

|   |            |
|---|------------|
| Fe <sub>2</sub> O <sub>3</sub> Al <sub>2</sub> O <sub>3</sub> ..... | 79,431,250 |
| MnO .....   | 798,750    |
| CaO .....   | 8,120,625  |
| MgO .....   | 7,277,500  |
| Na <sub>2</sub> O .....   | 576,875    |
| K <sub>2</sub> O .....  | 5,591,250  |
| P <sub>2</sub> O <sub>5</sub> .....                                 | 1,109,375  |
| SO <sub>3</sub> .....   | 1,142,500  |
| Total N .....   | 665,625    |
| Water and organic matter...   | 31,062,500 |

For most of these substances it is impossible to assign any definite commercial value, but for four of them it is possible to compute the actual cost of restoring them to the soil in the form of fertilizer. In the following table such calculation has been made. It has been assumed that the potash would be bought in the form of K<sub>2</sub>SO<sub>4</sub>, the phosphoric acid as superphosphate and the N as NaNO<sub>3</sub>. The figures are of course not absolute, but they convey a good idea of the loss which the land has sustained.

Value of plant food removed in silt by the Mississippi River during one year:

|                                     |               |
|-------------------------------------|---------------|
| CaO .....                           | \$ 40,603,125 |
| K <sub>2</sub> O .....              | 559,125,000   |
| P <sub>2</sub> O <sub>5</sub> ..... | 110,937,500   |
| N .....                             | 222,984,375   |

These figures are stupendous and worthy of careful consideration, and when we consider that this same process of denudation of the land is being carried on by all the streams of the country, to a greater or less extent, we gather some faint idea of the loss to agricultural interest from this cause. A systematic study of this question would be of great value, and should it ever be made, it is believed that it will lead in some localities at least to the employment of measures to check, in some degree, this vast pecuniary loss to the country.

C. H. STONE.

#### QUOTATIONS.

##### THE ROYAL SOCIETY.

THE Royal Society, like every other association of human beings, has from time to time to provide itself with a new chief magistrate. More fortunate than the larger society

of which we are all members it does this at fixed periods and with dispassionate gravity and decorum. Yesterday witnessed one of these recurrent changes, when, at the anniversary meeting, Sir William Huggins surrendered the presidency of the society into the capable hands of Lord Rayleigh. The astronomer, whose labors have done so much to give English astronomical science the distinguished place it occupies in the astronomical opinion of the world, is succeeded by a physicist who, by the breadth and variety of his research, the profundity of his knowledge, and the skill with which he has carried on the interrogation of nature, will rank among the greatest of those who have promoted that increase of natural knowledge which is the fundamental object of the Royal Society. It is worth noting—as Sir Henry Roscoe noted last night—that both men belong to a class of scientific investigators which, if not an exclusively English product, has certainly found more numerous representatives in this country than in any other. That is the class of men who live *for* science, not *by* science—men whose means render them independent of exertion, whose position offers many temptations to inaction, and whose abilities, if turned to remunerative pursuits, would ensure rich rewards of the kind that satisfies vulgar ambition. To men of this class—men who, according to one definition of amateurs, would have to be called amateurs, but who lift the word high above all vulgar connotation and restore its etymological significance—English science owes a debt that is simply incalculable. In that class, already sufficiently illustrious, we must include men like Michael Faraday, denied by fortune the power to give of their wealth to the cause of science, but nobly content to live in the utmost simplicity upon a pittance less than the wages of a skilled artisan, while working out discoveries that have changed the face of the world. It would be an evil day for England were the succession of gifted enthusiasts to come to an end, not only because their work is of a higher and more vivifying kind than that of ordinary men, but also because we are, and apparently are likely for some time to remain, very far

behind in the organization of professional science. As Sir William Huggins pointed out in his annual address, we are also far behind in the general diffusion of elementary scientific ideas.

The catholicity of the Royal Society is displayed by the fact mentioned by Lord Rayleigh, that all the medals which can be given to foreigners have this year been awarded to men of science in other countries. Assuming, as we must, that this has not happened through any desire to favor foreigners unduly, the pleasure derived from contemplating the impartiality of the Royal Society must be tempered by the inevitable reflection that we can hardly be keeping pace at home with what is done abroad. Peculiar interest attaches in the circumstances of the moment to the presence among us of Professor Mendeléeff, whose brief leave of absence from official duties covers, we believe, no more than the time required to receive in person the Copley Medal awarded to him by the Royal Society. Though his own distinction as a chemist and as a man besides of wide and varied practical ability is a sufficient reason for the award, he modestly and rightly treated it as being also a testimony of sympathy with his country in her present trials. Official good-will is properly expressed through the Russian ambassador, who sat at the side of the president, but the sympathy of intellectual England with intellectual Russia finds welcome expression in the honor decreed to Professor Mendeléeff. The dichotomy is sincerely regretted by the people of this country, who have no other desire with regard to Russia than that she may speedily find a way to reconcile the best thought of her educated people with the spirit of her administration and the form of her institutions.—*The London Times*.

#### THE MUSEUM ASSOCIATION OF AMERICA.

In response to the invitation extended through the columns of *SCIENCE* and by circular to those who might be supposed to be interested in the formation of a Museum Association, analogous to that which exists in Great Britain and Ireland, numerous replies

have been received, not only from all parts of the United States and Canada, but also from various South American countries, and the West Indian Islands. While it is not possible for some who reside at great distances from the city of New York to be present on May 15, all who have written to the undersigned have expressed their sympathy with the movement, and their desire to be recorded as participating in the organization of the association. How many delegates from the various museums of science and art will be present at the gathering in New York on May 15, it is impossible at this writing to state exactly, but that a large number of the museums of the country, both small and great, will be represented is certain. Many of those who intend to be present at the meeting have signified their intention to present papers upon different phases of the activity of museums.

It appears that the coming gathering will be one of interest, and the invitation to all those who are concerned in the work of museums to participate in it is renewed.

W. J. HOLLAND,

*Director Carnegie Museum.*

PITTSBURG, PA.,

April 14, 1906.

#### THE COLD SPRING BIOLOGICAL LABORATORY.

THE seventeenth session of the Biological Laboratory of the Brooklyn Institute of Arts and Sciences, located at Cold Spring Harbor, Long Island, will be held, beginning July 5 and will continue for six weeks. Investigators may, however, be accommodated for a much longer period. The courses offered will include one in Field Zoology by Dr. C. B. Davenport, of the Station for Experimental Evolution, Carnegie Institution, and Mr. H. E. Walter, of Harvard University; Bird Study, by Mrs. Walter; Comparative Anatomy, by Dr. H. S. Pratt, of Haverford College; Invertebrate and General Embryology, by Professor H. E. Crampton, of Columbia University, and Professor W. J. Moenkhaus, of Indiana University; Animal Bionomics and Evolution, by Dr. Davenport; Cryptogamic Botany, by Professor D. S. Johnson,