

tricity, the practical applications of the latter, terrestrial magnetism, the liquefaction and solidification of gases, the behavior of elements and compounds under the influence of extreme cold, the nature and uses of the Röntgen rays, the advances in bacteriology and in prophylactic medicine, might all have been passed under review, and to many of my audience would have seemed to possess greater claims to attention than the subject that I have chosen.

It must, however, be borne in mind that most, if not indeed all, of these topics will be discussed by more competent authorities in the various Sections of the Association by means of the Presidential addresses or otherwise. Nor must it be forgotten that I occupy this position as a representative of archæology, and am therefore justified in bringing before you a subject in which every member of every race of mankind ought to be interested—the antiquity of the human family and the scenes of its infancy.

Others will direct our thoughts in other directions, but the farther we proceed the more clearly shall we realize the connection and inter-dependence of all departments of science. Year after year, as meetings of this Association take place, we may also foresee that ‘many shall run to and fro and knowledge shall be increased.’ Year after year advances will be made in science and in reading that Book of Nature that lies ever open before our eyes; successive stones will be brought for building up that Temple of Knowledge of which our fathers and we have labored to lay the foundations. May we not well exclaim with old Robert Recorde?—

“Oh woorthy temple of Goddes magnificence: Oh throne of glorie and seate of the lorde: thy substance most pure what tonge can describe? thy signes are so wonderous, surmountinge mannes witte, the effects of thy motions so diuers in kinde: so harde for to searche, and worse for to

fynde—Thy woorkes are all wondrous, thy cunning unknowen: yet seedes of all knowledge in that booke are sown—And yet in that boke who rightly can reade, to all secrete knowledge it will him straigthe leade.”\*

AMERICAN ASSOCIATION FOR ADVANCEMENT  
OF SCIENCE: FORTY-SIXTH MEETING,  
DETROIT, AUGUST 7-13, 1897.

THE second Detroit meeting of the American Association for the Advancement of Science began on Saturday, August 7, 1897, with a slimly attended meeting of the Council at the Hotel Cadillac. As last year, the first general session was held Monday morning, and the last on Friday evening. The general sessions and all meetings of sections were held in the new Central High School building, which is excellently adapted for the purpose. Superintendent Bliss and the school authorities made every effort to assist the Association.

Monday evening a reception to the Association was given at the High School by the local committee. Thursday afternoon Section G, together with the officers and guests of the Association, were invited to a garden party by Mr. Joseph Berry, of Grosse Pointe. Friday evening there was a reception at the High School building after the final session, and Saturday, August 14th, was given to an excursion to the Ste Claire flats.

The arrangements and management of the local committee were excellent in every respect, and the Detroit meeting, which it was feared would be a failure, was a very successful one. On account of the meeting of the British Association at Toronto, the attendance at Detroit was small, the total registration being only 291. There were present a number of foreign guests, among them being Messrs. A. G. Greenhill, W. E. Hoyle, A. W. Scott, J. Thorp, D. H. Mar-

\*Preface to Robert Recorde's *Castle of Knowledge*, 1556.

shall, W. Doberck, R. Munro, R. Gowing, A. B. Macallum, A. G. Vernon-Harcourt, W. Duddell, J. L. Myres, A. Penck, E. B. Poulton and Prince Krapotkin. There were elected 126 new members, and 50 members were made fellows.

On account of the death of retiring President Cope, the Monday morning session was opened by Dr. Theodore Gill, the senior Vice-President of the Buffalo meeting. He introduced W J McGee, acting President of the Detroit meeting and serving in the place of Dr. Wolcott Gibbs, who was ill and was forbidden by his physician to be present. The vacancies in the chairmanships of Sections F and E, Zoology and Geology, caused by the decease of G. Browne Goode and the absence of Professor White, were filled by the selection of L. O. Howard and E. W. Claypole.

Besides the morning meetings, the Council held three long evening sessions. It was urged very strongly that the methods of business procedure of the Association needed to be simplified, and as the first step in this direction certain amendments proposed before the general session in 1896 were recommended for passage by the Association and after presentation to it were passed. These amendments leave the selection of officers and the fixing of the place of meeting wholly in the hands of the Nominating Committee. Also, the power of Council was somewhat extended, the plan being to give it still further powers.

Section H, Anthropology, was granted permission by the Council to hold a winter meeting.

Messrs. Colburn, Morse, Prescott, Woodward and Howard were appointed a committee to secure uniform nomenclature in scientific terms used in commerce. A report prepared by Mr. Colburn was accepted by the committee, and the Council ordered the report to be printed by the Permanent Secretary.

The movement to raise funds for a statue of Gallileo Ferraris was recommended to the favorable consideration of the Association.

The action taken at the Buffalo meeting, whereby the annual volume was considerably abridged, was repealed.

A grant of \$100 from the research fund was made to the marine biological laboratory at Woods Holl, the committee on the laboratory for 1898 to consist of the outgoing and incoming Vice-Presidents of Sections F and G, together with the director of the laboratory.

The following were appointed a committee on extending the influence of the Association into the secondary schools: E. S. Morse, W. Orr, Jr., T. C. Chamberlin.

The special committees of the Association were continued, the personnel of 4, on the policy of the Association, being changed slightly, so as to consist of the President, Permanent Secretary and Treasurer, *ex-officio*, together with Messrs. L. O. Howard, W. H. Brewer, T. C. Mendenhall and Mansfield Merriman. No report was received from 6, on standard colors and standard nomenclature of colors, but it was understood that much work had been done by the committee.

On Friday morning, in general session, the resignation of Permanent Secretary Putnam was announced. Also, the selection of Boston as the place of meeting for 1898, the jubilee year of the Association. Also, the choice of the following officers for 1898:

President—F. W. Putnam, Cambridge, Mass.

Permanent Secretary—L. O. Howard, Washington, D. C.

General Secretary—D. S. Kellicott, Columbus, O.

Council Secretary—F. Bedell, Ithaca, N. Y.

Treasurer—R. S. Woodward, New York.

Vice-Presidents—Mathematics and As-

tronomy, E. E. Barnard, University of Chicago; Physics, Frank P. Whitman, Adelbert College, Cleveland; Chemistry, Edgar F. Smith, University of Pennsylvania; Mechanical Science and Engineering, M. E. Cooley, University of Michigan; Geology and Geography, H. L. Fairchild, Rochester University; Zoology, A. S. Packard, Brown University, Providence, R. I.; Botany, W. F. Farlow, Harvard University; Anthropology, J. McKeen Cattell, Columbia University; Economic Science and Statistics, Archibald Blue, Director of Bureau of Mines, Toronto, Canada.

Secretaries of the Sections—Mathematics and Astronomy, Alexander Ziwet, University of Michigan; Physics, E. B. Ross, Wesleyan University; Chemistry, Charles Baskerville, University of North Carolina; Mechanical Science and Engineering, Wm. S. Aldrich, University of West Virginia; Geology and Geography, Warren Upham, St. Paul, Minn; Zoology, C. W. Stiles, Department of Agriculture, Washington, D. C.; Botany, Erwin F. Smith, Department of Agriculture, Washington, D. C.; Anthropology, M. H. Saville, American Museum of Natural History, New York City; Economic Science and Statistics, Marcus Benjamin, U. S. National Museum, Washington, D. C.

On Friday evening there was a general session at which the usual complimentary resolutions were passed, after which the 46th meeting of the Association was declared adjourned. As has been said, this was an unusually good meeting. The scientific papers were above the average, and the sections were well attended by citizens of Detroit as well as by members. A number of the distinguished foreign guests gave papers and took part in the discussions.

During the Association week meetings were held by the American Chemistry Society, the Society for the Promotion of Agricultural Science, the Society of Economic Entomologists and the Michigan

Academy of Sciences. Some of these meetings were held jointly with sections of the American Association. It is believed that by offering proper courtesies to the affiliated societies more of these joint meetings can be held, to the great advantage of the Association and of the societies themselves.

ASAPH HALL, JR.,  
*General Secretary.*

#### CURRENT NOTES ON PHYSIOGRAPHY.

##### THE ATHABASCA REGION.

TYRRELL's report on the country between Athabasca lake and Churchill river (Geol. Surv. Canada, Ann. Rep., VIII., for 1895-1897) divides the region into Archæan and Cambrian areas. The first is occupied by low rocky hills and ridges from fifty to a hundred and fifty feet in local relief, separated by drift-covered depressions, wooded or interrupted by small irregular lakes. The second is a monotonous district of horizontal sandstones, forming a sterile plain, thinly wooded, with few lakes. The absence of deep valleys and the occurrence of lakes and rapids shows that the drainage is very new. It is suggested that Athabasca lake occupies a pre-glacial valley, excavated along the northern boundary of the sandstone area, when the land thereabouts stood higher or sloped more to the west. Till is scanty on the Archæan area, but more plentiful on the sandstone plain. Rugged moraines are found further southwest, like Duck and Riding mountains, in Manitoba. The most interesting drift hills of the region are steep, narrow ridges, half a mile or more in length, averaging 120 feet in height, standing parallel to the line of glacial motion and rounding down gently at both ends. Unlike drumlins, they consist of unsorted rock flour mixed with boulders, and they all lie on the floors of large post-glacial lakes, now drained. They are explained as deposits in quiet water occupying ice gorges, and Tyrell calls them