accumulation of pollutants have occurred, and it adds that, while "typical urban concentrations are not acutely lethal . . . it is difficult to argue that their lesser concentrations make them harmless." The report also cites evidence that air pollution has damaged plants, rubber, fabrics, dyes, and nylon hose. Unfortunately, such damage is likely to become still more prevalent in the coming years. Though improvements have been made in control of air pollution from industry, the report finds, "the general situation is getting worse because of instances of failure to apply existing control technology, growth of industry, and lack of economic technology in some cases." Similarly, while existing standards restricting automobile emissions will reduce total national emissions over the next several years, the trend is expected to start upward again in the mid-1970's as the number of cars in use continues to increase. Nor is the report very hopeful that new technologies—such as nuclear plants and steam- or electrically powered automobiles—will solve the air pollution problem in the near future. The report calls for more stringent automobile emission standards, and inspection; rapid promulgation of federal air quality criteria so that industry will be goaded into taking action; research on the main contaminants in the atmosphere and on their movements; research on ecological and public health problems; and accelerated development of various technologies that would help reduce air pollution.

With respect to water pollution, the report states that "very little is known" of possible effects on human health of the variety of largely unidentified chemical compounds that enter sources of water supply in municipal and industrial wastes, both treated and untreated. "It is thus impossible to be entirely sanguine about the ability of water treatment plants to cope with steadily increasing chemical pollution as water reuse increases," the report says. The main concern lies in the effects of long-term, low-level exposure. The report urges greater research on sewage treatment "primarily to seek radical innovations, based on fundamental understanding of microbiological processes." It also calls for laboratory and epidemiological work on the effects of long-term, low-level exposure to water pollutants, as well as studies of the movement of enteric viruses in soil and groundwater.

With respect to solid wastes, the report states that, while "a well-defined relationship between solid wastes and human health has not been demonstrated under the conditions that prevail in the U.S.," it is nevertheless "possible to conclude that, for some diseases, a relationship exists." The report finds that "the technology used to handle and dispose of solid wastes in the U.S. lags well behind that used to control air and water pollution," and that the basic science of solid waste handling "remains in relatively primitive condition." Nevertheless, the report notes that "the technology is available to sharply upgrade the handling and disposal of municipal refuse in the U.S."—it is simply not being applied to any great extent. The report calls for education, research, and demonstration projects to spur progress "in this neglected area."

The report is not an unqualified success. It seems to do a much better job of reviewing the current state of the art than it does of recommending steps to alleviate environmental pollution. Indeed, the report's 73 recommendations are, for the most part, addressed to everyone—and thus to no one in particular. Little effort is made to establish priority among the great number of recommendations (58 of the 73 are designated as having the most "immediate import"). And, ironically, for a report that stresses the possibility of taking "enormous strides, now," the vast majority of the recommendations call for research, development, study, investigation, measurement, assessment, and the like—not for the kind of direct action that will have an immediate effect in reducing pollution. The report sheds little light on how the economic and political factors that inhibit pollution abatement might be overcome—indeed, the ACS group ruled such "nonscientific" aspects of pollution control beyond the scope of the study.

No doubt, there will be ardent conservationists who believe the report is too weak, and "public-be-damned" industrialists who find it too strong, but all extremes of opinion in the pollution controversy should find it a useful source of ammunition to buttress their positions. Anyone who disagrees with the report's recommendations can simply read its review of the state of the art and make up his own mind about what should be done next. In that sense, the report constitutes an important addition to the ever-burgeoning literature on environmental problems.

—PHILIP M. BOFFEY

APPOINTMENTS

Frederick P. Thieme, executive vice president, University of Colorado, elevated to president of the university. . . . **John W. Kneller**, provost, Oberlin College, to president, Brooklyn College, City University of New York. . . . **Paul T. Medici**, chairman, biology department, St John's University, New York City, to dean, Graduate School of Arts and Sciences, at the university. . . . **Relis B. Brown**, associate professor of biology, Florida State University, to chairman, biology department, West Chester State College, Pa. . . . **Henry B. Peters**, assistant dean and director of clinics, University of California School of Optometry, Berkeley, to dean, University of Alabama School of Optometry, Birmingham. . . . **James W. Riddleberger**, former ambassador, U.S. State Department, to national chairman, Population Crisis Committee. . . . **Wolfgang C. Sterrer**, visiting assistant professor, University of North Carolina, to director, Bermuda Biological Station for Research.

RECENT DEATHS

Leason H. Adams, 82; former director of the Geophysical Laboratory, Carnegie Institution; 20 August.

Herbert Conway, 65; clinical professor of surgery, Cornell University Medical College; 25 August.

Roy J. De Ferrari, 79; former dean, Graduate School, Catholic University; 24 August.

Amos de Shalit, 42; nuclear scientist and former director general, Weizmann Institute of Science, Israel; 2 September.

Horatio N. Dorman, 83; urologist and fellow of the American College of Surgeons; 20 August.

Michael Hobmaier, 82; emeritus associate professor of comparative pathology, University of California, Berkeley; 15 January.

Hans Hoff, 72; professor of psychiatry, University of Vienna, and former president of the World Federation for Mental Health; 24 August.

David A. Karnofsky, 55; chief, chemotherapy research division, Sloan-Kettering Institute for Cancer Research; 31 August.

Foley F. Smith, 63; former president, Virginia Academy of Science; 9 August.