

## 13 Greening the City: Urban Environmentalism from Mumford to Malmö

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In the summer of 2001, a housing exposition was held in the Western Harbor area of Malmö, a city of some 250,000 inhabitants located in southern Sweden, just across the Öresund straits from Copenhagen. Bo01, as the expo was called (the Swedish word *bo* has about the same meaning as “reside” in English), was meant to put a new image of Malmö on the map of Europe, both literally and figuratively. On the one hand, it was a commercial housing exhibition, with many intriguing examples of environmentally friendly architecture and interior design. On the other hand, and much more ambitiously, the exposition was meant to provide a symbolic vision of the “city of tomorrow.”

In a part of the city that had lost its large shipbuilding operation and was in dire need of renewal, Bo01 became a site for the marketing of “sustainable urban development,” a cluster of ideas and practices circulating around Europe since the late 1980s. With the help of a newfound environmental consciousness, Malmö would cast off its industrial past and become a postindustrial city of the future; the exposition was thus an attempt to fashion a green image for the city. The Bo01 displays were meant to inform and educate visitors about the various aspects of sustainable urban development, as the organizers—who represented both the municipal government and local housing, construction, and energy companies—understood it. Their idea was not merely to protect or save the natural environment, but to make money while doing so, to integrate environmental concern into economic development as a kind of “green business” (Jamison 2001). Sustainable urban development was defined as having four components: environmental, social, technical, and human. Bo01 thus included displays about homelessness and the plight of immigrants, as well as energy conservation and environmentally friendly construction. In addition, a few imaginative gardens designed by landscape architects showed what an ecological aesthetic might look like.

Within the exposition grounds was also a site for a building that had not yet begun to rise in this city of tomorrow. At the time, it was just a huge hole in the ground, but the pictures and information material on display in the nearby exhibition hall made it clear that this was to be no ordinary structure. The Malmö office of the national cooperative association HSB (Hyresgästernas Sparkasse och Byggnadsförening) which had

been established as a cooperative society in 1928 to provide affordable housing for its mostly working-class members, had given Spanish-born architect Santiago Calatrava the opportunity to turn a sculpture that he had made into a 55-story skyscraper. The building was to be called Turning Torso and would represent “a bold vision in modern advanced architecture creating new values,” according to the exposition program; to live in it would be like living between “heaven and earth but closer to heaven” (Bo01 2001, 46, 108).

Like the *Twisting Torso* sculpture on which it was based, the skyscraper was to be a typically Calatran combination of adventurous architecture and experimental engineering. Yet it was unclear in what way, if any, it could be considered ecologically sustainable. Although the Swedish state had given several million crowns to the project for various environmental measures regarding energy use and waste disposal, the Turning Torso was not particularly environment-friendly. Nor was the project described as being a part of the solution to any pressing social problems of the city. It was, rather, in its architectural vision—its ambition to mix technical innovation with artistic modernism—that one could perhaps read in a relation to sustainable urban development. By being a building that was meant to last, and, as such, to “sustain” a modernist architectural sensibility into the future, the Turning Torso could perhaps be seen as an example of what the exposition program termed “technical sustainability.”

The building was expected to be ready for occupancy in the spring of 2003, but like the financial calculations of Bo01 as a whole, the time plan for the Turning Torso proved to be unrealistic. At the end of 2004, the building was still not completed, and very few of the extremely expensive apartments had been sold. Because of unusually large cost overruns, the director of HSB in Malmö, Jonny Öhrbäck, who had been the instigator of the project, had been forced to resign, and Calatrava’s design had shown itself to be more complicated and more expensive to build than had been originally anticipated. When the grand, official opening took place in 2005, however, Calatrava was hailed by city officials as a local hero, and the building was generally seen as the future symbol of Malmö that would help the city compete for the income to be derived from investors, tourists, and well-heeled new residents.

The tale of the Turning Torso provides a window into the world of sustainable urban development, and into the ways in which urban environmentalism has come to be appropriated into European cities. In the Western Harbor area of Malmö, Sweden, the city of tomorrow has met the architectural visions of the past, providing lessons for all who are concerned about the future of the city.

### Setting the Stage

The history of urban environmentalism can conveniently be divided into three phases, or, in dramatic language, three acts. The first act recounts how a cluster of urban eco-



**Figure 13.1**

Calatrava's Turning Torso is now occupied, but still (in 2007) not all of the Bo01 exhibition area has been finished. Photographer: Mikael Hård.

logical ideas and practices emerged in an early wave of environmentalism in the late nineteenth and early twentieth centuries. Drawing on the romantic critiques of industrialization, as well as theories and concepts from geography and history, urban reformers and “progressive” writers fashioned a cluster of social, political, and scientific ideas and practices that received a kind of paradigmatic articulation in Lewis Mumford’s book *The Culture of Cities*, published in 1938.

The second act begins in the 1960s, as part of the new environmental consciousness that developed in that era, when many of the earlier ideas were combined with new ones and circulated around the world. In many cities, experiments in such areas as environmentally friendly building construction, water management, park design, and energy use were carried out in housing blocks, neighborhoods, communes, and in many a previously derelict building or deserted field. In Berkeley, California, activists occupied an unused piece of land and declared it a “people’s park,” which brought on the police, as well as the wrath of the governor of California, the former film actor Ronald Reagan. In Copenhagen, a group of mostly young people moved into a deserted military base and soon declared it a free town named Christiania. During the ensuing decades, imaginative experiments in environmentally friendly living, in terms of design and architecture as well as lifestyle and behavior, would develop in this refuge.

Through their various information campaigns and protest activities, environmental organizations spread around Europe the ideas and practices of environmental protection and the vision of a green, or at least greener, city. In Berlin and Basel, in London and Amsterdam, as well as in many smaller cities of northwestern Europe, environmentally concerned architects and planners, as well as students and resident groups of various kinds, carried out experiments in “urban ecology,” often in collaboration with squatters or other community activists. As an example of what was happening, we will later pay a brief visit to an exhibition that was staged during the summer of 1976 at the Modern Museum in Stockholm, where some of the experiments in energy conservation and appropriate technology that were taking place around the world were on display. Activists also spread the environmental message in Malmö in the 1970s, protesting against some of the negative effects of industrial production and, in particular, the nuclear energy plant at Barsebäck, just up the coast. At the Kockums shipbuilding company in the Western Harbor, which was one of the largest employers in the city, local groups organized discussions about “alternative production.”

By the late 1980s, the plot had begun to thicken, or at least shift, as the greening of the city began to be reformulated into more instrumental terms, according to the doctrine of sustainable development. For cities, this doctrine was translated into a policy program of sustainable urban development. At the same time, new actors entered the scene, more or less upstaging the environmental movement “activists” who had played the leading roles in act two. The moral engagement of the activist was replaced

by the more specialized competence of the expert, and urban environmentalism was transformed into a professional activity. The third act follows a story line of appropriation, and tells of the tensions and contentions that have been associated with the implementation of sustainable urban development in particular settings, often as part of commercially oriented urban redevelopment projects.

Much of the visionary idealism that was so evident in the 1970s gave way to a more institutionalized activity, and professional roles were constructed around the quest for sustainable development (see Jamison 2005). As the greening of the city became the task of the specialized expert rather than the “movement intellectual,” the arenas or sites of activity became the municipal office and consulting firm rather than the open-ended public space of the environmental movement. Sustainable urban development was implemented primarily in and around those areas of municipal government and public administration, which were charged with effectuating Agenda 21, agreed upon at the World Conference on Environment and Development in Brazil in 1992.

As the ideas and practices of sustainable urban development have taken on a concrete form, and in many cities literally been brought to market in commercial redevelopment schemes of various kinds, the underlying contradictions have also become more visible. In Malmö, in the continuing unfolding of the tale of the Turning Torso, this is an act that has not yet ended; indeed, the entire “play” of urban environmentalism throughout Europe remains without an ending, since the tensions are yet to be resolved and the actual meaning of the efforts remains unclear and uncertain. Are cities, in the name of sustainable urban development, actually improving their environmental performance, or is “greening” in the process of becoming a marketing gimmick, helping cities compete for tourists and investments in an increasingly market-oriented and commercial age?

### The Emergence of Urban Environmentalism

The roots of urban environmentalism—what later became known as sustainable urban development—can be traced back to the late nineteenth century, when reform-minded movements and individuals confronted the multifarious challenges of the industrializing city in both Europe and North America. While European critics often looked back to the cities of the past and sought to restore or preserve preindustrial elements within the contemporary city, no such options were available in most of the urban centers of North America. In England, for example, the romantic poet and craftsman William Morris entered politics in the 1860s as part of the “anti-Scrape” movement to save what could be preserved of London’s preindustrial past. Whereas Morris and many other social critics in Europe objected to the ugliness of the industrial city and the loss of a sense of beauty in the industrial way of life, American reformers were, for the most part, more pragmatic in their critique of the industrializing city.

In North America, urban reform could not mean the glorification of the medieval past, for America had not had one. Rather, the rapid growth of the cities in the nineteenth century inspired what might be termed the “co-construction” of a new urban landscape. American cities were pioneers in their efforts to bring nature more intimately into the modern metropolis, and to keep these areas a bit more wild than those in the classic European cities. New York’s Central Park became a model for other cities to follow, as did its mixture of ethnic neighborhoods, the myriad of cultural enclaves that were to give the modern or modernist city its quintessential ambiance, or what Raymond Williams (1977) has termed “structure of feeling.” The environmental challenges faced by the industrializing American city would give rise to a new sort of urban philosophy that drew on ideas from Europe but related them to a new set of experiences (for the paradigmatic case of Chicago, see Cronon 1992).

As large numbers of immigrants fled to North America from oppression in Europe, such cities as Chicago and Detroit, where new industrial corporations were growing rapidly, became key sites for further reform efforts. Some of the older cities of the Northeast were also affected by the technical and organizational “innovations” that were serving to transform the American economy from a mainly rural and natural resource-based orientation to an urban and manufacturing orientation. The cities that developed were not simply in need of the greenery that parks and landscape architects could provide; they required, in addition, the expertise of new sorts of scientists and engineers who could deal with the pollution of the air and the water, and the variety of public health problems that were to be found both inside and outside the conglomerations of industrial production. As Jane Addams (1910/1961, 81–82) described Chicago, which she devoted her adult life to trying to reform:

The streets are inexpressibly dirty, the number of schools inadequate, sanitary legislation unenforced, the street lighting bad, the paving miserable and altogether lacking in the alleys and smaller streets, and the stables foul beyond description. Hundreds of houses are unconnected with the street sewer. . . . Rear tenements flourish; many houses have no water supply save the faucets in the back yard, there are no fire escapes, the garbage and ashes are placed in wooden boxes which are fastened to the street pavements.

The efforts to deal with these social and environmental problems have been characterized by historians as an important part of the “progressive” movement. Opinions have differed as to what the movement was all about (Jamison 1998), but there can be no denying that, in the period between 1880 and 1940, there was a widespread interest in the United States, among geographers, planners, sociologists, social workers, as well as politicians and so-called muckraking journalists, in the environmental problems of the industrializing city (Gottlieb 1993).

In 1906 the writer Upton Sinclair published his extremely influential novel *The Jungle*, depicting the plight of immigrants who worked in the meat-packing industry

in Chicago and providing a catalog of urban environmental problems. Meanwhile, at the University of Chicago, sociologist Robert Park developed an “ecological” approach to investigating the city that inspired a number of other reform-minded or action-oriented academics. One of those who was most strongly affected by these developments was the young writer Lewis Mumford, who came of age during the “progressive era” and served in the 1920s as secretary for the Regional Planning Association of America, one of the organizations that tried to act on the disclosures of the muckrakers and the theories of the human and urban ecologists.

Mumford played an important role in consolidating the ideas and practices of urban environmentalism. He combined an interest in planning and technology with a passion for cultural history, and throughout his long life, in his many writings about the city, he sought to apply an ecological perspective to urban issues. His own mentor, as he called him, was the Scottish geographer Patrick Geddes, but he was also influenced by the economist Thorstein Veblen, the philosopher John Dewey, and the regional planner Benton McKaye (Hughes and Hughes 1990). As a public intellectual, Mumford served to popularize a wide range of academic work, making the ideas of urban environmentalism accessible for a broader audience, as well for officials and authorities in cities around the world.

From his first book, *The Story of Utopias* (1922), to his magnum opus, *The City in History* (1961), Mumford provided a highly personal philosophy of urban environmentalism. In his critiques of modern architecture, highway construction, military technology, and functionalist urban planning, Mumford continually tried to argue for a better balance between the mechanical, instrumental approaches of the “modernists” and the concern for the organic, the natural, and the living that characterized romantic critics of contemporary society. As he put it in the introduction to *The Culture of Cities* (Mumford 1938, 9),

Today we begin to see that the improvement of cities is no matter for small one-sided reforms: the task of city design involves the vaster task of rebuilding our civilization. We must alter the parasitic and predatory modes of life that now play so large a part, and we must create region by region, continent by continent, an effective symbiosis, or co-operative living together. The problem is to co-ordinate, on the basis of more essential human values than the will-to-power and the will-to-profits, a host of social functions and processes that we have hitherto misused in the building of cities and politics, or of which we have never rationally taken advantage.

Mumford developed an approach to the city that attempted to place planning efforts in relation to the natural environment in which the city was located. The city was to be seen as a kind of living organism, and his lifelong effort was to bring the forces of life—as understood by biologists as well as artists—into the planning process. “Every living creature is part of the general web of life,” he wrote, and that ecological understanding had to become a part of urban planning:

As our knowledge of the organism has grown, the importance of the environment as a cooperative factor in its development has become clearer; and its bearing upon the development of human societies has become plainer, too. If there are favorable habitats and favorable forms of association for animals and plants, as ecology demonstrates, why not for men? If each particular natural environment has its own balance, is there not perhaps an equivalent of this in culture? (Mumford 1938, 302)

Mumford's ideas about city planning were perhaps more influential in Europe than in his native United States. In the decades after the Second World War, American cities tended to metamorphose into urban sprawls, the greater metropolitan regions that included the surrounding newly built suburbs and the extensive highway networks that came to transform the environment in fundamental ways. With a column in *The New Yorker* and his many articles in architectural and planning journals, Mumford would be one of the more vocal public critics of the process. Biologist Rachel Carson, conservationist Fairfield Osborn, and Mumford can be considered some of the key "ecological intellectuals" who in their public educational activity would help plant the seeds for the eventual emergence of a new kind of environmental activism in the late 1960s (see Jamison and Eyerman 1994).

#### **Urban Environmentalism in Circulation**

The environmental movement was one of the outcomes of the tumultuous 1960s in both Europe and North America. As part of the "cognitive praxis" or knowledge production of the environmental movement, a wide range of urban environmentalist ideas and practices began to circulate, both across the Atlantic and across the national borders of Europe. Economic and social developments after the Second World War had brought with them a range of environmental problems—from the air pollution that contributed to the photochemical smog that Arie Haagen-Smit had identified in the skies of Los Angeles in the 1950s to the toxic waste sites that had spread like a plague across the urban landscape, as the middle classes had fled to the suburbs, to the poisoning of the rivers that had previously connected urban centers to one another. Many were the voices in the 1960s that sought to educate the public about this "environmental crisis," and by the end of the decade, a new kind of political agency had emerged in the form of activist organizations, concerned scientists, and engaged citizens (see Jamison 2001).

This process was very open-ended, both in terms of participation and in terms of the ideas and practices that were considered important to circulate. Through most of the 1970s, urban environmentalism was thus a multifaceted "social movement" that combined a variety of disparate activities and political interests in one all-encompassing and temporary public space (Eyerman and Jamison 1991).



In the summer of 1972, the United Nations held a conference in Stockholm on the human environment that is generally considered to be one of the formative moments of the international environmental “movement” (McCormick 1989). At the time, many national governments had begun to set up state agencies to deal with the new public issues of environmental protection, which were then characterized primarily as air and water pollution and the management of waste. Major research programs in environmental science and technology were also inaugurated at academic institutions and within intergovernmental and nongovernmental organizations. In North America and in many European countries, new laws were passed for regulating the environmental behavior of private and public citizens, and a number of environmental action groups were created around the world. The Stockholm conference served to legitimate and introduce to a much wider public these various ideas and practices that had begun to be carried out in the name of environmentalism, and helped stimulate the circulation of urban environmentalism around Europe.

On the eve of the conference, a development economist, Barbara Ward and an experimental biologist, René Dubos, published a book that helped set the agenda for the coming deliberations: *Only One Earth: The Care and Maintenance of a Small Planet* (1972). Also important in this period was the international bestseller *The Limits to Growth*, written by a multidisciplinary team of experts commissioned by the Club of Rome to forecast the future development of the world’s resource and energy use, using some of the new-fangled computer modeling techniques that had emerged in the post-war period.

In many European cities, groups of activists with an interest in architecture and construction carried out experiments in what started to be called “urban ecology.” There were also a number of sites for collective living in which recycling of waste products and workshops for alternative, environmentally friendly technology were established. In London, a group of such activists put out the journal *Undercurrents* for many years, and in the mid-1970s produced the anthology *Radical Technology* in which many of these alternative ideas and practices were presented (Boyle and Harper 1976). Both the journal and the book were central agents for circulating what David Dickson (1974) at the time termed “utopian technology.” In relation to transportation, building construction, energy production and use, agriculture, and even communication, loosely organized activist networks tried to put into practice the vision of an ecological or “green” city as an intrinsic part of the larger movement protesting environmental degradation and opposing nuclear energy.

In Copenhagen, the activists who had settled in Christiania began to make ecological products and to undertake projects of ecological building construction and design, creating an alternative community in the middle of a modern city. Similar but smaller attempts to “liberate” parts of major cities from their environmentally deleterious

surroundings took place in West Berlin, Amsterdam, and Vienna, as well as in many smaller cities. Environmentally concerned architects made major efforts at what was called ecological urban restructuring in West Berlin, where several neighborhoods and housing developments were subjected to ecological city planning (see Hahn 1987). Shut off from the countryside around them, biologists in West Berlin also pioneered the study of urban ecology; in their scientific activity, they combined an environmental consciousness with an interest in urban planning.

A brief look at the ARARAT exhibition (Alternative Research in Architecture, Resources, Art, and Technology) held in Stockholm in the summer of 1976 might help the reader remember the kinds of experiments and practices that were circulating around Europe at the time. On Skeppsholmen, the museum island just across the water from the royal castle and the national parliament, the alternative-technology movement put its practices on display for the entire summer (ARARAT 1976). There were geodesic domes and low-energy houses with construction and design techniques that were purported to produce more energy than they utilized; there were solar heating panels and wind power plants in various shapes and sizes; there were prototypes of community gardens and urban agriculture; and, not least, there were seminars and lectures on ecological design and architecture, focusing on the application of the concepts and principles of ecosystem ecology to the design and construction of buildings and other artifacts.

Many of the architects who planned the ARARAT exhibition had been associated with the Center for Interdisciplinary Studies at Göteborg University. One of the early institutional forums for the study and teaching of human ecology in Sweden, the center still serves as a focal point within the university for environmental science, now sometimes called "sustainability science." The ARARAT exhibition was a major event, as were many of the other displays of urban ecology in the second half of the 1970s. In the name of small-scale, appropriate technology, many development assistance projects helped to circulate environmental ideas in general and urban environmental ideas in particular from countries like Sweden to other parts of the world. Urban environmentalism had perhaps its main impact in the 1970s in this developmental context.

In Europe, much of this experimentation with urban ecology and utopian technology fell on hard times at the end of the 1970s, when conservative governments came into office and an ideological "backlash" was felt throughout Europe and North America. An economic downturn during the same period also made ecological experimentation less interesting for many European cities and governments, and so, in general terms, one can refer to the first half of the 1980s as a time of short-term decline for urban environmentalism. Instead of experimenting with urban ecology, the technically minded became fascinated by the potential of personal computing and what were seen as the enormous possibilities, both economic and social, of using the new information technologies. A kind of high-tech fever infected European society, espe-

cially in the cities (cf. Heßler, this volume), and it became difficult for urban environmentalism to gain new adherents.

In many of the northern European countries, the energy debates of the late 1970s had served to bring environmental politics into the established parliamentary and governmental arenas. Even though nuclear energy was more or less removed from the political agenda at the end of the 1970s either by parliamentary decisions or public referenda, the energy debates led to a transformation of the environmental movement into a much broader and more differentiated network of political actors. In the course of the 1980s, environmentalists thus came to take on more specialized and professionalized social roles and identities. New types of activism emerged, as well as more delimited kinds of professional expertise. Some 15 years after Stockholm, when the World Commission on Environment and Development, headed by the Norwegian medical doctor turned politician Gro Harlem Brundtland, published its report, *Our Common Future* (1987), the concept of “sustainable development” was launched as a new approach to environmental policy. By linking environmental concern with socioeconomic development, what had primarily been until then an idealistic political program of “saving the earth” was transformed into more specialized and instrumental projects of sustainable development. At the World Conference on Environment and Development, held in Rio de Janeiro in 1992, the concept of sustainable development was made the cornerstone of the document that most of the participating governments agreed upon (the president of the United States refused to sign the agreement, with the justification that “our life-style is not for negotiation”). It was with the signing of this document, the so-called Agenda 21, that the curtain falls on act two.

### The Appropriation of Sustainable Urban Development

*Only One Earth* and *Our Common Future* were hybrid documents, in the sense that they combined the expertise and experience of different kinds of scientists and other experts into a new “synthesis.” In *Only One Earth*, a biologist and an economist collaborated in trying to forge a new idea about environmental politics, linking the expertise of the social and natural sciences into a program of caring for the environment; and *Our Common Future*, the politicians, business people, scientists, and environmental activists on the Brundtland commission worked out another kind of political program, linking the language of economic development with the “environmentalisms” that had been articulated in the 1970s. The conferences at which the ideas were presented—Stockholm in 1972 and Rio in 1992—can similarly be considered hybrid events, in the sense that they brought people with different interests together for deliberative purposes. They provided contexts of mediation, or sites of hybridization, that offered new opportunities for environmentalists with more specialized interests and competence. Somewhat different professional roles, were constructed in relation to the

different facets of sustainable urban development. Following the distinctions made in the Bo01 program, we can characterize the forms of professional expertise as ecological, social/human, and technical.

Ecological sustainability calls for a natural science expertise, usually derived from systems ecology; the aim is to find particular ecosystems and ecological niches in the urban landscape where various practical measures can be taken to make the city “greener.” Social sustainability involves combining environmental ideas with concepts from the social sciences and humanities. Especially in Europe, sociologists and political scientists have articulated a discourse of ecological modernization in order to provide an overarching theory to the various projects. Technical sustainability, on the other hand, has been articulated in new approaches to architecture, construction, technology, and design, and in new criteria of technological innovation, which have been characterized by such concepts as industrial ecology, cleaner production, environmental management, renewable energy, and eco-efficiency.

At an institutional or organizational level, agents of sustainable urban development have carved out spaces within the public and private spheres to carry out their projects. In Malmö and many other cities in Europe, these sites of mediation were originally associated with Local Agenda 21 activities that were established, following the Earth Summit in 1992, in order to promote various kinds of environment-friendly behavior at the local level (for an overview, see Lafferty 2001). In traffic planning, energy utilization, waste management, water use, and not least access to “green areas,” cities across Europe have instituted a large number of projects of urban ecology, human/social ecology, and industrial ecology. Sustainable urban development has become a new organizational field, where specialized experts work at the interface between the public and private sectors to link environmental concern with socioeconomic development.

The people who are employed to work on these projects have been expected to apply their specialized training, usually in environmental science or engineering. Ecological sustainability projects have often involved the application of biological, ecosystems ecology to the activity area of one or another municipal authority (for traffic, construction, energy, parks, etc.). The practitioners have thus developed, in one way or another, a kind of professional identity as an environmental city planner, in an emerging field of expertise that can be characterized as urban ecology. In Malmö and other Swedish cities, the term “city ecologist” (*stadsekolog*, or *kommunekolog*) is sometimes used to refer to this professional role.

The pursuit of social or human sustainability has involved primarily communicative activities and what might be called a social ecological expertise. This kind of competence is fostered, among other places, in urban planning departments and “human ecology” programs at universities, as well as in the environmental subfields of the various social sciences (environmental sociology, environmental economics, etc.). In

Denmark, a special “green guide” program was established in the 1990s to place environmental change agents within public sector organizations and schools, and in Malmö, and other parts of Sweden, environmental communicators have emerged in the form of expert advisers to municipal authorities and private companies. The environmental consultants for Bo01 were recruited both from the landscape architecture and planning divisions of the nearby Agricultural University in Alnarp, as well as from the International Institute for Industrial Environmental Economics in Lund.

Technical sustainability has generally been pursued by instituting procedures and practices of environmental management in business firms. On the institutional level, this has taken the form of what are generally referred to as environmental management systems, or departments of environmental management. There have been a number of recent developments in such areas as cleaner technology, pollution prevention, waste minimization, ecological design, and architecture, as well as more specific forms of “green engineering” in some fields of science and technology (green chemistry, green biotechnology, renewable energy, energy planning, etc.). In Malmö, a green roofs initiative has been established to carry out a number of projects in ecological construction. A number of technical experiments with energy-saving, “sustainable” traffic planning and water-use management have also been undertaken in different parts of the city, especially in the area of Augustenborg.

In many European cities, some projects in sustainable urban development have occurred explicitly in the private sector, creating networks that link “environmental managers” from different companies with one another. These kinds of urban partnerships between the public authorities and private companies have envisioned a potential for growth and urban renewal in the quest for sustainable development. But in many such efforts the environmental aspects have tended to be downplayed while the commercial aspects have taken on the primary importance. One example of a private-sector sustainability endeavor is the Sustainable Business Hub established in Malmö during the 1990s, which arranges conferences, produces information material for local business people, and provides contacts with national and international networks, such as the World Business Council for Sustainable Development and the Greening of Industry Network. Within companies, the variety of technical activities has given rise to a range of “ecodesigners” or industrial ecologists at various points in the production process. But in many of these projects, as the events in Malmö well illustrate, it has proved difficult to achieve a balance between the economic and the environmental (see, e.g., Sandström 2002 on organizational approaches to greening).

Sweden set up a special fund in 1995 to support “local investment projects in sustainable development” (the so-called LIP money), and the city of Malmö was successful in obtaining many hundreds of millions of Swedish crowns to carry out projects in sustainable urban development. The Agenda 21 office was gradually transformed into

a LIP office, and in the late 1990s, Malmö carried out a large number of different projects in sustainable urban development with the support of LIP money. There were also activities—both projects and networks—that were funded by the European Commission, in the form of partnerships with other cities in Europe—in particular, Newcastle, Venice, Tampere, The Hague, Leipzig, and Vienna. One such network, with the acronym PRESUD (Peer Review in European Sustainable Urban Development), has brought partners from other European cities to Malmö to evaluate its efforts in sustainable urban development. As could be expected, the visitors found many positive features but also a good many problems. Sustainable urban developers from Malmö have also participated in a number of looser networks, both within Sweden and internationally. In 1994, the so-called Aalborg Charter was formulated at a Sustainable Cities and Towns in Europe conference, and has provided guidelines for carrying out projects in sustainable urban development. By the late 1990s, when the upcoming Bo01 housing exposition began to be planned, the organizers had to find ways to bring these various activities in sustainable urban development into the planning process. It was time, we might say, for sustainable urban development to go to market.

### **The Tale of the Turning Torso**

The Bo01 exposition was to be held when the new Öresund bridge connecting Malmö and Copenhagen was finished, and it seemed only natural that the exposition should be not merely a traditional housing exhibition but something bigger and more ambitious. The mayor of the city, the local leader of the Social Democratic party, Ilmar Reepalu, had been educated as an architect, and had already shown his political acumen by successfully convincing the national government to support the founding of a university college in Malmö.

Reepalu was not alone in seeing the upcoming exposition—and the reconstruction of the Western Harbor area, where the exposition was to be held—as an enormous opportunity for Malmö to improve its reputation. It had long been viewed as a drab, working-class city in the shadow of cosmopolitan Copenhagen. Because money from the LIP program could be obtained in greening the city, it was decided that the exposition would focus on sustainable urban development, and thereby encourage the exhibiting companies to think about projecting a more ecological image. A group of housing officials, municipal civil servants, and representatives of both companies and environmental organizations was set up to plan the exposition, which gradually grew into a major manifestation. Bo01 received some 250 million crowns (and Turning Torso about 5 million more) from LIP, and funds were collected from many other sources for what became an effort to market Malmö as the sustainable city of tomorrow. The budget could not be kept, however, which led to the bankruptcy of the planning committee soon after the exposition was closed down.

While other cities in the vicinity had recently held housing exhibitions—the suburban town of Staffanstorp (see figure 12.4) had held one in 1997 and Helsingborg, a larger city up the coast, had held one in 1999—Bo01 in Malmö was thus going to be something different. It was not only, or even primarily, to be about housing; it was going to be about sustainable urban development. Landscape architects were invited to create imaginative gardens, to bring out some of the more complicated natural processes involved in sustainable urban living (what happens to waste and how water is supplied and managed, for example). Unfortunately, the gardens were destroyed after the exposition, as were most of the ecological restaurants and cafés that dotted the grounds. There was an exhibit about social problems, with films and lectures portraying the dark sides of the contemporary city. Efforts were made to involve immigrant groups in the exposition, but it proved difficult to compete for their time due to their involvement in the annual Malmö festival, a free cultural manifestation and urban fair that is held for a week every August. Sydkraft, the local energy company, devoted an entire building to its work with renewable energy, which included demonstrations to



**Figure 13.2**

Ecologically inspired, low-energy row houses in the Bo01 exhibition area in Malmö. Photographer: Mikael Hård.

explain how the city of tomorrow could be self-sufficient in terms of energy use. "Taking the year as a whole," Sydkraft wrote in the exposition program, "the number of kWh consumed equals the number generated" (Bo01, 48–49).

According to the advertising and marketing, the prime purpose of the Bo01 housing expo was public education (what in Swedish is called *folkbildning*) in the broadest sense. According to the program, Bo01's ambition was "to start a debate on how we wish to live in the city of tomorrow," and a wide range of educational institutions and cultural debaters had been invited to take part in discussing what the program called "active citizenship" (Bo01 25). For anyone who visited the exposition, it was clear that the organizers wanted sustainable urban development to be a multifaceted cultural process that required the emergence of new ideas and practices, but, perhaps most importantly of all, new values and identities. A few years later, however, it is rather difficult to find those values embodied in the expensive and rather impressive housing that was built in the area. Instead of fostering new ecological values, the Western Harbor area has become most renowned for being the site of the Turning Torso.

In 1998, Santiago Calatrava, who had unsuccessfully bid for the design of the Öresund Bridge, attended a meeting at which plans for the bridge and the exposition were presented. Jonny Öhrbäck, the director of the Malmö office of the HSB housing company, which was one of the active partners in the Bo01 consortium, talked with Calatrava about the possibility of his making a contribution. A few months later, Öhrbäck and a group of city officials visited Calatrava in Switzerland in order to discuss further what his contribution might be. During that visit Öhrbäck saw a model of the *Twisting Torso* sculpture and had the idea that Calatrava should design a building based on it for the exposition site. Calatrava had not designed apartment buildings before but found the idea intriguing, and not long thereafter, the contract for the Turning Torso was signed.

Santiago Calatrava is one of the more outspoken modernist architects of our time, but he is not noted, in any of the voluminous literature about him, for an environmental sensibility or an interest in sustainability. Educated in architecture and engineering, he made his reputation by designing bridges and railway stations that combine artistic creativity and a fascination with processes of physical motion and what he has termed the "foldability" of metal materials (Jodidio 2003). Calatrava's constructions display an aesthetic interest in abstraction and a susceptibility to what Mikael Hård and I have elsewhere called "technological hubris": doing the impossible and transcending previously recognized limits (Hård and Jamison 2005). There is an experimental playfulness in his work that is reminiscent of Antoni Gaudí and Joan Miró, two of his main sources of inspiration. And there is certainly an impressive symbolic ambition in everything he does: as he has said: "I believe that one of the most important tasks is to reconsider the periphery of cities. Most often public works in such areas are purely



functional, and yet even near railroad tracks, or spanning polluted rivers, bridges can have a remarkably positive effect. By creating an appropriate environment they can have a symbolic impact whose ramifications go far beyond their immediate location" (Hård and Jamison 2005, 12). This interest in what Calatrava calls "transgression" has characterized modern architecture since it first emerged in the nineteenth century. In the words of Lewis Mumford (1963, 166), "the first erections of modern architecture, beginning with the Crystal Palace in 1851, rested on a firm foundation: the perception that the technology of the nineteenth century had immensely enriched the vocabulary of modern form and facilitated modes of construction that could hardly have been dreamed of in more ponderous materials." The natural environment was not so much to be respected and lived *in*; rather, the aesthetic ambition of modern architecture—especially as it grew into the modernism of Le Corbusier and others—became the transcendence of the natural surroundings and their replacement by the artificial and abstract "nature" visualized and given material form by the designs of the technologically infatuated architect. To live in the Turning Torso is to live in a work of art; it is certainly not to adapt one's way of living to the surrounding environmental conditions. It is perhaps not too surprising that there were not very many people in Malmö who were initially interested—or rich enough—to acquire one of the apartments; in a city afflicted with more than its share of homelessness and suffering from a high degree of cultural segregation in its housing "market," the building can be seen to represent a rather problematic interpretation of sustainable urban development.

### Conclusions

The tale of the Turning Torso offers an illustrative example of the cultural tensions of sustainable development in general and sustainable urban development in particular. The quest for sustainable development has met a number of constraints since it was articulated as the cornerstone of a new international "agenda" in Brazil in 1992. The ambitions of sustainability have been countered by the commercial ambitions of the global marketplace, as well as by the aesthetic assumptions of modern architecture.

From such a perspective, the Turning Torso represents, in a particularly unholy alliance, the twin pressures of the market and the past. Together, commercialism and modernism have reduced sustainable urban development to the traditional urban planning project of constructing impressive buildings. Of course, the construction plans have paid lip service, conveniently enough with the support of LIP money, to environmental concerns—renewable energy and building materials were to be used, wherever feasible, and ecological design was to be encouraged in the individual apartments—but the discourse in which the building is presented is undeniably modernist. And as it towers over the rest of the city and indeed the rest of southern Sweden,

the Turning Torso provides a symbol for the contemporary city that seems remarkably like the symbols of the past. Instead of the huge Kockums crane—Malmö's industrial symbol par excellence, which has been shipped off to South Korea along with the ship-building business—an artistic skyscraper reaches for the sky, telling an all too traditional story of technological hubris. The city of tomorrow has thus been captured by the modernist architecture of yesterday, and while the quest for sustainable urban development continues to take place in Malmö, the future seems to have been postponed.