in spite of the shortness of human life, the work carries us further and it grows beyond us. In that case we do not create, but unveil.

From this bird's-eye view of my memories and ideas, I return to this assembly and to the great country whose hospitality I am enjoying. A few days in this center of magnificent activity, a few hours in the overwhelming exposition of the Century of Progress have deeply impressed me with the ingenious expressions of the technical spirit of America. In twentieth-century Chicago, in the Century of Progress, we recognize better than anywhere else the significant dualism of scientific endeavor. Has mankind really progressed through the centuries in art, philosophy, morals, ethics, tolerance, humanity, in one word, in religion? It seems to me that each generation and each individual must start anew and develop in certain aspects its own ideas, its own standards and its own faith. Thus the contrast between human and technical development is steadily increasing. I agree with Sarton, the historian of the exact sciences, when he writes: "The acquisition and systematization of positive knowledge is the only human activity which is truly cumulative and progressive." Constant and permanent progress is only achieved in science and its applications, industry and medicine. Isaac Newton's saying: "If I saw further, it was because I stood on giant shoulders," holds for every one of us. We all have thousands of great teachers and we, ourselves, contribute to the growth of the structure of fundamental and applied science to greater height. Oftentimes we may ask ourselves with severe scruples: Is mankind really becoming wiser, better and nobler? Has the power of religion grown, to render impossible hate and strife between races and nations? Let us wish that religion attains the goal of blessing mankind with love and peace. The ever-increasing beauty and power of science are manifest. While I hinted at the contrast between the spiritual and the scientific, I strongly sense that which is common to both religion and science. Both are truly international, both serve in the end the common weal of men.

WELCOME TO THE INTERNATIONAL GEOLOGICAL CONGRESS[1]

By Dr. HENRY FAIRFIELD OSBORN
AMERICAN MUSEUM OF NATURAL HISTORY

ON behalf of President Davison, the trustees and the scientific staff of the American Museum of Natural History I have the honor to extend a cordial and open-hearted welcome to the delegates and members of the International Geological Congress in its sixteenth session.

We feel honored by the presence of representatives from China, Japan, South Africa, Argentina, Cuba, Canada, Norway, Denmark, the Netherlands, Poland, Belgium, Germany, Austria, Hungary, Czechoslovakia, Rumania, Italy, France, Scotland and England.

As guests of the American Museum you are invited to enjoy our exhibition halls; to study our preparation laboratories; to examine our reserve collections; to note our peculiar methods of research; to observe our independent printing and publication; to visit the library and study its methods of distribution and exchange with over 900 of the leading scientific institutions of the world; to note the special building devoted to public and scientific education, which touches the school, college, university and research life of the entire country. Then, after your journey to Washington and through America, you are especially invited to return to our museum and take advantage of our warm hospitality to investigators from all parts of the world, selecting your own material for research. You will see much that is entirely novel and, at first thought, even foreign to a natural history museum—for instance, that anthropology is under the same roof as zoology and geology, also that astronomy is embraced in our scheme of the sciences; still more surprising, that there is a very live department of experimental biology and that in the building section to be devoted entirely to bird life there will be special provision for experimental ornithology.

You may wonder how these many branches are financed and how during the past twenty-five years it has been possible to expend no less than $38,000,000 on the development of all these branches. People who do not know imagine that we Americans have the golden tree of the Chinese and that all that is necessary is to shake the tree for a shower of millions of money; this is very far from the truth—in fact, we have to work extremely hard for every appropriation and for every gift. I will tell you our secret:

So far as public funds from the state and municipality are concerned, we must demonstrate practically that we are a living and active force in the education of the vast scientifically ignorant population that surrounds us. Accordingly, first, we touch 32,000,-

[1] Address at the luncheon at the American Museum of Natural History, July 21, 1933.

000 school lives each year and through this contact gain the confidence and eventually the warm friendship of the rulers of the city and state; second, knowing that the intelligent class includes not only money-getters but men and women of imagination and vision, we have sent out expeditions—on sea and land, on the rivers, plains, mountains and deserts of every continent, to the Arctic and the Antarctic—under young and dauntless explorers who have the art not only of discovery but of writing interestingly about their discoveries, thus making it possible for us to popularize the expeditions in our many books, magazine articles and newspapers and arouse a once listless and indifferent public to the deep fascination of science.

These are our secrets, now used by many of our sister institutions in America, and we hand them all over to you, without reserve.

However, do not imagine for one moment that we lose our perspective; we spend far more money on scientific research and publication than we do on the popularization of knowledge, and we take far more pride and satisfaction in scientific cooperation and interchange of new and sound ideas than we do in any of the more obvious and visible exhibits and displays in which art and science are combined.

In closing, let me say that the American Museum is indebted beyond measure to the cordial and friendly cooperation not only of the scientists but of the governments that are represented in this congress. Among our friends and allies are enrolled all the South American countries, all the governments of the great continent of Africa, most of the countries and institutions of Asia, all the institutions of Europe, of Great Britain, Canada and Australia. From the old institutions of Europe we received our baptism and inspiration, and we can never repay our indebtedness to them.

Of all the American institutions, that which has stood foremost in cordial relation with the American Museum is the United States Geological Survey, with which we have been cooperating for the past thirty-five years and which published without stint our great monograph on the titanotheres. Of the many positions I have the honor to hold in this country there is none I cherish more highly than the title conferred upon me in the year 1924, namely, Senior Geologist of the United States Geological Survey.

SCIENTIFIC EVENTS

IMPERIAL BRITISH STANDARD MEASURES

Nature states that the statutory decennial comparisons of the Imperial standards of length and mass with their parliamentary copies became due in 1932. On the last occasion, in 1922, they were carried out at the British Standards Department of the Board of Trade under the supervision of Mr. J. E. Sears, Jr., the superintendent of the Metrology Department of the Laboratory, who was at that time acting also as deputy warden of the standards. By a subsequent agreement between the Board of Trade and the Department of Scientific and Industrial Research, it was arranged that the National Physical Laboratory should in future undertake the whole of these comparisons on behalf of the board. The present series of comparisons is accordingly being carried out at the laboratory. The primary object of the comparisons is the verification of the parliamentary copies of the Imperial Standard Pound and Yard, any one of which could be used to replace the corresponding imperial standard should it suffer loss or destruction. There are for each standard five parliamentary copies; one is immured in Westminster Palace, and one each of the others is in the custody of the Royal Society, the Mint, Greenwich Observatory and the Standards Department.

In addition to this work, a redetermination of the relationship between the pound and the kilogram will shortly be made, following the scheme which was adopted for the first time in 1922 to 1923. The International Bureau of Weights and Measures, Sèvres, has been invited to undertake a share of the comparisons in this part of the program. Finally, the principal reference standard pounds at the National Physical Laboratory, together with an auxiliary standard pound belonging to the Board of Trade, will be verified by comparison with one or more of the parliamentary copies of the pound; a corresponding verification of kilogram standards from the laboratory and the Board of Trade will also be made. The weighings are being made on a new balance which has recently been constructed at the laboratory for precision weighings of the highest accuracy. This balance is contained in an inner vault, and all its controls are operated from outside, so that the observer does not enter the vault during any one series of weighings. The indications of the balance are recorded optically on a scale placed some seven meters away.

FEDERAL FUNDS FOR MEDICAL CARE

RULES governing the expenditure of federal funds for medical, nursing and dental care of sick and destitute unemployed persons who are "on relief" have been announced by Harry L. Hopkins, federal emergency relief administrator.

The regulations seek to improve conditions of