trol; without it all the potential effectiveness of an intelligent and generous aid program will be wiped out." I am not certain that population control is as immediately pressing in the United States as it is in the underdeveloped countries, but that we have to embrace population controls to solve the problems of exhausting resources, pollution, transportation, and general ecological balance I am firmly convinced.

I find the final part of Weston's statement very hard to take. Our problem is to expand supply to meet any demand in the interest of enhancing man's and society's welfare. This includes compatibility with a healthy environment. Weston's ex cathedra judgment that "cheap and plentiful" electrical energy is a luxury our environment can no longer tolerate is most certainly not based on facts heretofore disclosed and is far, far premature. I stand on the conclusion given in the final two sentences of my editorial: "Neither is there any need to doubt the feasibility of obtaining both increased energy for man and environmental protection. It may be difficult, but the two are, or can be made, compatible."

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Environmental Problems

Many believe that scientists concerned about the alarming and accelerating deterioration of our environment can do very little personally about these enormous problems. This viewpoint is dangerous because it leads to inaction and misleading because one cannot predict effectiveness. Biologists are especially qualified by training and knowledge to evaluate dangers to health and well-being. We have the right and responsibility to try to influence the public and government.

To provide effective channels for communication, I propose the establishment of a series of permanent commissions (composed of commissioners with 3- to 5-year appointments), each assigned to deal with one area of human ecology and public health—such as radiation hazards, new methods of contraception, the impact of chemical and biological warfare on public health, pollution, conservation of natural resources, novel sources of food, man-made changes in ecological patterns, toxic additives in food and drugs, and medical ethics. These commissions would publicize problems in their areas and develop positive innovative measures. Unlike the committees of the National Academy of Sciences, they would be autonomous and permanent and would have great independence and influence, even though their functions would be fact-finding and informational in nature. Selection of commissioners, experts in their fields, would be by their peers, perhaps by the various professional societies. Commissioners would be expected to devote considerable time to this activity, including public lecturing, contact with congressmen and other government officials, the press and television, with some research activity within the framework of the commission.

The importance of establishing permanent commissions should be stressed. Continuity would be improved if a permanent secretariat were provided to assist each commissioner. It is hoped that the modest costs could be borne by the participating professional societies, with perhaps an additional direct contribution from individual scientists.

Many of these problems do not stop at national boundaries. A plan for an international center for the environment to include 14 areas of concern is being considered by the International Council of Scientific Unions. It is very important that the United States participate fully in that program. The commissions clearly could provide a well-developed base from which to coordinate activities.

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Venus: A Joint U.S.–U.S.S.R. Exploration Program

In their comprehensive article, Hunten and Goody (26 Sept., p. 1317) make a strong case for a more ambitious program of exploring Venus. The study of the earth's "sister" planet holds great promise toward understanding the origin and evolution of the earth's atmosphere, and the two planets are similar in size and distance from the sun, but the question persists—why does the earth not have a hot, dense atmosphere as Venus does?

The exploration of Venus may have another very important tangible benefit to mankind. It could serve as the object of a cooperative planetary ex-

ploration program carried out jointly by the United States and the Soviet Union. The U.S.S.R. has clearly demonstrated their interest in the exploration of Venus through the launching of the Venera series of spacecraft with the highly successful probes of the Venus atmosphere by Veneras 4, 5, and 6. They have used large resources in the development of the technology necessary to penetrate a planetary atmosphere. We have invested our planetary exploration resources toward the development of the Mariner-class spacecraft which will reach its culmination in the 1971 Mars orbiters.

A wise use of the resources of the two countries would be to conduct a coordinated exploration of Venus, each using the technology that they have developed—the U.S.S.R. the atmospheric probe, and the United States the planetary orbiter. An exchange of ideas between the two countries would produce complementary experiments in the two types of vehicles. Some atmospheric properties can only be completely defined by having one probe enter the atmosphere while the other orbits above. As each country conducts its own mission in coordination with the other's mission, a spirit of competitiveness and cooperation will be fostered that could serve as a model for other international activities.

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Where Are the Jobs?

I agree with Bryce Nelson's statement (31 Oct., p. 584) that "it is impossible to ascertain future need for scientists if there is no clear idea of what is happening now to recent graduates." In connection with my new book *Opportunities in Oceanographic Careers* (Vocational Guidance Manuals), I found it impossible to find any reliable figures on manpower needs for the next decade, not to mention present employment. I second Nelson's suggestion that the federal government (perhaps the National Science Foundation) might assume the task of accumulating data on the supply-demand situation for scientific manpower.

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