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Wastelands in the Evolving Metropolis

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Abstract

Managing the wasting of places is a major role of the urban planner and designer. Indeed, the appropriate management of waste is essential to achieving a sustainable environment. The processes of urban wasting operate throughout the metropolis and at multiple scales. Many American cities are experiencing abandonment and decay in their aging centers. At the same time, other kinds of wasting take place in the developing fringe as suburbia sprawls into greenfields. The problems and possibilities of managing urban wastelands at the city center and edge are explored.

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Waste and its management are an underlying theme in much urban planning and design. This paper explores waste and wastelands in the urban spatial environment: the meanings, values, and implications for the design and planning of cities. Cities are filled with waste spaces—derelict land, vacant buildings, unused rooftops, abandoned factories and rail yards, and the spaces under and around freeways. The processes of urban wasting operate throughout the metropolis, from center to edge, and at multiple scales. Historically, urban growth patterns of American cities have been concentric, with each growth spurt adding new rings to the core. The growth edge becomes the area of highest value for a time, while the central core and inner rings decline in value. Over the past three decades, many American cities have experienced abandonment and decay in their aging centers. As cities expand, new infrastructure is built in greenfields at the edges, while old infrastructure is often abandoned.

Detroit is an extreme example of center abandonment. Homes and whole neighborhoods have been abandoned, burned, or allowed to decay and are now reverting to wild nature. Even high-rise office buildings and department stores, the thriving heart of this industrial city 30 years ago, stand empty. The phenomenon is found to a lesser degree in many other cities such as St. Louis, Oakland, Chicago's southeast side and the South Bronx in New York.

As the center is being emptied, another kind of wasting is occurring at the growth edge as urbanization expands into productive agricultural land. Excess mobility has made possible such abandonment, but at a price: meaning, identity, transport efficiency, and air quality have declined. The emerging urban pattern is typically an automobile-dominated landscape with a vast amount of land devoted to transportation infrastructure.

Conceptions of Waste

It is not easy to define the concept of waste, and the more we think about it the more complex it becomes. Waste can be something unwanted or unneeded, something left over after its primary value has been taken, something ruined, or simply unused. In his pioneering work on waste and the environment, *Wasting Away*, Kevin Lynch attempted to broaden our understanding of waste. "Waste," he wrote, "is what is worthless or unused for human purpose. It is a lessening of something without useful

result; it is loss and abandonment, decline, separation and death. It is the spent and valueless material left after some act of production or consumption, but can also refer to any used thing: garbage, trash, litter, junk, impurity and dirt. There are waste things, waste lands, waste time and wasted lives" (Lynch, 1990).

Cities have major concentrations of waste. The promontory or "tell" that modern-day Arbil (ancient Arbela) in Iraq stands upon is actually the accumulated waste of the previous 6,000–8,000 years of continuous habitation. Wasting is particularly evident in the postindustrial landscape of American cities. With the restructuring of the economy following World War II, there has been a major decline in heavy industry and a shift to high technology and information processing, leaving behind industrial zones of derelict or underused buildings, storage yards, and rail corridors. In many cities, like Oakland and Detroit, these industrial corridors run along water edges and are paralleled by rail and trucking lines. Old factories, warehouses, and industrial yards that are no longer productive stand in a state of partial decay (Fig. 1). The defense industry and warfare in general have been major producers of waste and dereliction. Many military bases were closed after the end of the Cold War, leaving behind huge amounts of land and many facilities that could not readily be adapted to other uses. Obstacles to base reuse include contaminated land, airfields with massive bomb-resistant concrete runways, training fields with unexploded ammunition, huge hangars for equipment repair and storage, and abandoned or outdated weapons, ships, and planes.

Are waste and abandonment a byproduct of progress? Throwaway cities would seem to result from capitalist economies that encourage the production of waste spaces in their emphasis on efficiency and profit. Short-term investment horizons are typical and the long-term costs of wasting are ignored. Companies simply move to new locations that offer better economic advantage. Yet the phenomenon of urban wasting is hardly unique to capitalist America. Following a Marxian analysis, the implicit conclusion might be that non-capitalist economies would avoid the problems of dereliction. This, of course, has not been true, and the reasons for it are quite different. Following the break-up of the Soviet Union, vast landscapes in former Soviet bloc countries have fallen into dereliction and are filled with inefficient, unproductive, contaminated industrial facilities. The residential infrastructure, too, is in a state of serious decay after decades of neglect.

The Process of Dereliction

Urban dereliction begins gradually and passes through several phases, which may take years or decades. The creation of waste space

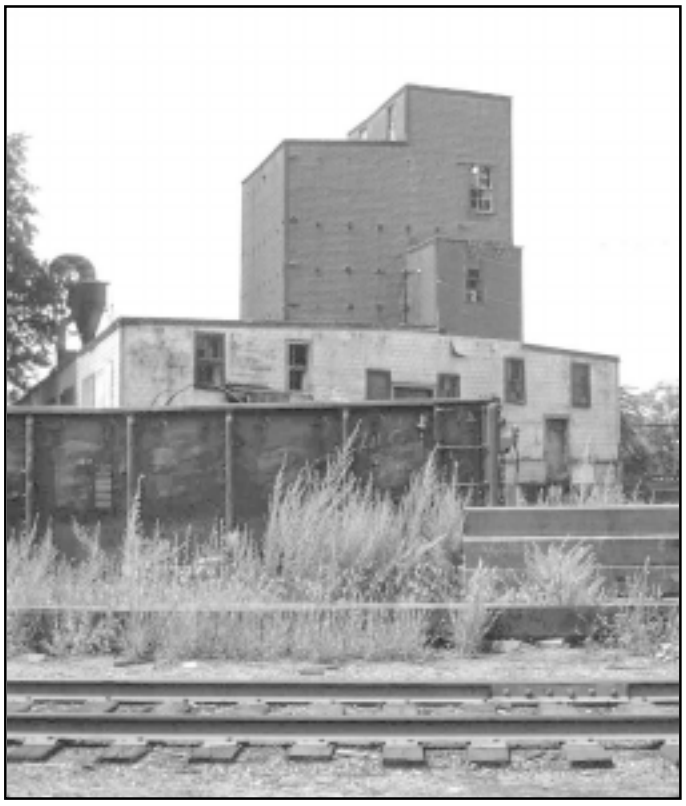

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Figure 1.
Brownfields are a product of the post-industrial age.

often begins with gradual and unintentional decline. Dereliction attracts waste. Paint peels, weeds grow, broken windows are not repaired, and trash piles up. Economic shifts often lead to dereliction. After the Civil War, the fine nineteenth-century textile mills of New England were abandoned as the mills sought cheaper labor in the South. Then these mills were abandoned in yet another industrial shift to South America.

Jakle and Wilson (1992, pp. 86–91) have analyzed the phases in industrial dereliction. First, facilities are mothballed but maintained in hopes of future reopening. Next, disinvestment and underutilization begin, accompanied by a decline in maintenance. Then the site is cannibalized for useful materials and machinery; space is subdivided and leased or left vacant. Full abandonment and decay then take over. The process concludes in demolition.

Often called "brownfields," in contrast to "greenfields" at the urban edge, industrial wastelands comprise 5-10% of the metropolitan land area (Brewster, 1998). It is estimated that there are at least 400,000 brownfield sites in the US, especially in the Midwest and Northeast. California alone has more than 38,000 brownfield sites (Brewster, 1998; Pepper, 1998). These are often situated within declining districts that have aging streets and other infrastructure. Their locations may be perceived as marginal, and they may be contaminated by decades of industrial use. Rather than sell them or turn them over to new users, owners of brownfields sites often prefer to shut down the properties completely and fence them off in order to avoid problems. Such urban wastelands are not easy to redevelop and municipal governments have provided few incentives to undertake such projects. There often are health and safety risks, high clean-up costs, a complex regulatory environment, delays in the planning and construction process, and the possibility of long-term liability. Thus, they are passed over in favor of fresh land at the urban edge where development is much easier and more profitable (Brewster, 1998; Pepper, 1998).

Yet these urban wastelands represent a major resource for future development in the central city. Urban wastelands are often strategically located with respect to the larger metropolis along established rail or highway transportation corridors and near existing centers of population. Frequently they occupy water edges that potentially have high amenity value for future housing and recreation development. They may occupy wetlands which, when restored, will be of ecological value for the entire region.

The Values of Wastelands

Waste is a pejorative term—something unwanted—but are derelict landscapes necessarily undesirable and to be avoided? Not all waste is bad. Urban wilderness may have many values: social, economic, aesthetic, ecological. A dereliction-free world would be sterile and oppressive. Cities actually benefit from a certain amount of land and structures that are underutilized, lying dormant for some future, unknown purpose. Urban wastelands can provide adaptability for future change. Derelict places can provide habitats for new uses, new users, new ecologies to take root and develop. While such spaces may appear to be useless or unused, upon closer inspection one often finds they do have uses, albeit marginal ones—for storage, for dumping, even for shelter for the homeless (Fig. 2).

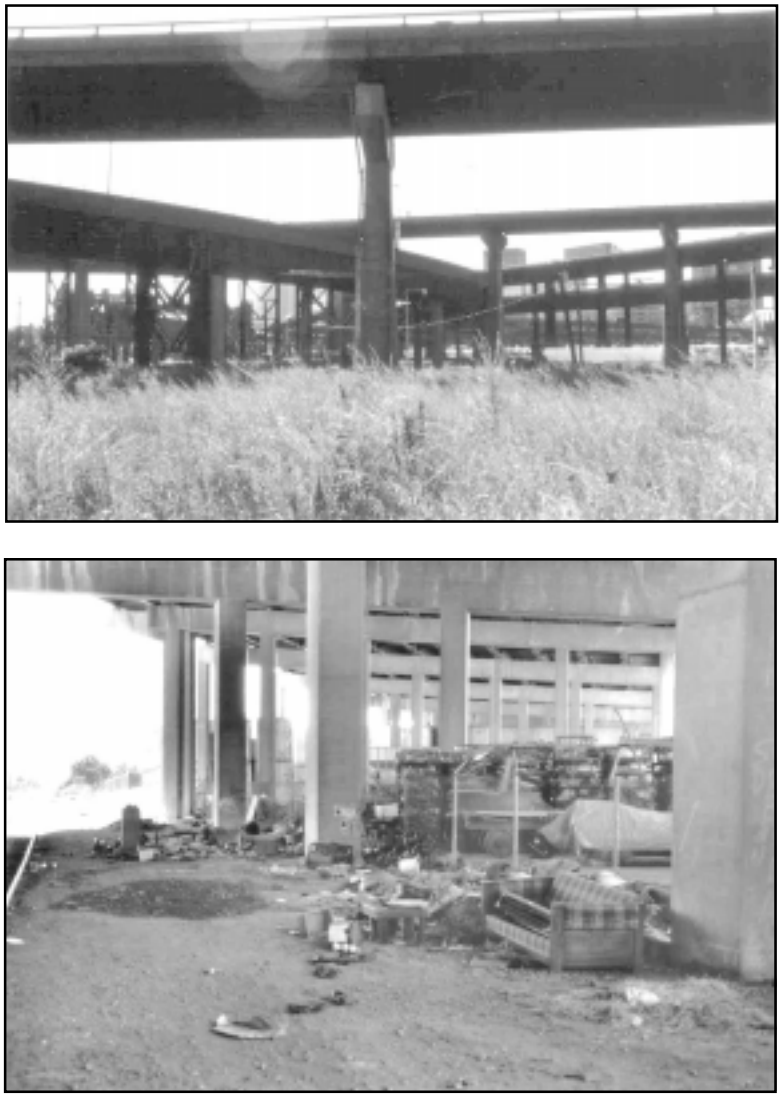

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Figure 2.
Derelict places can provide habitats for new uses, new users, new ecologies to take root and develop.

Urban wastelands can also provide places for discovery, experimentation, challenge, and retreat. The favorite play spaces for children and teenagers are often not the playgrounds designed for them, but derelict places: weed lots, back alleys, junk yards, railway corridors. Here they can be free to discover the world, to find special places, to experiment. These messy, overgrown places strewn with junk are relatively free of social control and provide habitats where outdated things can survive and new ones may gain a foothold (Fig. 3).

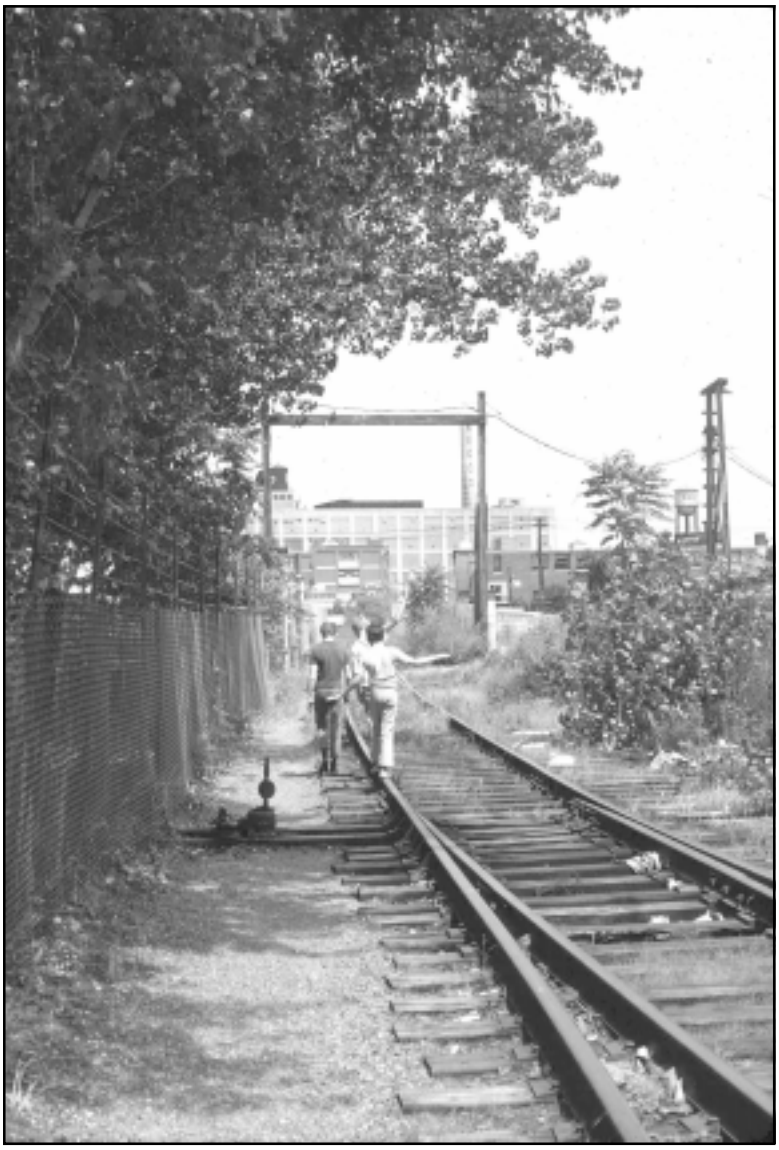

Figure 3.
Urban wastelands are often the favorite play spaces for children and teenagers.

Similarly, artists often feel most creative and stimulated in spaces and neighborhoods that appear to be somewhat neglected or rundown. They often seek low rent spaces that have lost their usefulness for industry because they provide freedom to work away from the high rents and restrictions of the city center. The openness and responsiveness of such landscapes can encourage the exploration and experimentation important in human growth and development, whereas perfectly orderly and controlled environments can inhibit.

These urban "sinks," however unattractive, have their own values and delights. Over time, ruined and derelict places often acquire special aesthetic and emotional appeal. They invite exploration and fantasy. "Hesper" and "Luther Little," the abandoned nineteenth-century schooners in the harbor of Wiscasset, Maine, symbolize the end of the seafaring age. Useless for transport, they have become picturesque waste, drawing photographers, painters and tourists (Fig. 4).

Figure 4.
Ruined and derelict places often acquire special aesthetic and emotional appeal. "Hesper" and "Luther Little," abandoned schooners in the harbor of Wiscasset, Maine, have now become picturesque waste attracting artists and tourists.

Of course, not all urban waste is benign or of potential value. Toxic wastes from chemical spills and nuclear disasters—such as Love Canal, Bhopal, and Chernobyl—are irreversible and permanently affect lives and places, making them uninhabitable. Dereliction and decay on a massive scale as found in Detroit can kill the spirit of a city, making it nearly impossible to envision a bright future. When it was suggested that Detroit turn its abandoned and derelict neighborhoods into a park of ruins in the manner of the Roman Forum or Pompeii, citizens were outraged. For them, there was nothing romantic about their own ruins.

Recycling Urban Wastelands

It is far easier to throw something away than to find a new use for it. Yet to achieve more sustainable cities, it will be necessary to begin to deal with the enormous waste landscapes we produce. Some of these urban wastelands are in prime locations with water views or excellent access to the central city. Many, however, are in or near depressed neighborhoods, a deterrent to investors.

Nevertheless, there are numerous examples of successful recycling of urban wastelands. After the fall of Rome, the ancient temples and monuments were recycled. First, they were abandoned and fell prey to vandals and invaders. Then squatters settled in them, and the church quarried their marble to make new monuments. The Theater of Marcellus, originally a Roman amphitheater, became a family fortress in the twelfth century and then the palace of the Savelli family in the fourteenth century. Today, its partially standing shell houses apartments (Fig. 5).

The nineteenth century mills and canals of New England have outlived their usefulness for the textile and shoe-making industries. After decades of dereliction, they have been rediscovered for use as housing, schools, museums, and high-tech industries. In Lowell, Massachusetts, the first planned mill town in America, the derelict mills and 5.6 miles of manmade canals have been reinvented as an Urban National Historical Park focusing on the early industrial history of New England. The canals have become a linear parkway for pedestrians, bicyclists, and canal boats. Restored sites include a textile mill museum, a mill girls boarding house museum, dams, water-powered turbines, and locks. With a new focus on tourism and technology, the city's image and the economy have turned around (Southworth, 1974) (Fig. 6).

Germany's Ruhr Valley, once a formidable mining and steel producing region, has lost its economic value, leaving both the industrial landscape and the lives of the people in it in a depressed state. In 1989, planners, landscape architects, architects, artists, and historians became

Figure 5.
The monuments of ancient Rome were recycled through the centuries. The Theater of Marcellus, originally a Roman amphitheater, became a fortress, then a palace, and now houses apartments.

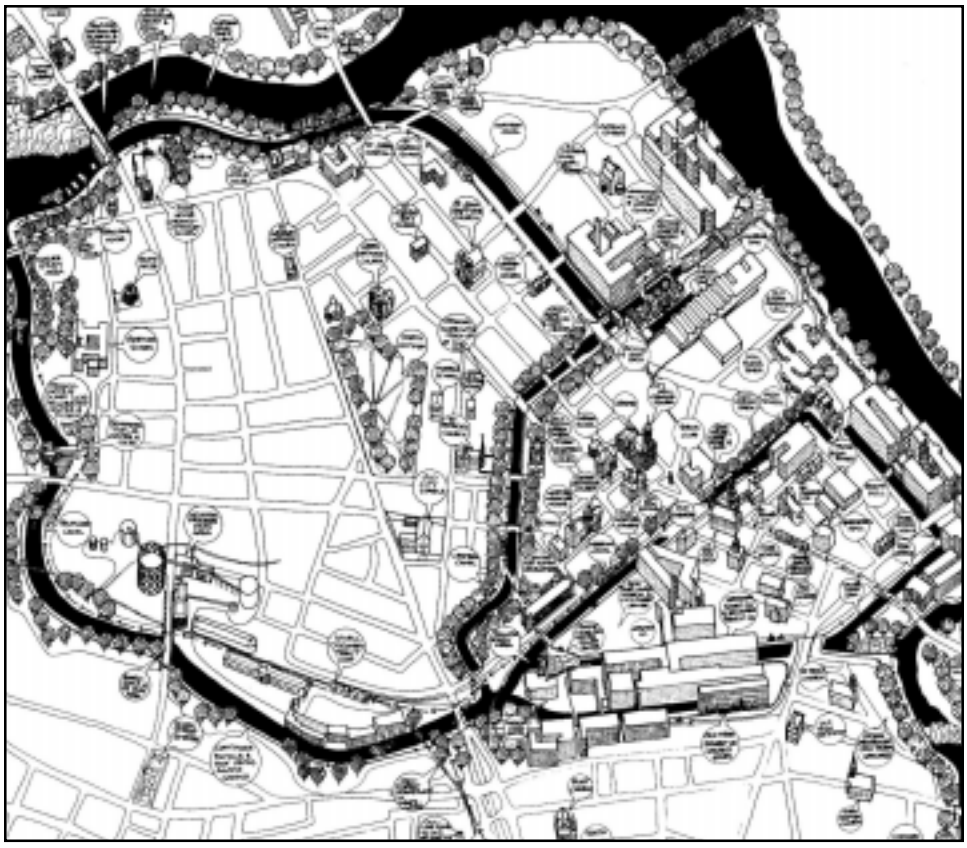

Figure 6.
The Lowell Urban National Park was created from the remains of America's first planned industrial town.

involved in a ten-year program to create a new regional park. Now the huge 800 sq. km. Emscher Landscape Park links 17 cities in the region and builds on its industrial past. The aim was not to restore the natural landscape, but to stabilize it ecologically and to integrate its industrial history. The park is laced with hiking and cycling trails and information to help visitors appreciate the landscape and its cultural and natural history. Some of the awesome cathedral-like industrial spaces have found new uses as museums and studios for avant-garde art. Many of these, such as the Meiderich smelting plant, are brilliantly illuminated at night creating an intriguing nightscape. Other giant plants, like the Thyssen steelworks in Duisburg, are derelict but have become eerie landmarks in the park landscape. Some of the industrial wastelands are too toxic or dangerous to restore and reuse and are inaccessible. Others are being allowed to return to nature creating a "wild industrial forest" with relics from the past (Sieverts, 1997; *Topos*, 1999) (Fig. 7).

The waste treatment ponds of Arcata, California, use natural processes to treat sewage. A dump, an old railroad trestle, and the remains of a burned lumber mill along the coast were converted to manmade marshes that not only treat the city's wastewater, but are a wildlife sanctuary, a salmon ranch, and a recreational area for hikers and bird watchers (Fig. 8). In Seattle, Washington, a disused gasworks has been turned into a public park and playground (Fig. 9).

Wonderful public spaces have been made out of urban wastelands. The elegant seventeenth-century Tuileries Gardens in Paris are, in fact, the recycled garbage dump of medieval Paris. Much more recently, in 1995, Paris converted a disused 4.5 km. elevated railway viaduct built for the Bastille-Banlieue Est railway into Promenade Plantee. This linear public parkway runs from Opéra Bastille to Bois de Vincennes and provides wonderful views of the districts it passes through for walkers, joggers, bicyclists, and skaters. Galleries, arts and crafts boutiques, cafes and crafts workshops occupy the former warehouse spaces at ground level (Fig. 10).

In Boston, the Massachusetts Bay Transportation Authority transformed a nearly five-mile-long railway corridor into a linear park connecting districts that had been separated by the railroad for over a century. Park segments vary in width from sixty feet to one-quarter mile and respond to the interests of the diverse neighborhoods it cuts through: walking and bicycle paths in one section, basketball courts in another, and allotment gardens in yet another (Fig. 11). Currently, Boston is undertaking one of the biggest infrastructure projects in the world: The Big Dig, a 3.5-mile-long tunnel that will replace the noisy old Central Artery freeway. Built in 1954, the poorly designed elevated freeway was a kind of urban wasteland that mercilessly cut through the historic core of Boston, separat-

Figure 7.
The Emscher Landscape Park in Germany's Ruhr Valley links 17 cities in the region and builds on its industrial past. The aim is not to restore the natural landscape, but to stabilize it ecologically and to integrate its industrial history.

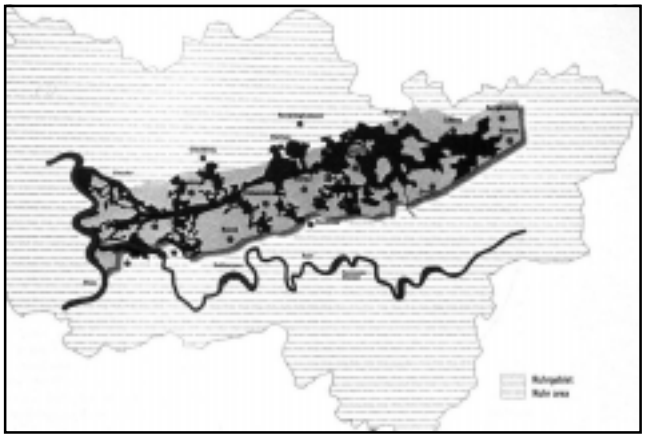

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Figure 8.
The waste treatment ponds of Arcata, California, are a wildlife sanctuary, salmon ranch, and recreational area that were created from a derelict waterfront lumber mill site.

Figure 9.
Gasworks Park in Seattle was created from the abandoned remains of the old gasworks plant.

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Figure 10.
In central Paris, a disused railway viaduct became Jardins Plantees, a linear park.

© Michael Boland

Figure 11.
In Boston, the Southwest Corridor Park replaced an old rail corridor with a five-mile park that responds to diverse neighborhoods along its path.

ing the North End and Waterfront from the rest of the city. The new tunnel will create a 27-acre strip of new land at ground level, making room for new public spaces and structures to knit the city back together.

Coal mining and pottery making dramatically shaped the landscape of Stoke-on-Trent in England with pits, mountains, and ridges of wastes. By mid-twentieth century, it had more derelict land than any other county in England, but beginning in the late 1960s, much of it was reclaimed as open space and woodland. Spoil tips were reshaped and planted, and foot and bicycle pathways replaced the old railways. The reclaimed land now provides much-needed open space and a new and more positive image for the city.

Whittier, California, is reclaiming former oil fields to create a new 3000-acre regional open space network, working in collaboration with the Trust for Public Land and several non-profit organizations.

In many cities, old industrial buildings are prized for conversion to loft apartments and studios, such as SoHo (South of Houston) in New York City and SoMa (South of Market) in San Francisco. Structures, which had largely lost their industrial value, have found a new life that is dramatically changing the character of these once-gritty central city districts into chic residential and cultural centers.

San Francisco's Potrero Heights district of townhouses and apartments is built on the site of a collapsed railroad tunnel. Also in San Francisco, the 300-acre Mission Bay project is converting a former district of factories, warehouses, and rail yards into a biomedical research campus for the University of California, along with 1700 units of housing and 40 acres of open space, a school, and local services.

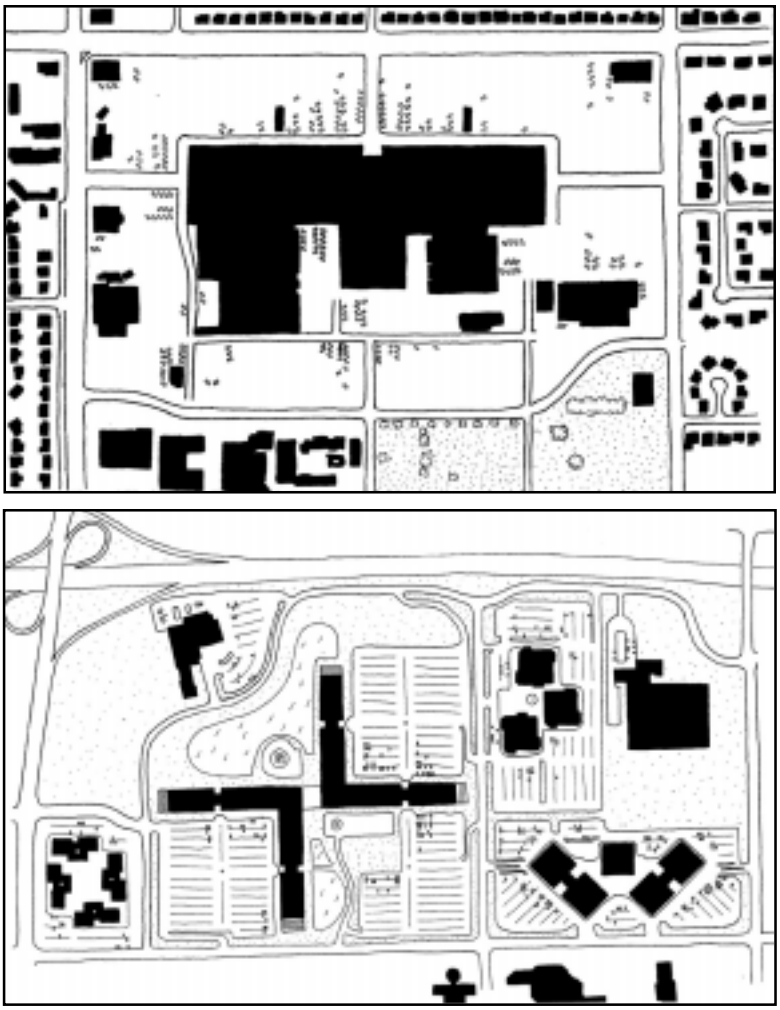
Not all sites are readily converted to new uses, of course. The missile silos of outmoded weapons systems are not easily adapted, nor are parking garages, with their heavy structure, low ceiling height, and peculiar floor plan. And what can be done with freeways after the automobile age? Some sites are so heavily contaminated that the costs of cleanup and reuse are prohibitive at the present time. They might best be kept as monuments to wasting.

Edge City Wastelands

At the urban edge, the problems of waste space are less of contaminated and derelict brownfields, but of expansion of low density, inefficient suburban patterns into greenfields. The new suburban landscape wastes valuable natural open space and agricultural land, as well as energy and time. The emerging urban pattern is typically an automobile-dominated landscape with a disproportionately large amount of land devoted to the automobile relative to the population served. Freeway interchanges and buffer strips along highways waste enormous amounts of land, as do parking lots which are typically used for only a few hours a day. Streets are too wide for the amount of traffic and residential densities are too low (Southworth, 1993, 1997) (Fig. 12, 13). An extreme example of wasting at the edge is exurban development beyond the fringe, made possible by the automobile and telecommuting. California's Central Valley, one of the largest and most productive agricultural regions in the world, is threatened with exurban development, distant from major cities. More than half of the irrigated land in the Valley may be taken over by development in the next four decades (Brewster, 1998).

Although suburbs waste land, in contrast to the central city, they may have too few wastelands. In the modern planned suburb, every square foot is planned for a specific use. Land use patterns are segregated by use and organized in insular tracts. They lack the wild waste spaces, the transitional zones, the "cracks" of the old central cities. Outdoor spaces for adventure and exploration away from public scrutiny are notably lacking.

As suburban residential tracts and office parks age, many may become the slums of tomorrow. Built to provide an escape from the central city, they could decline to similar conditions. Often poorly planned and



drawings by Jonathan Mason

Figure 12.
Automobile parking lots consume an inordinate amount of urban space. The lots of corporate campuses such as these in Contra Costa County, California, are only partially used, and only for part of the day.

drawing by Jonathan Mason

Figure 13.
Suburban development consumes greenfields with low densities and excessive automobile infrastructure.

shoddily constructed with little amenity and difficult access, they lack the location potential of inner city wastelands. Some postwar suburbs of Los Angeles are already derelict. Retrofitting of suburbia to create more sustainable communities is likely to be difficult since master planned suburban developments offer little free space in which to insert new things, and change is often hampered by rigid regulations. Layouts are wasteful to begin with. Moreover, property rights are strong, making it nearly impossible to insert new uses, transportation systems, or public space. People are seldom willing to give up private property for the public good.

Managing Decline and Dereliction

Managing the wasting of places is a major responsibility of urban design and planning in both the city center and at the edge. It is not sufficient to simply plan and design new environments; we must plan for and manage aging environments. The appropriate management of waste is essential to achieving a life-enhancing sustainable metropolis. Some of the basic values underlying urban planning, in fact, relate directly to waste management. One value is to maintain and provide for the *health and safety* of human settlements and avoid destructive wasting. A second value is achieving *efficiency*, one that implies that land and other resources should be put to their best use, without wasting them. A third waste-related value, the need for *adaptability*, requires that instead of wasting resources that are no longer useful, we should recycle declining and derelict resources. Planning should be occupied with doing just this: finding new uses for dying city centers, industrial areas, or old military bases and preventing the wasting of greenfields at the edge. It is as important for planners to help places decline or even die gracefully as it is to promote development and growth. Increasingly, planners will be called upon to manage waste processes and the consequences of waste-related disasters. The topic is—or should be—central to planning.

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Berkeley, California
30 March 2000

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