

## NOTES AND NEWS.

THE University of Texas at Austin has instituted a school of geology, which is conducted by Robert T. Hill. It is intended to arrange two classes, — one for those who desire a general knowledge of geology, and the other for those who wish to become practical geological investigators and teachers. A circular has been issued in which the programme of the school is fully set forth.

— The rapid development of Southern California has brought Lower California into prominence, and recent explorations have shown that it is not at all that desert land which it has long been supposed to be. In a book by Charles Nordhoff, 'Peninsular California,' recently published by Harper & Brothers, the merits of the northern section of the territory are set forth. This district belongs to the Mexican International Company of Hartford, Conn., which attempts to found colonies there, and to promote agriculture. Nordhoff's volume is accompanied by interesting illustrations, showing the character of the vegetation of that region, and views of beautiful orchards and wooded mountains. In an appendix meteorological data are given, and the timber region and recent gold discoveries are described.

— Mr. Samuel H. Scudder, Cambridge, Mass., will shortly publish an extensive treatise on the 'Butterflies of the Eastern United States and Canada, with Special Reference to New England.' The preparation of this work was first announced by the author in 1869, in the *American Naturalist* and other journals of the day. It has thus been twenty years in progress, and represents eight years of undivided attention to its elaboration. In this long time the author has not only availed himself of the personal aid of a host of willing friends and correspondents, who have confided to him their voluminous field-notes and numerous specimens, but he has carefully gleaned every fact of value from the natural-history journals and other publications, and supplemented all by his thirty-five years' experience in the field. No systematic work on butterflies has ever appeared in any language comparable with it in the complete elaboration of a single limited fauna, in attention to every stage of life, thorough and excellent illustration of every period of the butterfly's existence, and in careful detail of all structural features. It contains 17 plates of butterflies, 6 of eggs, 11 of caterpillars, 2 of the nests of caterpillars, 3 of chrysalids, 2 of parasites, 33 of structural details in all stages of life, 19 maps and groups of maps to illustrate the geographical distribution of the butterflies, and 3 portraits of early naturalists of this country, — in all, about 2,000 figures on 96 plates, of which 40 or more are colored; the butterflies in a style of chromolithography never surpassed, if it has ever been equalled in similar illustrations, whether in Europe or America. The printing of the plates was begun three years ago, and is now nearly completed. The work will be issued in twelve monthly parts, to be sold at five dollars per part, or fifty dollars on or before Jan. 1, 1889, for the complete work.

— A prize of one hundred and fifty dollars will be awarded by the American Economic Association for the best essay on 'The Evil Effects of Unrestricted Immigration.' This prize is offered by *America*, the new Chicago weekly; and the essay will be known as the 'America Prize Essay.' Any person is eligible to competition, provided his article does not exceed twenty-five thousand words, and is received by the secretary of the association before April 30, 1889. Each essay must be type-written, signed by a fictitious name, and accompanied by a sealed envelope containing the name assumed as well as the address of the author. For further information, address the secretary, Prof. R. T. Ely, Johns Hopkins University, Baltimore, Md.

— The collection of papyri of Archduke Rainer has been the subject of careful researches. J. Wiesner has made a microscopical and chemical inquiry, while J. Karabacek studied it from an historical point of view. The results of their inquiries shed an entirely new and unexpected light upon the history of the manufacture of paper. It is shown that the art of making paper of linen was first carried to Samarkand by Chinese captives in A.D. 751, when the governor of Samarkand made war upon the princes of Ferghana and Shash, who were tributaries of China. Wiesner as well as Karabacek shows that cotton paper, which was generally assumed

to have been the first paper manufactured, never existed. In Samarkand the manufacture of paper from linen rags was invented by Persians, and this invention gave a great stimulus to the manufacture. Samarkand papers were famous all over the Orient and Occident until the eleventh century. Later on, factories were established in Bagdad and Egypt, and it was then that paper took the place of the ancient papyrus. The researches of Wiesner show that these early papers were white, and that they were filled and sized by means of starch. It is of great interest that Wiesner's conclusions as to the methods of manufacture of the early papers have been fully confirmed by the recent discovery of an ancient Arabian manuscript describing the manufacture of paper in detail. Cotton was never used for making papers in those early days.

— The *Naturwissenschaftliche Rundschau* gives an abstract of an interesting lecture of Ch. André, who has made a series of experiments on magnetic disturbances. It is well known that magnetic disturbances originate on the whole earth simultaneously, and that they are caused by the action of the sun. Ch. André found that they originate when a place of disturbance on the sun passes its apparent centre. He says, "If by a continuous series of observations the successive situations of regions of activity on the sun are determined, which either appear as spots or *faculae*, or only as *faculae*, it will be seen that every great magnetic disturbance coincides with the passing of this region through the apparent centre of the sun. Those among these regions which remain for several revolutions of the sun on the same spot, cause a magnetic disturbance every time they pass the centre of the sun, while no disturbances are observed when no such region is on that spot of the sun's surface lying between his centre and that of the earth." This phenomenon occurs so regularly, that André was enabled to predict a disturbance as soon as a spot appeared on the eastern limb of the sun.

— The 'Fifth Annual Report of the Ohio Meteorological Bureau' contains, besides the usual summaries, a few interesting phenologic tables, the first being a statement on the migration of birds as observed at Wauseon, Fulton County, in 1887, by Thomas Mikesell. It contains the dates of arrival and departure of seventy-five species of birds, with notes on the frequency of their occurrence. The next table gives phenological observations on forest and other trees, the date of the opening of buds, the time when the trees are in leaf and in blossom, and the ripening of the fruit. The change of foliage and the falling-off of the leaves are also noted. Besides this, we find tables giving the dates of the blooming of plants. Work of this kind is highly welcome to the student of biology, as well as to the geographer. There are at present forty-one stations in operation, reporting to the Ohio Meteorological Bureau.

— In the signature of the Proceedings of the United States National Museum just issued, Mr. George F. Kunz gives an interesting account of the meteoric iron which fell in Johnson County, Ark., on March 27, 1886. The report is remarkable on account of the great care bestowed by the writer upon ascertaining the history of the fall as observed by eye-witnesses. A thorough description of the iron is given. Its upper side is ridged and deeply indented, being in many places almost tin-white, while the lower side is flat and covered with large, shallow pittings. The writer concludes, that, after entering our atmosphere, the iron travelled with the ridged surface forward, the iron burning so rapidly as to be torn off, leaving part of the surface bright. The flame thus passed over the sides, and, the indented edge being downward, the flame was driven upward as the iron advanced. The flat side not being so much exposed, the iron was not so completely consumed, hence a crust and large but shallow pittings. These conditions would perhaps have been entirely different had the mass been round or thicker, for it evidently moved as straight as possible without rotating at all. That it was found in the earth with the flat side down, was due perhaps to the fact that it turned after losing its highest velocity.

— The fifth annual convention of the Iowa Assembly of the Agassiz Association was successfully held at Mount Pleasant, Aug. 21, 22, and 23. Representatives from fourteen chapters were present, making the largest representation in the history of the assembly.

Five chapters were admitted to membership. The first day of the convention was devoted to committee-meetings, addresses, and reading of papers. In the evening a reception and banquet was tendered to the delegates by Chapter 700, at the home of Miss Crane. The second morning was given to the president's address, competition for diplomas, reading of papers on modes of work, and exhibition of specimens. In the afternoon the assembly visited the Iowa State Hospital for the Insane, and were shown through the institution by Dr. F. P. Peck, who in the evening delivered before the assembly a very interesting and profitable lecture entitled 'Notes on the Anatomy of the Brain.' The usual convention picture was taken during the afternoon. The third and last day of the convention was devoted, in the morning, to the reading of papers, debate, and miscellaneous business; in the afternoon, to awarding the diplomas, general business, and election of officers. Diplomas awarded for the best records of work done during 1887-88 were as follows: first, to Chapter 653, of Oskaloosa; second, to Chapter 20, Fairfield; third, to Chapter 812, Davenport. Officers elected were: John G. Speilman, Chapter 20, Fairfield, president; Fred B. Palmer, Chapter 653, Oskaloosa, vice-president; Fred M. Irish, Chapter 285, Dubuque, 2d vice-president; Miss Olive Cole, Chapter 700, Mount Pleasant, secretary; Belmont A. Goam, Mount Pleasant, continuing in office as treasurer. Oskaloosa was chosen as the place of the next convention. Enough praise cannot be given to the members of the entertaining chapter, A.A. 700, for their hospitality and good management, which has made the fifth annual convention of the Iowa Assembly of the Agassiz Association a meeting which will never be forgotten.

—The Congress of Americanists, devoted to researches into the pre-Columbian history of this continent and into the languages and character of its aboriginal tribes, met in Berlin on the 2d instant. We may be able to give some account of the proceedings in a future number. The next meeting will be held in Paris in 1889. It is hoped that arrangements may be made for a meeting of this learned body in the United States. An error occurred in the telegraphic announcement of the opening, last week, which mentioned "Horatio Hale of Clinton, Ontario," as among the members present. Mr. Hale was not able to be present, but sent a communication to be read by another member. The appearance of his name in the printed list of contributors doubtless led to the error.

—One of the annoyances connected with the use of instruments containing lenses, in the examination of the cavities of the body, is due to the fact that they become dim by the deposition of moisture. Dr. Stocquart claims that this can be prevented by spreading a drop of glycerine on the lens.

#### LETTERS TO THE EDITOR.

##### A Notable Evolution.

YOUR number of Sept. 7 coming to hand yesterday, I find in it a letter under the above title, from Mr. E. P. Powell, that seems likely to mislead those not informed on the subject. After the statement that "every one knows what a clumsy singer" the robin is, it goes on to describe the peculiar musical powers now noted in some few individuals. The mere fact of such great rapidity occurring in the robin's musical evolution would of itself cause suspicion that the former state had not been well observed. Now, the fact is, that the robin is not, and for several years has not been, a clumsy singer, when it wishes to exert itself. That it is not as constant a songster as the majority of song-birds may be accounted for by its lazy habits, remarked by Mr. Powell. It is quite true that its more common notes are quite unmusical in character, but in noting any song-evolution it will not do to overlook its other, not infrequent song. It is now some fourteen years since I first began to collect birds and study them in a practical manner. I am positive that at the beginning of that time the robin was no mean songster. From five to seven o'clock in a summer or early fall evening it is an almost daily occurrence for them to take their stand on the topmost bough of some tall tree, and for an hour or more pour forth a flood of melody. This song isn't a repetition of a "rough seesaw note," but a variety of very liquid notes rendered in a most musical manner. Nor is this song confined alone to the evenings, but

may often be heard during the day. Such, at least, were the robins of Rochester, N.Y., and many other localities with which I was familiar for the past fourteen years. Whether any change has taken place there within the past year, I cannot say, for I have not been within hearing distance of a robin for that time.

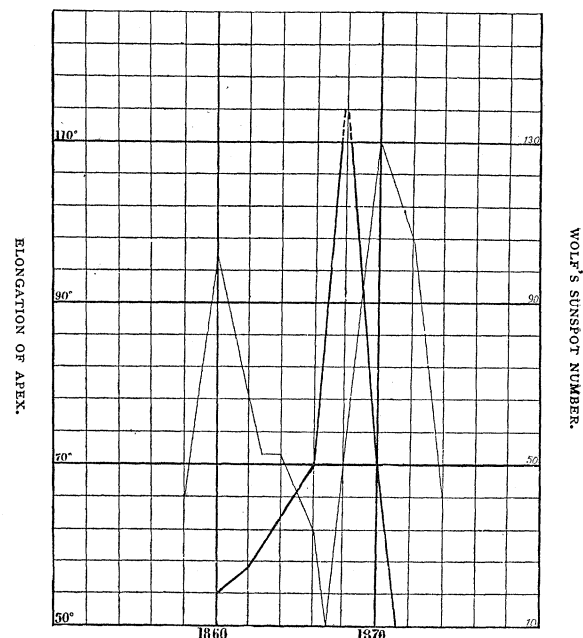
Mr. Powell's stricture on Professor Baird's remark about the catbird strikes me as a trifle unfair. It can't be supposed that Professor Baird was unacquainted with the mimicking-powers of this bird. The merest tyro in ornithology, who lives anywhere in their vicinity, must be acquainted with this. What Professor Baird stated was perfectly true as far as it went; for their 'mewing' is *the* characteristic note: hence the name 'catbird.'

HENRY L. WARD.

Tacubaya, D.F., Mex., Sept. 20.

#### The Zodiacal Light.

A DISCUSSION of the long series of observations on the zodiacal light by Heiss and Weber (1843-83), and also a ten-year series by Backhouse, having shown a clear connection between the extent of the zodiacal light and the condition of the solar surface, as is shown in the following curves drawn from observations made by Backhouse, in which the heavy line indicates the mean yearly elongation



of the zodiacal light, and the light line the course of Wolf's relative sunspot numbers, I am, for the sake of other connections foreshadowed, anxious to obtain as many observations of the zodiacal light as possible. The material is, however, badly scattered, and compels me to ask through your columns that any who know the whereabouts of such observations would kindly call them to my attention.

O. T. SHERMAN.

Baltimore, Md., Sept. 29.

#### Periodicity of Thunder-Storms.

THE researches of Von Bezold in regard to a periodicity of thunder-storms corresponding to the time of the rotation of the sun, referred to in *Science* for Oct. 5, on p. 167, corroborate the results secured by the writer. In certain years this periodicity becomes more evident. In 1886 for months together it was very plainly apparent upon the most cursory examination. In other years more complete information from wider areas has been necessary in order to bring it out clearly. It seems to me strange that any one should ignore facts because their full significance may not be clearly understood at present. The note which you publish in regard to Von Bezold shows that he was inclined to do this, and this tendency appears to be specially difficult to overcome in the investigation of this subject.

M. A. VEEDER.

Lyons, N. Y., Sept. 8.