ber of the Commission on Marine Science, Engineering and Resources). Robert M. White (administrator, National Oceanographic and Atmospheric Administration), has already agreed to participate for that agency. Representatives are also invited from the Environmental Protection Agency, the President's Office of Science and Technology, the House of Representatives, and the Senate. This last session could very well be the highlight of the 2-day meeting and might point the way toward this country's future direction in marine science.

Over the past several years, much has been said about the importance of the oceans to our national welfare; much has been written about the importance of the ocean to the future welfare—even to the survival—of mankind. The AAAS wants this symposium to provide a rare insight into the present status of marine science, the marine issues which face the country today, the hope which we might expect for the future, and the role which the federal government must play in converting these hopes into marine realities.

The day of the "Madison Avenue" approach to the oceans is over. We have all heard of the "untapped treasure troves on our continental shelves," of the "potential of the ocean for feeding the world's starving millions," and the fact that "the seas cover 71 percent of the earth's surface." It is time that we cut through the flowery prose, the well-formed phrases, and the glowing rhetoric to get to the basic facts at issue. How much do we know about the oceans today? What are the real problems we now face for which the solutions lie in the ocean? What does the future look like insofar as the oceans are concerned? And finally, what role does the federal government play in all of this? This symposium will answer these questions by bringing together in one place and at one time the top people in the field. This will be a good session, and hopefully from it will come the guidelines within which will be shaped the national policy relating to the oceans for the years ahead.

HARRIS B. STEWART, JR.
National Oceanographic and Atmospheric Administration, Atlantic Oceanographic and Meteorological Laboratory, Miami, Florida

30 December

Technology and Growth in a Resource Limited World

The role of technological innovation, in meeting the challenge of the environmental crisis, and in meeting the longer-term challenge of providing an expanding range of economic opportunities for those people—both in the United States and elsewhere—who have not yet achieved a reasonable share of the affluent society, without the stimulus of a continuously expanding population and increased use of nonrenewable resources.

30 December (morning)

Arranged by Robert U. Ayres (International Research and Technology Corp., Washington, D.C.).

Robert U. Ayres, Introduction.

Dennis L. Meadows (Massachusetts Institute of Technology), *Long-Term Resource Forecast.*

Ronald Ridker (Resources for the Future, Inc., Washington, D.C.), *Population and Economic Growth.*

Allen Kneese (Resources for the Future, Inc.), *Implications of a Recycling Economy.*

Mancur Olson (University of Maryland), *Social Implications of No-Growth.*

Herman Kahn (Hudson Institute, Croton-on-Hudson, N.Y.), *International Implications of No-Growth.*

30 December (afternoon)

Anthony Wiener (Hudson Institute), *Institutional Innovation: Changing Functions of Corporations.*

Clark Rees (New York City Planning Commission) and Herbert Fox (New York Institute of Technology), *Urban Technology—Does It Imply Growth or No-Growth?*

J. H. Hollomon (M.I.T.), *Role of Government as Promotor/Inhibitor of Innovation.*

Robert U. Ayres, *The Future of Innovation.*

30 December

A Search for the Recognizable Goals and Constraints of the Steady State Earth

With the recognition that the population and the per capita use of materials cannot grow indefinitely, the concept of the Steady State Society is being discussed at a number of centers. These discussions generally consider the constraints placed on human population and activity if man is to survive on this planet, the goals that must be reached for society to seem worthwhile, and the technology needed to meet these goals and constraints. This seminar provides a forum for several of these centers of discussion, as well as an opportunity to hear of alternatives to the Steady State. Without reacting to the many immediate fragmentary needs that meet us daily, the speakers will consider the nature of the dynamic society of fixed population, on the finite earth, with finite resources.

30 December (morning)

Arranged by Perry L. Blackshear, Jr. (University of Minnesota, Minneapolis).

Daniel J. Fennell (Institute on Man and Science, Rensselaerville, N.Y.), *Individuals and Organizations in the Steady State Society.*

Mulford Q. Sibley (University of Minnesota, Minneapolis), *A Political Scientist's View of the Steady State Society.*

Earl Cook (Texas A&M), *Energy in the Transition to the Steady State.*

30 December (afternoon)

Ariel Lugo (University of Florida), *An Ecological View of the Steady State Society.*

Arthur Kantrowitz (Everett Research Center, Everett, Mass.), *Alternatives to the Steady State Society.*

George Buglierello (University of Illinois, Chicago Circle), *Science Technology and Society.*

Plan to visit the AAAS Science Film Theatre in the Grand Ballroom of the Bellevue-Stratford Hotel. Open 27–30 December from 10 a.m. to 3 p.m. with continuous showings during the lunch hour. As a special feature, the National Bureau of Standards "Noise Presentation" will be shown each day at 10 a.m., 12 noon, and 3 p.m.