is equally desirable that the teacher of engineering should from time to time both refresh and revise his knowledge of the fundamental things in mathematics, to the end that he may keep his methods up to date and adapt his teaching to the kind of mathematical instruction which his students have had and avoid those methods and those forms of expression which have long been out of use.

In closing, I wish to add that the rapid increase in engineering students has so greatly increased the demand for mathematical instructors having some knowledge of engineering that it would be highly desirable if more attention should be paid to the preparation of men for such positions. This can best be accomplished, perhaps, in those universities having large engineering departments by a closer correlating of the work of the mathematical department with theoretical work in engineering and mathematical physics. It is to be regretted that so little attention in this country is now being given to these two fields of mathematical activity. Institutions so situated as to undertake it should offer to its students graduate work in these lines in every respect worthy of a doctor's degree, and likewise to its instructors both opportunity and encouragement to do research work in this broad and fruitful field of human endeavor.

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INTERNATIONAL FISHERY CONGRESS, 1908

THE Fourth International Fishery Congress will convene in the city of Washington, United States of America, from the twenty-second to the twenty-sixth of September, 1908, to deliberate on important matters relating to fishing and fish culture and to submit propositions for the benefit of the fisheries to governments and to state, provincial and local authorities.

The congress will be organized and conducted in conformity with the decisions for the regulation of the international fishery congresses decreed in Paris in 1900.

The membership of the congress will consist of government, state, and provincial representatives, delegates from home and foreign societies, corporations and persons invited by the management of the congress, and persons at home and abroad who are deemed to have an interest in the purposes of the congress and express a wish to take part in it.

All members have the right to vote, to participate in the discussions, and to make independent propositions. In case a corporation should be represented by several delegates, the members of this delegation have the right to only one vote, which shall be cast by the delegate designated to the presiding officer. The delivery of the card of admission gives to members the right to take part in all the enterprises and excursions projected by the congress, to receive all the publications, and to wear the insignia of the congress. The members of the congress are required to conform to its regulations and decisions.

The membership fee is fixed at $2 for each person, excepting the official representatives of governments, who become members by virtue of their credentials.

In response to invitations extended by the government of the United States, twelve national governments have already signified their purpose to be officially represented, and delegates have been appointed by the governors of many of the states of the United States. In view of the small number of the nations which have formally indicated their inability to officially participate and the large number of persons who will attend as individuals or as representatives of important fishery societies, the congress promises to be important in its representative character, size, and the value of its proceedings.

All persons interested in the fisheries, fish culture, and fishery administration, or in scientific investigations and experiments related to the fisheries are invited to attend the meetings and take part in the discussions. To

those who can not attend the meetings of the congress an invitation is extended to submit papers on subjects relating to the fisheries, mailing them to the secretary-general of the congress in season to reach him prior to the opening meetings. For the guidance of those desiring to participate in this manner, the following scheme of subjects is submitted, but the papers need not be restricted to the titles suggested:

1. *Commercial Fisheries:*
   (*a*) Apparatus and methods of fishing.
   (*b*) Vessels and boats.
   (*c*) Handling, preparing and preserving the catch.
   (*d*) Utilization of neglected and waste products.
2. *Matters affecting the Fishermen and the Fishing Population:*
   (*a*) Hygiene of vessels and houses of fishermen.
   (*b*) Diseases of fishermen and their families.
   (*c*) Means for preventing loss of life at sea.
   (*d*) Technical education in fishing, fish handling, and fish culture.
   (*e*) Fishery schools.
3. *Legislation and Regulation relative to:*
   (*a*) Fishing.
   (*b*) Fish culture.
   (*c*) Pollution of waters.
   (*d*) Obstruction of waters.
4. *International Matters affecting the Fisheries:*
   (*a*) Regulation and legislation.
   (*b*) Research.
   (*c*) Statistics.
5. *Aquiculture:*
   (*a*) Fresh-water fishes.
   (*b*) Salt-water fishes.
   (*c*) Frogs, turtles, and terrapins.
   (*d*) Oysters and other mollusks.
   (*e*) Lobsters, crabs, crayfish and other crustaceans.
   (*f*) Sponges.
   (*g*) Algæ and other plants.
   (*h*) New appliances and methods.
   (*i*) Utility of fish culture in the ocean and in large inland waters.
6. *Acclimatization:*
   (*a*) American fishes abroad.
   (*b*) Foreign fishes in America.
   (*c*) Introduction of other foreign species.
7. *Fishways and Fish Ladders.*
8. *Biological Investigation of the Waters and Their Inhabitants:*
   (*a*) Methods and appliances.
   (*b*) Results.
9. *Diseases and Parasites of Fishes, Crustaceans, Mollusks, and Other Water Animals.*
10. *Angling and Sport Fishing.*

During the week following the regular sessions of the congress, special meetings will be arranged in New York, Boston, Gloucester and possibly other places in New England, it being the purpose to bring the members together for informal sessions in those places, and at the same time to provide time and opportunity for them to visit localities in which they may have a personal interest. In connection with these meetings arrangements will be made to exhibit to the members the methods of the American sea fisheries and the greatest of the fishery ports and fish markets of the United States.

Other places which may be visited, but for which no special arrangements will be made, are Baltimore, the center of the great oyster industry of Chesapeake Bay, which lies within forty miles of Washington; and Chicago and other lake ports, where the fishery trade and methods of the Great Lakes, the most valuable fresh-water fisheries in the world, may be studied.

Suitable arrangements will be made for the entertainment and instruction of the members in Washington and at the other places visited, and an opportunity will be given for visits to places of general interest.

During the week beginning September 20 the headquarters of the congress will be established in the New Willard Hotel, Washington, D. C., where information relating to hotel accommodations, transportation, places of interest, and other matters will be available. All communications and inquiries before that date should be addressed to the Secretary-

General of the Congress, Bureau of Fisheries, Washington, D. C.

THE AMERICAN CHEMICAL SOCIETY

THE thirty-eighth general meeting of the American Chemical Society was held in New Haven, Conn., June 29 to July 2, and was one of the most successful summer meetings ever held by the society. Two hundred and fifty members were present and one hundred and seventy-four papers were presented.

The large number of papers made it necessary to hold more sectional meetings than usual and the society met in six sections for the presentation of papers.

The society met in the lecture rooms of the Sheffield Scientific School and the following nine papers were presented in general session before all the members: "Official Inspection of Commodities," by A. L. Winton, chairman of the Agricultural and Food Section; "The Increasing Importance of the Rarer Elements," by P. E. Browning, chairman of the Inorganic Section; "The Analyst, the Chemist and the Chemical Engineer," by Wm. D. Richardson, chairman of the Industrial Section; "A Discussion of Some of the Methods used in Determining the Structure of Organic Compounds," by Wm. McPherson, chairman of the Organic Section; "Our Present Knowledge of Plant Proteins," by T. B. Osborne, chairman of the Biological and Sanitary Chemistry Section; "Some Applications of Physical Chemistry," by Frank K. Cameron, chairman of the Physical Chemistry Section; "Chemical Publications in America in Relation to Chemical Industry," by W. A. Noyes; "The Electrolytic Theory of the Corrosion of Iron as applied to the Protection of Steam Boilers," by W. H. Walker; "The Research Chemist," by W. R. Whitney.

On Wednesday afternoon, July 1, an excursion to Ansonia was enjoyed by the visiting chemists for the purpose of visiting the works of the Ansonia Brass and Copper Company and the Coe Brass Manufacturing Company. On the evening of the same day the members met on the East Shore for a social outing and dinner.

The organization of the Division of Industrial Chemists and Chemical Engineers was a feature of the meeting and the following officers were elected: *Chairman,* A. D. Little; *Vice-chairman,* A. H. Low; *Secretary,* B. T. B. Hyde; *Executive Committee,* Wm. H. Walker, Wm. Brady, J. D. Pennock, W. C. Ebaugh, F. B. Carpenter. Twenty-eight important papers were presented before the division and marked enthusiasm was shown. A movement is also on foot for organizing the food chemists, the general and physical chemists and the fertilizer chemists.

The rapid growth of the society under the impetus of the organization of chemists into special groups and the continually improving quality of its journals was noted by all, seven hundred new members having been added in the last eight months.

Matters of decided importance were brought before the council and acted upon. A new section of the society was established with headquarters at Louisville, Ky. It was decided that the winter meeting should be held in Baltimore in affiliation with the American Association for the Advancement of Science and that the summer meeting for 1909 should be held in San Francisco.

The society having been represented by its president in the recent conference in Washington on the Conservation of our Natural Resources, it was voted that a standing committee on the conservation of our natural resources be established and that the American Chemical Society should attempt to point out how chemists could assist this movement.

W. D. Richardson was elected editor-in-chief of the new *Journal of Industrial and Engineering Chemistry* and the following were elected as associate editors: Henry M. Howe (metallurgy of iron and steel), A. H. Low (metallurgy of gold, silver and lead), Geo. C. Stone (copper, zinc and other non-ferrous metallurgy), Willis R. Whitney (applied electrochemistry), F. W. Lovejoy (photochemistry), A. E. Leach (foods), L. P. Kinnicutt (water, sewage and sanitation), F. B. Carpenter (fertilizers and soils), Robert Wahl (fermented and distilled liquors), Virgil Coblentz (pharmaceutical chemistry), T. J.