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**RELIGION & PHILOSOPHY**

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*Religious  
Restlessness*

"Alienation and Apostasy" by Wade Clark Roof, in *Society* (May-June 1978), Box A, Rutgers University, New Brunswick, N.J. 08903.

The rising popularity of many new religious and quasi-religious groups in America reflects a larger disarray. Many Americans are abandoning their earlier religious identities, writes Roof, a University of Massachusetts sociologist.

Surveys by the National Opinion Research Center show that religious defection is occurring primarily among the young (the proportions for liberal Protestants, Jews, and Catholics average about 15 percent among the 18-25 age group), but that Americans of all ages are less inclined to identify themselves as members of a religious community than was the case 20 years ago. (Some 6.7 percent of Americans now describe themselves as having no religious affiliation, compared with 2.7 percent in 1957.)

Religious defection is most prevalent among college-educated males living in the West and Northeast. But income level, employment, and marital status appear to make little difference in defection rates. Rather than being marginal people, says Roof, "young defectors are prone to come from affluent, middle-class families and are likely to be married and hold jobs."

Disenchantment with established churches occurs far more frequently among those who embrace the so-called "new morality" and a permissive attitude toward marijuana, abortion, homosexuality, sexual behavior, and protest activity.

Roof doubts that the new morality will replace the old or that religious defection will increase sharply in the near future. In fact, defection may have "bottomed out" among the very young even as it spreads through society as a whole. To a considerable extent, the long-term future of the main-line religious institutions depends on how well they can adjust to changing values and lifestyles.

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**SCIENCE & TECHNOLOGY**

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*Positive Impacts  
of Negative Ions*

"Ions in the Air" by Albert P. Krueger and Sheelah Sigel, in *Human Nature* (July 1978), Subscription Dept., P.O. Box 10702, Des Moines, Iowa 50340.

Scientists have long recognized that certain natural phenomena—radioactive elements in the soil, cosmic ray activity, the shearing of water molecules in waterfalls, and persistent winds like the *foehn* in Germany and the *mistral* of France—can influence the formation of air

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ions—molecules of common atmospheric gases that have taken on a positive or negative electrical charge.

The effects of air ions on living matter (including bacteria, plants, and human beings) are readily apparent but not thoroughly understood, write Krueger, a biometeorologist, and Sigel, a psychologist, both of the University of California at Berkeley. It is known, for example, that depletion of ions in the air may increase susceptibility to respiratory infection. Conversely, enhancing the negatively-ionized atmosphere of a Swiss bank for a 30-week test period produced a 94 percent reduction in the incidence of respiratory illness among bank employees.

Furthermore, recent experiments have shown that a net increase in negative ions reduces the concentration in the blood stream of serotonin, a potent neurohormone. Krueger and Sigel assert that, like the serotonin-reducing drug Reserpin, this change in blood chemistry has a calming effect on humans; negative-ion therapy has also been found to relieve pain in severe burn victims.

Ion concentrations in the air fluctuate naturally, but there is a trend toward continuous depletion because pollutants combine with ions and render them biologically inert. Modern ventilating equipment also tends to reduce ion levels. Chronic ion deprivation, the authors warn, may cause "discomfort, lassitude, and loss of mental and physical efficiency." However, future research may make it possible to establish optimum air-ion standards, to replenish ion-depleted air, and to find increasing uses for ions in the treatment of pain and respiratory illness.

### *Problem-Solving for Mutual Profit*

"The Dynamics of International Technology Flow" by Denis Goulet, in *Technology Review* (May 1978), Massachusetts Institute of Technology, Cambridge, Mass. 02139.

Modern technology flows to Third World countries through many channels. By far the most significant channels today are the Western companies that export products or manufacture them overseas and the Western consultant firms that specialize in solving problems for a fee.

Developing countries, writes Goulet, Senior Fellow at the Overseas Development Council in Washington, D.C., are beginning to realize that there is a vast difference between technology "transfer" in the traditional sense (e.g., through exports of machinery or licensing contracts) and the "genuine assimilation of technology," which gives the recipient both a measure of control and the promise of future technological independence.

While the international companies see technology transfers as "strategies for successful marketing," the poorer countries view the acquisition of technology as an end in itself. The companies will give up only as much technology as they must to achieve access to new Third World markets. Western consultants, meanwhile, act as "technical gatekeep-