Meetings

Pacific Science Congress

The Tenth Pacific Science Congress of the Pacific Science Association met in Honolulu, Hawaii, from 21 August to 6 September 1961. The host organizations for the congress were the National Academy of Sciences of the United States, the Bernice P. Bishop Museum, and the University of Hawaii. Most of the activities took place on the campus of the latter institution. This was the largest and most widely attended congress in the 41-year period since the first Pan-Pacific Scientific Congress was opened in Honolulu, on 2 August 1920. Whereas in 1920 some 53 scientists from eight countries traveled to Hawaii, to be joined by 40 local scientists, in 1961 there were 1834 registered members and 819 auditors, from 61 countries and territories; among them were 25 representatives of various international organizations.

Since the first congress, successive congresses have been convened in eight other countries of the Pacific Basin. The early Pacific Science Congresses were held in an era when international scientific meetings were all but unknown. Today there are many such meetings, but none of the others is so broadly interdisciplinary or so concerned with the common problems of such a large region of the earth. The sheer magnitude of the Pacific area and the variety of its physical features and life-forms make international cooperation essential in scientific observation.

Previous congresses have tended to focus attention upon the scientific problems of the host country, to provide needed support for scientific institutions in the Pacific Basin, and to assist in raising the status of scientists in newly developing countries. The 10th congress, however, paid only scant attention to Hawaii, despite the sentiment aroused by this return to the site of the first meeting. Rather, the mood was one of assessing the scientific accomplishments of the past four decades and the problems of future research across the broad sweep of the Pacific. This latter task included an evaluation of the efforts in international cooperation of the Pacific Science Association (*1*), as sponsor of the congresses, and action by the Pacific Science Council, the governing body of the association, affecting the organization of future congresses.

The congress included events of four different kinds: (i) scientific sessions, consisting mostly of organized symposia; (ii) administrative and organizational meetings, including the opening and closing plenary sessions; (iii) special events, including public lectures and panel discussions, motion pictures of scientific interest, and social receptions; and (iv) field trips on Oahu. There were also extensive post-congress trips to the neighboring islands.

Within the terms of the constitution and by-laws of the Pacific Science Association, the congresses are planned, organized, and conducted as the host country desires. The plans for the 10th congress were formulated by an executive committee headed by the congress president, Laurence H. Snyder (president of the University of Hawaii); detailed arrangements were made by local committees whose activities were coordinated by the secretary-general, Harold J. Coolidge (National Research Council). There were three congress-wide symposia and nine separate section programs.

The most elaborate of the congress symposia was the 8-hour program on Man's Place in the Island Ecosystem," with 13 invited papers, each followed by prepared remarks by a formal discussant and by a closing summary statement. The island ecosystem in the Pacific, man's place in nature, Pacific cultures and their relationship to the environment, and cultural changes in modern times were discussed. The second of the general symposia was a round-table discussion on science museums in the Pacific area. The third focused attention on the Galapagos Islands.

More than 1500 papers were presented during the congress. They covered a wide range. For the first time, however, the congress *Proceedings* will not include publication of all the papers presented. It is expected that most will be published in professional journals. The *Proceedings* will include attendance lists and information relating to the formal conduct of the congress. The papers presented at a few selected interdisciplinary symposia will be published in full. In about 2 years, a bibliography of congress papers will be compiled and issued by the Pacific Science Association, as a final record of what was published, and where.

The major symposia of the Section of Agricultural Sciences dealt with the handling of animal products in the tropics, nutrition of ruminants, design of field experiments with animals, grassland management, Pacific area foodstuffs for poultry, tropical crops, rice cultivation, the use of isotopes in the soil and crop sciences, weed control, soil conservation, and the role of soil surveys in land classification. It was recommended that the Food and Agriculture Organization of the United Nations be asked to expedite coconut research and plant exploration, and to implement certain rice projects, in collaboration with the International Rice Research Institute.

Discussions of the Section of Anthropology and Social Sciences had two functions: to advance theoretical concerns and to provide opportunities for considering specific cultural areas. The principal symposia were those on human microevolution, geochronology, current research in Pacific Islands archeology, social structure in the Pacific development of Japanese culture, Ryukyuan culture and society, social structure in the lowland Philippines, sociology of Theravada Buddhism, Malayo-Polynesian languages, research in Indonesian languages, Pacific port cities and towns, and induced cultural change in the Pacific. From the deliberations there emerged a coordinated plan for making archeological surveys and excavations in Melanesia, Micronesia, and Polynesia and for publishing the results. There also emerged statements of (i) the need for a similar plan for Southeast Asia and its adjacent islands; (ii) the urgent need for an archeological salvage program and study of local traditional cultures in the lower Mekong River valley before the area is dis-

rupted by flooding of reservoirs impounded behind a number of dams; (iii) the need to expand the scale of research on the Austronesian and Papuan languages (these constitute from ¼ to ⅕ of the languages of the world); and (iv) the need for linguistic surveys in Southeast Asia and long-range anthropological research in New Guinea and Melanesia.

The Section of Biological Sciences held interdisciplinary symposia on plants and the migrations of Pacific peoples, on Pacific Basin biogeography, and on the biotic balance of island faunas and floras. There were other significant symposia on pollen clues to ancient Pacific floras, algal productivity in the Pacific, ecology and protection of rare plants, wood anatomy and taxonomy, the culture of pond fishes, immunogenetic concepts in marine population research, the behavior of predaceous marine fishes, endocrinology of fishes, biological and physical aspects of light in the sea, and crop pests and biological control. The section recommended that all governments support the program of the Charles Darwin Foundation for preserving and studying the unique animals and plants of the Galapagos Islands; that adequate staffs of well-trained plant-quarantine personnel be employed in the Pacific Islands; that increased impetus be given to international research on the coconut rhinoceros beetle and on rat control; that the United Nations be requested to establish an isolated island biological laboratory for facilitating study of pathogens and pests; that an adequately staffed and equipped research group study the biology and growth of *Chanos* (milkfish) in its marine environment and locate the exact migration routes and spawning grounds; that the preparation of regional monographic floras (similar to *Flora malesiana*) should be encouraged; that a U.S. National Tropical Botanic Garden be established in the State of Hawaii; that all governments review the adequacy of staffing and financing of taxonomic research for scientific collections in their countries; that rare plant species be preserved by the establishment of protected reserves in natural habitats or by cultivation in botanical gardens; and that UNESCO promote closer collaboration among linguists, anthropologists, and botanists in the study of Pacific ethnobotany.

The Section of Conservation had the briefest program, yet presented the longest list of resolutions—a reflection of the many urgent problems involved

in the maintenance of plant and animal communities in the Pacific region. The multidisciplinary aspects of conservation were emphasized by the considerable number of symposia that were jointly sponsored with other sections. Particularly significant were those on ecological consequences of the use of toxic chemicals in pest control, preservation of faunas and habitats, and the role of cultural values in land use. Discussion in the latter symposium centered on a vital theme—that man now possesses the proper techniques for implementing conservation, and that the real problem lies in conflicting attitudes toward land use. The urgency of land-use planning and the setting aside of natural areas as wilderness preserves was emphasized. Specific resolutions toward this end were those urging designation of the summit area of Mount Kosciusko, Australia's highest mountain, as a wilderness area; the creation of a National Park on Kauai Island, to include Waimea Canyon and Alakai swamp; and the enlargement of Haleakala National Park. Protected wilderness areas (natural communities) should be kept distinct from scenic reserves and public recreation areas. A list was compiled of species of animals and birds threatened with extinction (from marine turtles, to Javan rhinoceroses, to the Hawaiian nene) to draw attention to the necessity for effective protection. For example, it was urged that the governments of Sarawak, Brunei, North Borneo, and Indonesia eliminate completely all killing, trapping, or export, under any circumstances whatever, of the orangutan, gibbon, or other tailless apes. Further, the UNESCO Science Cooperation Office for Southeast Asia was asked to convene a regional meeting to deal with problems of conservation of natural resources.

The major symposia of the Section of Forestry dealt with the organization and development of research, research methods in forest regeneration, animal-forest relationships, tree improvement for the Pacific region, forest inventories, forest growth, forest fire research, lignocellulose chemistry, wood anatomy and taxonomy, structural utilization of wood, and research in forest product development. It was concluded that the Food and Agriculture Organization of the United Nations should be asked to sponsor the collation of results of forest-product research and to foster the interchange of data.

The Section of Geography returned to the Pacific Science Congress after a

lapse of 28 years. Over 115 geographers from 16 countries participated. The most significant symposia were multidisciplinary, cosponsored by other sections. They dealt with the history of scientific geographical exploration in relation to development of the Pacific map, social and economic implications of mechanization of rice agriculture, Pacific Island terraces, Pleistocene and post-Pleistocene climatic variations in the Pacific area, and peasant and plantation agriculture. Two commissions of the International Geographical Union (on World Land Use Survey and on the Humid Tropics) held open meetings. It was urged (i) that existing international agreements be studied with a view to facilitating the exchange of maps and aerial photographs for scientific purposes and establishing or strengthening facilities for reproducing aerial photographs; (ii) that governments of the countries concerned initiate preparation of a comprehensive atlas of the Pacific Basin; and (iii) that all sources of material on the historical cartography of the Pacific be carefully studied and cataloged.

The major symposium of the Section of Geophysical Sciences was the 2-day "Matthew Fontaine Maury Memorial Symposium for Antarctic Research." Other important symposia dealt with the following subjects: large changes in the general circulation of the atmosphere and the Pacific Ocean, agricultural meteorology, meteorological results from satellite measurements, tropical cyclones, monsoon meteorology, oceanographic instrumentation, radioactive tracers in oceanography, tsunamis, equatorial circulation in the Pacific, North Pacific circulation, deep circulation in the Pacific, volcanism and plutonism in relation to types of crustal deformation, topography and sediments of the Pacific, and earth's crust in the Pacific Basin. Resolutions urged the ultimate establishment of an international tsunami warning system for the Pacific, and greater efforts to obtain gravity data over a broader area, with special emphasis on the southern Pacific Ocean.

The principal symposia of the Section of Public Health and Medical Sciences dealt with nutrition survey techniques and formulation of food composition tables, nutrition and cardiovascular disease, nutrition and population control, venomous and poisonous animals and noxious plants, mammal ecology in relation to public health, filariasis and onchocerciasis, premedical education, arthopod transmission of virus diseases from animals to man, avian biology and human disease, sociocultural aspects of preventive medicine, zoonoses in the Pacific area, eradication and control programs, and medical ecology. Strong approval of fluoridation of community water supplies, where engineering was feasible, was expressed. It was also the consensus that some form of population control is imperative, for a host of sociological reasons. Because there is insufficient information on the dietary intakes of "apparently healthy" people living on the foods indigenous to many of the Pacific areas and because such information is essential to an understanding of dietary standards and the balance between food supply and the expanding populations of the Pacific, it was resolved that all Pacific countries be urged to collect data relating to food and nutrient consumption of specified groups of "healthy" people living on foods usually available.

New to the congress was the Section on Scientific Information, which held five sessions at which 44 papers were presented and discussed by representa-

tives from 15 different countries and eight international organizations. The council of the Pacific Science Association was asked to establish a standing committee on communication of scientific information as a means of securing the participation of Pacific-area countries in the joint planning and execution of measures to improve communication in the sciences. Improved means of disseminating information are needed for educating and training scientific information specialists and for maintaining cooperative regional union lists of scientific and technical serials, and union catalogs. Also needed are interlibrary loan services among information centers, loan services for individual scientists, facilities for reproducing documents, and photocopying services. It was announced that the Japanese are considering publication in English of their seven bulletins of abstracts in the physical and mathematical sciences, and that the All-Union Institute of Scientific and Technical Information of the Academy of Sciences of the U.S.S.R. plans to publish abstracts of Russian papers in English.

There were varied and exceptionally well organized intra- and postsession field trips, which added a great deal to the intangible value of the congress, providing an opportunity for participants to hold informal discussions with their colleagues from other countries. The delegates saw, in a relatively short time, the outstanding features of Hawaii's unusual flora and fauna, its spectacular volcanic region, and its highly developed agriculture. Oceanographic research vessels of both the United States and the Soviet Union held open house for congress visitors.

There were 15 exhibits at the congress. One, "Recent publications in Pacific science," was an exhibit of over 1800 books and periodicals contributed by about 150 institutions and publishers in 32 countries and territories throughout the world. Another was an exhibit of 65 panels of photocopied documents illustrating the history of American participation in the geographical exploration, surveying, and mapping of the Pacific Basin. The panels were prepared by the U.S. National Archives and Record Service.

The presence of such a great number of foreign delegates from so many countries was due in no small part to the indefatigable efforts of the secretary-general in publicizing the congress during his world-wide travels, and to the arrangements made for special chartered flights to Hawaii from the United States and the Pacific area. There were 33 scientists from ten Latin-American countries, 126 from Europe, 8 from Africa, 169 from the Pacific area, and 399 from Asia. The largest foreign delegations were those from Japan (144), Australia (81), the Philippines (56), the U.S.S.R. (54), Canada and New Zealand (47 each), Taiwan (43), Thailand (37), and Indonesia (27).

An appraisal of the 10th congress forced the Council to conclude that the congress has grown to such a size that the cost of holding it is a major burden on the organizers of the host country, and that any voluntary group of scientists is strained to the utmost to cope with its complexity. The Council concluded, moreover, that it is doubtful whether the main objective of the congress—the evaluation of knowledge and the planning of long-term research requiring international cooperation—can be satisfactorily attained with the numbers involved.

Thus, in the future, congress activities probably will be confined to problems peculiar to the Pacific, and there will be close consultation with international organizations (such as UNESCO, WHO, and FAO) with active interest in Pacific problems. All invitations to individuals to participate in congress programs will be issued through the representative institution (a member of the Pacific Science Association) of the country of the individual invited, and will be issued at least a year in advance.

At the closing plenary session, honorary life fellowships were presented to A. P. Elkin of Australia and Carl Skottsberg of Sweden. Also, it was announced that the council had accepted the invitation of the Japanese delegation, subject to official confirmation by the Japanese government, to hold the 11th Pacific Science Congress in Tokyo in 1966.

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Reference

1. A. P. Elkin, *Pacific Science Association, Its History and Role in International Cooperation* (Bernice P. Bishop Museum Press, Honolulu, 1961).

Forthcoming Events

February

7. Chemical Suppression of the Immune Response, New York, N.Y. (W. Dameshek, New England Center Hospital, 171 Harrison Ave., Boston 11, Mass.)

8. Problems in Food Processing, Assoc. of Vitamin Chemists, Chicago, Ill. (H. S. Perdue, Abbott Laboratories, North Chicago, Ill.)

9–11. National Open Hearth and Blast Furnace Conf., American Inst. of Mining, Metallurgical, and Petroleum Engineers, Detroit, Mich. (E. O. Kirkendall, AIME, 29 W. 39 St., New York 17)

12–16. Management of Science Information Centers, Inst. on Information Storage and Retrieval, 4th, Washington, D.C. (L. H. Hattery, Center for Technology and Administration, American Univ., 1901 F St., NW, Washington 6)

12–23. Latin American Seminar on Irrigation, 2nd, Panama City, Panama. (J. Melendez, Jefe, Depto. de Ingenieria, Ministerio de Agricultura, Comercio e Industrias, Panama City)

13–14. Sanitary Engineering, 4th conf., Urbana, Ill. (B. B. Ewing, Dept. of Sanitary Engineering, Univ. of Illinois, Urbana)

14–16. Biophysical Soc., 6th annual, Washington, D.C. (D. Cowie, Dept. of Terrestrial Magnetism, Carnegie Institution of Washington, 5241 Broad Branch Rd., NW, Washington 15)

14–16. Solid State Circuits, intern. conf.,