Meetings

Limnology and Oceanography

Symposia on two subjects of highly scientific and social significance were prominent in the two-and-a-half-day program of the Pacific Section of the American Society of Limnology and Oceanography (ASLO), during the 42nd annual meeting of the Pacific Division of the AAAS, at Davis, California. Earlier in the meeting the wide scope of scientific disciplines involved in studies of the aquatic world was illustrated in sessions for contributed papers. Topics ranged from physical and chemical conditions in a California lake, through observations of temperature variations and fish behavior from a fixed tower in the ocean, to laboratory studies of the respiration of individual sardine eggs and larvae.

The first symposium, on the scientist's responsibility in the nuclear age, jointly sponsored by ASLO, the AAAS Committee on Science in the Promotion of Human Welfare, and the Scientists' Committee for Information on Radiation (San Francisco area), was chaired by George E. Pake, of Stanford University. The participants were Robert B. Brode and Arthur Rosenfeld (University of California), Leonard A. Herzenberg (Stanford University), Lester Breslau (California Department of Public Health), and Halsted Holman (Stanford University). For background, the participants reviewed research developments in the fields of physics, medicine, and genetics that have arisen as a result of the development of the nuclear age. They stated their conviction that the scientist has a duty to communicate to the public the results of his research, in terms understandable to nonscientists, and his informed opinion on the significance to society of the scientific developments. They further discussed the scientist's role in the formulation of public policy. Agreement that the scientist has such a role was general, but opinions differed on how he should participate in policy-decision-making, ranging from the view that he should be completely involved, by running for political office or accepting political appointments, to the view that he should remain quietly in the laboratory until asked for his advice on a specific subject.

The need for the scientist to communicate to the nonscientific public, and the manner in which this could be accomplished, were major topics in the ensuing discussion. Reporter Brown of the Sacramento *Bee* came to the defense of the newspapers after somewhat derogatory remarks had been directed against them. He felt that the scientist should approach this communication problem scientifically by learning more about the manner in which newspapers must operate, and that by so doing he would be better able to give the proper information to the reporters and much less critical of the way it came out in the newspapers. He believed that scientists were too much concerned with the opinion a colleague might draw from a newspaper article and not concerned enough with the problem of transmitting the essential "kernel" of information to the general public.

The more specific symposium, on biological implications of radioactive isotopes in the sea, was organized and chaired for ASLO by William Aron, of the University of Washington. William Royce (Fisheries Research Institute, University of Washington) discussed the rapid increase in the use of food from the sea, pointing out that not only may radioactive pollution be harmful but that the mere suspicion of harmful effects can create international problems of high propaganda potential. B. H. Ketchum (Woods Hole Oceanographic Institution) showed that marine organisms, by concentrating chemical elements and by horizontal and vertical migration, could cause as much transport of radioactive isotopes upward or downward as the physical mixing processes in the ocean. From investigations at Rongelap Atoll, Edward Held (University of Washington) indicated the qualitative distribution of radionuclides in the flora and fauna 5 years after contamination from a single fallout event. There are distinct differences in concentration between the terrestrial and the marine environments, and levels in man reflect both the terrestrial and the marine sources of his food.

Data from monitoring low-level radioactive wastes flowing into the Irish Sea from the British reactor at Windscale were reviewed by Michael Waldichuk (Fisheries Research Board of Canada Biological Laboratory, Na-

naimo, British Columbia) as a basis for summarizing the oceanographic problems encountered in attempting to predict levels of radioactive pollution. Joel Hedgpeth (Pacific Marine Station, Dillon Beach, California), well known exponent of the dangers of disturbing an ecological balance, surprised the group by conceding that some radioactive pollution in the sea appears to be inevitable, and noted that a certain amount of radiation background may even be essential to life. However, he stressed that we should learn much more about the effects on the biota itself, as distinct from use of the biota by man, before tampering very much with the environment. O. E. Sette (Bureau of Commerical Fisheries Biological Laboratory, Stanford, California), in summarizing and correlating the highlights of the talks, pointed out that there may be one quite beneficial side effect of the radioactive pollution problem—the stimulation of many phases of instrumentation and research in oceanography, especially of research on interrelations in the biological food web in the sea.

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Forthcoming Events

October

23–24. Institute of the Aerospace Sciences and the Canadian Aeronautical Inst., Ottawa, Ont., Canada. (H. Harris, IAS, 2 E. 64 St., New York 21)

23–28. Congress of Chemical Engineering, 1st, San Juan, P.R. (R. Munoz, Apartado 47, Estación de Río Piedras, San Juan)

24–25. Shallow Water Research Conf., Gulf Coast, 1st natl., Tallahassee, Fla. (D. S. Gorsline, Oceanographic Inst., Florida State Univ., Tallahassee)

24–26. Aerospace Nuclear Propulsion, intern. symp., Las Vegas, Nev. (P. M. Uthe, Lawrence Radiation Laboratory, Univ. of California, Box 808, Livermore)

24–27. American Dietetic Assoc., 44th annual, St. Louis, Mo. (Mrs. T. Pollen, ADA, 620 N. Michigan Ave., Chicago 11, Ill.)

26–27. American Soc. of Tool and Manufacturing Engineers, Toronto, Canada. (A. Cervenka, Vanderbilt Blvd., Oakdale, L.I., N.Y.)

26–27. Instrumentation Facilities for Biomedical Research, symp., Omaha, Neb. (H. G. Beenken, Univ. of Nebraska College of Medicine, 42 and Dewey Ave., Omaha)

26–27. New Mexico Acad. of Science, Albuquerque. (K. G. Melgaard, P.O. Box 546, Mesilla Park, N.M.)

26–28. Professional Group on Electron Devices, annual meeting, Washington, D.C. (I. M. Ross, Technical Program Chairman, Room 2A-329, Bell Telephone Laboratories, Murray Hill, N.J.)

26–30. American Soc. for Aesthetics, Detroit, Mich. (J. R. Johnson, Cleveland Museum of Art, Cleveland,6, Ohio)

27–28. Shallow Water Research Conf., Pacific Coast, 1st natl., Los Angeles, Calif. (D. S. Gorsline, Oceanographic Inst., Florida State Univ., Tallahassee)

27–29. Association of Clinical Scientists, annual, Washington, D.C. (R. P. MacFate, Secretary, ACS, 323 Northwood Rd., Riverside, Ill.)

28. American Mathematical Soc., 583rd meeting, Cambridge, Mass. (E. Pitcher, Lehigh Univ., Bethlehem, Pa.)

29–31. Photoelasticity, intern. symp., Chicago, Ill. (P. D. Flynn, Illinois Inst. of Technology, Chicago 16)

29–1. Marine Biology, intern. conf. (by invitation only), Princeton, N.J. (Mrs. E. Purcell, Interdisciplinary Conference Program, Rockefeller Center, Time & Life Bldg., New York 20)

30–1. American Oil Chemists Soc., Chicago, Ill. (W. O. Lundberg, Hormel Inst., Univ. of Minnesota, 801 16th Ave., NE, Austin)

30–1. Society of Rheology, annual, Madison, Wis. (J. D. Ferry, Univ. of Wisconsin, Madison)

31–2. Interscience Conf. on Antimicrobial Agents and Chemotherapy, 1st, American Soc. for Microbiology, New York, N.Y. (ASM, 19875 Mack Ave., Detroit 36, Mich.)

November

1. Rheumatic Fever, symp., New Haven, Conn. (E. A. Sillman, Connecticut Heart Assoc., 65 Wethersfield Ave., Hartford 14, Conn.)

1–3. Alkaline Pulping, 15th conf., Houston, Tex. (Technical Assoc. of the Pulp and Paper Industry, 360 Lexington Ave., New York 17)

1–3. Experimental Mechanics, 1st intern. congr., New York, N.Y. (Soc. for Experimental Stress Analysis, P.O. Box