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Anne Whiston Spirn: a vision rooted in the past.

PROFILE

Shaping the city to nature's laws

Harvard's Anne Whiston Spirn has breathed new life into urban landscape architecture

By Steve Curwood
Globe Staff

If cities are to be healthful, vital and delightful places, they must be considered a part of the natural environment. So says Harvard's Anne Whiston Spirn, a pioneer in the field of modern urban ecology and one of the most acclaimed urban visionaries to emerge in America this generation.

Central to Spirn's solutions to a variety of urban ills is her view that nature does not end at a city's edge. City dwellers, she says, are just as dependent as country folk on natural forces that supply air and water and support life. When the potency of those cycles is ignored, she says, modern cities court ecological disaster.

By example, she notes that Boston, after a century of ignoring ecological planning, now gags on its sewage, allows more ugly open space downtown and suffers abandonment in its poor neighborhoods.

Piecemeal approaches to such problems are not only prohibitively expensive, they are usually doomed to ultimate failure, Spirn says. On the other hand, she argues, by keep-

ing natural systems in mind, such diverse and seemingly intractable problems as water and sewage overload, ugliness and decay can be alleviated.

Solutions proposed

Her solutions, she says, "harness the forces of nature, rather than squander energy in trying to overcome them." To detain storm water and prevent sewage system overloads, for example, she recommends the strategic placement of parkland. To make downtown open space more pleasing, she advises planning public space as the framework for private development. To reclaim abused vacant land, she urges the use of composted sewage sludge to make new topsoil.

For these changes to work politically, she urges neighborhood decision-making linked to metropolitan-area coordination.

While there is much new in the scientific content of Spirn's approach, her vision is rooted in the past. The ancient Greeks and Persians built great cities in harmony with the forces of nature. More recently, Frederick Law Olmsted in the SPIRN, Page A14

SOME PROPOSED SOLUTIONS TO WHAT AILS BOSTON

Fight urban blight with water management?

In the single-solution-for-single-problem routine, such a notion sounds crazy, but Anne Whiston Spirn's arguments for such an approach seem altogether rational.

To explain her views, she draws on the history of the Dudley street neighborhood of Boston that straddles the border of Dorchester and Roxbury.

Totally built upon at the turn of the century, the area is now over 30 percent vacant. Social and economic distress have caused part of the change, but those factors don't explain why some blocks in that neighborhood are completely denuded of homes, while others have stayed occupied for the last couple of centuries.

Look now at the topographical map. At one time, the neighborhood overlooked Dorchester Bay, and, before the flats were filled in, high tide came up to the present Norfolk avenue; a brook in the area defined the border between Dorchester and Roxbury.

Now, the lowest land is the most vacant, the highest land still occupied.

While the brook no longer flows above ground, Spirn notes that its floodplain is clearly discernible in the pattern of vacant land, and almost all of the land in the original floodplain is now vacant, though it was built over in the 1890s.

Nearby, in an area just off Blue Hill avenue in Roxbury, Spirn found six entire city blocks vacant, while in surrounding areas, vacant lots were interspersed with housing.

"Those [vacant] blocks occupy a low spot in the landscape," explains Spirn. "All the water from surrounding lands once drained into this low spot, with no outlet but the ground.

This low marshy area, now vacant, was the last to be developed. It was a less attractive location environmentally, and the homes built upon it were doubtless plagued by wet basements... and were of lower quality."

The lesson is clear to Spirn: "When this area is rebuilt and repopulated, most of the land now will be built upon again. Some of it should remain open."

One way to cut the demand for sewage treatment is to slow down the rainwater in Boston so it doesn't overwhelm the metropolitan sewage-treatment system. Spirn urges that Boston emulate Chicago and Denver, which detain stormwater with restrictive drains off building roofs, plazas and parking lots, releasing the stormwater gradually.

"Chicago also employs a linked system of floodplain parks, which have detention basins to hold stormwater after a rainfall," says Spirn. "These are designed and managed for both recreation and flood control."

Outside downtown Boston, there is room to detain stormwater runoff on present open space - an opportunity to avoid repeating what, in Spirn's view, are past mistakes. Thus, naturally wet areas, like those in the Dudley neighborhood, might become linear parks that thread their ways through the neighborhoods and beyond.

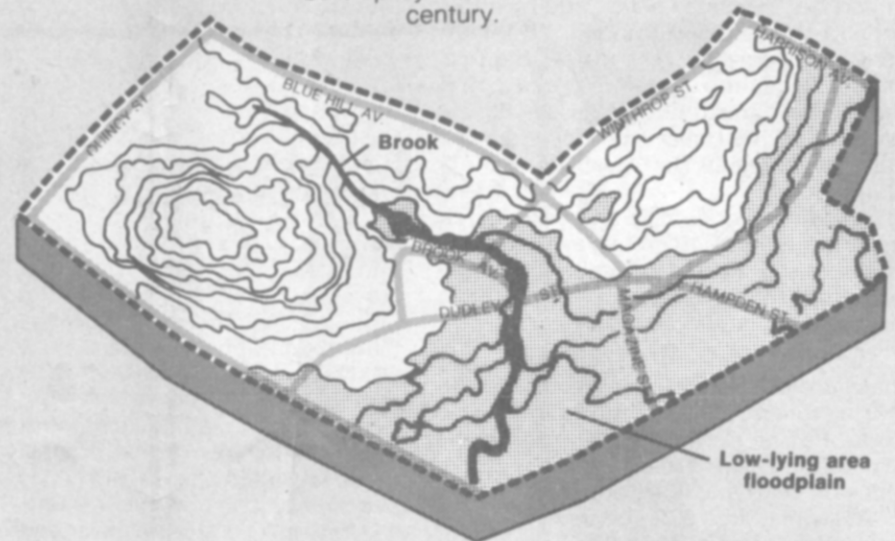
Small linear neighborhood parks would, of course, make more desirable the redevelopment of the now devastated parts of Boston, just as Olmsted's Emerald Necklace enhanced development of the Back Bay and Fenway areas. Real estate values along the Jamaica way and in Back Bay have been among the quickest to rise during Boston's renaissance, along with some other areas that face the parkland.

- STEVE CURWOOD

Misused wetland promotes urban decay

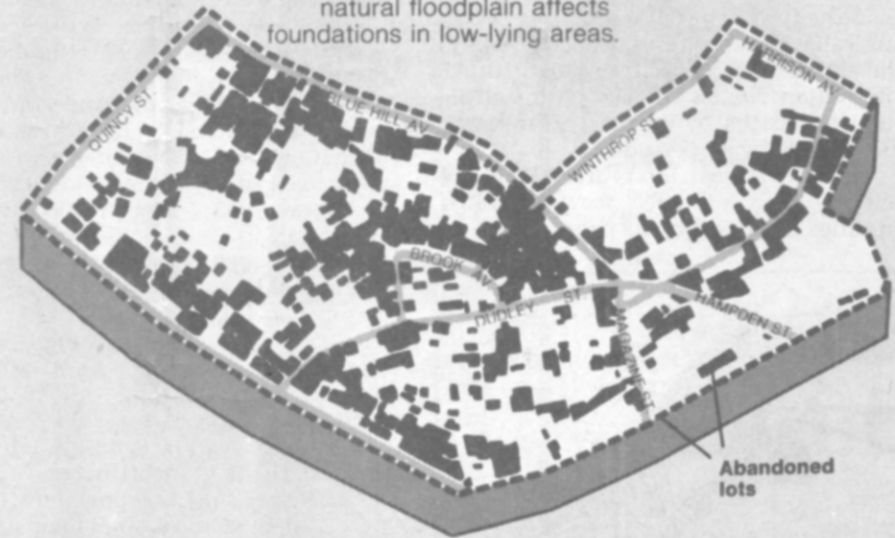
Area topography

The Dudley street area, first built on the high terrain, was totally built up by the turn of the century.



Abandoned housing lots

Higher land is still occupied, while extensive abandonment occurs elsewhere, especially where natural floodplain affects foundations in low-lying areas.



Abandoned lots

Spirn

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last century developed the Emerald Necklace of green space in metropolitan Boston that effectively combined applied ecology with social function and grace.

But an ecological approach has largely been overlooked by city planners for the past century, and Spirn's colleagues in her field of landscape architecture say she is among the first to revive it.

Ian McHarg is the author of "Design With Nature," the book that is widely credited with launching modern suburban and regional ecological design nearly two decades ago. He says, "Spirn has made urban ecology into a field, and she dominates it."

At first glance, the 37-year-old Spirn hardly looks like the spiritual descendant of Olmsted, or a worthy revisionist of the work of Lewis Mumford. She appears shy and unassuming and works out of a small office as an untenured associate professor at the Harvard Graduate School of Design.

Yet, her recently published book, "The Granite Garden," is one of the most acclaimed works on city life systems since Mumford's "City in History" was published 25 years ago. "Never before has anyone pulled together such a wide range of environmental information and applied it in a coherent and practical way to the situation of the city," says Jane Jacobs, author of "The Death and Life of American Cities."

"Anne Spirn has great breadth of knowledge and scope of vision," said Charlotte Kahn, executive director of Bos-

ton Urban Gardeners, who has worked with Spirn on neighborhood projects to reclaim abandoned land.

"She has become a bridge for a number of people working on related issues who didn't know each other before... She is really demonstrating the primacy of landscape architecture as an approach to the design and land. It's fallen into secondary or even tertiary place in most redevelopment authorities and planning agencies, when it really, really should be the primary approach for setting the context for future development. Boston is a livable city today because of that approach, which in the past was used by Bulfinch and Olmsted."

Birth of an urban ecologist

Kitty Dukakis, wife of Gov. Michael S. Dukakis, calls Spirn "a superb designer with a special sensitivity to urban problems."

Some state officials also have become enamored of Spirn's vision. "I so enjoyed hearing Anne speak last year that she inspired me to bring a number of officials from my department when she spoke at the Boston Public Library last month (to deliver the annual lecture of the Boston Society of Architects)," said Kenneth Kruckemeyer, associate commissioner of public works for the commonwealth.

"It's very important for the state to start thinking about issues that are larger than single agencies... one of the distressing things is that people don't talk about these things beyond the environmental-impact studies of specific projects."

Spirn got into landscape architecture by accident. She was a graduate student in art history at the University of Pennsylvania when she heard about landscape architecture, took a course and then changed her field of study to become a student of McHarg. Later, when she shared a design practice with him, she became frustrated at the lack of up-to-date information about urban ecology.

"Everybody would say there just isn't research on that," she recalled in a recent interview. So she began to find out just how much was known.

What she thought would be a one-year project turned into a five-year one as she correlated the work of hydrologists, architects, historians, ecologists and those in other disciplines for a book that would be understandable to the general public.

In her book, Spirn argues that city planners too often act as if pavement and buildings can erase the forces that created the topography, including stream beds and flood plains, and that tall buildings do not affect air quality.

When nature is ignored and abused in cities, it retaliates in countless ways, say Spirn.

Ignoring the natural cycle of water leads to drinking-water shortages, poisoned water supplies and toilet paper on the beaches.

Failure to consider air mechanics has resulted in tall buildings that change surface winds - sometimes trapping exhaust fumes that add to air pollution, at other times creating harsh winds on plazas.

Ignoring real neighborhood needs can result in projects that are built without constituencies to maintain them. In working with her students, for example, she asks them to spend a night with a family in the Roxbury neighborhood where they are designing a park to get a sense of their needs and values.

Ignoring active earthquake faults means cities run the risk of sharing the fates of San Francisco in 1906 and Managua in 1972. Yet, Boston, which suffered major quakes in the 1700s, today does not require earthquake-resistant construction.

"The potential hazard is particularly great in cities like Boston and Charleston (S.C.), where the risk of earthquakes is unrecognized and unplanned for," Spirn warns.

But when humans work in concert with natural forces in the city, they can create both beauty and utility. Not only was Boston's Fenway-Riverway-Jamaicaway area designed for aesthetics, but Olmsted devised it to handle a sewage problem that threatened to stink out the whole Back Bay, especially on hot, humid summer days.

As an added bonus, Boston got a transportation corridor for trains and carriages that remains a lovely approach to the city.

"Somewhere," writes Spirn, "a visionary may persuade his or her city to take on the challenge of managing the entire natural urban environment. The reasons are compelling. At issue is not just the creation of a more secure, more beautiful, more efficient and cost-effective city, but survival itself."

ANNE SPIRN ON THE CITY, ITS FUTURE

"Something is wrong when sewage from Framingham and Walpole is transported 20 miles to sewage-treatment plants in Boston Harbor, thereby concentrating an entire region's sewage into a small basin. Something is wrong when water is imported from a reservoir 60 miles away (Quabbin), whose level has been falling, slowly, but inexorably, while groundwater resources within the very same region are permitted to deteriorate (with depletion and contamination). These are life-threatening problems that in coming years will affect the health of millions of people linked to the metropolitan water and sewer system. Reports of increased cancer in communities like Woburn are an early warning of the consequences of disregard for our water resources."

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"Boston's inner neighborhoods are riddled with vacant lands (15,000 house lots that total 3000 to 4000 acres) and abandoned buildings and are poorly served by basic public services. The state of these neighborhoods is invisible from downtown, but downtown wealth, symbolized by gleaming new towers, is clearly visible from the neighborhoods, providing a stark and profoundly disturbing juxtaposition. In the face of unemployment and declining funds for social services, the looming downtown towers are a daily reminder to the neighborhoods that they have not shared in Boston's economic growth.

"Even downtown, the boom has been a mixed blessing. Most of the new buildings that have transformed Boston's skyline in the past two decades have consisted of private projects in a vacuum of public vision. Rather than contributing to the public realm, they have often disregarded or degraded it, creating dark, windy canyons and barren plazas. Some, ostensibly public, are in reality guarded enclaves, the richness and costliness of materials lavished on their interior in vivid contrast to the impoverished streets and sidewalks surrounding them."

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"Design is a powerful tool to forge consensus for major public investment. Design can be a process of spinning out alternative visions of the future Boston, which, in their number and variety, pose a means of evaluating what the city might be like under diverse scenarios. Without a concrete description of the future city, it is not only difficult to evaluate alternatives, it is next to impossible to agree on their merits."

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"The cumulative impact of sewer reconstruction, economic growth and the redevelopment of vacant lands within the city will have a profound impact on the future shape of Boston. It is for us to decide, before it is too late, whether they shape the city by design or by default. For how we resolve these issues will determine the quality of the future, not just for the next generation, but for many generations to come."

- STEVE CURWOOD