

The Hannover Principles represent an attempt by William McDonough Architects to establish some broad ethical guidelines for sustainable design. The firm was commissioned by the city of Hannover, Germany to develop standards for the millennial World's Fair with the theme "Humanity, Nature, and Technology." The Principles were first announced at the Earth Summit in Rio de Janeiro, Brazil in June 1992.

The principles are not a prescription for designers, but rather ideals to pursue in the complex process of working in today's environment. They succinctly summarize the recommendations that derive from the ethical position stated in "Design, Ecology, Ethics, and the Making of Things." The guidelines begin by stating the significance of nature as the primary support to human life, while acknowledging its susceptibility to degradation by our activities. The concept of responsibility for the consequences of design is then expanded to include protecting natural systems, human settlements, and future generations. Reuse, reassembly, and recycling will help attain the goal of eliminating waste with regard to manufactured products. For example, in a plan endorsed by McDonough's firm, Herman Miller now accepts returns of its furniture for recycling of parts and materials into new pieces.

Perhaps most difficult for architects, engineers, and planners to accept, given the constantly shifting and growing knowledge base, is the idea that design and technology cannot solve all the problems they create. McDonough and company urge accepting the limitations of human ingenuity, instead of maintaining a positivist view of the role of science. Solutions to environmental problems will be found once humankind ceases its attempt to dominate nature and, instead, views it as a model. Architects must step forward to lead interdisciplinary teams in this newly reoriented problem-solving.

WILLIAM McDONOUGH

## THE HANNOVER PRINCIPLES

1. Insist on rights of humanity and nature to co-exist in a healthy, supportive, diverse, and sustainable condition.
2. Recognize interdependence. The elements of human design interact with and depend upon the natural world, with broad and diverse implications at every scale. Expand design considerations to recognizing even distant effects.
3. Respect relationships between spirit and matter. Consider all aspects of human settlement including community, dwelling, industry, and trade in terms of existing and evolving connections between spiritual and material consciousness.
4. Accept responsibility for the consequences of design decisions upon human well-being, the viability of natural systems, and their right to co-exist.
5. Create safe objects of long-term value. Do not burden future generations with requirements for maintenance or vigilant administration of potential danger due to the careless creation of products, processes, or standards.
6. Eliminate the concept of waste. Evaluate and optimize the full life-cycle of products and processes, to approach the state of natural systems, in which there is no waste.
7. Rely on natural energy flows. Human designs should, like the living world, derive their creative forces from perpetual solar income. Incorporate this energy efficiently and safely for responsible use.
8. Understand the limitations of design. No human creation lasts forever and design does not solve all problems. Those who create and plan should practice humility in the face of nature. Treat nature as a model and mentor; not an inconvenience to be evaded or controlled.

From *The Hannover Principles: Design for Sustainability* (New York: William McDonough Architects, 1992), 5. Courtesy of the author.

9. Seek constant improvement by the sharing of knowledge. Encourage direct and open communication between colleagues, patrons, manufacturers, and users to link long term sustainable considerations with ethical responsibility, and re-establish the integral relationship between natural processes and human activity.

The Hannover Principles should be seen as a living document committed to the transformation and growth in the understanding of our interdependence with nature, so that they may adapt as our knowledge of the world evolves.