

hour of electricity or \$50 for a one-horse power gasoline engine. The competition with animal power and manpower in nonindustrialized countries, however, is attractive, and intensive research is to be encouraged along many different lines. New materials, new plastics, new ways of fabricating large, cheap reflectors, mass production of small steam engines, simplified ways of pumping water, and new types of storage batteries may well accelerate the utilization of solar energy. The short-range researches involve new ways of utilizing the sun's energy as heat, the long-range researches should encourage the photochemical and photoelectrical conversion of solar energy. The field is one which calls for intelligent cooperation between scientists, engineers, economists, industrialists, business men, and the governments of many nations.

The Geneva "Atoms for Peace" conference and the Arizona "Sun for Man's Use" conference taken together, give hope through research of adequate energy sources throughout the world, not only for the future when conventional fuels become scarce, but for the present in the nonindustrialized areas where fuel is expensive and difficult to transport.

Atomic energy can supplement conventional fuels in large units near cities, and solar energy can supplement them in small units in sunny, rural areas, but intensive research by many people is needed to make them economically attractive.

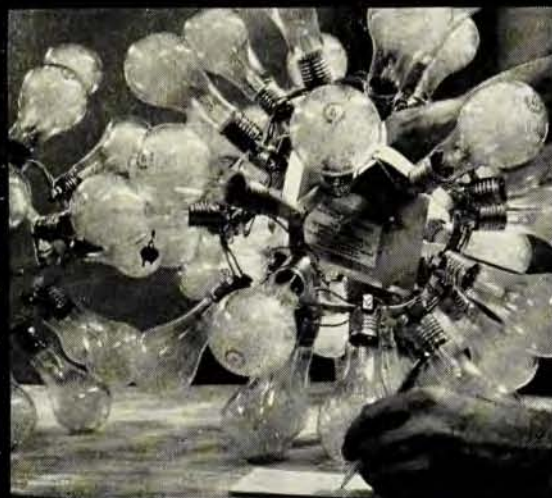
The Proceedings of the World Symposium on Applied Solar Energy in Arizona have already been published and the Tucson papers will become available later.

Farrington Daniels
University of Wisconsin

Naval Hydrodynamics

A SYMPOSIUM on Naval Hydrodynamics, sponsored by the Office of Naval Research (Mechanics Branch) in cooperation with the National Academy of Sciences and National Research Council, took place in Washington, D. C., September 24-28. The first of a series to be held on a yearly basis, the symposium is described as being an outgrowth of a continually growing need for meetings devoted exclusively to developments in the rapidly advancing field of hydrodynamics, particularly in the areas basic to naval and marine applications. The meeting was unclassified and open to all those interested.

The following speakers and their topics were listed in the program: C. C. Lin (boundary layer stability), S. Corrsin (turbulence in shear flows), G. K. Batchelor (wave scattering due to turbulence), M. J. Lighthill (river waves), W. H. Munk and M. Tucker (ocean wave spectrum), D. Gilbarg (free streamline theory and steady state cavitation), M. S. Plesset (physical effects in cavitation and boiling), H. Snay (hydrodynamics of underwater explosions), G. P. Weinblum (seaworthiness), H. Lerbs (hydrodynamics of marine propulsion), J. V. Wehausen (ship wave phenomena), M. Strasberg



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and H. M. Fitzpatrick (hydrodynamic noise), J. B. Parkinson (hydrodynamics of water-based aircraft), J. W. MacColl and R. N. Cox (basic hydroballistic phenomena), and J. C. Niedermair (hydrodynamic barriers in ship design). The program also included tours of US Navy laboratories in the Washington area.

Optical Society

THE forty-first annual meeting of the Optical Society of America will be held October 18-20 at the Lake Placid Club in Upper New York State, where the Society has met three times in the past. The program will include more than fifty contributed papers distributed over ten sessions, as well as a number of invited papers. Three of the latter will be presented at a session devoted to some optical aspects of research planned for the International Geophysical Year. Another session of four invited papers will discuss "The Newer Optical Materials" in terms of selection criteria, physical properties, and structural considerations. Still other invited addresses will review current European optical research, new developments in light sources, and the subject of "Fiber Optics" (under which title the optical properties, fabrication techniques, and various applications of single dielectric cylinders will be discussed).

At a dinner on Friday, October 19, the Frederic Ives Medal for 1956 will be presented to John Strong of Johns Hopkins University. Professor Strong will speak on "Interferometry in the Far Infrared" in his Ives Medal Address the following morning.

Optics and Microwaves

INTENDED to "promote interest in the common problems associated with optics and microwaves, and demonstrate that these lie within the scope of modern theoretical and practical optics in such diverse fields as human vision and astronomy", a Symposium on Optics and Microwaves is to be held November 14-16 at Lisner Auditorium, The George Washington University, Washington, D. C. The meeting is jointly sponsored by the Optical Society of America, The George Washington University School of Engineering, and the Institute of Radio Engineers Professional Group on Antennas and Propagation.

The technical program will consist of six sessions, each embracing a subject of general interest to all persons who deal with optical phenomena in research or application in the fields of engineering, medicine, or the related physical sciences. Survey and tutorial papers will be presented to encourage understanding of the basic physics underlying fundamental characteristics which relate optics and microwaves as the two concepts now exist.

Advance registration for the meeting is \$2.50 and may be made by mail to Symposium on Optics and Microwaves, P. O. Box 355, Falls Church, Va. Registration at the door will be \$3.50.