CONCLUDING STATEMENT

This World War probably will cost hundreds of thousands, and it may cost millions of our men. It will require many billions of our treasure. This will put a heavy burden upon succeeding generations. The dreadful costs of the war we must bear. Should we not therefore gain everything possible from the experiences of the war? The vast savings due to more scientific production and distribution, if continued after the war, will in large measure, indeed, they may completely, carry not only the interest load imposed upon us, but even furnish a certain amount each year toward the liquidation of the principal. Without being able to demonstrate it, I believe it probable, that if, following the war, wise governmental regulation is continued for essential commodities as well as the utilities, the savings of the people may be sufficient to meet the money cost of the war. Nothing can compensate for the losses in men.

CHARLES R. VAN HISE
UNIVERSITY OF WISCONSIN

SCIENTIFIC EVENTS

AMOS PEASLEE BROWN

RESOLUTIONS were passed at the last meeting of the faculty of the Towne Scientific School of the University of Pennsylvania on the death of Professor Amos P. Brown as follows:

WHEREAS: In the death of Amos Peaslee Brown, for many years the professor of mineralogy and geology in the Towne Scientific School, the university has lost an honored and able scholar and original investigator; the faculty of the Towne Scientific School wishes to record its sense of the loss to this faculty and to the university, and to express also its sympathy to Professor Brown's family.

Amos Peaslee Brown was born in Germantown, December 3, 1864. He graduated from the Towne Scientific School in 1886, with the degree of Bachelor of Science; he received the degree of Doctor of Philosophy in 1893. He subsequently became by advancement through various grades professor of mineralogy and geology in the University of Pennsylvania, holding this position until his retirement in the winter of 1916–17.

Dr. Brown was a man who by his fine personal character and high aims, and by his lovable disposition won warm and enduring friendships. His work while well known among scientific men did not attract publicity; he did not wish that it should, he was rather of the scholarly type which quietly, studiously and accurately pursues his chosen field. By reason of his philosophic and analytic mind, Dr. Brown was able to make specific application of his knowledge to the problems of other fields of science besides his more immediate one of the geological sciences.

His work carried him into the laboratory and field alike. He was the first geologist to visit and report on the geological formations of considerable general geological importance. He was at intervals connected with the Second Geological Survey of Pennsylvania. His papers cover a wide reach of general and specific scientific character.

Among the most notable recent investigations in America was the work done by Professor Brown in the field of crystallography; specifically the investigations in the classes of crystals found in the hemoglobins of the entire range of the vertebrate animals. In the course of this investigation Dr. Brown prepared, examined and calculated the functions of thousands of intricate and minute crystals, deducing from them conclusions highly important alike to organic and inorganic science. This work, carried out in collaboration with Professor Reichert, of this university, is one of the greatest contributions to exact science ever made in this country and is a lasting adornment to the fame of the University of Pennsylvania.

This faculty, therefore, in the realization of the loss to the entire university in the untimely death of their late colleague, passes this resolution of its appreciation of the man and of the loss to the University of Pennsylvania.

WORK OF THE NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS[1]

IN March, 1917, the committee arranged, in conjunction with the National Research Coun-

[1] From the annual report of the executive committee of the National Advisory Committee for Aeronautics.

cil, for representation on the foreign committee sent abroad by the National Research Council to obtain detailed information on scientific matters of importance in connection with the war, and Dr. Joseph S. Ames, member of this committee, was appointed such representative.

In order to further develop contact with sources of information from abroad, Lieutenant Colonel L. W. H. Rees, R. F. C., member of the British commission, together with Major Joseph Tulasne, Captain de Guiche, and Captain A. de La Grange, of the French Flying Corps and members of the French commission, were made associate members of the committee, and as such attended its meetings, contributing valuable information and suggestions regarding matters with which they were especially familiar.

Previous to the entrance of the United States into the present war the committee had undertaken a census of the production facilities of manufacturers of aircraft and aeronautic engines, which information was made available for use of the Aircraft Production Board at the beginning of its work in April.

In October, 1916, the committee took under consideration the question of the selection of a suitable site for the committee's proposed experimental laboratory. At the suggestion of the War Department this committee inspected several proposed sites and made recommendation to the War Department for the purchase of one of them, which recommendation was accepted by the War Department and the site was purchased.

On this field the War Department has allotted to the committee a space suited to the erection of the committee's proposed research laboratories. The committee has designed the first building of the group contemplated and it is now in the course of construction.

The committee has cooperated with the Aircraft Production Board in connection with a wide variety of problems relating to the design, specifications, and tests of aircraft. The committee has now in hand a most important investigation on the use of steel for airplane construction and is supervising the development of a design for construction in steel, to be later subject to a program of tests intended to show the possibilities of such type of construction.

In the field of power plant design and construction for aircraft, the committee has cooperated with the Bureau of Standards in the design, construction, equipment and operation of a large vacuum chamber engine testing laboratory which is intended to reproduce the conditions of aeronautic engines operating at high altitudes. This equipment has been installed with special reference to the development and improvement of the "Liberty" engine and important investigations bearing on this problem are now being carried forward. The committee has also carried on a number of researches on the subject of radiator design and proportion, carburetor design and adjustment, ignition apparatus, and is continuing its study of the problem of an airplane engine muffler.

The committee has undertaken important investigations relating to the development of various instruments used in the navigation of aircraft and in testing aircraft in free flight. In particular there has been developed an improved form of geographic position indicator which will be of special value in connection with certain free flight tests under consideration.

Regarding the subject of aircraft communications the committee has cooperated in the development of a generator for wireless sending from airplanes and intended to satisfy the requirements of the Army and Navy. Investigations are still being carried on regarding means for detecting hostile airplanes before they are visible or before they can be heard by the unaided ear.

On March 8, 1917, the committee took under consideration the development of methods for mapping from airplanes which should be rapid, economical, and sufficiently accurate for aviation purposes. Allotments were made for developing a new type of airplane mapping camera and gratifying progress has been made in the development of such an instrument.

Soon after the declaration of hostilities with Germany, the Chief Signal Officer called to the attention of the committee the large amount of material which was coming before the War Department comprising inventions and suggestions relating to aeronautics in warfare, and asked assistance in examining and disposing of such material. Accordingly, this committee, through an appropriate subcommittee appointed for the purpose, has acted as a board of inventions for the government in matters relating to aeronautics, and since the outbreak of hostilities between the United States and Germany it has weekly examined hundreds of suggestions and inventions pertaining to this subject. Several suggestions of value have been received and brought promptly to the attention of the particular government office most directly interested.

In December, 1916, the subject of cooperation with the Post Office Department in the establishment of aerial mail routes was considered, and the same matter in one form or another has been considered from time to time since that date.

In the latter part of 1917 the general subject of civil aerial transport was brought to the attention of the committee and a special subcommittee was appointed to take under consideration the various phases of civil and commercial uses of aeronautics with special reference to the conditions which may be expected to develop at the close of the war.

The committee has made progress during the year in the study and investigation of the following problems: Stability as determined by mathematical investigation, air-speed meters, wing sections, aeronautical engine design, radiator design, air-propeller design and efficiency, forms of airplane, radio telegraphy, noncorrosive materials, flat and cambered surfaces, terminal connections, characteristics of constructive materials, and standardization of specifications for materials.

NEW ENGLAND INTERCOLLEGIATE GEOLOGICAL EXCURSION

THE fifteenth annual geological excursion of the New England colleges and universities was held on Friday, October 12, and Saturday, October 13, under the leadership of Professor J. B. Woodworth, of Harvard University, and Dr. Edward Wigglesworth, of the Boston Society of Natural History. Owing to the unusual conditions universally prevailing this year, the only colleges represented, aside from Harvard, were Mount Holyoke and Williams.

The excursion consisted of a trip to the island of Marthas Vineyard, including on the way a hurried visit to the white cedar "submerged" bog north of Woods Hole, where the question of coastal movements was discussed. On Friday afternoon, automobiles conveyed the party over the outwash glacial plain to the Weyquobsque cliffs, where the succession of the Cretaceous clays and the Miocene and Pleistocene sands and gravels was studied, as well as the rapid work of the waves in cutting back the cliffs. Spits and bars, built by the alongshore currents, were well seen from the uplands.

Saturday morning was spent at the Gay Head cliffs, studying the section of clays, sands, and boulder beds ranging from the Cretaceous to the Pleistocene, complicated by faulting and the crumpling and overthrust folding of the clays and gravels under the overriding ice of the Glacial Period. The afternoon was spent studying the so-called "morainal topography" to the northeast of Gay Head, a topography most of whose features seem to be due, primarily, to erosion during Vineyard interglacial time, deposits of Wisconsin age forming only a thin veneer on the surface of the preexisting land-forms, and carrying with them, in places, many large boulders.

In recording the appreciation of the members of the party of the care taken by the leaders to make every feature of the trip, even including the weather, a great success, the opening words of the announcement sent out before the excursion may well be repeated, "Motto: 'Go (with them) and see!'"

MEDICAL WORK OF THE UNIVERSITY OF CINCINNATI

ON the first of January a new charter went into effect in Cincinnati, which places all of the medical, scientific and nursing work in