22 at the age of sixty years. At the time of his death he was president of the Botanical Society of Pennsylvania.

FRANKLIN DERONDE FURMAN, who retired in 1941 as professor of mechanism and machine design and dean emeritus of Stevens Institute of Technology, died on November 21. He was seventy-three years old. He served for forty-eight years as a member of the faculty, thirteen years of which he was dean of the college.

MRS. ADELINE DESALE LINK, assistant professor of chemistry at the University of Chicago, died on November 21. She was fifty-one years old.

LIEUTENANT LEONARD A. KEYES, JR., civil engineer, instructor in navigation at Mather Field, California, has been missing since July. Search for the airplane of which he was one of the officers has been abandoned. He was twenty-seven years old and was one of a group studying the latest use of radar in navigation. Colonel John W. Egan wrote to his parents: "Leonard had been on duty with this school for approximately fourteen months, and graduated with the highest honors ever made in the school. The loss of his services will be distinctly felt by the war effort, and extremely difficult to replace." Lieutenant Julian Taylor wrote: "I will say, as any member of the navigation school will say, that, if your son is lost, the navigation school has lost its most brilliant mind. The navigation manual which was to become a permanent navigation text lies half finished for lack of the driving force that was your son."

SCIENTIFIC EVENTS

ENLARGEMENT OF THE LABORATORY STAFF OF THE U. S. FOREST PRODUCTS LABORATORY

THE requirements of the Army and Navy for wood and other forest products and the need for precise study of their properties and uses have been reflected in the quadrupling of the staff of the U. S. Forest Products Laboratory at Madison, Wis., in the past two years. This institution, maintained by the Forest Service of the U. S. Department of Agriculture in cooperation with the University of Wisconsin, is the largest and oldest research organization of its kind in the world. With a background of thirty-three years of experience in wood utilization problems ranging from strength and other analyses of wood properties to the chemical synthesis of wood into new substances of potential value, the Forest Products Laboratory has become established as the nation's center of such knowledge. Since the Pearl Harbor attack, all its resources have been directed toward research and investigations tied directly to the war effort.

Professional personnel was expanded from 91 on July 1, 1941, to 419 on September 30, 1943. The staff on the latter date consisted of forty-two chemists, six chemical engineers, a hundred engineers of other classifications—largely civil, aeronautical and structural—fifty-three technologists, forty-three industrial specialists, seven technical writers, two mathematicians, two physicists and 164 laboratory, engineering and physical science aids. In addition, 249 other employees—administrative, clerical, maintenance and craftsmen—brought the grand total number to 668. Noteworthy in this expansion has been the number of women employees, which increased from thirty-four to 191, including chemists, laboratory aids and other technical workers.

These employees are engaged in a variety of research, test work and consultation for various war agencies. Two entirely new divisions were created and staffed—the Division of Matériel Containers, concerned primarily with testing and designing of better wood and fiber-board containers for the Army Ordnance Department, Army Air Forces, Navy, War Food Administration and similar agencies charged with the packaging and shipment of war matériel of all kinds to overseas fighting fronts; and the Division of Technical Service Training, organized to conduct short specialized courses for Army, Navy and civilian personnel engaged in packaging work, aircraft wood inspection and maintenance of wood aircraft. Major aircraft research programs are being carried out in cooperation with the Army and Navy to develop design data for aircraft parts and set up specifications for wood, plywood, plastics, glues and finishes used in aircraft. The Navy Bureau of Ships is cooperating in a program of research designed to solve many problems of wood use with which it is concerned. Various projects are under way for the War Production Board to find new methods of getting improved service with wood or developing substitutes for other critical materials. Requests for information and testing work are daily received from other Government agencies as well as from many manufacturers confronted with difficult problems of conversion to wood use, ranging from producers of aircraft parts to makers of farm machinery, refrigerators and storage batteries.

THE PACIFIC MAP OF THE NATIONAL GEOGRAPHIC SOCIETY

THE National Geographic Society has issued a new ten-color map of the Pacific Ocean and the Bay of

Bengal. This large wall map not only shows the world's largest and deepest ocean and the war's biggest single arena, but also covers the United States, Australia, half of India, eastern Asia, western South America and parts of Alaska and Canada.

The Pacific Ocean has most of the world's islands. The most important and strategic of these islands are shown on the map by fifty-six large-scale insets. These insets have been chosen to include those islands recently in the news and those expected to be scenes of action soon. Among them are Marcus, Tarawa, Wake, Paramushiro, Nauru, Attu, Kiska, New Britain, Makin, Funafuti, Truk and the Solomons.

Considerably more than half the world is pictured on the map. The Pacific Ocean is twenty-three times as large as the United States. There are fifteen distinct time belts, each belt with a clock at the bottom of the map indicating the local time when it is midnight in Greenwich. The map clearly shows that not all Pacific areas are on an hourly basis in relation to Greenwich. It is 1: 22 P.M. in the Cook Islands when it is midnight in Greenwich.

Airline mileages are given, 1,035 of them, in a table of statute or land miles printed on the map. It can be seen at a glance that from Rabaul to Tokyo is 2,870 miles; from Kiska to Paramushiro, 948 miles. Nautical distances from port to port are indicated on the blue-dashed ship lines. Ocean currents are shown in blue-arrowed lines; ocean depth contours in brown lines; winds in brown-arrowed lines. Northern and southern limits of drift ice are indicated.

The map includes the Bay of Bengal, so as to include all possible sources of drives on Tokyo. Motor roads, under construction and completed, from India and Burma to China, are shown. Other important highways are the Russia-to-China desert route and the Alaska Military Highway.

Pre-war political alignments of the many Pacific Islands are identified by color: the traditional red for Great Britain's possessions, purple for France, green for the United States, yellow for the Netherlands, etc. Mandated areas and spheres of influence in the South Pacific are enclosed by red-dotted lines giving the names of the governing powers.

DESTRUCTION OF THE BERLIN HERBARIUM

ANNOUNCEMENT was made in SCIENCE for June 18, 1943, on the basis of private advice received from Sweden, that the herbarium and library of the Berlin Botanical Garden was destroyed by fire in a bombing raid on the night of March 1–2, 1943. This report is now confirmed by information received through the State Department, inquiries having been made at my request through the American legation at Bern, Switzerland. This report, dated September 1, states that the director of the Jardin Botanique at Geneva, Switzerland, has been officially informed that all its material on loan to the Berlin Herbarium was destroyed by fire and water; we may thus assume that all reference collections from American institutions on loan at Berlin were also destroyed. There is no evidence that any attempt was made, in Berlin, to safeguard its especially important botanical material, including its own thousands of types, and types borrowed from foreign institutions, by moving them to a safer place, as was done in London, and as has been done by a number of American herbaria. The loss of the Berlin herbarium is a catastrophe of major proportions to world botany. This herbarium, one of the largest and most important in the world, built up over a period of at least 175 years, contained the basic historical collections of Germany outside of those at Munich. Scores of thousands of type specimens from all parts of the world were thus destroyed.

It seems to be desirable to place on record some data regarding outstanding loans from American institutions in European centers of botanical research as of the present time, including a summary of presumed losses in the Berlin holocaust. I accordingly assembled the data from nine of our largest herbaria. The total losses of these American herbaria in the Berlin disaster are 4,393 specimens, varying from a high of 1,795 from the Gray Herbarium to a low of 164 from the Farlow Herbarium. The total number of specimens now outstanding in European centers is 30,966, with a high of 11,242 from Harvard University (Gray Herbarium, Farlow Herbarium, Arnold Arboretum), to a low of 145 specimens from the Missouri Botanical Garden. The Field Museum of Natural History outstanding loans total 1,567 sheets, the United States National Herbarium 6,807, the New York Botanical Garden, 8,750, the University of California 2,312 and the Missouri Botanical Garden 145; their Berlin loans are Farlow Herbarium 164, Gray Herbarium 1,795, Arnold Arboretum 394, New York Botanical Garden 675, U. S. National Herbarium 993, and the Field Museum of Natural History 373.

That other losses are to be expected is evident from a consideration of the European centers wherein the botanical institutions favored with loans from American institutions are situated, considering the very heavy bombing raids on certain cities in the following list: Berlin, Hamburg, Munich, Vienna, Königsberg, Heidelberg, Giessen, Jena, Breslau, Prague, Budapest, Lund, Stockholm, Uppsala, Utrecht, Leiden, Basel, Leningrad, Copenhagen, Helsinki, Geneva, Paris, Toulouse, Madrid, London, Edinburgh and Birmingham. In the total of 30,966 specimens now on loan from the nine American herbaria to institutions in the above cities, specimens on loan to institutions in