy, The Paris sewers and the rationalization of urban space. *Transactions of the Institute of British Geographers* 24 (1) (1999): 23–44; Stephen Graham and Simon Marvin, *Splintering Urbanism*. London and New York: Routledge, 2001; Elizabeth Heidenreich, *Fliessräume: Die Vernetzung von Natur, Raum und Gesellschaft seit dem 19. Jahrhundert*. Frankfurt: Campus, 2004; Maria Kaïka and Erik Swyngedouw, Fetishising the modern city: the phantasmagoria of urban technological networks. *International Journal of Urban and Regional Research* 24 (2000): 120–38; Michelle Kooy and Karen Bakker, Technologies of government: constituting subjectivities, spaces, and infrastructures in colonial and contemporary Jakarta. *International Journal of Urban and Regional Research* 32 (2008): 375–91; Colin McFarlane, Sanitation in Mumbai's informal settlements: state, "slum," and infrastructure. *Environment and Planning A* 40 (2008): 88–107; Jochen Monstadt, Conceptualizing the political ecology of urban infrastructures: insights from technology and urban studies. *Environment and Planning A* 41 (2009): 1924–42; and Rosalind Williams, *Notes on the Underground: An Essay on Technology, Society and the Imagination*. 2nd edn. Cambridge, MA: MIT Press, 2008.

3   Aldo Rossi, *The Architecture of the City*, trans. Diane Ghirardo and Joan Ockman. Cambridge, MA: MIT Press, 1982 (1966). See also Manfredo Tafuri, *Architecture and Utopia: Design and Capitalist Development*, trans. Barbara Luigia La Penta. Cambridge, MA: MIT Press, 1976 (1973).

4   Maurice Halbwachs, *On Collective Memory*, trans. Lewis Coser. Chicago: University of Chicago Press, 1992 (1925/1941), 188. See also Andreas Huyssen, *Present Pasts: Urban Palimpsests and the Politics of Memory*. Stanford, CA: Stanford University Press, 2003.

5   W. G. Sebald, *Austerlitz*, trans. Anthea Bell. London: Penguin, 2001, 30–1.

6   Sebald further develops this exploration of Belgian colonial history in *The Rings of Saturn*, trans. Michael Hulse. London: Harvill, 1998 (1995).

7   See Matthew Gandy, Cyborg urbanization: complexity and monstrosity in the contemporary city. *International Journal of Urban and Regional Research* 29 (2005): 26–49 and Antoine Picon, *La ville territoire des cyborgs*. Paris: Les Éditions de l'imprimeur, 1998.

8   See, for example, J. Clarke, Dissolving the public realm: the logic and limits of neoliberalism. *Journal of Social Policy* 33 (2004): 27–48; Sudipta Kaviraj, Filth and the public sphere: concepts and practices about space in Calcutta. *Public Culture* 101 (1997): 83–113; and L. Lofland, *The Public Realm: Exploring the City's Quintessential Social Territory*. New York: Aldine de Gruyter, 1998.

9   See Susanne Frank and Matthew Gandy (eds.), *Hydropolis: Wasser und die Stadt der Moderne*. Frankfurt: Campus, 2006, 41–56; Matthew Gandy, Landscapes of disaster: water, poverty and urban fragmentation in Mumbai. *Environment and Planning A* 40 (2008): 108–30.

10 Don DeLillo, *Underworld*. London: Picador, 1997, 104.

11 J. G. Ballard, *Concrete Island*. London: Jonathan Cape, 1973, 24.

12 Fredric Jameson, Progress versus utopia: or, can we imagine future? In *Archaeologies of the Future*. London: Verso, 2005 (1982), 288.

13 Matthew Gandy, Landscapes of deliquescence in Michelangelo Antonioni's *Red Desert. Transactions of the Institute of British Geographers* 19 (2003): 218–37.

14 J. G. Ballard, Gewahlt ohne Ende. Interview with Evelyn Finger in *Die Zeit* (September 8, 2005).

15 Matthias Koziol, Dismantling infrastructure. In Philipp Oswalt (ed.), *Shrinking Cities*. Ostfildern: Hatje Cantz, 2006, 76–9.

16 Caroline Humphrey, Rethinking infrastructure: Siberian cities and the great freeze of January 2001. In Jane Schneider and Ida Susser (eds.), *Wounded Cities: Destruction and Reconstruction in a Globalized World*. Oxford and New York: Berg, 2003, 91–107.

17 See, for example, Gert Gröning, Ideological aspects of nature garden concepts in late twentieth-century Germany. In Joachim Wolshke-Bulmahn (ed.), *Nature and Ideology: Natural Garden Design in the Twentieth Century*. Washington, DC: Dumbarton Oaks, 1997, 221–48; and Stuart Hall, Creolization, diaspora, and hybridity in the context of globalization. In O. Enwezor, Carlos Basualdo, Ute Meta Bauer, Susanne Ghez, Sarat Maharaj, Mark Nash, and Octavio Zaya (eds.), *Documenta 11_Platform 3. Créolité and creolization*. Ostfildern-Ruit: Hatje Cantz, 2003, 185–98.

18 On the background to the 2009 Swiss referendum see Haig Simonian, Mosque vote threatens to isolate Swiss. *Financial Times* (November 23, 2009).

19 Mark Mazower, *Salonica: City of Ghosts*. London: HarperCollins, 2004.

20 See, for example, Scott Bukatman, The artificial infinite: on special effects and the sublime. In Linda Cooke and Peter Wollen (eds.), *Visual Display: Culture beyond Appearances*. Seattle, WA: Bay Press, 1995, 255–89; Paul Crowther, *Les immatériaux* and the postmodern sublime. In A. Benjamin (ed.), *Judging Lyotard*. London and New York: Routledge, 1992, 192–205; Eugène Freyssinet, On the sublime. *Arq: Architectural Research Quarterly* 5 (2001): 249–53; and George Hartley, *The Abyss of Representation: Marxism and the Postmodern Sublime*. Durham, NC: Duke University Press, 2003.

21 See, for example, David Nye, *American Technological Sublime*. Cambridge, MA: MIT Press, 1994; and Lori Pauli (ed.), *Manufactured Landscapes: The Photographs of Edward Burtynsky*. New Haven, CT: Yale University Press, 2003.

22 Raymond Williams, *The Country and the City*. Oxford: Oxford University Press, 1973.

23 Julian Stallabrass, *High Art Lite*. London and New York: Verso, 1999, 142.

24 See, for example, Vittoria DiPalma, Blurs, blots and clouds: architecture and the dissolution of surface. *AA Files* 54 (2006): 24–35; and Sandro Marpillero, Art as landscape architecture. *Lotus* 128 (2006): 64–75.

25 This argument is developed by Eyal Weizman in relation to occupied territories in Palestine. See Eyal Weizman, The politics of verticality: the West Bank as an architectural construction. In Klaus Biesenbach, Anselm Franke, Rafi Segal, and Eyal Weizman (eds.), *Territories: Islands, Camps and Other States of Utopia*. Berlin: KW Institute for Contemporary Art, 2003, 64–118.

26 Examples include Gunther Feuerstein, *Biomorphic Architecture*. Stuttgart: Axel Menges, 2002; Michael Hensel and Achim Menges (eds.), *Morpho-ecologies*. London: Architectural Press, 2006; Francesco Repishti, Green architecture. Oltre la metafora. *Lotus* 135 (August 2008): 34–41.

27 See Matteo Vercelloni, Mimesis, design and nature. *Lotus* 135 (August 2008): 86–95.

28 See Owen Hatherley, Living façades: green urbanism and the politics of urban offsetting. Monu (August 2009), 32–41, and Repishti, Green architecture.