the report says, is largely due to the activities of the research boards of the department in the coordination of work required by various government departments. It is manifest that this work must be expected to develop, and that the needs are most economically met by extending the facilities for research in existing institutions. The more important items of work recently undertaken by the laboratory for the coordinating research boards include a research on motor springs, and spring materials generally, which is of great importance to the War Office and other departments in respect of transport problems; an investigation into the properties of constructional materials at high temperatures; a research on big-end bearings desired by the Air Ministry, which is of general importance for high-speed engine design; experiments to determine a suitable yellow glass for railway signal lights, as well as colored glasses for ships and aircraft lights; and an investigation relating to pivots and jewels as employed in a variety of instruments of importance for naval, military and other purposes.

In the Radiology Division, a large number of tests have been made on X-ray protective materials, and a considerable amount of time has been devoted, as already mentioned, to the very important work of inspecting X-ray installations in hospitals. Good progress has nevertheless been made with a number of interesting researches, including an investigation into the scattering of gamma rays by matter, the excitation of X-ray bulbs by different high-tension generators, the relation between total and "local" ionization, the scattering of cathode particles when allowed to fall on different substances, and the structure of metallic crystals.

In the Optics Division, the main item of research for the year has been that connected with color standardization and spectrophotometry. Much attention has been directed to the problem of producing a satisfactory laboratory source of white light, for which a solution has not yet been found.

In the Photometry Division, the investigation into problems of illumination of buildings, originally undertaken for the Office of Works, has been extended to the study of daylight illumination, and much interesting work has been done. Experiments are in progress to determine the best arrangement of windows for one of the proposed galleries to be constructed in the new wing of the Tate Gallery.

EXPEDITION OF THE BISHOP MUSEUM

THE Bishop Museum will have at its disposal for the next two or three years the four-masted schooner *Kaimiloa* for research work in the South Seas. The boat will leave Honolulu on its first cruise about the middle of October. The first year's tentative schedule includes Malden, Starbuck, Tangareva, Rakahanga, Manihiki, Pukapuka and Manua Islands, and if conditions permit considerable time will be spent in the Tuamotus.

On the initial cruise, six members of the museum staff will constitute the scientific personnel: Stanley C. Ball, curator of collections; Kenneth P. Emory, ethnologist; Charles H. Edmondson, zoologist; Armstrong Sperry, assistant ethnologist and artist; Gerrit P. Wilder, associate in botany; and Mrs. Wilder, interpreter. The scientists will be guests of the owners of the *Kaimiloa*, Mr. and Mrs. Med R. Kellum, who will accompany the cruise on some of its expeditions. The personnel of the later trips has not yet been selected.

The museum plans to study the out-of-the-way islands of the Pacific, making botanical, zoological and geographical studies, but giving particular attention to an ethnological study of the natives. It is hoped that relations may be established between the museum and the residents of the islands which will pave the way for a broad scientific survey in the near future, and lead to betterment of conditions under which the natives live.

The schooner has a length of 200 feet and a 38-foot beam. It has been remodelled to meet the needs of the scientists, and will carry a fully equipped laboratory, wireless apparatus, refrigerating plant, a library and spacious comfortable living quarters.

SCIENTIFIC NOTES AND NEWS

THE centenary celebration of the founding of the Franklin Institute and the inauguration exercises of the Bartol Research Foundation open on September 17 with an address of welcome by the mayor of Philadelphia, and addresses by Dr. Wm. E. L. Eglin, president of the institute, and Professor Elihu Thomson, honorary chairman of the celebration committee. The program, printed in SCIENCE for August 8, contains the names of a large number of scientific men who are to give addresses, including the following from abroad: Sir Ernest Rutherford, Sir William Bragg, Professor W. L. Bragg, Professor E. G. Coker, Professor F. G. Donnan, Sir Charles Parsons, Professor J. S. E. Townsend, Professor Charles Fabry, Professor F. Haber and Professor P. Zeeman.

DEAN HUGH MILLER, dean of engineering in George Washington University, has been elected to be secretary of the engineering section of the American Association for the Advancement of Science, to complete the present term. Mr. L. W. Wallace, who has been secretary of the section for several years, found it necessary to resign on account of other duties. Correspondence regarding the engineering section should be addressed to Dean Miller.