

GREEN PLEASURES

SUSTAINABLE CITIES AND THE SENSES

At first glance “sustainability” and “pleasure” seem at odds. “Green” practices are commonly thought to involve an almost puritanical restriction of pleasures: shivering in frosty interiors to save on energy consumption, forgoing exotic foods in favor of homegrown staples, or walking weary miles to work rather than riding in comfort in a car. Surely “green” living describes an *ascetic* rather than *aesthetic* lifestyle. Beyond the satisfaction of feeling virtuous, what pleasures, what sensory enjoyments might living in a sustainable city offer?

Potentially, a great many more than we currently enjoy. Modern urban life, in fact, can be said to have deprived us of many traditional sensory pleasures at the same time as it has inflicted on us many new sensory displeasures. The early-19th-century utopian philosopher Charles Fourier wrote of what he called the “sensory ills of civilization”: “The din of the trades...the sight of hanging rags, of the dirty dwellings...the stifling smell of the drains...painfully affect the sight, hearing, and smell.”¹ Such unpleasant sensations had not been unknown to city dwellers of earlier periods, but in the 18th and 19th centuries they became greatly intensified by the immense growth of urban populations and the depletion of urban green spaces.

The increasing industrialization and mechanization of the city in the 20th century created a new set of urban sensations. Significantly, while a list of noises compiled in 19th-century New York centered on sounds produced by peddlers, street musicians, animals, and horse-drawn vehicles, by 1925 the dominant noises of New York were said to come from motorcars, subway trains, drills, and other mechanical sources.² It seems that we must

pay for the physical comforts and convenience provided by modern technology with a good deal of sensory displeasure. What is more, the sonic, chemical, and visual effluvia of the city are also harmful to our physical well-being: Noise pollution contributes to stress as well as to hearing loss, smog harms our bodies and impairs our sense of smell, and excessive exposure to artificial light may contribute to a range of health problems.³

Whether deliberately planned as such or not, cities are inevitably “sensescapes”—landscapes of sounds and sights, smells and textures, and the flavors of its characteristic foods. As we rethink urban design within a context of ecological sustainability, we need to look for urban models that can fruitfully sustain our sensory lives. Indeed, perhaps the best way to encourage people to commit themselves to new modes of urban existence is by engaging them through pleasurable sensory experiences: green pleasures, rediscovered and reimagined within a revitalized cityscape.

Consider a scene common to many urban centers: a dingy street lined with uninviting buildings, jammed with cars, noisy with honking horns, reeking of exhaust, and offering little reason or opportunity for passers-by to linger. Compare this scene with that presented by the Rua das Flores in Curitiba, Brazil. Rua das Flores was a typical traffic-congested downtown street until, in the 1970s, it was transformed into a pedestrian mall. The street’s monotonous stretch of asphalt was replaced with cobblestones and enlivened by flowers, its historic buildings were renovated, and its cafés and kiosks were opened. Vehicular traffic was reduced within the city by an efficient, low-cost system of public transportation.



Paul Gustave Doré and Blanchard Jerrold, *A City Thoroughfare*, from *London: A Pilgrimage*, 1872. © Image Asset Management Ltd./Superstock



Top: Traffic jam, NYC. © Carthesian
 Bottom: Rua das Flores, Curitiba, Brazil.

Opposite: Painting by a master from the Upper Rhine, ca. 1420, illustrating the tactile intimacy of medieval life.

These measures have transformed urban life: Where cars once dominated, flowers bloom, people relax on benches, birds are audible, street artists perform, and children play. Despite initial attempts by certain disaffected groups to reclaim the city core for cars, the public response has been enthusiastic. A “greener” street has turned out to be a more pleasurable street.⁴

While good sensory design is not always the result of conscious planning, it would be helpful to have certain guidelines when one is attempting to create an aesthetically pleasing sustainable city. I propose that the following serve as basic principles: First, that the widespread privileging of vision in modern urban life be tempered by an increased sensitivity to the nonvisual senses, to the “invisible city.” Second, that an integrated diversity of sensory stimuli should generally be preferred to a tedious uniformity. Third, that the sensory design of a community be rooted in local cultural traditions and ecological systems. Fourth, that any program for the development of a green aesthetics be guided by an ideal of working in cooperation with nature and be grounded in social justice and compassion.

The urban sensescape

The city as sensescape has been the subject of many recent works and even one museum exhibition (*Sense of the City*, held at the Canadian Centre for Architecture in 2005).⁵ A recurrent theme in studies of the sensory profile of modern cities is an emphasis on the visual. With few exceptions, sonic, tactile, and olfactory qualities are ignored in contemporary urban and architectural designs, while visual effects such as monumental height or striking appearance are celebrated. This is in keeping with the general rise in cultural importance of sight in modernity. Through long-standing cultural associations, sight has functioned as the sense of domination, detachment, display, and cleanliness (in contrast to the more “impure” sense of touch). These are all values highly esteemed in modernity and emphasized in the urban experience: the surveillance of well-lit city streets, the dominating and detached view from skyscrapers, the visual spectacle of the cityscape, the clean lines of modern buildings and paved streets.⁶

As has become obvious, however, these predominantly visual values have not served us well, as individuals, societies, or inhabitants of Earth. Domination leads to exploitation, detachment to disengagement, and conspicuous display to copious waste. Even the clean look of the modern city with its subterranean sewers, its electrical energy, its sleek buildings, its shiny cars, and its



synthetic products has turned out to simply be a mask for immense waste. We are dismayed to learn that, in the end, dirt is “cleaner” than discarded plastic.

If this state of affairs has been partially brought about by overemphasis on the visual, how might we counter it through the elaboration of alternative sensory paradigms? In Fourier’s utopian project, taste and touch were given priority over sight.⁷ A taste-based paradigm for sustainable living has recently been proposed by the Slow Food movement. According to this model, the promotion and sharing of local foods (as seen, for example, in the creation of the University of Gastronomic Sciences and an “Ark of Taste” to preserve traditional foods) provides the basis for recreating the city as a nurturing, small-scale, and cooperative environment—the *Cittàslow*.⁸

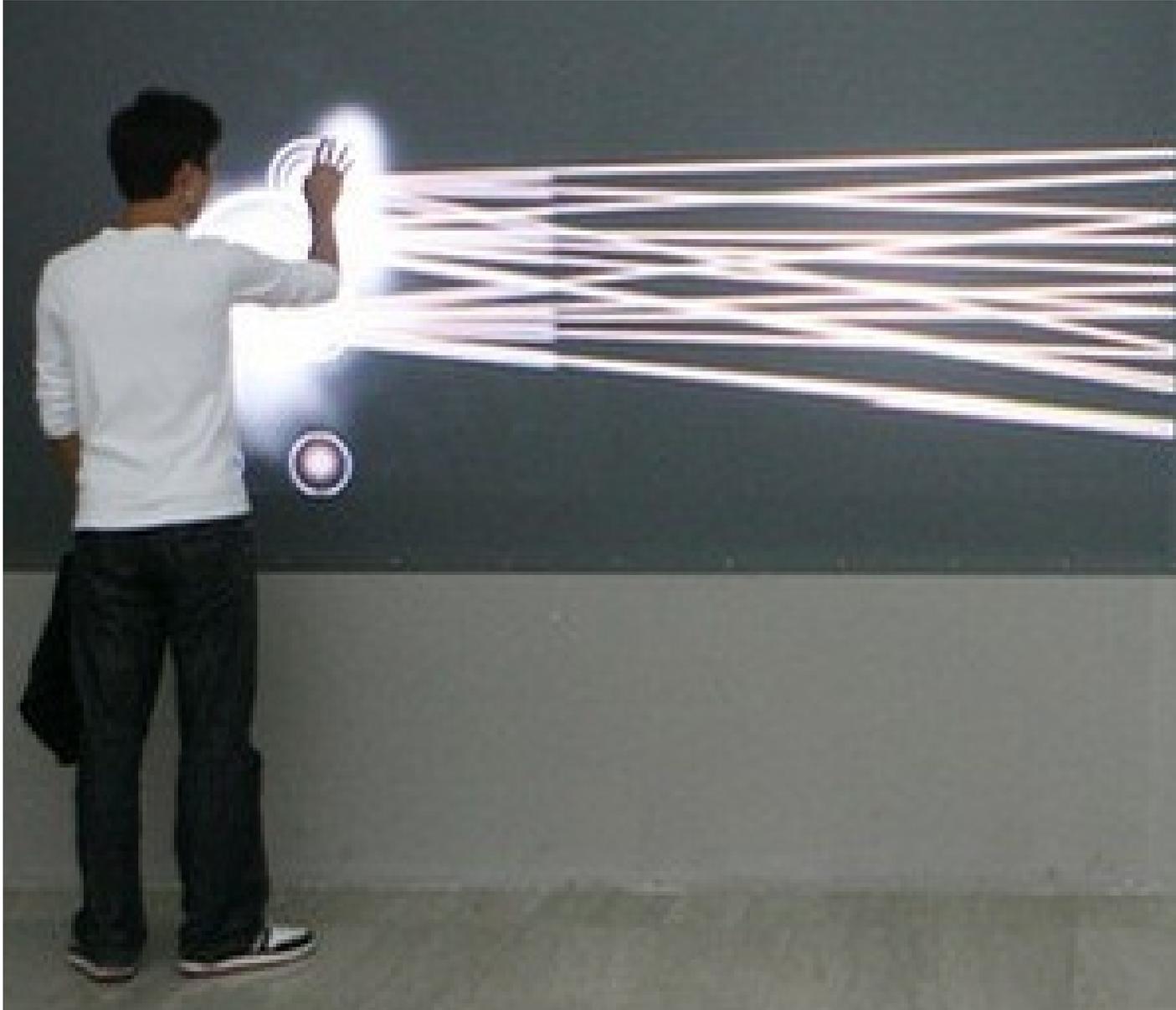
Members of the Slow Food movement would likely approve of Fourier’s celebration of “gastrosophy,” or culinary wisdom, as the noblest science. Indeed, the movement’s 2008 hosting of a pseudo “food Olympics” with flag-bearing representatives of countries around the world recalls Fourier’s notion that in a utopian future international culinary competitions would replace political strife and wars.⁹

I am wary of this food-based model, attractive though it may seem. Critics of the Slow Food movement

have asserted that it promotes elitist standards of taste by characterizing certain foods as socially superior to others.¹⁰ A more crucial concern, as I see it, is the distinction the movement draws between consumer and consumed, into which latter class potentially go all the animals and plants of the world. Once the natural world is perceived as food, it becomes symbolically dead. We see this in the language of Slow Food advocates when they use expressions such as “locally reared meat.”¹¹ The distinction between consumers and consumed, perhaps inevitable in any taste-based social model, is not helpful in dealing with larger issues of environmental exploitation.

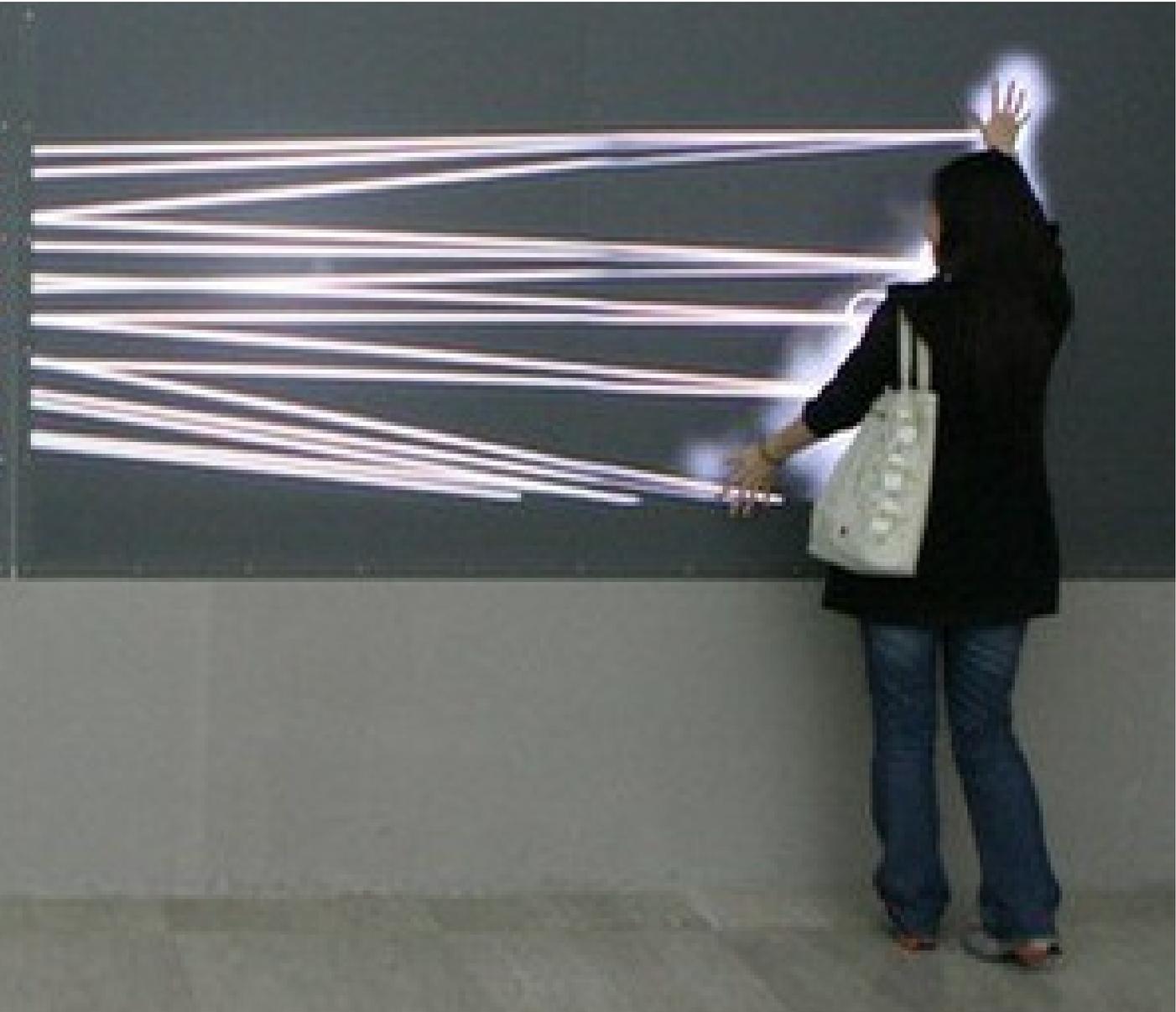
A full-bodied experience of the world requires all the senses. However, if we are to counter the domination of sight in contemporary culture, I suggest that we pay particular attention to touch. By cultivating tactile values of intimacy, interaction, and integration—values that promote engagement with our physical and social worlds—we can more effectively sustain both our cities and ourselves.¹²

The cleanest source of energy, some say, is muscle power,¹³ and muscle power, by involving us in direct interaction with our physical surroundings, provides us with one of our greatest sources of pleasure. Labor-saving devices, from leaf blowers to cars, while seeming to make



Stefano Bergonzini, *Get in Touch*, part of the exhibition "Fabrica: Les Yeux Ouverts," organized by The Centre Pompidou at *Shanghai Art Museum*, China, 2007. © Mark Ralston/AFP/Getty Images

life easier, in fact impoverish us by diminishing our range of physical experiences and disengaging us from our environments. As E.F. Schumacher noted in his classic *Small is Beautiful*, "The type of work which modern technology is most successful at reducing or even eliminating is skilful [*sic.*], productive work of human hands, in touch with real materials of one kind or another."¹⁴ A tactile city would offer opportunities for citizens to engage with "real materials," not only through the work of the hand, such as gardening or craftwork, but through maximizing the possibilities for and pleasures of walking, as well as other physical activities. A tactile city would also aim to increase opportunities for social interaction, such as



the participation of the public in communal events or the informal encounters that occur on pedestrian streets like Curitiba's Rua das Flores.

Nonetheless, when I propose a move away from visual values to tactile values, I am not saying that our cities are already so visually appealing that no more trouble need be taken on that account. I am suggesting that we need to seek out smaller, more intimate beauties rather than grand visual effects (like those of monuments and skyscrapers) if we want to create a more pleasurable multi-sensory environment.¹⁵

Were there "tactile cities" in the past? One could argue that the medieval city, with its richly textured buildings;

narrow, winding streets; and intricate craftwork offered as much for touch as for sight. Medievals accorded great value to touch as the sense that provided reliable information about the world, compared with sight, which could be readily deceived by surface impressions.¹⁶ A keen sense of touch was associated with mental acuity. Thomas Aquinas declared: "Among men it is in virtue of fineness of touch, and not of any other sense, that we discriminate the mentally gifted."¹⁷

Manual skills were highly-cultivated in the Middle Ages, whether on the small scale of a weaving or the large scale of church-building. As Lewis Mumford noted, the medieval builder was a man who knew his materials,

his tools, and his workers, as compared the more visually oriented architect of later days, who knew his texts and his blueprints.¹⁸ The visual impact of their great cathedrals not withstanding, medievals did not manifest much interest in grand views. Their stories, paintings, and carvings—even when they deal with religious subjects—typically depict what is close at hand: family and work, domestic animals, flowers, and fruits. In the 14th-century *Canterbury Tales*, though the pilgrims are on the road, we get no vistas or landscapes. Rather, we are drawn into intimate bodily experiences, such as “kneling...upon the small and soft and swete gras.”¹⁹ Medieval social life was itself highly tactile with its communal forms of domesticity, labor, and worship. Whether at work or at prayer, while eating or sleeping, close proximity with others was the norm.²⁰ While exploring the tactile values of the Middle Ages will not provide us with an aesthetic model for contemporary culture, it may serve to stimulate our sensory imaginations and help us conceive alternatives to our visual obsessions.²¹

WE NEED TO SEEK OUT SMALLER, MORE INTIMATE BEAUTIES RATHER THAN GRAND VISUAL EFFECTS (LIKE THOSE OF MONUMENTS AND SKYSCRAPERS) IF WE WANT TO CREATE A MORE PLEASURABLE MULTISENSORY ENVIRONMENT.

Sensory diversity

One characteristic of urban life that is both unsustainable and non-pleasurable is the unnatural uniformity of light and temperature levels in many residences and public buildings. The American Society of Heating, Refrigerating, and Air-Conditioning Engineers has determined standards of thermal comfort employed across the United States and consulted by other countries. Yet numerous studies have shown that people living in different cultures and climates have different thermal comfort zones; no one standard will suit all.²² Furthermore, as Forrest Wilson notes in his analysis of the role of perception in design, research approaches to the thermal environment “concentrate on preventing feelings of discomfort rather

than on producing positive responses.”²³ While thermally neutral environments do not distract us, they also do not stimulate us.

To have the same temperature and the same lighting everywhere, every day, is akin to being served a meal of one taste every day. Temperature and light are most pleasurable when they provide a diversity of sensations, as do the warmth of a fire on a cold day, a cool garden in the heat of summer, a ray of sunshine in a dusky interior. In his *In Praise of Shadows*, Jun'ichirō Tanizaki contrasts the Japanese appreciation of the subtle variations of light and darkness with the Western quest for total brightness.²⁴ In *Thermal Delight in Architecture*, Lisa Heschong explores the range of thermal strategies that has been employed across cultures and in history, from the medieval use of tapestries for insulating warmth to the Middle Eastern creation of courtyards as cool interior spaces.²⁵

Like wood and stone, temperature and light can be crafted to provide a more stimulating environment with a smaller expenditure of energy. Not all areas of a house, for example, need be equally bright or equally warm, since different areas have different uses. A reading nook would preferably be sunny and warm, a bedroom cool and dim, its windows perhaps shaded by trees. Having one particularly cool room in the summer or one especially warm room in the winter will furthermore serve as a social magnet, bringing people in the household together. Anthropologist Lawrence Wylie gives an instance of this when he describes how his family grew more intimate after moving from the United States, “where a movement of a finger regulates the heat of the whole house,” to a house in a French village, where “the fire of oak logs which burned day and night for six months became the focal point of our family life.”²⁶ Also persuasive is the argument that the sense of pleasure or comfort is increased by a preceding sense of displeasure or discomfort: the warmth of a living room entices *because of the coolness of a bathroom*; a balmy spring day is especially appealing after a long, cold winter.

What holds for light and temperature also holds true for the other sensory stimuli that could and should be taken into account by urban designers.²⁷ Lilacs, for example, may offer a delightful fragrance and a pleasing greenery, but to encounter them on every city street would be monotonous. There is no blanket sensory solution for the sensory displeasures of the city, which themselves blanket us with malodors, noises, and glaring lights. A diversity of sensory stimuli is necessary, an integrated diversity that seeks to promote a sense of coherence without jarring effects (e.g., living in Spanish-

style villas, designed for a warm climate in cold Northern cities only magnifies discomforts.)²⁸ Jane Jacobs's Hudson Street in Greenwich Village in the late 1950s provided such sensuous diversity mainly because an abundance of small shops, cafés, restaurants, and the like.²⁹

The hand of the urban planner should not be felt everywhere, however, for this too would create monotony. One should not have to ask, Is there no tree in this city which has not been specifically planted to provide us with the correct amount of shade and the recommended dose of fragrance? As every child who prefers an overgrown, vacant lot with its wildflowers to a carefully planned playground knows, the city needs wild spaces.

The local touch

Although we now live in a global village, we hardly wish to encounter the same village, no matter how charming, everywhere we go. To be attractive, meaningful, and sustainable, urban design needs to be grounded in local environments and traditions. This, of course, runs counter to the modern trend for cities everywhere to look, feel, and smell alike. Medievals had to live on local produce and build with local materials. These restrictions, however, provided them with a satisfying sense of place, something we can still sense when we see a European village that looks as though it has grown out of a hillside. Our increasing awareness of the high environmental and financial costs of transporting goods and materials over long distances may well lead us to rediscover the pleasure, as well as the utility, of engaging with local materials and making the best out of what we have at hand.

Urban design, likewise, is more meaningful and pleasing if it takes into account the cultural traditions that we have "on hand." Every society has its own sensory preferences and customs. In my essay "McLuhan in the Rainforest," I explored the diverse "sensory models" of different indigenous societies. The Tzotzil of Mexico, who associate heat with the life force, give particular meaning to the thermal values of their environment: the coolness of the earth, the warmth of the sun, the differing climates of the highlands and the lowlands. In contrast, the Ongee of the Andaman Islands know the world as a "smellscape" and pay close attention to the different odors of humans, animals, and plants.³⁰ A culturally sensitive urban design will create an aesthetic environment that is not just "nice" to look at or "nice" to smell but that is *meaningful* for its inhabitants because it is pervaded by local traditions and sensory values. This perceived meaningfulness of sensory experiences will produce the deepest pleasures.

Our fair city

A city may offer a range of pleasurable sensory experiences and yet be rife with social problems that prevent people from enjoying these pleasures. The hanging gardens of ancient Babylon must have been delightful to see and smell but much less so for Babylon's countless slaves. Similarly, ecologically helpful rooftop gardens and green roofs in contemporary cities would gratify many but certainly not the homeless below. A "fair" city is not necessarily a *fair* city.

Furthermore, while I have emphasized the importance of grounding the sensescape of the city in local culture, this should not be interpreted as promoting an uncritical celebration of traditional practices or products. A culture's culinary heritage, for example, may include practices that are environmentally unsound, such as cutting down endangered palm trees to extract their edible hearts, or cruel, such as force-feeding geese to produce *pâté de foie gras*. A green aesthetics requires a radically new way of thinking about our relationship to Earth, and while it can and should seek to make connections with local traditions, it cannot recreate some mythical past.

If a return to a preindustrial past is no answer, neither is the mechanical model of environmental domination that produced the current crisis. According to this model if we could just engineer pigs and cars to produce fewer environmentally harmful emissions and induce worms and microorganisms to recycle our waste products, we could keep our factory farms, superhighways, and big-box stores and go on as before.³¹ But even if technological ingenuity could achieve these ends, it cannot lessen our alienation from nature and the deprivations and discords this produces in ourselves and the world. The pleasure of walk-ing through a forest cannot be bought in a store, and forests lose their viability as wildlife habitats when they are bisected by highways and hedged in by suburban developments.³²

The aesthetic of sustainability is not about recovering preindustrial ways of life or making cities into green machines for living. Rather, such an aesthetic calls for new ways of perceiving and interacting with Earth and its inhabitants based on justice, compassion, and cooperation—the *sharing* of pleasure. It would help if we thought of green pleasures not just as green insofar as they promote sustainable practices, but also insofar as they cultivate a more ecological way of relating to the world with both our minds and our bodies. ♦

NOTES

Sorkin

- 1 Rey Chow, *The Age of the World Target: Self-Referentiality in War, Theory, and Comparative Work* (Durham, NC: Duke University Press, 2006), 7.
- 2 Ranciere, *Disagreement: Politics and Philosophy*, trans. Julie Rose (Minneapolis: University of Minnesota Press, 1999), IX.

Meyer

- 1 Kellogg Foundation Food and Society Conference, “A Taste For Change,” Lansdowne, VA, April 2005, <http://www.wkcf.org/default.aspx?tabid=102&CID=6&CatID=6&ItemID=190871&NID=20&LanguageID=0>. See Petrini, *Slow Food: The Case for Taste* (New York: Columbia University Press, 2003).
- 2 Meyer, “Sustaining Beauty: The Performance of Appearance,” *Journal of Landscape Architecture*, Spring 2008, 6–23.
- 3 Information about *Nick’s Head Station* was provided by Thomas Woltz in his lecture at UVA School of Architecture (September 5, 2008) and personal interviews (November 11 and 30, 2008). Additional details were gleaned from NBWLA’s working manuscript, *Nick’s Head Station, North Island, New Zealand, Te Ika-A-Maui, Aotearoa* (2008).
- 4 Michael Pollan, *The Omnivore’s Dilemma: A Natural History of Four Meals* (New York: Penguin Books, 2006).
- 5 Kim Dodgshun and his family hosted my two-day site visit to *Nick’s Head Station*, during which Dodgshun shared his extensive knowledge of local farming and grazing traditions, his commitment to the stewardship of the regional landscape, and his curiosity about new, more sustainable agrarian land practices.
- 6 Dave Hickey, “Nothing Like the Son,” in *The Invisible Dragon: Four Essays on Beauty* (Los Angeles: Art Issues Press, 1993), 18.
- 7 During the design process for the constructed wetlands, NBWLA tested various strategies using ecological performance criteria developed by Sandy Bull, a wildlife ecologist; Kim Dodgshun and the *Nick’s Head* farm manager; and Steve Sawyer, a conservation biologist.

- 8 Kate Soper, “Beyond Consumerism: Self-Interest, Pleasure and Sustainable Consumption” (address at a conference on “Climate Change, The Environment and You,” University of Sussex, November 18, 2006), http://www.sussex.ac.uk/Units/CCE/conferenceso607/beyondconsumerism_katesoper.pdf.
- 9 David Evans and Tim Jackson, “Sustainable Consumption: Perspectives from Social and Cultural Theory,” working paper 05-08, Research Group on Lifestyles, Values and the Environment, Centre for Environmental Strategy, University of Surrey, http://www.surrey.ac.uk/resolve/Docs/WorkingPapers/RESOLVE_WP_05-08.pdf.
- 10 Hickey, 18.
- 11 NBWLA designed the bridge with the assistance of Phil Gaby, a structural engineer with Holmes Consulting Group.
- 12 Kate Soper, “Alternative Hedonism, Cultural Theory and the Role of Aesthetic Revisioning,” *Cultural Studies*, September 2008, 571–72, 582, 579. For Soper, the new structure of feeling already apparent in changing social routines and spatial practices requires a new aesthetic, a revisioning of the attractions of material culture. Soper’s use of the phrase “structures of feeling” refers to Raymond Williams’s concept, articulated in his *Marxism and Interpretation*, of undeniable emergent social experiences with their new rhythms and practices.
- 13 For a related but different take on the value of many local forms of sustainability, see Simon Guy and Steven A. Moore, “Sustainable Architecture and the Pluralist Imagination,” *Journal of Architectural Education*, May 2007, 15–23.
- 14 Alexander Nehamas, *Only a Promise of Happiness: The Place of Beauty in a World of Art* (Princeton: Princeton University Press, 2007), 120.
- 15 Martin E.P. Seligman, *Authentic Happiness: Using the New Positive Psychology to Realize Your Potential for Lasting Fulfillment* (New York: Free Press, 2002); Jonathan Haidt, *The Happiness Hypothesis: Finding Modern Truth in Ancient Wisdom* (New York: Basic Books, 2006), 96, 238.

Hooftman

- 1 Architecture International Rotterdam, proposal for Hofpleinlijn, 2001.
- 2 *Garden for a Plant Collector*, Bellahouston Park, Glasgow.
- 3 The proposals were part of an exhibition about Scotland’s coastline titled *600miles* organized by The Lighthouse, Scotland’s Centre for Architecture, Design and the City. Of course people hold a deep desire for climate change; warmth, after all, is the most important reason for selecting a holiday destination.
- 4 David Hume, *A Treatise of Human Nature*. Immanuel Kant, in “Critique of the Aesthetic Judgement,” divided the art of painting into a Siamese twin of pure painting and pleasure gardening, both concerned with the representation of nature as sense appearance artistically united with ideas.
- 5 William Chambers created, during the 18th century, an amazing royal folly garden at Kew London. GROSS . MAX . has recently been appointed to create a contemporary master plan for *Royal Botanic Gardens Kew*.
- 6 In collaboration with Mark Dion, we designed the *Vertical Garden* in London (completed 2008) and a *Carboniferous Garden* for Doncaster (unrealized).

Clément

- 1 Gilles Clément, “L’histoire naturelle des délaissés,” in L’Atelier, *La forêt des délaissés* (Paris: Institut français d’architecture, 2000).
- 2 Gilles Clément and Philippe Rahm, *Environ(ne)ment: manières d’agir pour demain / Approches for Tomorrow*, ed. Giovanna Borasi (CCA: Montreal and New York, 2006).

Rawsthorn

- 1 Donald Judd, “On Furniture,” in *Donald Judd: Complete Writings 1975–1986* (Eindhoven: Van Abbemuseum, 1987), 107.
- 2 Victor J. Papanek, *Design for the Real World: Human Ecology and Social Change* (New York: Pantheon Books, 1971).

Yu

- 1 Vera Tiesler, "Head Shaping and Dental Decoration among the Maya: Archeological and Cultural Aspects" (paper presented at the 64th meeting of the *Society for American Archaeology*, Chicago, 1999), <http://www.mesoweb.com/features/tiesler/media/headshaping.pdf>.
 - 2 This is, in essence, the original story of Shangri-la, a mystical, harmonious valley described in the 1933 novel *Lost Horizon* by British writer James Hilton.
 - 3 United Nations, Department of Economic and Social Affairs/ Population Division, *World Urbanization Prospects: The 2007 Revision* (New York: UN, 2008), 1–4.
 - 4 UN World Urbanization Prospects: The 2007 Revision Population Database, <http://esa.un.org/unup/>.
 - 5 "China to Dominate Cement Use in 2007," *Concrete Monthly*, January 2007, <http://www.concretemonthly.com/monthly/art.php?2596>; see also Freedonia Group Inc., *Cement in China*, January 1, 2009, <http://www.marketresearch.com/product/display.asp?productid=1331744&g=1>; and RNCOS, "China Steel Industry Forecast till 2012," February 2008, http://www.researchandmarkets.com/reports/590881/china_steel_industry_forecast_till_2012.
 - 6 Huang Hong, *Cheng Chao, and Li Li, Cu Tian Du Shi Bao*, December 27, 2007.
 - 7 Xing Yunfei, *Hua Xia Shi Bao*, July 19, 2008.
 - 8 Chen Kelin, Lü Yong, and Zhang Xiaohong, "No Water without Wetland," *China Environment and Development Review*, 2004, 296–309. See also John McAlister, "China's Water Crisis," Deutsche Bank China Expert Series, March 22, 2005.
 - 9 Michael R. Raupach et al., "Global and Regional Drivers of Accelerating CO2 Emissions," *PNAS*, June 12, 2007, 10288–93.
 - 10 C.M. Wong et al., *World's Top 10 Rivers at Risk*, WWF International, March 2007, http://assets.panda.org/downloads/worldstop10riversatriskfinalmarch13_1.pdf.
 - 11 Ahmed Djoghlaif, "Statement to the Second Meeting of the Advisory Group on Article 8(j) and Related Provisions of the Convention on Biological Diversity," Montreal, April 30, 2007, <http://www.cbd.int/doc/speech/2007/sp-2007-04-30-8j-en.pdf>.
 - 12 <http://www.spaceandmotion.com/Albert-Einstein-Quotes.htm>.
 - 13 For a detailed review of this park, see Graham Johnstone and Xiangfeng Kong, "Making Friends with Floods: An Ecological Park Reclaims a Degraded Stretch of a Chinese River," *Landscape Architecture*, April 2007, 106–15.
 - 14 For a detailed review of this project, see Mary G. Padua, "Touching the Good Earth: An Innovative Campus Design Reconnects Students to China's Agricultural Landscapes," *Landscape Architecture*, December 2006, 100–7.
 - 15 For a detailed review of this project, see Stefanie Ruff and Antje Stokman, "The Red Ribbon Tanghe River Park Reconciling Water Management," *Topos* 63 (2008), 29–35. Also see Mary G. Padua, "The Red Ribbon: The Tanghe River Park," *Landscape Architecture*, January 2008, 92–99.
 - 16 Zhang Kailin and Huang Weiming, *Tianjin Daily*, November 27, 2008.
- ## Boeri and Insulza
- 1 *Bosco Verticale*, a project by Boeri Studio (Stefano Boeri, Gianandrea Barreca, and Giovanni La Varra), 2007.
 - 2 Reyner Banham, *The Architecture of the Well-Tempered Environment*, 2nd ed. (Chicago: University of Chicago Press, 1984), 18. Banham traces a history of the technical breakthroughs that, incorporated into architecture, have helped shape the environments we inhabit. Similar importance is given to mechanical conditioning within the modern house by Tomas Maldonado in his essay "L'idea di comfort," in *Il futuro della modernità* (Milan: Feltrinelli, 1987).
 - 3 Evidence that this tendency is changing today can be seen in projects by Minsuk Cho, MVRDV, BIG, UCX Architects, Edouard François, and Ken Yeang, among others, that follow in the footsteps of Emilio Ambasz's 1994 Fukuoka building or the less successful 1984 *Quinto Palazzo Uffici della SNAM* on the outskirts of Milan by Roberto Gabetti and Aimaro Isola.
 - 4 Presented at the 11th Venice Architecture Biennale 2008, Sustainable dystopias is an ongoing research project that explores the ideas surrounding the reconciliation between nature and urban space and directly plays with the contemporary rhetoric on sustainability. See <http://www.stefano boeri.net>.
 - 5 Jeremy Rifkin, *The Hydrogen Economy: The Creation of the Worldwide Energy Web and the Redistribution of Power on Earth* (New York: J.P. Tarcher/Penguin, 2003). See also "A Declaration: Revolutionizing Architecture to Address the Global Energy Crisis and Climate Change," Venice, September 2008, http://www.foet.org/tir/architects/VENICE_DECLARATION-1.pdf.
 - 6 See <http://www.verticalfarming.com>.
 - 7 Andrea Branzi, *Weak and Diffuse Modernity: The World of Projects at the Beginning of the 21st Century* (Milan: Skira, 2006).
 - 8 Gilles Clément, *Manifesto del Terzo paesaggio*, ed. Filippo De Pieri (Macerata, Italy: Quodlibet, 2005). See link to publisher: <http://www.quodlibet.it/scheda.php?id=1674>
 - 9 A meteorological and microclimatic study realized on the basis of the schematic design (2008) analyzed, floor by floor, the environmental conditions determined by the presence of green elements on the building, concluding that maintenance of optimal irrigation and thereby vegetation could produce a mitigation of heat, on the exterior of the building, up to 2.5 degrees Celsius in the summer months.
 - 10 SITE (Sculpture in the Environment) described the *Highrise of Homes* project as a community geared to "accommodate people's conflicting desires to enjoy the cultural advantages of an urban center, without sacrificing the private home identity and garden space associated with suburbia." See *Envisioning Architecture: Drawings from The Museum of Modern Art*, ed. Matilda McQuaid (New York: Museum of Modern Art, 2002), 220. A similar attitude is traced by Rem Koolhaas in *Delirious New York* (New York: Oxford University Press, 1978) in a 1909 drawing of the concept for a high-rise: "A slender steel structure supports 84 horizontal planes, all the size of the original plot. Each of these artificial levels is treated as a virgin site, as if the others did not exist, to establish a strictly private realm around a single country house" (69–70).
 - 11 The Smithsons' 1958 *Appliance House* assigns modern domestic equipment definitive locations in the home. Appliance-containing cubicles hold all necessary connections, thereby suppressing noise, vibration, and movement. The cubicles form the envelope of the house, determining its spatiality, while the interior is free to mutate according to the demands and wishes of its inhabitants.
 - 12 Maldonado, op. cit.
 - 13 An analysis of the microclimatic conditions at different heights and on different facades of the building, subsequently crossed with the characteristics of plants adapted to the Lombard environment, has been used to compose the position of different species of plants within the system of the green facade. As height increases, so does the number of plants with greater resistance to wind.
- ## Classen
- 1 Cited in Classen, *The Color of Angels: Cosmology, Gender and the Aesthetic Imagination* (London: Routledge, 1998), 27.
 - 2 Emily Thompson, "Noise and Noise Abatement in the Modern City," *Sense of the City: An Alternative Approach to Urbanism*, ed. Mirko Zardini (Montreal: Canadian Centre for Architecture and Lars Müller Publishers, 2005), 190–91.
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- 7 Classen, *The Color of Angels*, 28.
- 8 Geoff Andrews, *The Slow Food Story: Politics and Pleasure* (Montreal: McGill-Queen's University Press, 2008); and Sarah Pink, "Sense and Sustainability: The Case of the Slow City Movement," *Local Environment*, March 2008, 95–106. For information on the Ark of Taste, see the Slow Food Foundation for Biodiversity, <http://www.slowfoodfoundation.org/eng/fondazione.lasso>.
- 9 Classen, *The Color of Angels*, 29.
- 10 Andrews, 172.
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- 14 E.F. Schumacher, *Small is Beautiful: Economics as if People Mattered* (New York: Harper & Row, 1973), 141.
- 15 The importance of touch in urban design and in architecture is discussed in David Howes, "Skinscapes: Embodiment, Culture and Environment," in *The Book of Touch*, 27–39; Joy Monice Malnar and Frank Vodvarka, *Sensory Design* (Minneapolis: University of Minnesota Press, 2004), 144–52; Juhani Pallasmaa, "Hapticity and Time," *Architectural Review*, May 2000, 78–84; and Richard Sennett, "The Sense of Touch," *Architectural Design*, March/April 1998, 18–23.
- 16 Robert Mandrou writes that premodernity touch "verified perception, giving solidity to the impressions produced by the other senses, which were not as reliable." *Introduction to Modern France, 1500–1640: An Essay in Historical Psychology*, trans. R.E. Hallmark (New York: Holmes & Meier, 1975), 53.
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- 18 Mumford, *Sticks and Stones: A Study of American Architecture and Civilization*, 2nd rev. ed. (New York: Dover, 1955), 164.
- 19 Cited in Yi-Fu Tuan, *Passing Strange and Wonderful: Aesthetics, Nature, and Culture* (New York: Kodansha, 1995), 136.
- 20 Norbert Elias discusses the social importance of physical contact in the Middle Ages in *The Civilizing Process*, ed. Eric Dunning, Johan Goudsblom, and Stephen Mennell, trans. Edmund Jephcott (Oxford: Blackwell Publishers, 1994).
- 21 For a discussion of the environmental sustainability of the medieval city, see Lewis Mumford, *The Culture of Cities* (New York: Harcourt, Brace and Company, 1938), 42–51.
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- 23 Cited in Malnar and Vodvarka, *Sensory Design*, 268.
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- 25 Heschong. See also John S. Reynolds, *Courtyards: Aesthetic, Social, and Thermal Delight*, 1990 (New York: John Wiley & Sons, 2002).
- 26 Lawrence Wylie, *Village in the Vaucuse*, 2nd ed. (Cambridge: Harvard University Press, 1965), 145–46.
- 27 In *Sensory Design*, Malnar and Vodvarka discuss ways in which the built environment would benefit from multisensory design.
- 28 Norman Pressman criticizes the prevalence of architecture suited to warm climates in Northern cities in "The Idea of Winterness: Embracing Ice and Snow," in *Sense of the City*, 129–41.
- 29 Jane Jacobs, *The Death and Life of Great American Cities* (New York: Vintage Books, 1961).
- 30 Classen, "McLuhan in the Rainforest: The Sensory Worlds of Oral Cultures," in *Empire of the Senses: The Sensual Culture Reader*, ed. David Howes (Oxford: Berg, 2005), chap. 8.
- 31 For examples of this approach, see C.W. Forsberg et al., "The Enviropig Physiology, Performance, and Contribution to Nutrient Management, Advances in a Regulated Environment: The Leading Edge of Change in the Pork Industry," *American Journal of Animal Science* 81 (2003), <http://www.asas.org/symposia/03esuppl2/jas2385/pdf>; Mary Appelhof, *Worms Eat My Garbage: How to Setup and Maintain a Vermicomposting System* (Kalamazoo, MI: Flower Press, 1997); and Kenneth N. Timmis, Robert J. Steffan, and Randel Unterman, "Designing Microorganisms for the Treatment of Toxic Wastes," *Annual Review of Microbiology*, October 1994, 525–57.
- 32 Wilfried Wang examines the social underpinnings of environmental pollution in "Sustainability is a Cultural Problem," *Harvard Design Magazine*, Spring/Summer 2003, 1–5.
- ### Imbert
- 1 *University Hall* was described as having been erected on the site of Professor Wigglesworth's pasture. See John Langdon Sibley's diary, 1846–1882, November 13, 1847, Harvard University Archives, 1791.72.10. Today, Harvard University Dining Services' Food Literacy Project mentions the University Professors' right to pasture animals in the Yard as a recognition of New England's agricultural heritage.
- 2 See <http://www.edibleschoolyard.org> and <http://www.yale.edu/sustainablefood/farm.html>.
- 3 See Marian Burros, "What's Cooking at the White House? Who's Asking?" *New York Times*, January 20, 2009; and Fritz Haeg, *Edible Estates: Attack on the Front Lawn, A Project by Fritz Haeg* (New York: Metropolis Books, 2008).
- 4 For a translation of Crescenzi's Book Eight, titled "On making gardens and delightful things skillfully from trees, plants, and their fruits," and a commentary on his work in its context, see Johanna Bauman, "Tradition and Transformation: The Pleasure Garden in Piero de' Crescenzi's *Liber ruralium commodorum*," *Studies in the History of Gardens & Designed Landscapes*, Summer 2002, 99–141.
- 5 Stephen Switzer, *Ichnographia Rustica; or, The Nobleman, Gentleman, and Gardener's Recreation* (London: 1st ed., 1718; 2nd rev. ed., 1742), vol. 1, xvii; vol. III, 10.
- 6 See Stéphanie de Courtois, *Le Potager du roi* (Versailles: Actes Sud, cole Nationale Supérieure du Paysage, 2003).
- 7 Today, the *Potager* features almost 200 kinds of apple and pear trees and many heirloom varieties, yielding eighty tons of fruits and vegetables. Landscape architecture students from the adjacent École Nationale Supérieure du Paysage tend parcels of twenty-five to sixty square meters throughout their three years of studies.
- 8 See David Haney, "Leberecht Migge's 'Green Manifesto': Envisioning a Revolution of Gardens," *Landscape Journal* 26, no. 2 (2007), 201–18.
- 9 See <http://www.growingpower.org>.
- 10 See Jorge Peña Diaz and Phil Harris, "Urban Agriculture in Havana: Opportunities for the Future," and André Viljoen and Joe Howe, "Cuba: Laboratory for Urban Agriculture," in *CPULs: Continuous Productive Urban Landscapes*, ed. André Viljoen (Oxford: Elsevier, 2005). See also Debra Solomon, "Cultured and Landscaped Urban Agriculture," *Volume 18: After Zero* (Amsterdam: Stichting Archis: 2009).
- 11 See Sarah Kramer, "From New York Soil, the Taste of Home," *New York Times*, September 19, 2008; and <http://www.cenyc.org/greenmarket/nfdp>.
- 12 The term CPUL was coined by André Viljoen, Katrin Bohn, and Joe Howe and presented in a book of the same title (see Viljoen, *CPULs*). Learning from traditional Chinese settlements and Cuban agricultural experiments, the authors set up urban scenarios for London and Sheffield.

- 13 Nathalie Beauvais, "The Machine as the Garden: The New Harvard Campus in Allston, Sustainability, and its Effects on Design," *Harvard Design Magazine*, Fall 2008/Winter 2009, 143.
- 14 Alex Beam, in his article "Old McHarvard Had a Farm," described the urban agriculture initiative as an economic folly and a fad (*Boston Globe*, October 31, 2008).
- Hilderbrand**
- 1 E. Gregory McPherson, "Net Benefits of Healthy and Productive Urban Forests," in *Urban Forest Landscapes: Integrating Multidisciplinary Perspectives*, ed. Gordon A. Bradley (Seattle: University of Washington Press, 1995), 180–94.
- 2 David J. Nowak, Miki Kuroda, and Daniel E. Crane, "Tree Mortality Rates and Tree Population Projections in Baltimore, Maryland, USA," *Urban Forestry & Urban Greening*, February 2004, 139–47.
- 3 Harrison, *Forests: The Shadow of Civilization* (Chicago: University of Chicago Press, 1992).
- 4 Whyte, *The Social Life of Small Urban Spaces* (New York: Project for Public Spaces, 1980).
- Lawrence**
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- 2 Elizabeth Barlow Rogers, *Landscape Design: A Cultural and Architectural History* (New York: Harry N. Abrams, 2001). For a recent discussion of some of the various meanings of urban sustainability, see *Geographical Review*, "Creative Cities" special issue, January 2009. The articles discuss the interrelated sustainability of culture, economy, and environment.
- 3 Lawrence, 30–37.
- 4 Cecil C. Konijnendijk, *The Forest and the City: The Cultural Landscape of Urban Woodland* (New York: Springer, 2008).
- 5 Marcel Poëte, *La promenade à Paris au XVIIe siècle: L'art de se promener, les lieux de promenade dans la ville aux environs* (Paris: Librairie Armand Colin, 1913), 108–34.
- 6 Mark Girouard, *Cities and People: A Social and Architectural History* (New Haven: Yale University Press, 1985).
- 7 *Encyclopédie ou dictionnaire raisonné des sciences, des arts et des métiers*, vol. 1, ed. Denis Diderot and Jean le Rond d'Alembert (Paris: 1751), 117; see also Michel Le Moëll and Sophie Descat, *L'Urbanisme Parisien au siècle des Lumières* (Paris: Action Artistique de la Ville de Paris, 1997).
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- 9 Robert Fishman, *Bourgeois Utopias: The Rise and Fall of Suburbia* (New York: Basic Books, 1987); John Archer, "Country and City in the American Romantic Suburb," *Journal of the Society of Architectural Historians*, May 1983, 139–56.
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- 12 Frederick Law Olmsted and Calvert Vaux, "Letter to H.G. Stebbins, president of the Department of Public Parks, City of New York, January 1872," in *Frederick Law Olmsted: Landscape Architect, 1822–1903*, ed. Frederick Law Olmsted Jr. and Theodora Kimball (New York: Benjamin Blom, Inc., 1970), 250.
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- 16 Jean-Louis Harouel, *L'embellissement des villes: L'urbanisme français au XVIIIe siècle* (Paris: Picard, 1993), 12–13.
- 17 Henry W. Lawrence, "National Differences in Urban Green Spaces: France, the Netherlands, Britain and America, 1600–1800," *Planning History* 20 (1998), 20–28.
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- 19 Susan Lasdun, *The English Park: Royal, Private and Public* (London: Andre Deutsch, 1991).
- 20 Lawrence, *City Trees*, 116–22. See also the regional traits explored in Thomas J. Campanella, *Republic of Shade: New England and the American Elm* (New Haven: Yale University Press, 2003).
- 21 Edward T. Price, "The Central Courthouse Square in the American County Seat," *Geographical Review*, January 1968, 29–60.
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- 23 Greg McPherson et al., "Municipal Forest Benefits and Costs in Five US Cities," *Journal of Forestry*, December 2005, 411–16, http://www.fs.fed.us/ccrc/topics/urban-forests/docs/jof_Dec_2005.pdf.
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- 25 François Loyer, *Paris Nineteenth Century: Architecture and Urbanism*, trans. Charles Lynn Clark (New York: Abbeville Press, 1988).
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- 27 H.W.S. Cleveland, *Landscape Architecture, as Applied to the Wants of the West (1873)*, ed. Roy Lubove (Pittsburgh: University of Pittsburgh Press, 1965), 34.
- 28 Terence Young, *Building San Francisco's Parks, 1850–1930* (Baltimore: Johns Hopkins University Press, 2004), 84–87.
- 29 Tom Daniels and Katherine Daniels, *The Environmental Planning Handbook* (Chicago: APA Planners Press, 2003).
- 30 Nancy B. Grimm et al., "Global Change and the Ecology of Cities," *Science*, February 8, 2008, 756–60; and S.E. Gill et al., "Adapting Cities for Climate Change: The Role of the Green Infrastructure," *Built Environment* 33, no. 1 (2007), 97–115, http://www.fs.fed.us/ccrc/topics/urban-forests/docs/Gill_Adapting_Cities.pdf.
- Nairn and Vitiello**
- 1 Our research involved three parts: (1) a ground survey of approximately 800 sites that were once part of the Pennsylvania Horticultural Society's and Penn State Cooperative Extension's urban gardening programs; (2) counting and weighing of food production by crop; and (3) interviews with gardeners about the distribution of harvest.
- 2 Our research revealed 1,443,814 square feet under cultivation in community gardens throughout Philadelphia during the summer of 2008. From our data and that of the City Harvest program, an average of 1.4 pounds of produce was grown per square foot during the growing season. A value of \$2 per pound was assigned to the harvest. This figure represents an average retail value for locally grown, organic produce sold throughout the city's farmers' markets.
- 3 See <http://www.ruaf.org>.
- 4 *Everyday Urbanism*, ed. John Chase, Margaret Crawford, and John Kaliski (New York: Monacelli Press, 1999).
- 5 U.S. Census and local property and utility data for Strawberry Mansion and other Philadelphia neighborhoods are available on the Philadelphia Neighborhood Information System, <http://www.cml.upenn.edu/nis/>.
- 6 Iris Brown received the *Terre de Femmes*, one of the most important international awards for environmental justice.
- 7 See <http://www.nsnp.com/gm>.
- 8 Havana's agricultural transformation is documented in the film *The Power of Community: How Cuba Survived Peak Oil*, and in a variety of publications. See <http://www.ruaf.org>.
- 9 See <http://www.millcreekurbanfarm.org>.
- 10 Anne Whiston Spirn, "Restoring Mill Creek: Landscape Literacy, Environmental Justice, and City Planning and Design,"

- Landscape Research*, July 2005, 395–413. See, on the project, <http://web.mit.edu/4.243j/www/wplp/>.
- 11 These rankings include only farms growing food for people. The city's two largest farms, both owned by the park system, grow hay and feed corn for animals.
- 12 See, e.g., Growing Power in Milwaukee and Chicago, <http://www.growingpower.org>; the Kansas City Center for Urban Agriculture, <http://www.kccua.org>; and Growth in Detroit, <http://www.detroitagriculture.org>.
- 13 See, e.g., Catherine Early, "Urban Jungle," *The Guardian*, March 26, 2008, <http://www.guardian.co.uk/environment/2008/mar/26/cityfood>; and London's Capital Growth campaign, <http://www.capitalgrowth.org>.
- Rankin**
- 1 The appearance of this phrase in Geddes's *Cities in Evolution* (1915) is largely unconnected with its use in the 1970s; more important is what the recent casting of Geddes as a proto-environmentalist suggests about the role of the built environment in current environmentalism.
- 2 All data are from the 2007 Census of Agriculture. See <http://www.agcensus.usda.gov/Publications/2007>.
- 3 The U.S. Economic Research Service gives a helpful overview of trends in exports and imports. See <http://www.ers.usda.gov/Briefing/AgTrade/exports.htm> (updated March 18, 2009).
- 4 This is for a diet that includes meat; a vegetarian diet requires only 15% as much land. Numbers are from a 1993 FAO report, cited in Norman Myers, "The Next Green Revolution: Its Environmental Underpinnings" (paper presented at the Interdisciplinary Dialogue on Malthus and Mendel, Chennai, India, January 28, 1998), <http://www.iisc.ernet.in/cursci/feb25/articles16.htm>.
- 5 Tyler Colman and Pablo Paster, "Red, White, and 'Green': The Cost of Carbon in the Global Wine Trade," Working Paper No. 9, American Association of Wine Economists, October 2007, http://www.wine-economics.org/workingpapers/AAWE_WP09.pdf.
- 6 Christopher L. Weber and H. Scott Matthews, "Food-Miles and the Relative Climate Impacts of Food Choices in the United States," *Environmental Science & Technology* 42, no. 10 (2008), 3,508–13.
- 7 Caroline Saunders, Andrew Barber, and Greg Taylor, *Food Miles—Comparative Energy/Emissions Performance of New Zealand's Agriculture Industry*, Research Report No. 285 (Christchurch, New Zealand: Lincoln University, July 2006), http://www.lincoln.ac.nz/story_images/2328_RR285_s13389.pdf.
- Ramos**
- 1 Saskia Sassen, *The Global City: New York, London, Tokyo* (Princeton: Princeton University Press, 1991).
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- Andersen and Salomon**
- 1 Gregory Bateson, "Cybernetic Explanation," in *Steps to an Ecology of Mind* (San Francisco: Chandler Pub. Co., 1972), 410.
- Hyde**
- 1 *Aeschylus, Oresteia*, trans. Peter Meineck (Indianapolis, IN: Hackett Pub. Co., 1998), 49.
- 2 John McHale, "The Future of the Future," *Architectural Design*, February 1967, 65.
- 3 *Ibid.*
- 4 *Ibid.*
- 5 *Ibid.*
- 6 Bertrand de Jouvenel, "Utopia for Practical Purposes," *Daedalus*, Spring 1965, 439.
- 7 *Ibid.*, 438.
- 8 B.F. Skinner, *Walden Two* (New York, MacMillan Company, 1948); Ernest Callenbach, *Ecotopia* (New York, Bantam Books, 1975).
- 9 For Fredric Jameson's account of the value of utopian narratives, see his *Archaeologies of the Future* (London: Verso, 2005).
- 10 Paolo Soleri, *Arcology: The City in the Image of Man* (Cambridge: MIT Press, 1969).
- 11 *Ibid.*, 31.
- 12 *Ibid.*
- 13 See *The Roosevelt Island Housing Competition*, ed. Deborah Nevins (New York: Wittenborn Art Books, 1975).
- 14 Rem Koolhaas, "New Welfare Island/1975–76," *Architectural Design*, May 1977, 341.
- 15 Rem Koolhaas, "Welfare Palace Hotel/1976–77," *Architectural Design*, May 1977, 341.
- 16 "Superstudio," *Design Quarterly* 78/79, 1970, 54.
- Picon**
- 1 These two approaches are represented in *Technological Change: Methods and Themes in the History of Technology*, ed. Robert Fox (Australia: Harwood Academic Publishers, 1996).
- 2 Beniger, *The Control Revolution: Technological and Economic Origins of the Information Society* (Cambridge, MA: Harvard University Press, 1986). See also *A Nation Transformed by Information: How Information Has Shaped the United States from Colonial Times to the Present*, ed. Alfred D. Chandler, Jr. and James W. Cortada (Oxford: Oxford University Press, 2000).
- 3 See in particular Koselleck, *Futures Past: On the Semantics of Historical Time*, trans. Keith Tribe (1979; English edition Cambridge: MIT Press, 1985).
- 4 The reference to the golden age, inseparable from the various myths of eternal recurrence, is intentional. The ambition is to break once and for all with the conception of progress as a restoration of what once was. On the Saint-Simonian philosophy of history, see Picon, *Les Saint-Simoniens: raison, imaginaire et utopie* (Paris: Belin, 2002).
- 5 See, e.g., Jean-François Braunstein, *La philosophie de la médecine d'Auguste Comte* (Paris: PUF, 2009).
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- 7 See *Dictionnaire des utopies*, ed. Michèle Riot-Sarcey et al. (Paris: Larousse, 2002).
- 8 Marc-Antoine Laugier, *Essai sur l'architecture* (Paris: Duchesne, 1753). On Laugier's ideas, see Wolfgang Herrmann, *Laugier and Eighteenth Century French Theory* (London: A. Zwemmer, 1962).
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- 12 Jean-François Lyotard, *The Postmodern Condition: A Report on Knowledge*, trans. Geoff Bennington and Brian Massumi (Paris, 1979; English edition Minneapolis: University of Minnesota Press, 1984).
- 13 On the posthuman perspective, see N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: University of Chicago Press, 1999); and Céline Lafontaine, *L'Empire Cybernétique. Des Machines à Penser à la Pensée Machine* (Paris: Le Seuil, 2004).
- 14 Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences* (Paris, 1966; English edition New York: Pantheon, 1970).
- 15 Thomas L. Friedman, *The World Is Flat: A Brief History of the Twenty-First Century* (New York: Farrar, Straus and Giroux, 2005).
- 16 See, e.g., Emergence and Design Group, "Emergence in Architecture," in *AD/ Emergence: Morphogenetic Design Strategies*, ed. Michael Hensel, Achim Menges, and Michael Weinstock, May/June 2004, 6–9.
- 17 Philip K. Dick, *Do Androids Dream of Electric Sheep?* (New York: New American Library, 1968).
- 18 This is of course not the only perspective opened by ecological concerns today. On the possibility of reconciling sustainability and pleasure, see *Harvard design Magazine*, "[Sustainability] + Pleasure, vol. I," Spring/Summer 2009.
- Bachin**
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- 2 For further discussion of cemetery design and its place in the urban fabric, see David Schuyler, *The New Urban Landscape: The Redefinition of City Form in Nineteenth-Century America* (Baltimore:

Johns Hopkins University Press, 1986); David Charles Sloane, *The Last Great Necessity: Cemeteries in American History* (Baltimore: Johns Hopkins University Press, 1991); and Brian Young, *Respectable Burial: Montreal's Mount Royal Cemetery* (Montreal: McGill-Queen's University Press, 2003).

3 *Another City*, 321.

4 Mary Ryan, "The American Parade: Representations of the Nineteenth-Century Social Order," in *The New Cultural History*, ed. Lynn Hunt (Berkeley: University of California Press, 1989), 131–53; and Susan G. Davis, *Parades and Power: Street Theatre in Nineteenth-Century Philadelphia* (Philadelphia: Temple University Press, 1986).

5 *Another City*, 312.

Kiefer

1 See, for instance, Andres Duany, Elizabeth Plater-Zyberk, and Jeff Speck, *Suburban Nation: The Rise of Sprawl and the Decline of the American Dream* (New York: North Point Press, 2000).

2 In *The Timeless Way of Building* (New York: Oxford University Press, 1979), and other books, Christopher Alexander aims to recover the species memory of intuitive environmental understanding that shaped the built world in the pre-technological era. Jane Jacobs wrote *Death and Life of Great American Cities* (New York: Vintage Books, 1961) in part to explain how everyday life and social interactions shape cities (and vice-versa), and how vulnerable these social patterns are to thoughtless physical "improvement." Others have tried to explain how disciplines other than design—mathematical proportion (*The Old Way of Seeing* by Jonathan Hale (New York: Houghton Mifflin Company, 1994) or the profit motive (Carol Willis' *Form Follows Finance* (New York: Princeton Architectural Press, 1995) affect the design of human settlement.

3 Ben-Joseph recounts that Vitruvius even specified the thickness of building walls to limit height in the interest of light and air in the street.

4 Witness attempts to change the QWERTY keyboard, developed to intentionally slow typing speeds so mechanical typewriter keys wouldn't stick.

5 Developers like them because they afford more design flexibility and control, public officials like them because they reduce the burden on the town to build infrastructure and provide services, and buyers like them because they offer privacy, amenities and control through their own, often very restrictive private codes. It's a bit paternalistic to object to these communities on social grounds, though many do. While CICs may lack diversity, most people choose to live around others like themselves anyway ("The Great Sort"). As for their unprecedented degree of control over individual behavior, nobody is forced to live in a CIC.

6 <http://www.dpz.com/transect.aspx>.

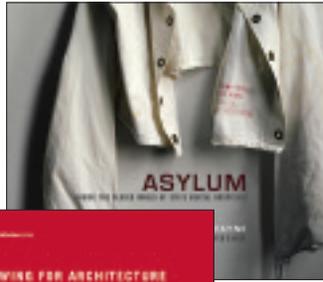
7 The Bill of Rights' equal protection and due process mandates don't require

uniformity of outcome, only uniformity of treatment before the law and procedural fairness. But even uniform procedural standards that allow a range of substantive outcomes can be problematic, for the reasons stated in the concluding section above.

8 Ten Northeast states from Maine to Maryland have already implemented a regional cap-and-trade regime for greenhouse gases, known as the Regional Greenhouse Gas Initiative (rggi.org); a similar national program, known as the American Clean Energy and Security Act of 2009, has passed the United States House of Representatives and awaits action by the United States Senate. H.R. 2454, 111th Cong. §§ 301, 311 (2009), available at http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_cong_bills&docid=f:h2454ih.pdf.

9 American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115 (2009)

10 "See Richard H. Thaler and Cass R. Sunstein, *Nudge: Improving Decisions about Health, Wealth, and Happiness* (New Haven: Yale University Press, 2008), on the uses of "choice architecture"—decision-making frameworks such as cap-and-trade systems that guide individual choices to advance public policy goals.



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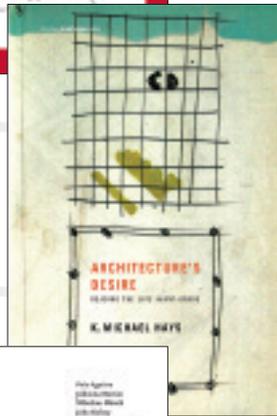
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