I am concerned about a comment attributed by Weisman to Walter Kohn to the effect that the experience of LANSCE shows that dual use of a major accelerator is not feasible. My own experience, as director of LAMPF from its beginning until 1985, is quite the opposite. We found multiple use to be efficient, stimulating, and cost effective. We often operated more than 10 channels simultaneously, with negligible interference, even with the weapons neutron research facility, which received all the beam it could use, as does LANSCE today. Design and scheduling conflicts that Kohn mentions did not materialize.

The only requirement, as far as I can see, is that the operators and researchers (many hundreds from scores of institutions, in the case of LAMPF) be motivated, competent, and reasonable, and that management be enthusiastic about incorporating user needs and advice in the decision-making process.

At the moment, LAMPF is providing high-quality, high-intensity beam to LANSCE without interference from other experiments. One hopes that the neutron scattering community will take full advantage of the capabilities already available.

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The Endangered Species Act

I represent 138 biomedical research scientists in areas such as drug development for AIDS, cancer, cardiovascular disease, pain relief, and the study of basic chemical and biochemical processes of health and disease. We believe that the progress of biomedical research and disease treatment depends on the maintenance of the greatest possible biological diversity in nature. Rather than allowing legislation currently before Congress to weaken one of our nation's most important laws, we implore the President and Congress of the United States to support reauthorization of a strong and effective Endangered Species Act.

Plants and their attendant microorganisms have provided an armamentarium for cancer chemotherapy: Doxorubicin is used to treat acute leukemia, Hodgkin's disease, other lymphomas, Wilms tumor, and several other cancers; bleomycin is used for the palliative treatment of squamous cell carcinomas; etoposide is valuable in combination chemotherapy against small cell lung cancer; vinblastine is one of the most effective single agents against Hodgkin's disease; vincristine is used in combination therapy against acute leukemia, where 90% remission can be achieved in children; and taxol provides a therapy for ovarian cancer.

Using morphine as a model, medicinal chemists have made alterations to the drug that have produced a variety of other medicines including methadone, used in the treatment of heroin addiction, and dextromethorphan, a common constituent of cough syrups. Moreover, the scientific study of morphine (derived from the poppy) and its chemical relatives has led to the discovery of opiate receptors in the brain and to novel approaches to pain relief and narcotics addiction.

The plant products digoxin and digitoxin are routine medications for heart failure, and ouabain is used in the emergency treatment of potentially fatal heart rhythm disorders. Another botanical product, quinidine, is prescribed for the control of certain heart rhythm abnormalities.

Animals provide indispensable models for the study of the origins and therapy of human diseases such as leprosy (armadillo), late-onset diabetes (monkfish), and injured heart muscle (Mexican salamander, an endangered species).

Discoveries are made regularly of novel, natural products that contribute to new drug design and advance our understanding of health and disease. A Chinese plant, *Artemisia annua*, for example, provides arte-

misinin, a promising new therapy for chloroquine-resistant malaria.

For each beneficial discovery, a large variety of species must be examined. Thus, scientific success in natural product drug discovery depends on biological diversity, which represents nature's myriad solutions to challenges of species survival. A strong, effective, and well-funded Endangered Species Act provides a safety net for the diversity of life on Earth and so ensures that biomedical science will be able to continue to learn from nature.

Michael Clegg (Chair of the Committee on Scientific Issues in the Endangered Species Act of the National Research Council of the National Academy of Sciences) has written (*1*, p. 3; *2*) that

> The ultimate goal of the Endangered Species Act is to ensure the long-term survival of a species . . . the current rate of extinction is among the highest in the entire fossil record, in large part due to human activity. The introduction of nonnative species and especially the degradation and loss of habitat are causing extinctions at a rate that many scientists consider a crisis.

Congress should accept the 1995 findings and recommendations of the National Research Council of the National Academy of Sciences in its reauthorization of the Endangered Species Act. This independent scientific body found (*1*, p. 3; *2*) that "There has been a good match between science and the Endangered Species Act," and has emphasized that habitat protection on both federal and private lands is required for effective species protection.

A healthy future for humans depends on a healthy future for the species with which we share the Earth.

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Garlic and Mosquitoes

The report that marigold toxins kill mosquito larvae (*1*) (Random Samples, 12 May, p. 809) is not necessarily unique. S. V. Amankan and others previously reported (*2*) that diallyl disulfide, a major component of garlic that contributes a large share of its odor and flavor, readily kills mosquito larvae. I believe I have observed such an effect. In 1989, the severity of onion and garlic white rot disease was so great in a standing garlic field in central Oregon that the crop was a total loss, even though half or more of the plants remained alive in mid-June. To prevent further increase in the inoculum, to reduce the population of the fungal pathogen *Sclerotium cepivorum*, and to kill off the remaining garlic (which would become a weed in subsequent crops), we flooded the field continuously between June and November. I waded weekly through the field collecting soil samples to monitor pathogen and garlic survival (*3*). No mosquitoes materialized in the field during these months, nor did the farmer who lived adjacent to the field notice any mosquitoes that summer. There were, however, many other insects and other invertebrates present in abundance. A slight garlic odor suggested that diallyl disulfide was leaking from the decaying garlic.

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