

forces. Landscape architecture, architecture, and city planning each relate most directly to one of the constituencies for urban design. The urban designer is likely to have a professional credential in one of these disciplines and needs to be conversant with all three. But how does the designer get a seat at the table when the decisions are being made?

Urban Design and the Natural Environment

In 1956, Ian McHarg, a recent Harvard graduate in both city planning and landscape architecture, was teaching at the University of Pennsylvania. The next year he was to begin his course *Man and the Environment*, which led to a television program, *The House We Live In*, and ultimately to his 1969 book, *Design with Nature*. McHarg saw the natural environment as the equivalent of a design, the resolution into equilibrium of such elements as geologic forms, rain and floodwater, soil conditions, vegetation, and animal habitat. Ignorant interventions that disturb natural systems lead to incalculable consequences, many times adverse. Once you understand McHarg's thesis, you see why summer houses built on dunes will wash away in hurricanes, why whole streets of houses in landslide-prone Los Angeles are fated to subside into valleys, and why Houston becomes more and more subject to flooding.

The failure to relate the natural environment to urban design is a conspicuous blind spot in most of the Harvard Urban Design Conference proceedings. Richard Neutra provided an interesting exception when he said: "The urban landscape which we want to improve by our artifacts is in the first place a phenomenon to be understood on a biological basis,"³ a statement that also includes Anne Spirn's extension of McHarg's philosophy to the existing city in *The Granite Garden: Urban Nature and Human Design*.⁴ (Spirn was McHarg's pupil at the University of Pennsylvania and was once head of Harvard's Landscape Architecture Department.) McHarg helped define the need for today's geographic information systems (GIS), which replace with "layers" on a computer the overlays on tracing paper, painstakingly researched and redrawn to the same scale by hand, that made up McHarg's analyses of the most appropriate locations to build within the natural landscape.

Today GIS and the spatial analytics that they make possible are powerful tools that enable an urban designer to understand and describe natural systems at a variety of scales and to demonstrate with