not a single voice has been heard in any quarter expressing a desire to return to the old usage. So satisfactory in every way has the new system proved, that the Canadian Pacific railway company have decided to extend its application eastward to Ontario and the valley of the St. Lawrence. The branch and connecting lines are following the same course, and I am assured that by the end of next year the twenty-four hour system will be in common use by the railways from Halifax in Nova Scotia to Vancouver on the Pacific coast. You are, no doubt, already aware that the twenty-four hour system is in use throughout the extensive lines of telegraph between Great Britain, Egypt, India, South Africa, China, and Australia and New Zealand."

However important these changes are, they can only be viewed as provisional steps in the general unification of time throughout the world. They are means to an end, and the great end of the movement may be the universal adoption of a new notation of time which will be common to all nations. It is only step by step, and by familiarizing men's minds with the new ideas, that the larger reform can be accomplished. With this end in view, the Smithsonian institution, desiring to co-operate in the movement, have agreed to publish and circulate, in all countries where their reports are sent, a paper on 'Time-reckoning for the twentieth century.'

"This question," continued Mr. Fleming, "has an educational interest; and, such being the case, much could be done by appealing to the educational institutions. Probably the most effective means of influencing the rising generation of this country would be to bring the subject under the notice of the public schools. If the children of both sexes were taught the true principles of time-reckoning, in a very few years their influence would be felt, and the main obstacle in the way of adopting a common notation would disappear throughout this continent. I venture to suggest, therefore, that the society would in the highest degree advance the important movement by taking such steps as may be deemed necessary and proper, to bring the question to the notice of the superintendents of education in each state with the view of reaching each boy and girl of school age between the two oceans. If America takes the lead in this matter, I do not doubt that the other continents will follow in good time."

The society would be pleased to correspond with any one desiring to use his influence in bringing about the adoption of the metric system, or who is interested in a common method of time-reckoning such as is indicated in Mr. Fleming's letter. The office of the secretary is at Columbia college.

The officers for 1887 are, president, F. A. P. Barnard, president of Columbia college; vice-president, Prof. E. N. Horsford, Cambridge, Mass. recording secretary, Melvil Dewey, librarian Columbia college; corresponding secretary, Alfred Colin, New York; treasurer, Prof. J. K. Rees, Columbia college.

## *THE NATURALISTS' MEETING AT PHILADELPHIA.*

THE meeting of the Society of naturalists held in Philadelphia during Christmas week was attended by about fifty members, and proved an enjoyable and stimulating gathering. The strict enforcement of the rule limiting membership to persons "who regularly devote a considerable portion of their time to the advancement of natural history," allows only a slow growth to the society, but it insures the illumination of the association by its members, rather than the reverse. Mutual acquaintance is increased; the meetings become as informal as meetings may be; and the naturalist, who has spent a good part of the year too much alone in his own company, finds suggestive intercourse with his fellows. The constitutional object of the society is chiefly the discussion of *methods* of investigation and instruction; for it is held that the announcement of the *results* of investigation finds more fitting and sufficient opportunity in local societies. But in the present day of special investigation there is some danger that the detailed description of methods, useful in their place, and entertaining enough to a few members, may still fail to hold the attention of the meetings as a whole; especially when, as too often appears, the inventive specialist has failed to cultivate the art of presentation.

The day that was devoted to methods of teaching was apparently the most satisfactory to the gathering. H. S. Williams of Cornell spoke on general instruction in geology; Davis of Harvard followed on instruction in geological investigation. In the afternoon, Farlow of Harvard considered the lines profitable for botanical investigation in the United States. Martin of Johns Hopkins discussed collegiate teaching of biology, and Whitman of Milwaukee discribed the proper position of biological investigation in the university. All these papers awakened the meeting to active discussion, and it was decided that the executive committee of the society should consider the advisability and means of publishing the proceedings of the day; for it was generally agreed that both the papers and the discussion that they ex-

cited would be read with profit and encouragement by teachers far and wide. In view of the interest thus awakened, it was suggested that a day be set apart in the meeting a year hence for the discussion of science in the schools. During the session, Professors Leidy and Lesley were added to the list of honorary members, Professors Baird, Dana, and Gray having been previously elected to this class.

## *NOTES AND NEWS.*

THE lectures delivered by Prof. Rodolfo Lanciani, LL.D., government director of archeological researches at Rome, before the Lowell institute, Boston, are full of interesting and instructive matter. The lecturer, after describing the humble origin of Rome, and the simple matter-of-fact causes which led to its foundation on the Palatine Hill, considered the sanitary conditions of the district which surrounded the new town. During prehistoric times the whole region was volcanic and free from malaria, and when it ceased to be volcanic, then malaria began. The clearest proof of the virulence of malaria in Rome in the first century is afforded by the number of altars and shrines dedicated to the goddess of the fever. At the time of Varro there were not less than three temples of the fever left standing. The principal works of improvement successfully completed in ancient times for the benefit of public health and for checking malaria were: I. The construction of drains; II. The construction of aqueducts; III. The multiplication and paving of roads; IV. The right organization of public cemeteries; V. The drainage and cultivation of the Campagna; VI. The organization of medical help. Professor Lanciani developed fully these points; and we regret, that, owing to want of space, we cannot follow him more minutely. The lectures are unique, and worthy reproduction in a permanent form.

— Physicians will doubtless remember the case of the late Dr. Groux of Brooklyn, who had the power of stopping the action of the heart at pleasure. Dr. Lydston of Chicago, in a note to the *American practitioner and news*, claims to have the same power, and to have demonstrated it to members of the medical profession.

— At a recent meeting of the Society of arts, Capt. Douglas Galton, chairman of the council, delivered an address which was a retrospect of the progress made in sanitation by the English nation during the reign of Queen Victoria. The registration of births, marriages, and deaths came into operation in 1837, ten days after the queen's accession to the throne. The sanitary condition of the country was wretched at this time. One-tenth of the population of Manchester, and one-seventh of that of Liverpool, lived in cellars. In 1845 a chapel in the immediate neighborhood of Lincoln's-Inn Fields was used as a schoolroom in the day-time, and a dancing-saloon at night. In the cellars underneath this chapel ten thousand bodies had been buried in the seventeen years ending 1840, the burials were still continuing, and the old coffins were removed through a contiguous sewer to make room for new ones. In the rural districts the same neglect of the public health was also prevalent. The various acts which have been passed during these fifty years have contributed greatly to the welfare and prosperity of England as a nation. In the decade 1850–60 the annual average saving of lives in England and Wales from sanitary improvement was 7,789; 1860–70, it rose to 10,481; 1870–80, it was 48,443; and in the five years 1880–84, the average annual number of lives saved by sanitary improvements has been 102,240.

— Mr. E. D. Preston of the U. S. coast and geodetic survey left last week for the Sandwich Islands on an important mission for that government. The object of his visit is the determination of astronomical latitudes on these islands, fifteen stations having already been decided upon. The pendulum will be swung at a great elevation, and also at the sea-level, to determine the downward attraction of some of the principal mountains. The latitude stations will be on the following islands: Kauai, Oahu, Molokai, Maui, and Hawaii. The work will probably show great deflections of the plumb-line on all the islands, and the pendulum work will no doubt confirm previous experiments on island stations; viz., that islands give an excess of gravity. The observations will occupy about four or five months. A copy of all observations will be deposited in the coast and geodetic survey archives. The work is done entirely at the expense of the Hawaiian government, the coast survey loaning the necessary instruments.

— Congressman Hatch, chairman of the house committee on agriculture, has received from Commissioner Colman of the agricultural department a reply to the resolution offered by Mr. Swinburne of New York regarding the cause and extent of pleuro-pneumonia in cattle. The commissioner sets forth the difficulties met in the attempt to extirpate or control this disease in the present state of the law, and with the machinery at hand, and re-enforces his recommendations previously made for more heroic methods. The commissioner again recommends as the only measure