tivate the spirit of tolerance in our hearts; but we should not allow the policy of toleration to be exploited and abused by fanatical sectarian groups which are subversive political movements in ecclesiastical disguise."

Religion As Therapy

"Saving Therapy: Exploring the Religious Self-Help Literature" by Wendy Kaminer, in *Theology Today* (Oct. 1991), P.O. Box 29, Princeton, N.J. 08542.

Millions of Americans read religious self-help books. M. Scott Peck's first tome, *The Road Less Traveled* (1978), was on the best-seller list for years, and works by such authors as Charles (*Grace Awakening*) Swindoll and Gordon (*Renewing Your Spiritual Passion*) MacDonald also have worldwide audiences. Such books, reports Kaminer, a lawyer and visiting scholar at Radcliffe, "are marketed as primers on personality development and psychotherapy, child rearing, spouse abuse, depression, and despair, as well as the search for love, happiness, and salvation." The books portray God as a loving parent, and advise readers to acknowledge their dependence on Him, to reject individualism, and to love themselves as well as their neighbors.

Nineteenth-century liberal Protestantism, for all its faults, at least encouraged people to act to shape their environments, Kaminer says. "Now popular religion, like a 12-step [recovery] group, [tells] us that we're powerless." Most of the pop religious literature is devoid of "thoughtful discussion of moral behavior." The writers provide "a laundry list of moral wrongs—abortion, homosexuality, adultery, atheism, and rebellion—but no guidance in resolving moral dilemmas."

The writers usually "claim a fellowship with their readers, admitting their own fallacies, sins, and neuroses." MacDonald devotes a whole book to his own repentance of adultery. But they also set themselves up as authorities, even as they disclaim any higher expertise. Peck, for example, "bemoans our tendency to 'let our authorities do our thinking for us,'" but clearly regards himself as an authority. He speculates that people who "slip away" from his workshops "just cannot bear that much love." Individuals who challenge him, Kaminer says, are almost always presented in his books as wrong.

Peck and the other Protestant writers all stress strongly the need to surrender one's self to God. Peck maintains that "only two states of being [exist]: submission to God and goodness or the refusal to submit to anything beyond one's own will, which refusal automatically enslaves one to the forces of evil"—a proposition Kaminer finds "chilling." In people's "eagerness to submit," she remarks, "not everyone can distinguish God from the devil."

SCIENCE, TECHNOLOGY & ENVIRONMENT

Crying No Wolf

"Biodiversity Studies: Science and Policy" by Paul R. Ehrlich and Edward O. Wilson, and "Extinction: Are Ecologists Crying Wolf?" by Charles C. Mann, in *Science* (Aug. 16, 1991), American Assoc. for the Advancement of Science, 1333 H St. N.W., Washington, D.C. 20005.

Ecocatastrophe is not too strong a word for the specter raised by biologists Paul Ehrlich of Stanford and Edward Wilson of Harvard. The destruction of tropical rain forests and other natural habitats, they assert, is accelerating the extinction of precious species of animals, plants, and microorganisms. Tropical deforestation alone, they calculate, now causes the loss of at least .2 percent of all species in the

forests annually—a loss of 4,000 species per year if there are 2 million in the forests, and 40,000 if there are 20 million.

Biodiversity is important for more than moral and aesthetic reasons, they say; it provides "enormous direct economic benefits . . . in the form of foods, medicines, and industrial products." To save "our fellow living creatures and ourselves in the long run," Ehrlich and Wilson propose a radical worldwide ban on the development of "relatively undisturbed" land. That would require massive aid for the Third World and a "cooperative worldwide effort unprecedented in history."

But some scientists, reports freelance writer Charles Mann, aren't so sure that ecological doomsday is just around the corner.

To begin with, nobody even knows how many species there are. Ehrlich and Wilson say the number might be 100 million. But scientists have actually identified only 1.4 million. That, writes Mann, puts doomsday prophets "in the awkward position of predicting the imminent demise of huge numbers of species nobody has ever seen."

Moreover, Ehrlich and Wilson's extinction rates are based on the assumption that habitats are like islands; as the island shrinks, parts of the habitat and some of the species in it are utterly lost. But the analogy is imperfect. Habitats only roughly resemble islands. One study showed that almost half of the more than 11 million hectares of virgin tropical forest cut each year did not become wasteland (i.e. "water" around the "island") but secondary forest that still supported some plant and animal life. It does not support as much biodiversity as virgin forest, but it is not necessarily barren, either.

The assumed relationship between an area available for wild populations and the number of species that area can support also runs into criticism from some scientists. A loss of area, they say, may reduce just the *extent*—not the diversity—of an ecosystem. Some of today's habitat destruction may not translate into any loss of species.

The experience of Puerto Rico, one of the few tropical places where long-term biological records have been kept, gives further reason to doubt the doomsayers, Mann says. The island, now thickly covered with trees, "was almost completely stripped of virgin forest at the turn of the century. Yet it did not suffer massive extinctions." Of 60 bird species, for example, only seven disappeared. This was a "painful" loss, he observes, but not "an ecocatastrophe."

Fudging Or Fraud?

"Scientific Fraud" by David Goodstein, in *The American Scholar* (Autumn 1991), 1811 Q St. N.W., Washington, D.C. 20009.

In yet another highly publicized case of scientific fraud, Nobel Prize-winning biologist David Baltimore finally conceded last spring that a paper on transgenic mice he had been defending for five years might well contain false data concocted by a coworker. The revelation gave more ammunition to politicians and journalists who contend that fraud in science is more common than we think. Even some scientists have begun to have doubts. Caltech physicist David Goodstein replies that science, like other areas of human activity, has little "hypocrisies and misrepresentations" built into the way it is done. They should not be confused with fraud.

Journalists William Broad and Nicholas Wade fell into that trap in their 1982 book, *Betrayers of the Truth.* Among the scientists they implicated in "Known or Suspected Cases of Fraud" were Sir Isaac Newton (1642–1727) and American physicist Robert A. Millikan (1868–1953).

Newton was trying to explain the propagation of sound waves in air. His theory, Goodstein says, "was so good he was able to calculate the speed of sound and then compare it with measurements. When he did, they disagreed by about 20 percent." Although this represented a great intellec-