spread, and this led to the investigation of insects as disease carriers and the discovery that the germs of yellow fever, relapsing fever, plague, typhus fever and sleeping sickness all had insect hosts. Ross's triumph marked the entry into far more difficult territory that had to be conquered.

The memorials were accepted for the school by Sir Charles McLeod.

THE NINTH INTERNATIONAL CONGRESS OF SCIENTIFIC AND APPLIED PHOTOGRAPHY

THE first International Congress of Photography was held in Paris in 1889. Since that time meetings have been held at intervals of three to five years, excluding the four-year war period, in Liège, Brussels, London and Dresden, in addition to Paris.

The next congress, the ninth, will be held again in Paris next year, 1935, from Sunday, July 7, to Saturday, July 13. The meetings will be held in the rooms of the Société Française de Photographie et de Cinématographie, 51 rue de Clichy, Paris (IX^e).

The congress will be organized on lines similar to those of previous congresses. The active organization will be in the hands of a French committee consisting of representatives of many of the scientific, photographic and allied societies of France, and headed by the French Photographic Society. The arrangements in other countries are made by the local national committees. These committees have been established in many countries to deal with the proposals and recommendations of the congresses, to present material to the congresses for international consideration, to arrange for a series of first-class papers on appropriate photographic subjects to be submitted to the congresses.

The secretary of the American committee is Dr. Walter Clark, Research Laboratories, Eastman Kodak Co., Rochester, N. Y. There are two subcommittees in this country, dealing respectively with sensitometric standardization and motion picture standards.

Sections: The congress will be divided into several sections, concerned with:

1. (a) Latent image; (b) Sensitive materials and their manipulation; (c) Sensitometry and photographic photometry.
2. Cinematography; general considerations, sound on film, standardization.
3. Scientific and technical applications of photography and cinematography.
4. History of photography, documentation and bibliography; photographic instruction; pictorial photography.

Among the subjects to be discussed are the standardization of methods for the determination of speeds of negative materials, and the standardization of the dimensions of sub-standard motion picture film for sound-on-film purposes.

The congress will include the following classes of members: founder members (minimum subscription 1,000 francs); subscribing members (minimum 300 francs); active members (125 francs); associate members (25 francs). With the exception of the associate members, all members attending the congress will receive the texts of all communications and will eventually receive the volume of proceedings.

Papers and résumés should be sent in duplicate to the secretary of the American National Committee by February 1, 1935. Copies can only be given to members attending the congress if their subscriptions have reached the Société Française de Photographie et de Cinématographie by June 1, 1935. Discussions will be held in English, French and German. Entertainments, visits to factories, scientific institutions, excursions and a banquet will be organized, for members of the congress.

For further information, application should be made to the secretary of the American National Committee, Dr. Walter Clark, Research Laboratory, Eastman Kodak Company, Rochester, New York.

THE PROPAGATION OF SALMON IN THE COLUMBIA RIVER DISTRICT

THE Emergency Appropriation Act for 1935 included provision for further work by the U. S. Bureau of Fisheries on the propagation of salmon in the Columbia River district. According to the *Fisheries Service Bulletin,* the actual appropriation was $33,790, $24,140 of which was apportioned for the conduct of practical and scientific investigations and experiments relative to the salmon fisheries and $9,650 for repairs and alterations of the bureau's present salmon hatcheries in that district. The work contemplated during the fiscal year 1935 will include three major research projects in addition to the program of fish hatchery development. These are as follows:

1. A statistical study of the Columbia River fishery to determine whether the fish populations are decreasing in abundance at such a rate that additional protective measures are needed and an analysis of the component parts of the salmon runs. All the evidence thus far indicates that the runs of Chinook salmon and red salmon into the Columbia River are composed of several self-perpetuating populations or races, each spawning in a different tributary of the river system, and each appearing in the commercial fishery at different times during the year. Therefore, it is necessary to protect equally each of these races in order to avoid depleting some of them while others are not used to full advantage.

2. A study of protection of migratory fish at power dams and irrigation canals in the Columbia River system to determine the success of the various devices employed for passing the migratory species over these obstructions.

Any devices for protection that are installed will doubtless require continual changes to perfect their operation. The number of migratory fish that pass over the dams will vary from year to year, and unless it can be definitely shown that these fluctuations are not due to changes in the intensity of the commercial fishery the success of the fish-protective work at the dams can not be determined. For this reason a study of the influence of power dams on the runs of migratory fish in the river must of necessity involve a statistical analysis of the commercial fishery and require the annual and daily counts of fish passing the obstructions at various points on the river to be correlated with the escapements of fish in the various tributaries, both above and below the dams. Since some of these dams are impassable, practical and scientific experiments will be required to perfect means of propagating by artificial methods the runs so permanently obstructed.

3. A biological study of the Columbia River fishery will be required. This will include a biological survey of all tributaries of the Columbia River, which form the present and past spawning grounds for migratory species of fish, to determine the total spawning areas in each tributary, the extent to which these spawning areas are utilized, the extent to which unavailable spawning areas can be recovered and the effect of pollution and other unfavorable factors reducing the success of natural propagation. The biological study will include observations on the life histories of the various species. It will also include studies of methods of artificial propagation and transplantation of migratory species of fish to determine the possibility of restoring depleted runs, of restocking tributaries that are now unproductive and of improving the quality and character of the various runs of fish, thus increasing their total economic value.

REPORT ON AGRICULTURAL EXPERIMENT STATIONS FOR 1933

DR. J. T. JARDINE, director of the U. S. Agricultural Experiment Stations, and Dr. W. H. Beal, assistant director, have issued their annual report.

According to the introduction, the purpose of this report is to show the use made of the federal funds, amounting to $4,462,560, appropriated in the Hatch, Adams, Purnell, and supplementary and special acts for the support of state agricultural experimental stations and those under the supervision of the Department of Agriculture in Alaska, Hawaii and Puerto Rico, as well as of $11,114,000 of state and other funds provided for the same purpose during the year ended June 30, 1933; to indicate the contributions of the stations to the solution of some of the major problems of rural life and well-being; and to review the progress made in coordinating the work of the stations with that of the department and other agencies for more economical and efficient use of funds in agricultural research. The report also discusses briefly personnel, additions to permanent equipment, research programs and projects and their coordination and adjustment to meet more fully present conditions and needs, trends in station research, and various matters relating to organization, administration and functioning of the stations as research and service agencies.

For the year ended June 30, 1933, the experiment stations reported a total financial support of $15,576,632.98, which, compared with $17,245,163.83 received the preceding year, represented a reduction of $1,668,530.85, or 9.6 per cent. Of the total support, $4,359,000 was derived from appropriations under the Hatch, Adams and Purnell Acts and $103,560 from appropriations to the Department of Agriculture for the maintenance of the experiment stations in Hawaii and Puerto Rico.

The income of the experiment stations from other than federal sources, $11,114,072.98, was 71.4 per cent. of the total. It was $1,544,060.85, or 12.2 per cent. less than for the preceding year, due mainly to a decrease in state appropriations and allotments from $9,501,097.10 to $7,740,247.56, or 18.5 per cent. The income from fees was 4.6 per cent., from sales 12.2 per cent. and from miscellaneous sources 13.6 per cent. less than in the previous year. This was offset to some extent by an increase of over 50 per cent. in balances carried over from the preceding year.

The decline in state support from the all-time high of 1931, which began in 1932, was still further accentuated in 1933. Only eight stations, namely, Alabama, Connecticut (State), Georgia, Maine, Maryland, Mississippi, New York (Cornell) and Rhode Island, reported increases from state sources during the year. The other stations experienced reductions in income of from 1.5 to 43.9 per cent. In the aggregate the Federal Government contributed about $1 to every $2.50 from other sources for the support of the stations during the year.

RECENT DEATHS

DR. JOHN BERTON CARNETT, chief surgeon of the Graduate Hospital and professor of surgery at the University of Pennsylvania Graduate School of Medicine, died on July 29, in his fifty-eighth year.

DR. MARY VIOLETTE DOVER, associate professor of chemistry at the University of Missouri, known for her work on petroleum, died on August 8.

DR. MARION NEWBIGIN, editor of the *Scottish Geographical Magazine*, died on July 20.

DR. MARCUS SEYMOUR PEMBREY, late professor of physiology in the University of London, died suddenly on July 23, at the age of sixty-eight years.

M. BENJAMIN BAILLAUD, honorary director of the Paris Observatory, died on July 8, aged eighty-six years.

THE death is announced of Dr. Jean Cantacuzino, professor of bacteriology at the University of Bucharest.