group activity. That brilliant discoveries occur in isolated work is not forgotten, but it is remembered that they are always based on the correlation of past efforts. As a practical method of utilizing the facilities of the country for progress in research, the plan has met with unlooked-for success, although it is still in an evolutionary stage and has, daily, difficult problems to meet. It offers a machinery which makes use of existing research opportunities and which yet fits in perfectly with the present operation of society as represented by the universities and other institutions. As a result of its five-years' work interest in tuberculosis research has grown to proportions such as would not have happened in the same length of time without the stimulus supplied by the grants from the association. It has not only advanced our knowledge, but in some measure completely changed our conception of this disease.[2]

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More money than is now available could be used with enormous advantage to the whole research. New studies defined in the committee's program are immediately urgent, and if not actively in operation will delay the progress of the whole study. The students have been chosen to do the work, but no step can be taken until the money is forthcoming. Loss of interest only can result from approaching a research worker unless the committee is prepared to go ahead and carry through the project.

In closing, it is essential to the success of the association plan to have: (1) A small committee so constructed that it shall have time to study the progress and literature of the whole field of science: watch for development in any field that may help the solution of the tuberculosis question: define clearly its problems: interest those best fitted to undertake each research it desires to have studied; correlate the results: outline future advances: stimulate interest and cooperation among individual research workers: secure the cooperation of other bodies and institutions whose interest is necessary to complete the work.

[2] The work undertaken so far under this plan has to do with the fixing of standards such as a base line for living bacterial chemistry, a base line for living cell chemistry, anatomical factors in the spread of lung infections, standards for X-ray pictures of normal lungs and similar problems so that published work from research in this field will be comparable and truths more quickly reached by the delineation of the laws underlying the processes involved. There have been published under the grants of this committee sixty-five papers in fourteen journals, a list of which may be obtained from Dr. Linsly R. Williams, National Tuberculosis Association, 370 Seventh Avenue, New York City.

(2) A spirit within the whole association which will justify it in asking and enable it to receive the criticism and guidance of those qualified to assist the work of the committee. (3) A plan of accounting which will insure constant supervision of the use of its funds. (4) A machinery which will use, in its attack upon the tuberculosis menace, existent facilities for research, directors of research, hospitals, students, and laboratories, and which will fit into the present operation of our social organization. (5) An institute such as the Phipps Institute at Philadelphia where more closely knit researches can be pursued, if, in the course of the work it is deemed necessary to bring into closer contact one or more of the workers whose problems are allied. The workers, under this plan, would be only borrowed for a time in order to finish a task, and would not therefore lose any of their own academic position.

This plan as it has been outlined allows the association to conduct its research very economically: it provides little overhead expense but does enhance the status of the research worker taking part in its program. It adapts itself to the conditions encountered, and at the same time accomplishes its purpose through the medium of trained skill and science.

WILLIAM CHARLES WHITE
U. S. PUBLIC HEALTH SERVICE

THE THIRD PAN-PACIFIC SCIENCE CONGRESS

A SECOND announcement concerning the Third Pan-Pacific Science Congress, which will be held in Tokyo this fall, has recently been issued by the National Research Council of Japan and gives additional information concerning the congress in extension of that published in SCIENCE for July 24, 1925.

The period for the scientific sessions of the congress will extend from Saturday, October 30, to Thursday, November 11. Excursions have been arranged for those attending the congress and will occupy a number of days both preceding and following the scientific sessions. The excursions will include trips to Hokkaido, October 18 to 25; to Nikko and Hakone, October 26 to 29, and to Kyoto, Nara, Osaka and Kobe, November 12 to 15, and to Miyajima and Kyushu or Shikoku, November 16 to 19. These trips will make it possible for the members of the congress to see parts of Japan which are noted for their scenic and historic interest and also a number of regions of particular scientific significance, such as the Ainu villages of Hokkaido, geologic and mineral deposits of importance and localities of special volcanic activity.

The announcement continues as follows in regard to the tentative scientific programs:

The scientific programs will, for the most part, be arranged in the form of symposia upon selected subjects. These subjects are given below, and, with the exception of the first two selected for discussion at joint divisional meetings, they will ultimately be so arranged that some will be discussed at physical divisional meetings, others at biological divisional meetings, and still others at sectional meetings. The final form which scientific programs will take depends largely upon what contributions will actually be made.

SUBJECTS SELECTED FOR DISCUSSION AT JOINT DIVISIONAL MEETINGS

(1) Symposium on certain definite plans for international cooperation in the study of the more important scientific problems of the Pacific.
(2) Review of the present state of knowledge of the physical and biological oceanography of the Pacific: tides and currents, temperature, salinity, hydrogen-ion concentration, abundance of plankton, duration of the swimming larval stages of organisms that are sedentary in the adult stage, etc.

SUBJECTS SELECTED FOR DISCUSSION AT EITHER DIVISIONAL OR SECTIONAL MEETINGS

(Physical Sciences)

(3) Astronomical observations especially connected with the Pacific region.
(4) Solar activity in relation to geophysical problems of the Pacific region.
(5) Distribution of terrestrial magnetism in the Pacific region.
(6) Meteorological study of the Pacific region: general circulation of the atmosphere, cyclones and correlation of meteorological elements.
(7) Meteorological and time service by radio-transmission in the Pacific region and causes which give rise to its disturbances.
(8) Form of the geoid in the Pacific region as deduced from geodetic observations, measurements of gravity or plumb-line deviation.
(9) Suitable map projections for maps on different scales for the countries bordering on the Pacific.
(10) Difference of the attenuation of radio waves along and across the meridian of the earth in the Pacific region.
(11) Crustal movements and geotectonics in the Pacific region: earthquakes, crust tides, variation of mean sea-level, etc.
(12) Report on the network of earthquake observations in the countries of the Pacific.
(13) Transmission of earthquake waves across the Pacific.
(14) Earthquake-proof constructions.
(15) Study of volcanoes in the Pacific region in their various aspects.
(16) Thermal springs in the Pacific region.
(17) Correlation of the Mesozoic formations of the Pacific region.
(18) Boundaries of the Pliocene and Pleistocene deposits in the Pacific region.
(19) History of the strandline of the Pacific during Pleistocene and Post-Pleistocene time.
(20) Metallogenetic epochs of the Pacific region and their bearing upon its structural unity.
(21) Stratigraphy of the coal-bearing formations in the Pacific region.
(22) Stratigraphy of the oil-bearing formations in the Pacific region.
(23) Mineral resources of the Pacific region: coal, petroleum, sulphur, phosphate of lime and useful metals.
(24) Distribution of rare elements in the Pacific region.
(25) The present and future trade connections among the countries bordering on the Pacific from an economic-geographical point of view.

(Biological Sciences)

(26) Interrelationship of the floras of Pacific regions as indicated by the distribution of certain groups of land and marine plants.
(27) Flora and fauna of the islands of the Pacific, with special reference to the problems of endemism and migration.
(28) Rational methods for the protection of useful aquatic animals and plants of the Pacific.
(29) Genetics in relation to the improvement of important crops, more particularly rice, and of live stock.
(30) Information regarding the insect faunas of the Pacific region, especially those affecting economic plants and animals.
(31) Distribution of bonitos and tunnies in the Pacific and their ecological studies.
(32) Distribution and life-history of the fresh water eels in the Pacific region.
(33) International cooperation in the investigations of pelagic fish eggs and larvae.
(34) Preservation of natural monuments in the Pacific region.
(35) Different plant successions as observed in various regions of the Pacific.
(36) Ecology of the epiphytic flora in the Pacific region.
(37) Origin and development of vegetation on the newer and older volcanic deposits in the Pacific region.
(38) Distribution of volcanic ashes in the Pacific region and their physical and chemical properties, with especial reference to their agricultural value.
(39) Rational methods of storing cereals.
(40) Use of green manures in various Pacific regions.
(41) Methods of soil classification and soil surveying.
(42) Citrus culture in the Pacific region.
(43) Scientific bases for plant quarantine in the countries of the Pacific.
(44) Control and treatment of the infectious and parasitic diseases of live stock.
(45) Antiquity of man in the Pacific region.
(46) Anthropometry of the races of the Pacific region.
(47) The Ainu people: their origin and affinities with other peoples.

(48) The place of the Papuans in the anthropological system.

(49) The pygmy question, more especially relating to New Guinea and the Philippines.

(50) Cultural developments in the East Indies and the theories of the "Kultur-historische" and the "Manchester" schools of social anthropology, regarding the evolution of culture in the Pacific.

(51) Food, clothing and dwelling houses in relation to climate in the different regions of the Pacific.

(52) Distribution, prevention and cure of particular diseases among native races of the Pacific region.

(53) *Ascaris, Anchylostoma* (*Necator*) and *Schistosoma:* distribution, life-history, clinical aspects, prevention and treatment.

One of the principal matters to be considered on this occasion will be the formation of a permanent or continuing organization for this series of congresses. Steps toward this were taken at the Second Pan-Pacific Science Congress, held in Sydney and Melbourne in 1923, by the adoption of the following resolutions:

(1) That this congress recommends the establishment of a permanent organization of the scientific institutions and individuals engaged in research on the scientific problems of the Pacific region;

(2) That the president of the Third Pan-Pacific Science Congress request the National Research Council or similar institution or agency of each of the following countries, *viz.*, Australia, Canada, Chili, France, Great Britain, Japan, Netherlands, New Zealand, the Philippine Islands and the United States of America, to appoint a member of an organization committee, the chairman of the committee to be a resident of the country in which the congress will be held, and that the committee be empowered to add to its membership representatives from other Pacific countries;

(3) That the organization committee be requested to prepare a preliminary draft of the constitution and methods of procedure of the organization and to report its recommendations to the next congress.

The international organization committee formed according to Resolution 2 is constituted as follows, and the draft constitution and by-laws prepared by this committee will be submitted at the general meeting of the Third Congress.

INTERNATIONAL ORGANIZATION COMMITTEE

United States of America	Dr. T. Wayland Vaughan
Australia	Sir David Orme Masson
Canada	Dr. R. W. Brock
France	Prof. A. Lacroix
Great Britain	Sir Gerald Lenox-Conyngham
Hawaii	Dr. H. E. Gregory
Japan	Dr. Joji Sakurai
The Netherlands	Dr. F. A. F. C. Went
The Netherlands E. Indies	Dr. W. M. Docters van Leeuwen
New Zealand	Dr. P. Marshall
Philippine Islands	Dr. W. H. Brown

Among those who are planning to attend this congress from the United States and the Hawaiian and Philippine Islands are the following:

From the continental area of the United States:

Wallace W. Atwood, president, Clark University, Worcester, Massachusetts; and Mrs. Atwood.

Louis W. Austin, director, Laboratory for Special Radio Transmission Research, United States Bureau of Standards, Washington, D. C.; and Mrs. Austin.

Harley H. Bartlett, professor of botany, University of Michigan, Ann Arbor, Michigan.

Arthur L. Day, director of the Geophysical Laboratory of the Carnegie Institution of Washington, Washington, D. C.

Nevin M. Fenneman, professor of geology, University of Cincinnati, Cincinnati, Ohio.

Caroline E. Furness, professor of astronomy, Vassar College, Poughkeepsie, New York.

Walter Granger, associate curator of fossil mammals, Department of Vertebrate Paleontology, American Museum of Natural History, New York City.

F. S. Harris, president, Brigham Young University, Provo, Utah; and Mr. M. H. Harris.

N. H. Heck, chief, Division of Terrestrial Magnetism and Seismology, United States Coast and Geodetic Survey, Washington, D. C.

Maurice Holland, director, Division of Engineering and Industrial Research, National Research Council, New York City.

Louise F. Jenkins, 383 Ellsworth Avenue, New Haven, Connecticut.

Andrew C. Lawson, professor of geology and mineralogy, University of California, Berkeley, California.

C. K. Leith, professor of geology, University of Wisconsin, Madison, Wisconsin; and Mrs. Leith.

G. W. Littlehales, hydrographic engineer, Navy Department; professor of nautical science, George Washington University, Washington, D. C.

George F. McEwen, associate professor, oceanographer and curator of the Oceanographic Museum, Scripps Institution of Oceanography, La Jolla, California.

R. R. Martel, associate professor of civil engineering, California Institute of Technology, Pasadena, California.

W. C. Mendenhall, chief geologist, United States Geological Survey, Washington, D. C.

C. H. Myers, professor of plant breeding, New York State College of Agriculture, Cornell University, Ithaca, New York.

Nels C. Nelson, associate curator of archeology, American Museum of Natural History, New York City.

Levi F. Noble, Valyermo, California; Mrs. Noble and Miss Marjorie Evans.

George H. Parker, professor of zoology, Harvard University, Cambridge, Massachusetts; and Mrs. Parker.

Harry Fielding Reid, professor of dynamic geology and geography, Johns Hopkins University, Baltimore, Maryland; and Mrs. Reid.

W. A. Setchell, professor of botany, University of California, Berkeley, California; and Mrs. Setchell.

Frederick Starr, 5727 Thirty-fifth Avenue, N. E., Seattle, Washington.

Walter T. Swingle, senior physiologist in charge of crop physiology and breeding investigations, Bureau of Plant Industry, United States Department of Agriculture, Washington, D. C.; and Mrs. Swingle.

Shira Tashiro, professor of biochemistry, University of Cincinnati, Cincinnati, Ohio.

Josephine E. Tilden, professor of botany, University of Minnesota, Minneapolis, Minnesota; and Miss Crosby.

Glenn T. Trewartha, assistant professor of geography and climatology, University of Wisconsin, Madison, Wisconsin.

T. Wayland Vaughan, director, Scripps Institution of Oceanography, La Jolla, California; Mrs. Vaughan and Miss Vaughan.

Victor C. Vaughan, chairman, Division of Medical Sciences, National Research Council, Washington, D. C.; and Mrs. Vaughan.

Bailey Willis, professor of geology, emeritus, Stanford University, Stanford University, California; Mrs. Willis and Miss Margaret Willis.

From the Hawaiian Islands:

C. Montague Cooke, malacologist, Honolulu, Hawaii.

Herbert E. Gregory, Silliman professor of geology, Yale University; director of the Bernice Pauahi Bishop Museum of Polynesian Ethnology and Natural History, Honolulu; and Mrs. Gregory.

E. S. Craighill Handy, ethnologist, Honolulu.

Willowdean Chatterson Handy, ethnologist, Honolulu.

T. A. Jaggar, director, Hawaiian Volcano Observatory, Honolulu; and Mrs. Jaggar.

From the Philippine Islands:

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

Victoriano Elicaño, assistant director, Philippine Bureau of Science, Manila.

Jose M. Feliciano, professor and head of the department of geology, University of the Philippines, Manila.

Bienvenido M. Gonzales, professor of animal industry, College of Agriculture, University of the Philippines, Los Baños.

Albert W. Herre, chief, Division of Fisheries, Philippine Bureau of Science, Manila; and Mrs. Herre.

Rev. Roque Ruaño, Faculty of Civil Engineering, University of Santo Tomas, Manila.

Rev. Miguel Selga, assistant director, Philippine Weather Bureau, Manila.

In addition to these representatives, American institutions and organizations will be further represented as follows:

George B. Cressey, professor of geology, Shanghai College, Shanghai, China.

N. Gist Gee, Peking Union Medical College, Peking, China; representing the China Medical Board of the Rockefeller Foundation.

Fusanobu Isobe, of the Suzuki Company, Kobe, Japan; representing Indiana University.

Kozo Kashima, Rikugun Kwagaku Kenkyujo, Ohkubo Hyakuninmachi, near Tokyo, Japan; representing the American Chemical Society.

S. Koku and M. Watanabe, of the Mineralogical and Petrographical Institute of Tohoku Imperial University, Sendai, Japan; representing the Mineralogical Society of America.

W. C. Lowdermilk, College of Agriculture and Forestry, University of Nanking, Nanking, China; representing the Society of American Foresters; and Mrs. Lowdermilk.

R. Howard Porter, Nanking University, Nanking, China; representing the American Phytopathological Society.

SCIENTIFIC EVENTS

RESEARCH IN COLLEGES

AFTER consultation with officers of the American Council on Education, the American Historical Association and the National Research Council, and with numerous college officers and teachers, a conference was called in Washington in March, 1925. Twenty-four colleges and educational organizations were represented. Endeavor to promote research in the colleges was unanimously approved and many suggestions were made as to methods. The conference voted unanimously to ask the Division of Educational Relations of the National Research Council "to proceed, in their discretion, to the organization of a committee or board to study the subject of promotion of productive scholarship among the teachers in American colleges and to move to its accomplishment." They also appointed a committee of five to bring this matter to the attention of said Division of Educational Relations and to act in forwarding this project in any further ways which seem to them advisable.

The committee brought the project to this division of the National Research Council, which unanimously approved the idea and reacted favorably to the general plan presented. The division, at a later meeting, voted in favor of a series of conferences between a representative of the division and "the colleges concerned."

In August of this year, at Woods Hole, teachers from twenty-two colleges and four universities, after discussion of the matter, unanimously approved of the general plan and of asking the National Research Council to take the initiative in approaching the colleges as to the project. They also approved unani-