

# *That Others May Simply Live: Ecological Design as Environmental Justice*

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AS A GLOBAL CONSENSUS continues to form about the gravity of the ecological risks facing the world in the new century, a smaller, parallel consensus about the pivotal role to be played by ecological designers and planners has also emerged. Few observers dispute the basic idea that the physical design of the built environment is a critical element of an ecologically healthy civilisation. As such, the planners and designers who focus on holistic, place-based strategies for creating those environments and promoting the long-term protection of ecosystems have much to contribute to the larger debate over the meaning and practice of sustainability.

Because their role is potentially so important, it matters how ecological designers and planners conceptualise and present their work to the larger society. In particular, addressing a subtle, conceptual divide between ecological design and environmental justice concerns should be a priority. Far from being solely the province of New Age escapists or idiosyncratic, wealthy clients as it is often caricatured, ecological design practice is in fact critical to confronting the harsh realities of toxic exposure, air pollution, and water contamination that beset disadvantaged communities.

After pointing out the key physical and conceptual links between ecological design and environmental justice, this paper argues that landscape architects do not sufficiently emphasise the *human* impacts of ecological degradation resulting from unsustainable design. It goes on to identify two specific analytical tools (ecological economics and a modified form of ecological footprint analysis) that can help the profession make this case. A greater effort to do so would help to expand the influence of ecological landscape design in both the global debates about sustainability and in localised realms of implementation.

## ECOLOGICAL DESIGN AS ENVIRONMENTAL JUSTICE

The environmental damages generated by unsustainable design are generally masked from immediate view by infrastructural systems that bring energy and water from, and send wastes to, distant sites whose ecological health is not a part of the designer's mandate (Thayer, 1994). The ecological bill is paid, however, in the 'source' and 'sink'; landscapes (Lyle, 1994) where power plants, reservoirs, pipelines, transformers, dumps, and treatment facilities are sited. Because of their noxious characteristics, these are generally placed in communities (or increasingly, foreign countries) that are so economically needy or politically disempowered that they tolerate dangerous conditions, or simply lack the wherewithal to resist them (Cole

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and Foster, 2001). And, as most designers are well aware, virtually every design decision made at a given site – ranging from building siting to planting plans to material choices to plumbing techniques – potentially contributes to, or abstains from, these destructive social dynamics (Givoni, 1998; Condon and Moriarty, 1999; Ferguson, 1998).

Among environmental designers, however, discussion of the human implications of ecological design is generally limited to either the experience of visiting or inhabiting the designed site (that is, the aesthetic, educational, spiritual, or recreational benefits that site users may obtain), or the experience of creating the site (that is, community-building, empowerment, and other social benefits of participatory design processes). This focus is neither surprising nor inappropriate, given that the interests and desires of these stakeholder groups are (or should be) central to any site-design process. But, despite ecological design's implicit concern with the welfare of other human beings who may be negatively affected by the ecological degradation and pollution that conventional design often creates, this dimension of the issue is rarely discussed explicitly either in academic scholarship or in trade publications' coverage of specific projects.

## TWO PATHWAYS FOR ANALYTICAL INNOVATIONS

This failure likely stems much more from the lack of appropriate, analytical tools and political incentives than it does from any lack of interest or sensitivity on the part of ecologically minded landscape architects. With respect to the former, allied fields have already laid the foundation for two potentially powerful modes of analysis. First, the burgeoning field of ecological economics offers a framework for estimating the economic costs of design externalities, such as the pollution released into an inner city community by a coal-fired power plant, or the increased risk of flooding that a downstream community might endure as a result of upstream development (Daly and Farley, 2004). While such analyses can be fraught with ethical dangers (for example, they often translate damages to human health into economic terms by estimating lost earning-potential – a method that inevitably values the young and the educated more highly than others), it has been argued that *any* plausible estimate of such costs is better than the implicit estimate of zero in many status quo planning and design processes (Duane, 1999). Even if full quantification is rejected as ethically inappropriate (see Foster, 1997; Sagoff, 1988), such analysis can still serve to focus attention on the entire package of economic and health impacts that designs may produce, and facilitate choices among alternatives. Though John Lyle (1994) once made a similar suggestion, few projects or proposals actually employ such a holistic approach (see Condon and Moriarty, 1999, for a notable exception).

A second path would be to modify ecological footprint analysis, currently focused on non-human ecological impacts through its use of land area as a metric of resource consumption (Chambers, Simmons and Wackernagel, 2000), to focus instead on human health impacts. Although direct cause-and-effect connections between pollution exposures and illnesses are very difficult to show conclusively, basic

statistical relationships between the two are much better understood. Just as existing footprint analyses rely on gross estimations of relationships between resource use and land area to present a rhetorically powerful portrait of development's ecological consequences, an alternative method could likewise distil human health consequences into an easily understood (if perhaps somewhat morbid) metric.

## POLITICAL IMPLICATIONS

Increasing attention on the environmental justice dimensions of ecological design has more than just rhetorical importance for landscape architecture, however. Even though the profession as a whole continues to be a compelling advocate for the public good and for environmental and social responsibility, it could still benefit from a greater effort to broaden its constituency. Explicitly linking design and planning decisions to environmental justice concerns would help to increase landscape architecture's profile in widespread debates over economic globalisation and sustainability. More concretely, it would also open new opportunities for important political alliances within local regions. Some American cities have experienced the emergence of broad coalitions in support of basic "green urbanism" (Beatley, 2000) measures such as improved mass transit because of their importance for poor and working-class constituencies (Bullard and Johnson, 1997). To the extent that specific infrastructural facilities located in disadvantaged neighbourhoods are controversial within those communities, the reduction of flows and pollution burdens through upstream ecological design becomes a salient political programme.

The City of San Francisco, for example, has sought for several years to close a large, aged power plant located in the Hunter's Point neighbourhood, the city's only predominantly African-American area, because of its particulate pollution discharge and other nuisances (Eisenstein, 2001). This as-yet-unrealised goal presents a potentially powerful political leverage point for enacting energy-efficient design standards throughout the city. Sewage and stormwater treatment facilities present similar opportunities, in San Francisco and elsewhere. This sort of engagement in local politics not only broadens landscape architecture's influence, but also widens its field of action in a world that is increasingly in need of its services.

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