that is today overwhelmingly young; they further suggest that we must not continue to overlook the dynamic and fluid character of natural processes. But while they also indicate that we need not automatically interpret every new behavioral occurrence as a response to deleterious human pressures, the fact that few, if any, gray whales living today can have any memory of harm at the hand of humans calls for the most special consideration of the effects of our activities on our fellow creatures.

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Utilities and Nuclear Power: One System's Approach

Deborah Shapley (News and Comment, 19 Nov. 1976, p. 814) states (p. 816) that the American Electric Power Company (AEP) "says it will eschew building nuclear plants altogether in the future." I wish to deny the validity of the statement and to clarify the position of AEP in this regard.

It is our firm conviction that both nuclear and coal-fired plants will be needed in the future to meet the energy needs of this nation. Both coal and uranium are indigenous fuels, and neither can fulfill the demands for future electricity supply in the absence of the other.

While AEP has one nuclear unit in operation in southwestern Michigan and a second under construction and planned for commercial operation in early 1978, the fact any additional major generating plant now under construction or planned for operation in the next several years by the AEP system will be coal-fired does not imply AEP's "eschewing" the construction of new nuclear plants "altogether in the future."

The choice of which type of plant to build on the AEP System is under continuing review. A decision in this regard does not rest simply on a long-term economic evaluation—which is increasingly difficult in the light of rapidly changing capital and fuel costs as well as other related uncertainties—but also on such factors as the type and composition of the territory to be served, together with the area's opportunities for and constraints against supporting a particular type of generation; the state of development of the company's generation technology; the company's financial resources at any point in time together with an evaluation of the financial risk and exposure in a specific commitment;

and the state of resolution of regulatory and environmental issues.

We do not adhere to the idea that there is one single path for all utilities to follow. It is the diversity of approach and response among the nation's power suppliers which has made the electricity-supply industry in this country the best anywhere.

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U.S. Science and Technology: A Prescription for "Health"

The congressional Office of Technology Assessment (OTA) has initiated a long-range program on R & D policies and priorities. Three separate advisory panels have been established, with their work to be coordinated through OTA's statutory Technology Assessment Advisory Council (TAAC), chaired by Jerome Wiesner of the Massachusetts Institute of Technology. The three panels are to deal, respectively, with the health of the scientific and technological enterprise; the applications of science and technology, including industrial research and innovation; and the decision-making processes whereby the nation sets its policies and priorities with respect to the allocation of R & D resources and the utilization of scientific inputs in government policy generally.

The panel on the health of the scientific and technological enterprise, which I chair, would like suggestions from the technical community and from other interested and concerned individuals. We are particularly interested in receiving views on (i) what issues should be given priority on our agenda; (ii) what some of the perceived problems and strengths of the present system of overall management and support of research and development in the United States are; and (iii) how the future system might look. Our purview includes, but is not restricted to, basic research in universities and the system of advanced education in the natural and social sciences. We have adopted a provisional working definition of "health"—"the capacity of the U.S. science and technology enterprise to develop new knowledge and insights both for their own intrinsic values and for the contribution they can and should make to the solution of some of the major problems which face mankind and the nation." However, the panel would welcome suggestions for a better definition.

Currently we are engaged in defining the scope of its work and setting priorities for its study agenda. Illustrative of some of the issues that may be considered are the following:

- The development of objective criteria for assessing the health and performance of the science and technology enterprise, including its ability to maintain its capacity into the future.
- The validity of current national R & D priorities including priorities in fundamental science, taking into account both future social needs and probable scientific and technological opportunities. The issue involves the development of more systematic criteria for assessing scientific and technological priorities.
- The functioning of the overall research enterprise as viewed from the perspective of the working scientist: whether he is working on the problems that he considers most important and interesting, whether he has the freedom and opportunity to use his maximum capacities and training, and how he views his relationship to society and to social priorities.
- What alternatives might and should exist to the present traditional basic research and teaching careers for scientists and engineers who are trained to the Ph.D. level primarily through research apprenticeship.
- The future role and form of broad-purpose national laboratories and the specific requirements for a healthy and socially useful national laboratory system, including relationships with universities and industry.
- The proper allocation of government support among specific project grants to individual investigators, general research support to institutions, and support for individual scientists on the basis of promise and accomplishment with review of performance largely after the fact.
- The equity of access to the career opportunities provided by the scientific and technological system on the basis of capacity to contribute.

Communications and suggestions from persons in the technical community or from the general public concerned with the health and impact of science and technology would be welcomed by the panel. Such communications should be addressed to me.

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