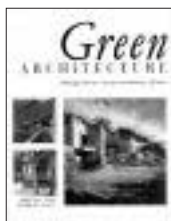


Learning to Think Green

by Paul Hanke



Green Architecture: Design for an Energy-Conscious Future by Brenda and Robert Vale (Bullfinch Press/Little, Brown & Co., 1991; 800/759-0190). Hardcover, 8 1/2x11, 192 pages. \$40.

Brenda and Robert Vale, the British architects who designed the largest superinsulated structure in the United Kingdom, have turned their expertise to the emerging practice of "sustainable" architecture. In *Green Architecture*, the Vales peer into the future and show us what designers and builders must do to help the planet and its inhabitants survive the increasing stresses on the environment. Drawings and photos are plentiful, including brilliant color shots of buildings that illustrate points made in the text.

To help describe sustainable architecture, the Vales use the elemental symbolism of earth, air, fire, and water. Buildings, they declare, are poised among these elements and interact with them. The first chapter of their book is devoted entirely to chronicling how our buildings have increasingly contributed to the pollution of our air and water, consumed enormous quantities of fire in the form of fossil fuels, and squandered the natural resources used to build them. The Vales point out, for instance, that ancient Greek monuments have suffered more damage from pollution in the last 25 years than in the previous 24 centuries. And to illustrate the concept of appropriate technology, the authors tell a Hindu tale about how sandals were invented: When a king wished to carpet his entire kingdom with fur to protect the feet of his subjects, a sage adviser counseled him instead to place small pieces of hide on everyone's feet.

To make similarly wise decisions, the Vales advocate examining all of the factors affecting design and construction. These include several issues most readers are familiar with: direct environmental impact, energy content, and manner of use (for example, energy-consumptive plastics may be used as insulation to conserve energy elsewhere). But the inquiry

also extends into less familiar territory. For example, a deeper look at manufacturing processes reveals that most tropical hardwoods are sacrificed not for lumber production, but when land is cleared for *ranching*. Other factors examined include the amount of energy required to make a building versus how much energy will be required to operate it, as well as the potential for reuse of whole buildings or their component materials.

While admitting that they can't provide answers to all of these difficult questions, the authors still provide some alternatives to our wanton patterns of consumption. The simplest of these involves examining small changes that can make a big difference in the affect on the environment. In the United Kingdom, for example, changing one lightbulb per house to fluorescent would save the equivalent capacity of a new power station. On a grander scale, the Vales set forth five principles of green architecture, and illustrate each with techniques applied to real buildings. Their examples range from the Rocky Mountain Institute, to an English owner-built straw house. The crowning example is the innovative NMB Bank in the Netherlands, which was created in close cooperation with the building's 2,000 occupants, and reputedly is the most energy-efficient building in the world.

According to the Vales, modern cities represent "the most extreme example of not working with nature that people have yet produced on the planet," and so the book ends amid speculation about a green metropolis. A postscript cites the American Shakers and the British Moravians as admirable examples of an applied "green aesthetic."

This is not a book on where to get green building products, and many (but certainly not all) of the examples may show methods familiar to anyone who survived the solar '70s. However, *Green Architecture* is a spirited and thought-provoking introduction to the questions of how we can minimize our use of resources and reduce the environmental impact of what we build. ■

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