

PROSPECT

"What's your book about?" I am frequently asked. □ "About nature in the city and about how differently we would design cities if we thought of them as part of nature rather than apart from it," I answer. A puzzled frown invariably appears. "Nature in the city? What nature?" Then an expression of dawning realization: "Oh, you mean

BY ANNE WHISTON SPIRN

trees and parks!"

The notion of nature as individual features like trees, hills and rivers, instead of the underlying processes that give them form, is deep-seated and persistent, as is the belief that the city exists somehow separate from nature, rather than within it. This attitude has enormous consequences for how we design the city and how we address urban environmental issues.

The natural processes that govern the movement of air, the erosion of earth, the hydrologic cycle and the birth and death of living organisms forge bonds between city and countryside, between the city's built fabric and the air, earth, water and life within which it exists. Every garden, park, plaza and street is both a natural system itself and part of larger systems that stretch within and beyond the city. This view of nature as a seamless whole gives landscape architects a special contribution to urban design. It is the rare architect, city planner or engineer who can perceive the city in this way and envision the opportunities of economy and delight afforded by this perspective.

As landscape architects, we belong to an ancient tradition of city design that employs an understanding of nature to promote human health, safety and welfare. More than 2,000 years ago, Hippocrates described the effect of "airs, waters and places" upon human society and stressed the importance of siting cities to exploit the sun and wind. Vitruvius and Alberti expanded these



Boston's Public Garden. Parks, streets and gardens are part of larger natural systems within and beyond the city.

ideas greatly. John Evelyn's proposals to alleviate the air pollution of London, outlined in *Fumifugium* (1661), are comprehensive; they include the relocation of pollution-causing land uses downwind of the city and the planting of entire blocks with trees and flowers to sweeten the air.

When Loudon, Paxton and Olmsted applied their experience in landscape gardening and "scientific agriculture" to the environmental problems of the 19th-century city, they followed Evelyn's precedent. Alphonse de Candolle's *Les Promenades de Paris* (1867-73) illustrates an integrated infrastructure of boulevards, sewers and parks for Paris in which street trees were linked to sewers by perforated pipes—"for irri-

gation, drainage and aeration." More than a century later, we have reinvented nearly identical systems. An appreciation for past contributions is essential if we aspire to truly innovate, not to merely reinvent.

Most environmental problems facing cities today are ancient, but they have new dimensions. Diminished, contaminated water resources will force us to rethink how we use water. The design and management of the urban landscape to reduce water use, to treat wastewater and to recharge groundwater will be part of the solution. Flood and stormwater control are accomplished increasingly through landscape planning and design rather than through dams and sewers alone. Whether these enormous public

works will serve a single, narrowly defined function or whether they will also be recreational and visual amenities depends largely upon the leadership of landscape architects.

Even as "fringe" cities consume farmland and bulldozers scrape the wilderness for vacation homes, forest is reclaiming thousands of acres in eastern cities. Vacant lands have proliferated in the inner city, the product of disinvestment. Large empty tracts, covering entire square blocks, frequently occur over filled-in floodplains whose streams are buried in sewers. Together with the need for flood control and wastewater treatment, these low-lying, unused lands represent an opportunity to reshape the city.

When the structure

and form of the urban landscape are congruent with natural processes, cities will be more functional and sustainable. Such cities will also afford an aesthetic experience of unity with the natural processes that sustain us, an experience that is essential for our survival as a species.

The integration of nature and city design is now possible on a scale that was previously unimaginable. Modern science has given us a view of the natural world in which the human organism has an important, but not omnipotent role, and ecology has yielded a systems framework that elucidates the interactions between humans and their habitats. There exist many projects that successfully integrate natural processes and urban design that are functional, economical and beautiful.

There is a body of theory that provides a framework for action. We can now extend these lessons—from the details of selecting and planting trees to ensure their survival to the design of parks, plazas and larger landscape systems to promote air quality, prevent floods, treat wastewater and protect water resources. These represent enormous opportunities for the profession; we must seize them. ■

Anne Whiston Spirn is department head and professor of landscape architecture and regional planning at the University of Pennsylvania. Her book, The Granite Garden (Basic, 1984), received ASLA's President's Award of Excellence.