

**GETTING A HANDLE ON NATURE:
A Reading List for Anyone Wanting to Know More About Nature's Relevance
to Organizations, Management, Values, and Ethics**

Prepared by William C. Frederick
For the Symposium
What Matters Most in Management Scholarship
The Academy of Management
San Diego, California
August 11, 1998

GENERAL

Edward O. Wilson. **The Diversity of Life.** London: The Penguin Press, 1992.
All about biodiversity and extinctions past and present.

Edward O. Wilson. **Consilience: The Unity of Knowledge.** New York: Alfred A. Knopf, 1998.
Wilson's case for uniting the social sciences, the natural sciences, the humane studies, and religious belief systems.

John Brockman. **The Third Culture: Beyond the Scientific Revolution.** New York: Simon & Schuster, 1995.
Many of today's leading scientific theorists and scholars write summary accounts of their main ideas, including Richard Dawkins (the selfish gene), Lynn Margolis (Gaia), Steven Pinker (the language instinct), Stephen Jay Gould (a critique of progress in evolution), plus several other leading lights who defend their favorite themes.

Peter Coveney & Roger Highfield. **The Arrow of Time.** London: W.H. Allen, 1990.
A splendid, easy-to-read account of the Second Law of Thermodynamics and its significance for science in general and its implications, philosophical and otherwise, for human affairs.

Irenaus Eibl-Eibesfeldt. **Human Ethology.** New York: Aldine de Gruyter, 1989.
The dean of ethology applies lessons from the study of animal behavior to humans.

Michael S. Gazzaniga. **Nature's Mind: The Biological Roots of Thinking, Emotions, Sexuality, Language, and Intelligence.** New York: Basic Books, 1992.
A summary of the latest ideas about the neurobiology of human behavior. An eye-opening discussion of the environment's interactions with the brain's hardwiring.

John Horgan. **The End of Science: Facing the Limits of Knowledge in the Twilight of the Scientific Age.** Reading, Massachusetts: Addison-Wesley, 1996.

Horgan's *almost*-tongue-in-cheek views about science's prospects. You learn a lot about science, even if he's right (or wrong) about its dim future.

Ian Stewart. **Nature's Numbers: The Unreal Reality of Mathematics.** New York: Basic Books, 1995.

Don't know anything about math? Neither do I. That's why this book is so valuable. Gives you some of the whys and wherefores of mathematics' use in understanding the universe (and sundry lesser everyday scientific matters).

COMPLEXITY/CHAOS THEORY

James Gleick. **Chaos: The Making of a New Science.** London: Heinemann, 1988.

The first popular book. Readable and widely read. Start here.

Stuart Kauffman. **At Home in the Universe: The Search for the Laws of Self-Organization and Complexity.** New York: Oxford University Press, 1995.

Another popular account of complexity theory emphasizing work done by and at The Santa Fe Institute, a think tank for complexifiers. If you can read only one book on complexity, make it this one.

Ilya Prigogine. **The End of Certainty: Time, Chaos, and the New Laws of Nature.** New York: Free Press, 1996, 1997.

The guy who started it all. Here, he gives his updated account of time, thermodynamics, and how chaos thinking is producing new ways of understanding nature.

Brian Goodwin. **How the Leopard Changed Its Spots: The Evolution of Complexity.**

New York: Charles Scribner's, 1994.

Reader friendly and cool.

Per Bak. **How Nature Works: The Science of Self-Organized Criticality.** New York:

Copernicus, 1996.

Focuses on the dynamics of criticality, one of complexity theory's key concepts.

Roger Lewin. **Complexity: Life at the Edge of Chaos.** New York: Collier, Macmillan, 1992.

Another good one. A story-like narrative.

Ralph D. Stacey. **Complexity and Creativity in Organizations.** San Francisco: Berrett-Koehler, 1996.

The canonic version of complexity theory's take on organizations.