

with those of still wider distribution, the tables show that their range goes in the order: Endemics least, Jamaica-Cuba species next, widest greatest. Then the angiospermous flora of the Hawaii archipelago, which comprises seven islands, is tested, and it is found that the widest range much more than the endemics, of which more than one half is found on one island only. These latter must be the youngest, the remaining having originated before the splitting up of the region into separate isles.

A study of *Callitris* in Australia shows that the law holds good for Conifers also, and the fern floras of Hawaii and New Zealand give ample material to prove that the endemic species, although following the same rule, show a much greater range than the endemic angiosperms, a result to be expected on Willis's hypothesis, but contrary to what one would expect if endemics were dying out, since ferns are generally considered as a much older group than the flowering plants. A last argument is given by the outlying islands around New Zealand. Starting from his hypothesis Willis predicted that the most widespread plants in the two main islands would be those that reach the outlying isles also, and that those which do not reach them, are less widespread. The figures given in the tables bear out this fact in a striking way, both in the case of widest and endemics.

From these results it seems clear that all over the earth and in every systematical group of plants the rule prevails that the most widespread species are the oldest, whereas the others are the younger, the smaller their area is. This law would provide us with a new method of constructing pedigrees and of judging the relative age of diagnostic characters, and it seems evident that these points would be of paramount importance in the study of the real relationships and the common origin of species.

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SCIENTIFIC EVENTS

THE CHICAGO MEETING OF THE AMERICAN MEDICAL ASSOCIATION¹

THE sixty-ninth annual session of the American

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can Medical Association, held in Chicago last week, was one of the most important the Association has ever held. This statement is made as the meetings, the exhibits, the addresses and the results of the past week pass in retrospect before us. The House of Delegates considered many topics of current war interest and passed a number of resolutions of important, timely character, conspicuous among them being those on animal experimentation, on universal military training, on welfare work among children, on the use of enemy manufactured pharmaceutical products, and on the work of Surgeon-General Gorgas.

The opening meeting of the Scientific Assembly, held in the Auditorium Theater, was greeted by an audience of over 4,500 persons, every seat and available space in the theater being occupied. Unfortunately, many who desired to attend were unable to find accommodations because of late arrival. The music for this session was provided by the Fort Riley Band, which was a conspicuous feature of the annual session, and aided in arousing military enthusiasm. At this meeting, as in all of the night meetings, the medical officers in uniform were seated on the stage, and added military tone and color to the picture. The scientific programs began on Wednesday and contained numerous papers of military interest, as well as those of a strictly scientific character.

An unusual feature of the session was the replacing of the president's reception by a medical war meeting held in Medinah Temple, the report of which appears elsewhere in this issue. The local committee on arrangements had done notable work in staging this meeting. Every seat in the immense auditorium was filled, over 6,000 persons being present. The speakers were the noted foreign guests, the surgeon-generals, the president of Leland Stanford University and Major Alexander Lambert, of the American National Red Cross. The enthusiasm of the audience can not be depicted by words, every speaker and patriotic enunciation being greeted with an ovation. With the introduction of each foreign guest the audience, led by a local choral organization and accompanied by the music

of an immense pipe organ and the Fort Riley Band, sang a national song.

On Thursday, practically all of the scientific sections combined in two meetings of the greatest importance to the Army, the profession and the public. These meetings were held in the Auditorium and Studebaker theaters, and concerned the reconstruction and rehabilitation of disabled soldiers and the physical examinations made under the selective service. When the meeting in the Auditorium Theater opened, some 4,000 persons listened attentively to the message brought to them by representatives of the Surgeon-General's Office, of the Red Cross and of foreign nations as to the program for the care of the disabled fighting men in order that they may be returned to a useful civilian life. In the meeting on the selective service, Lieutenant-Colonel J. S. Easby Smith and Major Hubert Work, of the Provost Marshal-General's Office, were able to confer with the state aides of the governors of the various states who had been ordered to Chicago for this meeting, and to inform the many physicians representing the 23,000 physicians who are engaged in the work of the local, district appeal, and advisory boards under the selective service law, concerning many points which had not up to this time been made clear to them.

The Thursday night session was again a public, patriotic meeting. The Auditorium was again filled to capacity, the music on this occasion being provided by a detachment of the Great Lakes Naval Training Station Band and by group singing of the audience.

The scientific and commercial exhibits were open throughout the session and were noteworthy for their practical and military features. The commercial exhibit included practically all of the recently developed foods, pharmaceuticals and mechanical devices resulting from necessities created by the advance of scientific knowledge and the military emergency.

Special arrangements were made for entertaining the medical women who attended the session in large numbers and also for the amusement of women guests. The entertain-

ments included receptions, teas, a musical and a visit to the Great Lakes Naval Training Station to attend the dedication of the new Red Cross building. Arrangements had also been made for a visit to the central department Red Cross headquarters and to local merchandise and industrial plants.

To add to the entertainment of the visitors to this session, a medical motion picture show was conducted throughout the session, numerous reels of film lent by the Medical Department of the United States Army being continuously exhibited, including the famous film "Fit to Fight," prepared by the commission on training camp activities. Captain H. M. Strong, post surgeon at Rantoul, Ill., was permitted to visit the annual session in an aeroplane, and arrived promptly on time in Chicago, being greeted by the Fort Riley Band and by many convention visitors.

The meeting also served to inform many physicians who are about to enter the military service concerning the routine of application and appointment, equipment, assignment to duty, etc. Medical military headquarters were in continuous operation, in charge of medical officers on active duty. Over 600 physicians were given information, supplied with application blanks, and many of them sent directly to the local examiner for physical examination.

The attendance at this session was the largest since the Chicago session of 1908. The total, 5,553, is but a meager 800 less than that of the 1908 session, and when one takes into consideration the fact that about 20,000 physicians are in active military service, that the services of many physicians are continuously needed by civilian communities and industrial institutions, and that railroad rates are comparatively higher than they have ever before been in the history of our country, the attendance at this session may well be said to have been phenomenal. No meeting of the Association has so successfully reached the public as did this sixty-ninth annual session, and the public showed its interest in the session and in the work which the medical profession is trying to accomplish, by attending in large

numbers every meeting in which arrangements had been made for it. The local committee on arrangements and the medical profession of Chicago are to be congratulated on the results of this session, and the thanks and appreciation of every Fellow of the American Medical Association is due them.

THE PRODUCTION OF OPTICAL GLASS IN THE UNITED STATES

THE War Industries Board authorizes the statement that before the war little effort was made to produce optical glass in the United States. Manufacturers of optical instruments were able to obtain optical glass in desired quantity and quality from Europe and consequently did not feel the necessity for making it themselves. In 1912, however, the Bausch & Lomb Optical Co., of Rochester, N. Y., built an experimental optical-glass plant and placed a practical glassmaker in charge; by 1914 this company was able to produce a few types of optical glass which was used in optical instruments.

By the end of 1914 the importation of optical glass had become difficult and uncertain. Other firms, as Keuffel & Esser, of Hoboken, N. J., and Spencer Lens Co., Buffalo, N. Y., and the Bureau of Standards of the Department of Commerce, at Washington, began to experiment in making optical glass. By 1917, when the United States entered the war, the optical glass situation had become critical. The European supply was practically cut off. Optical glass had to be made in this country if our army and navy were to receive the fire-control instruments which they needed.

The Geophysical Laboratory of the Carnegie Institution of Washington was called upon to aid in the production of high-grade optical glass. A party from the laboratory was stationed at the plant of the Bausch & Lomb Optical Co. in April, 1917, and for seven months all efforts of the laboratory were concentrated at this plant. At the end of 1917 the essential details of the manufacture had been developed and glass in considerable quantities was being produced. The efforts of the laboratory were then extended to the Spencer Lens Co. and to the Pittsburgh Plate Glass

Co., Pittsburgh, Pa. During this period the Bureau of Standards rendered effective aid.

At the present time, as a result of cooperation between the manufacturers and scientists, large quantities of optical glass of the kinds needed for military fire-control instruments are being produced of a quality equal in practically every respect to the best European glass. The need for a continuous and assured supply of optical glass is so great that the workmen trained in the details of manufacture and subject to draft, are being withheld from the draft in order that their technical training may be utilized at this time. The required information and details of manufacture and the skill necessary for proper production have been gained at great expense and under high pressure.

THE SOURCE OF TRENCH FEVER¹

A CABLEGRAM from the commanding general of the American Expeditionary Forces to the Secretary of War reports the success of a trench-fever investigation, which was made possible through the willingness of sixty-six American soldiers to risk their lives. The message contains the names and home addresses of the men who submitted to inoculation. All of them now are either cured or convalescent.

These men were from field hospitals and ambulance organizations, units commonly designated as noncombatant. They were selected from a large group of volunteers as the healthiest and consequently the best able to withstand a long siege of trench fever, which has been one of the most baffling diseases which the allied armies have encountered. The men selected were sent to a hospital behind the British front line in January.

Trench fever is a disease which has been common on the western front. It may have existed before, but has not been either frequent or severe enough to direct the attention of the medical profession. Now it represents one of the greatest causes of disability in the allied armies. Nothing definite was known about either the cause or mode of spread of this disease.

¹ Publication authorized by the Secretary of War.