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THE FOURTH PACIFIC SCIENCE CONGRESS

By Dr. T. WAYLAND VAUGHAN

SCRIPPS INSTITUTION OF OCEANOGRAPHY, UNIVERSITY OF CALIFORNIA

HOSTS AND ORGANIZATIONS

THE Fourth Pacific Science Congress was held in Weltevreden and Bandoeng, Java, from Thursday, May 16, to Saturday, May 25, 1929, under the auspices of the Netherlands Indies Science Council, with the support of the Netherlands Indies government. The patrons of the congress were His Excellency the Minister for Colonial Affairs and His Excellency the Minister for Foreign Affairs of the Netherlands and His Excellency the Governor-General of the Netherlands Indies.

The general president of the congress was Dr. Otto de Vries, director of the Rubber Experiment Station, Buitenzorg; the general vice-president, Dr. J. Clay, professor of physics at the Technical Faculty, Bandoeng; first general secretary, Dr. H. J. Lam, herbalist to the Botanical Gardens, Buitenzorg; the joint general secretary, Dr. H. J. T. Bylmer, military surgeon and anthropologist, Batavia, and the treasurer, Dr. H. M. Hirschfeld, of the Java Bank, Batavia. The scientific work of the congress was divided into three divisions, of which the officers were, for the Physical Sciences: *Chairman,* Mr. A. C. de Jongh, director of the Geological Survey; *secretary,* Dr. S. W. Visser, subdirector Royal Magnetic and Meteorological Observatory. Biological Sciences: *Chairman,* Dr. W. M. Docters van Leeuwen, director of the Botanical Gardens of Buitenzorg; *secretary,* Dr. K. W. Dammerman, chief of the Zoological Museum and Laboratory, Buitenzorg. Agricultural Sciences: *Chairman,* Dr. J. J. B. Deuss, director, Tea Experiment Station, Buitenzorg; *secretary,* Dr. J. Th. White, of the General Agricultural Experiment Station, Buitenzorg. Of the Social Branches, the chairman of the subcommittee on excursions and entertainment was Dr. Ch. E. Stehn, volcanologist; the chairman of the subcommittee on accommodations, Dr. W. F. Gisolf, petrographer, and the chairman of the sub-

committee on publications, Dr. J. Stroomberg, Department of Agriculture. All the officials whose names are given had onerous duties, and those who attended the congress owe them a debt of thanks.

The congress was formally opened in Weltevreden on Thursday, May 16, by His Excellency Jhr. Mr. A. C. de Graeff, governor-general of the Netherlands Indies. After the opening meeting the members of the congress moved to Bandoeng, where the subsequent sessions were held from Saturday, May 18, to Saturday, May 25.

ATTENDANCE

The total number of overseas delegates at the congress was about 165 and there were about seventy overseas participants. There were between 235 and 240 overseas delegates and participants. The countries represented and the respective number of delegates were as follows: Australia, 9; Canada, 2; Ceylon, 1; China, 19; Denmark, 1; France, 2; Germany, 2; Great Britain, 3; Hawaii, 4; Hongkong, 3; French Indo-China, 8; Japan, 39; Macao, 1; Netherlands, 25; New Zealand, 2; Philippine Islands, 8; Siam, 2; Straits Settlement, 14; Sweden, 1; United States, 26. In this list there are four duplications. There were twenty-three delegates from the Netherlands Indies, but a larger number, perhaps most, of the scientific men resident there were in attendance. Among the delegates there were many men of great distinction. Not all of them can be mentioned, but a few of the seniors were Professor A. Lacroix, permanent secretary of the Academy of Sciences, Paris; Professor G. Steinmann, of the University of Bonn; Professor G. Elliot Smith, of Cambridge University, England; Emeritus Professor M. Miyoshi, of Tokyo University, and Professor F. A. F. C. Went, president of the Royal Academy of Sciences, Amsterdam.

The large number of delegates and participants taxed the ingenuity of the hosts in providing for their guests. Bandoeng, the city in which the scientific sessions were held, has a total population of about 112,000, of which only about 10,700 are Occidentals. The difficulty of taking care of the large number of overseas guests and the scientific residents of the Netherlands Indies can easily be imagined. Some inconvenience under these circumstances was to be expected, but all the guests should feel grateful for the efforts that our hosts made to accommodate every one. The large attendance was gratifying, for it showed the interest both of the different countries around the Pacific and also of individuals in the work that is being done by the Pacific Science Congresses.

SCIENTIFIC PROGRAM

The scientific program of the congress was divided into a series of symposia on the problems of the Pacific, the most important of which were on subjects as follows: geo-tectonic movements; results of modern methods for volcanological research; chemistry of igneous rocks; results of gravity determinations at sea; present status of oceanographical investigations; coral reefs; scientific and commercial development of fisheries; geological mapping of the countries on the west side of the Pacific; paleontological characteristics and correlation of Tertiary and post-Tertiary formations; prehistoric man in the Pacific; ethnological problems, especially of the countries bordering the western tropical and subtropical Pacific; land classification and utilization; rice problem, its technical and economic aspects; improvement of plants for permanent crops; soil technology and classification; forestry problems; protection of nature. In addition to papers on the topics above listed there were also papers on meteorology, zoogeography and phytogeography.

As many papers were offered to the congress, the executive committee decided to have one person compile the substance of all those papers dealing with a specific subject and to present in one lecture the abstracts of a number of communications, instead of having the authors of different communications personally present their own papers or abstracts. It was expected that the lecture would be followed by discussion. This method in many cases worked satisfactorily. The problem of the presentation of so much material was a difficult one and entire satisfaction was probably too much to expect. Much assistance in grasping the essentials of the communications was rendered by the publication, for many papers, of preprints or advance abstracts which were distributed at the sessions.

Besides the sessions on the scientific program, there were important committee meetings, among which may be mentioned two joint meetings of the international committees on the oceanography and coral reefs of the Pacific.

RESOLUTIONS

At the final session of the congress twenty-eight resolutions were adopted. They covered the following subjects: A world map of isopors for a fixed epoch; a general geological map of the countries around the South China Sea; a revision of the data compiled for the Geological Congress at Toronto, 1913, of the coal resources of the countries around the South China Sea; a systematic study of rock alteration in the countries around the South China Sea; monthly interchange of special bulletins of important earthquakes between cooperating observatories of the Far East, without altering existing arrangements; the adoption of the International Code of Zoological Nomenclature by all workers on the taxonomy of both extinct and living animals; the intensive investigation of the geology and physiography of coral reefs and associated

phenomena in the Society Islands and of some nearby atoll, with borings, if practicable, through the barrier reefs at places which may seem desirable for such tests; an intensive study of Rose Atoll (a nullipore atoll) in the Samoan Archipelago; elaboration of a plan for oceanographic stations around the Pacific so as to insure a complete international oceanographic survey of the Pacific Ocean; the establishment of an international marine biological and oceanographical station in the Malay Archipelago; the commendation of the Carnegie Institution of Washington, the Netherlands government, the Scripps Institution of Oceanography of the University of California and the Carnegie Institution of Washington, and the section on oceanography of the Pacific committee of the Academy of Sciences of the U. S. S. R. for the efforts that they are making to prosecute oceanographic investigations in the Pacific; the commendation of the navies of the different Pacific countries for the valuable contributions that they are making to knowledge of the oceanography of the Pacific; the collection and critical examination of all existing data on the surface temperatures and salinities of the waters in the Pacific Ocean, with a view to the utilization of such data in the solution of problems of circulation of the oceanic waters and for many other purposes; the yearly publication of the results of marine soundings by the echo method and the standardization of scientific methods for calculating depth from the time interval in echo sounding; identification of plankton organisms of the Pacific and the distribution of named specimens to the different institutions; creation of a standing committee for the investigation of blood grouping in the Pacific; establishment of a standing committee on the tropical fisheries of the Pacific; creation of a standing committee for the protection of nature in and around the Pacific; promotion of the passage of governmental regulations by which the importation of all living specimens or skins, feathers or other parts of the bodies of wild animals will be prohibited, unless the consignment is accompanied by a license issued by proper authorities; limitation of unrestricted collecting of plants and animals in the Pacific Islands; adoption of adequate steps for the preservation of the Australian fish, *Epiceratodus forsteri* (Krefft); study of the extent of cross pollination among rice plants in different countries; formation of a standing committee on soil surveys and classification; formation of a standing committee on land classification and utilization in the Pacific; formation of a standing committee on economic entomology for the Pacific countries. The resolutions that were adopted at the congress were not merely the expression of wishes on the part of the delegates, but for each one of the resolutions which requires action there were men who intended to exert themselves to their utmost to see that the resolution shall be made effective.

In summarizing the scientific work of the congress it may be said that present information on many subjects was brought up to date as nearly as possible, and thereby those who attended were enabled to inform themselves with reference to the status of investigations in numerous fields. The resolutions adopted are indications of action to follow the discussions at the congress. It appears to the writer of this report that more useful work was accomplished at the Fourth Pacific Science Congress than at any previous congress, notwithstanding the steady progress from the meeting of the first congress in the Hawaiian Islands in 1920 through the congress in Australia in 1923 and the congress in Japan in 1926.

ENTERTAINMENT AND EXCURSIONS

The overseas delegates were royally entertained during the excursions before and after the congress and during the sessions of the congress itself. They were provided with hospitality either in hotels or in private houses and were supplied with passes for the government transportation lines. There was much delightful entertainment, both official and private, some of which was unique. This included plays from the Mahabharata by the Javanese and native dances and plays. Some of the native dances were of extraordinary interest.

Before and after the congress there were excursions which gave the visitors opportunities to see many of the interesting features of Java. Among these were the visit to Krakatau; the excursion to the coral reefs of Batavia Bay; the inspection of many localities of geological interest, including the famous Trinil locality; visits to Boroboedoer, Prambanan and other important ancient religious structures; visits to the different scientific institutions, among which the famous garden at Buitenzorg deserves special mention; inspection of the different kinds of agricultural estates, particularly rubber, chincona, tea and sugar, and inspection of native arts and crafts industries.

After the congress adjourned there was also an excursion to the Island of Bali.

MEETING-PLACE OF THE CONGRESS IN 1932

Two invitations for the next place of meeting were received, one from the National Research Council of Canada, supported by the Canadian government, and the other from French Indo-China. The Canadian invitation had been previously extended in Japan, in 1926, but was withdrawn in favor of the invitation from the Netherlands Indies. When the Canadian invitation was repeated in Java it was accepted, but at the same time the hope was expressed that the next meeting of the congress, which would probably be in 1935, would be held in French Indo-China.

CONCLUSION

Java was hot and there were other discomforts, but all who were present at the congress returned to their homes appreciative of the charms and manifold subjects of scientific and other kinds of interest of what is perhaps the most fascinating of tropical islands, deeply grateful for the courtesies and hospitality extended to them and convinced that the Fourth Pacific Science Congress was the most successful of that series of congresses. Thanks are due all of those who contributed to the social enjoyment and the scientific accomplishments of the congress, but it may be permissible to emphasize the part played by the general president, Dr. Otto de Vries. He showed capacity in the organization of the congress, his handling of all matters connected with it was tactful and his genial personality endeared him to every one. We congratulated him on his success and told him that we were proud of him.

REPRESENTATIVES OF INSTITUTIONS AND ORGANIZATIONS OF THE UNITED STATES AT THE FOURTH PACIFIC SCIENCE CONGRESS, BATAVIA AND BANDOENG, JAVA, MAY 16 TO 24, 1929

Mr. George Arceneaux, Office of Sugar Plant Investigations, Bureau of Plant Industry, U. S. Department of Agriculture, Homer, Louisiana.

Dr. William H. Brown, director, Philippine Bureau of Science, Manila, Philippine Islands.

Professor Hubert Lyman Clark (and Mrs. Clark), curator of marine invertebrates, Museum of Comparative Zoology, Harvard University.

Lieutenant-Commander Leo O. Colbert, director, Coast and Geodetic Survey for the Philippine Islands, Manila, Philippine Islands.

Dr. Frederick V. Coville (and Mrs. Coville), principal botanist, Bureau of Plant Industry, U. S. Department of Agriculture.

Professor George B. Cressey, Department of Geology, Shanghai College, China.

Dr. Heber D. Curtis, director, Allegheny Observatory, University of Pittsburgh.

Dr. George A. Dorsey (and Mrs. Dorsey), lecturer, New School for Social Research, 465 West 23rd Street, New York City.

Mr. Harry T. Edwards, senior technologist, Office of Fiber Plants, Bureau of Plant Industry, U. S. Department of Agriculture.

Mr. Roy H. Finch, associate volcanologist, Lassen Volcano Observatory, Geological Survey, U. S. Department of the Interior, Mineral, California.

Mr. Henry W. Fowler, associate curator of vertebrate zoology, Academy of Natural Sciences, Philadelphia, Pennsylvania.

Dr. Fred W. Foxworthy, forestry research officer, Kuala Lumpur, Federated Malay States.

Professor E. M. Harvey, Department of Horticulture, Oregon State Agricultural College, Corvallis.

Professor Wm. E. Hoffmann, professor and head of the department of biology, Lingnan University, Canton, China.

Dr. Carl L. Hubbs, curator of fishes, Museum of Zoology, University of Michigan.

Professor Emeritus A. C. Lawson, Department of the Geological Sciences, University of California.

Professor George D. Louderback (and Mrs. Louderback), Department of the Geological Sciences, University of California.

Mr. Augustine B. McManus (and Mrs. McManus), senior scientist, Hydrographic Office, U. S. Navy Department.

Mr. Paul Banwell Means, 296 Oranje Nassaustraat, Medan, Sumatra.

Professor John A. Miller (and Mrs. Miller), director, Sproul Observatory, Swarthmore College.

Professor Robert E. Park (and Mrs. Park), Department of Sociology and Anthropology, University of Chicago.

Dr. Robert D. Rands, senior pathologist, Office of Sugar Plant Investigations, Bureau of Plant Industry, U. S. Department of Agriculture.

Dr. Oswald Schreiner, principal biochemist in charge, Soil Fertility Division, Bureau of Chemistry and Soils, U. S. Department of Agriculture.

Professor W. A. Setchell (and Mrs. Setchell), Department of Botany, University of California.

Dr. Philip S. Smith (and Mr. Sidney B. Smith, Miss Katherine Smith, son and daughter), chief Alaskan geologist, Geological Survey, U. S. Department of the Interior.

Dr. T. Wayland Vaughan, director, Scripps Institution of Oceanography, University of California, La Jolla, California.

Participants (not members) of the congress: Mr. J. Gordon Carlson, assistant to Dr. Fowler, zoology; Mr. J. Rupert Mason, irrigation expert, San Francisco (and Mrs. Mason), agriculture; Mr. Larry B. Miller, Swarthmore College, astronomy; Mr. Walter H. Robinson, Swarthmore College, astronomy.

THE NINTH INTERNATIONAL CONGRESS OF PSYCHOLOGY

By Professor HERBERT S. LANGFELD

PRINCETON UNIVERSITY, FOREIGN SECRETARY OF THE CONGRESS

THE Ninth International Congress of Psychology was held at Yale University from September 1 to 7, 1929. "Enfin, enfin en Amerique!" exclaimed Professor Claparède, in his address on the opening day. For although this meeting took place on the fortieth anniversary of the First International Congress, it is