DISCUSSION AND CORRESPONDENCE.

COLOR ASSOCIATIONS WITH NUMERALS, ETC.

To the Editor of Science: In Science, Vol. VI. (1885), p. 242, I printed a note of experiments on color-associations with letters of the alphabet, days of the week, etc., in the case of my daughter Mildred. The subject was again treated, at more length, in *Nature* for July 9, 1891, p. 223. On p. 224 a table was given showing the color-associations for my daughter in 1882, 1883, 1885, 1887, 1889, 1891. Since that time I have tested her color-associations on two occasions. In February, 1895, her replies agreed exactly with the last column of the table cited except that the color for 8 was marked as 'white.' An experiment in August, 1899, agrees precisely with the results of 1895. I think the present note has a value because the experiments it describes now cover a period of seventeen years and give a history, not an isolated record.

Edward S. Holden.

THE WAGNER FREE INSTITUTE OF SCIENCE AND PROFESSOR DALL.

On Monday, October 30th, the Wagner Free Institute of Science in Philadelphia presented to Professor William Healey Dall, of the Smithsonian Institution, a gold medal as a slight token of their appreciation of his work in connection with the Transactions of the Institute. The medal has the head of the founder of the Institute on the obverse side, with the name of the Institution. On the reverse is engraved "Awarded to William Healey Dall for his investigations and writings in Paleontology—1899."

Accompanying the medal was a very handsomely engrossed book of resolutions stating that "Whereas, Professor William Healey Dall has contributed greatly to the advancement of Science by his investigations in the department of tertiary geology and has rendered most valuable service to the Wagner Free Institute of Science by enabling it, through his numerous and exhaustive contributions to its Transactions, to publish the results of his investigations to the world. Now, therefore, be it Resolved by the Board of Trustees and the Faculty of the Wagner Free Institute of Science that a medal be prepared and presented to Professor Dall in recognition of his distinguished services in the cause of Science and in testimony of the high appreciation of his work by the Trustees of this Institute."

The work on the Tertiary Fauna of Florida, begun in 1886 under the auspices of the Wagner Free Institute of Science, constitutes one of the most important advances in American Paleontology. The discovery of the Pliocene beds of the Caloosahatchie river by Professor Heilprin and Mr. Joseph Willcox in 1886 and the subsequent investigations by Dr. Wm. H. Dall have completely revolutionized the geological theory as to the formation of the Peninsula of Florida and the adjacent States.

The Transactions of the Institute have not only met with the highest commendation from American Paleontologists and Conchologists but from the European scientists as well. On several occasions prominent men from various parts of Europe have visited the Institute to see, as they said: "The Institution that has published such valuable and finely executed Transactions."

Some idea of the amount of labor involved in Dr. Dall's work may be gained from the following summary:

The total number of pages in the four parts of Vol. III. is 947, with 35 plates that contain 639 figures, and one map.

Part I. On the Gastropods. Contains references to over 300 species including the descriptions of 122 new species and varieties, that are represented on twelve plates by 192 figures.

Part II. Is a continuation of the Gastropods, as introductory chapter on the Marine Pliocene Bed of the Carolinas, and is followed by references to upwards of 400 species including the descriptions of 156 new species and varieties that are illustrated by 203 figures.

Part III. Forms an introductory chapter to Part IV. containing a new classification of the Pelecypoda, with an enumeration of the differential characters of the orders, suborders, superfamilies and families, a statement of their range in geological time, and an enumeration under each family of the chief generic groups believed to be referable to it.

In Part IV. Dr. Dall has greatly enlarged on the subject, giving a complete synopsis of many of the leading generic groups of American Tertiary species. Upwards of 500 species and varieties are enumerated, including 152 new to science. These are shown on 13 plates containing 244 figures.

The Pliocene fauna is closely allied to the recent, and Dr. Dall in his investigation has been obliged to make so many changes in nomenclature, that the work is indispensable to the paleontologist and conchologist.

In 1893 Professor Dall edited the republication of Conrad's 'Fossils of the Medial Tertiary of the United States' a work of 136 pages and 49 beautifully executed plates. In 1898 he wrote for the Transactions (Vol. 5), Notes on the Paleontological Publications of Professor William Wagner. Several plates prepared by Professor Wagner in 1839, but never published with text, were found in the Institute library. The plates were new species of fossils from the Carolinas for which credit was given in Brown's Index Paleontologicus, but there was no record of the original paper.

Professor Wagner doubtless had the plates prepared for the Journal of the Academy of Natural Sciences, and afterwards contented himself with sending the plates to his correspondents. THOMAS L. MONTGOMERY.

PHILADELPHIA, Nov. 10, 1899.

THE CARNEGIE INSTITUTE.

THE fourth annual celebration of Founder's Day, of the Carnegie Institute at Pittsburg, was held on November 2d. President Arthur T. Hadley, who was the guest of honor, presented an address upon 'Modern Changes in Educational Ideals.'

Mr. Samuel H. Church, the secretary of the Board of Trustees, read the annual report of the progress of the year in all departments of the Institute, stating that a considerable plot of land had been secured to the east of the buildings for additions already planned, which are to provide space for a permanent picture gallery, an art school, and for the scientific museum.

The department of paleontology, recently established under the curatorship of Dr. Wortman, has progressed rapidly. The expedition to Wyoming this summer has resulted in the securing of a large collection of unusually fine fossil bones of extinct vertebrates.

Several addresses upon art were given, and the announcement was made of the prizes awarded for paintings entered in the Carnegie Institute exhibit for 1899.

Dr. J. L. Wortman then reported on the work of the museum in paleontology.

HARLAN I. SMITH.

*ALCOHOL AS FOOD.**

BULLETIN No. 69 of the Office of Experiment Stations of the U. S. Department of Agriculture gives the first detailed accounts of a number of experiments lately made by the Department in coöperation with Wesleyan University and the Storrs Experiment Station, under the immediate direction of Professor W. O. Atwater. These experiments were made with men in the Atwater-Rosa respiration calorimeter described in Bulletin No. 63 of the Office Experiment Stations. The object of the inquiries is the study of the laws of nutrition. Each experiment lasts from four to twelve days, during which time the man under experiment lives day and night in the chamber of the calorimeter. He has different kinds and amounts of food, and is under different conditions of activity, from actual rest to severe muscular or mental work. The results show how the body uses its food, what materials are needed for its support, and how different food materials compare in nutritive value. The six experiments reported in Bulletin No. 69 were made with a variety of dietaries and in two of them alcohol made a part of the diet.

The general plan of the experiments consists first in finding a diet of ordinary food materials, such as meat, potatoes, bread, and coffee, which is sufficient to meet the demands of the man's body when he is at rest, and in determining just how much of the different materials must be added to meet the increased demands when the man is engaged in more or less severe muscular work. Arrangements are made by which all the food and drink supplied to the body, and

* From the Division of Publications, United States Department of Agriculture.