INTELLIGENCE FROM AMERICAN SCIENTIFIC STATIONS.

STATE INSTITUTIONS.

Ohio meteorological bureau, Columbus.

Weather report for April. — The mean barometric height for the month of April, which was 30.009 inches for the state, was lower than any mean yet reported from this bureau. The maximum of 30.382 inches is also lower than that of any previous report. A lower minimum was reported for both January and March; so that the range is not so great as in previous months, being, in fact, less than any before given. The reports show no unusual atmospheric disturbance during the month.

In temperature the month was remarkable for the high point reached in many localities. The mean for the month, 48°.1, is above that of any other month included in the reports. A maximum as high as 90° was reached at Oberlin on the 14th; and the minimum for the state, which was 15°, was recorded at the same station on the 3d. Thus the thermometric range for the state, 75°, is reported from one station. This range is less, however, than any before published. The mean daily range, which was 21°.5, was somewhat greater than that for previous months. The station at the State university, which in January reported the minimum daily range, returns the maximum for this month, it being 42°.8. The minimum daily range is reported from Wooster, at which station the most uniform temperature for twenty-four hours has been recorded for three months in succession. Notwithstanding the unusually high temperature on certain days of the month, on the whole it was slightly colder than the normal mean for April, which is about 50°.

In the amount of precipitation, the month fell somewhat below the average for April, which is about 3.5 inches. The average number of days on which rain or snow fell was almost exactly the same as in March, but the mean depth of fall was considerably greater. It will be remembered that the rainfall during February was largely in excess of the normal amount; and it will be noticed, that, since that month, less than the usual amount has fallen.

The prevailing direction of the wind during the month was from the south-west; and thunder-storms are reported as occurring on the 4th, 5th, 9th, 11th, 13th, 19th, 27th, and 28th.

PUBLIC AND PRIVATE INSTITUTIONS.

Museum of comparative zoology, Cambridge, Mass.

Recent additions. — The latest additions to the exhibition-rooms have been important, among them a fine skeleton of a fin-back whale, measuring over fifty-three feet in length. This skeleton, mounted by Ward, is suspended from the ceiling of the room devoted to mammals. The four skeletons of Moas, purchased for the museum at the Melbourne exhibition, have also arrived. They represent three genera and four species, and are probably, with the exception of those of the museum at Christchurch in New Zealand, the finest specimens discovered by Dr. Haast. The skeleton of Dinornis maximus measures over nine feet in height. It has been placed temporarily in the African room till a proper case can be built for it in the bird-room.

The series of anthropoid apes purchased from Ward — the orang, chimpanzee, and gorilla — have also been placed on exhibition. The African, Indo-Asiatic, as well as the Australian faunal rooms are now open to the public, although there are yet many blank spaces to be occupied.

The zoölogical collection is now so far arranged that the public can fairly estimate the advantages of the present distribution of limited exhibitions in comparatively small rooms devoted to special objects, as compared with the usual museum arrangement by which all the collections of an establishment are thrown open to visitors, without any attempt to select the more important or interesting objects, or to arrange them in an instructive manner.

As soon as the new geological and biological laboratories of the corner-piece are occupied, probably at the commencement of the next academic year, the same arrangement will be extended to the geological and paleontological collections.

The stalked crinoids of the Blake expedition. — The preliminary report of Mr. P. H. Carpenter on the stalked crinoids of the Blake (*Bull. mus. comp. zoöl.*, x. iv.) shows how greatly our knowledge of these animals has been increased by the recent dredging-expeditions. Not many years ago the specimens of Pentacrinus preserved in all the museums of the world could not have exceeded six or seven. Recently a few more specimens of a second species were collected at the Barbadoes; and the late Sir Wyville Thomson and Dr. William B. Carpenter had begun, with the help of this material, an extensive memoir intended to supplement the paper on Pentacrinus by Johannes Müller. But since the discovery of Rhizocrinus by the younger Sars, a number of genera and species of stalked crinoids have been dredged by the Norwegian, English, and American deep-sea explorers. With the exception of Rhizocrinus, however, none of the species were found in sufficient numbers to enable zoölogists to study them by the modern methods. Fortunately the Blake brought back from the Caribbean Sea two species of Pentacrinus in great numbers, a good supply of Rhizocrinus, and a couple of Holopus, all of which were placed by Mr. Agassiz in the hands of the late Sir Wyville Thomson for study. Since his death, all this material collected by the Blake has been transferred to Mr. Carpenter, who will incorporate his results in the final report he is preparing on the same subject for the Challenger expedition.

We may thus expect, judging from the excellent work done by Mr. Carpenter among the crinoids, an exhaustive memoir on this ancient group of crinoids, based upon ample material. Thus far, however, the study of the soft parts does not seem to have been so fruitful of interesting results as had been anticipated.

NOTES AND NEWS.

The signal-service under Gen. Hazen has issued a bulletin containing several reports, of which the first is that of Mr. W. M. Beebe on the relief expedition of 1882 to Lady Franklin Bay. This, as is well known, failed in its object, owing to adverse conditions of ice, etc. The second report, by Lieut. J. S. Powell, is on the relief expedition to Point Barrow for the purpose of replenishing provisions, and replacing any disabled members of the party. The attempt was also made to determine the astronomical position of the station at Uglaämie, near Point Barrow.

Lieut. Powell's narrative is lively and entertaining, containing numerous notes on the climate, people, and characteristics of the region he visited. The work of the station was going on in a manner believed to be satisfactory. Over 90,000 magnetic observations had been made from December, 1881, to August, 1882, by Messrs. Murdoch and Smith, and coincident meteorological observations carried on. Under the supervision of Lieut. Ray, in command of the party, daily exercise had been enforced, and other precautions taken for the health of the party, which had continued good, though it was thought best to replace two of them by new men. The determinations of position and chronometer rates are presented in a voluminous appendix by Mr. Winslow Upton of the signal-service; but owing to bad weather and other causes they were so unsatisfactory as to be worthless, and might better have been omitted. Precautions have been taken to secure better results this season. The third report is that of Lieut. Ray, and gives a general account of the work of establishing the station; of a journey made by him during the winter toward the north-east, where a river was discovered which was named Meade River; of the arrival of vessels in the spring, the loss of the whaler North Star, and other matters. Little is said of the scientific work of the station, for the reason, frankly stated by the author of the report, of his entire inexperience in such matters, his duties being solely of an executive nature. The extraordinary statement which follows appears in the last paragraph of the report, and is, we have reason to believe, based upon an entire misconception, the 'hut' spoken of having nothing to do with the magnetic observations. "Lieut. Powell brought but one magnetic hut, and it is designed for pendulum observations. I shall put it up, and use it for the new magnetic instruments; but I cannot be responsible for the results, as it is nailed with iron nails throughout." If the above were permitted to stand unexplained or uncorrected, every person possessed of any knowledge of magnetics, who might read this report, could not fail to experience the liveliest apprehensions as to the results of such proceedings on the quality of the observations. We believe, however, that it is due to the extreme haste in which the report was necessarily prepared, and that the statement, as it is, results from a transposition or accidental misuse of terms, such as Mr. Richard Grant White has taught us to call 'heterophemy.' The pamphlet is illustrated with a track chart of the Neptune in Baffin's Bay in 1882, and appears as 'Signal-service notes, no. v.' In the endeavor of the chief signal-officer thus to preserve in permanent form scientific observations apart from their stated work, which may be made by members of his corps, he will have the hearty sympathy of the scientific public.

— The annual meeting of the members of the Archaeological institute of America was held in Boston on the 19th ult., Prof. C. E. Norton, the president, in the chair.

The fourth annual report of the executive committee showed, that, since January, Mr. Bandelier has prosecuted his researches in New Mexico, steadily increasing the sum of knowledge concerning the number, the distribution, and the local peculiarities of the ancient Pueblos, and gradually accumulating the information upon which conclusions with respect to the mutual relations and the migrations of the various branches of the native stock, as well as to the limits of their civilization, may be safely based. In a letter dated San Juan, Arizona, April 9, Mr. Bandelier sketches the route which he proposes to follow, in order to trace the two streams into which he believes the main current of immigration to have been divided. First he will go, *viâ* Georgetown, to Chihuahua and Casas Grandes, returning to Tucson. The second route will be southward from Tucson, through Sonora, Sinoloa, etc., to the City of Mexico. From the latter place he will follow the route of Cortés to Vera Cruz, and along the coast to Monterey. In this way Mr. Bandelier will have studied the whole of Mexico north of the 19th parallel. Should Mr. Bandelier be able to accomplish this proposed journey during the present year, one of the most important objects of the institute in the investigations intrusted to him will have been attained. A general survey of the Pueblo settlements, from their northern limit as far as the City of Mexico, will have been made by a competent observer, and many points hitherto in doubt, not only in regard to the Indians, but also concerning the early Spanish discoveries and settlement of the country, will have been determined.

Allusion was made to the celebration of the 333d anniversary of the settlement of Santa Fé, to be held in that place in July; and it was stated that a second edition of Mr. Bandelier's report upon Pécos, which was issued by the institute in 1881, had been prepared to meet a demand which had already come from that section of the country. Unfortunately, Mr. Bandelier's report upon the work done by him in Mexico in 1881 still remains unprinted, though about one-half is in type, owing to a lack of funds. Special contributions are solicited for this purpose. The report contains valuable information in regard to the great pyramid of Cholula, and the decorated houses of Mitla.

Work in Assos was stopped during January, but was resumed later, and the explorations pushed forward with energy in order to accomplish as much as possible before the expiration of the firman at the end of May. At that time nothing will remain to be done but to close the works, and divide the objects found with the Turks. Steps have been taken to obtain from the Turkish government the right to all

of the temple sculptures; and the Boston Museum of fine arts has appropriated two thousand dollars towards the purchase and transportation of antiquities, with the understanding that they shall become the property of the museum.

The different departments of the Assos work will be ably worked up by the several gentlemen in charge. The study and preparation of the inscriptions have been placed in charge of Dr. Sterrett, who has been connected during the past year with the school of classical studies which was established at Athens by the institute. The geology of the Troad will also be fully treated; and a large number of photographs of the site and the excavations, as well as of the objects found, has been made.

Mr. Clarke, in a letter dated April 4, gives an interesting account of recent finds, in the way of figurini (thirteen were found in one sarcophagus) glass, pottery, small bronzes, coins, etc. Besides this, excavations have been continued at the Agora, the west end of the Stoa, and on the fortifications. Moreover, Mr. Clarke has finished his second series of measurements of the temple, made with a heavy steel tape, which will be tested by some public standard to insure perfect accuracy in what will be one of the most important results of the expedition.

The second annual report of the committee of the American school of classical studies at Athens was presented as a part of the fourth annual report. From this it appears that the school has been successfully established, and carried through the first year of its existence, under the able management of Professor Goodwin. There have been seven regular members who have pursued definite subjects of investigations, the results of which will be embodied in theses which may be published in the bulletins of the school.

On Wednesday evenings, meetings have been held in the library, at which papers have been presented by the director or one of the members, and afterwards discussed; on Fridays, meetings were held for the study of Aeschylus and Thucydides; and on Saturdays, excursions were made to places of historic interest within easy reach of Athens.

During the year five colleges have joined the supporters of the school, the list of which now numbers fourteen; while several institutions which have been invited to join have not yet returned a definite answer. Next year Professor Packard of Yale will go out to take charge of the school, under the arrangement by which the supporting colleges send each year, in turn, a professor. The desirability of having a permanent official connected with the school is pointed out, and a strong appeal made for the creation of a special fund, which shall enable the committee to appoint such an officer.

After the reading of the report, a spirited and interesting account was given by Mr. Louis H. Aymé, U. S. consul at Mérida, Yucatan, of his investigations in Central America, and of his plans for future work.

The most important business transacted at the meeting was the appointment of a special committee of consultation, to consider what steps could be taken to create and maintain an interest in the work of the institute in New York. They will report to the executive committee with a view to the establishment of a permanent committee to take part in the management of the institute.

The necessity of making constant appeals to the public for funds to carry on the work of the institute has led the executive committee to the resolve not to undertake any new work for the present, unless the money needed should be voluntarily contributed. The work already begun will be finished during the year; and for this purpose at least four thousand dollars above the amount to be counted upon from the annual fees will be needed.

The election of officers of the institute for the coming year resulted in the choice of the old board, with the exception of Mr. W. R. Ware, whose resignation was accepted, and for whom Mr. Stephen Salisbury, jun., of Worcester, was substituted.

— The annual meeting of the Society of arts of the Massachusetts institute of technology was held at the institute May 10. Mr. George F. Swain was unanimously elected secretary of the society for the year beginning Oct. 1, 1883. The following-named gentlemen were elected as members of the executive committee for the ensuing year: Mr. Jacob A. Dresser, Hon. F. W. Lincoln, Mr. Howard A. Carson, Mr. Waldo O. Ross, and Mr. C. J. H. Woodbury. Professor William H. Niles made a report of the work of the permanent meteorological committee of the society since its appointment about a year ago. The committee was formed at the request of the chief signal-officer of the United States to co-operate with the signal-service as far as possible in a general way, and especially to become acquainted with the workings and requirements of the service at the Boston station with the view to suggesting directions for increasing, if possible, its value and efficiency. The committee has found in Sergeant Cole a thoroughly competent head to this station. By recommendations to the chief signal-officer, the committee has been able to effect a material gain in the way of increased reports received at Boston, in the use of more powerful signal-lights for warnings at night, and in some other particulars. The committee has taken under consideration certain other proposed changes relating to the utility of the station in the city, and of the associated display-stations. Professor Niles deplored the present unfortunate impairment of the work of the signal-service through the failure of Congress to make the necessary appropriations. The number of morning reports received

at Boston has been cut down from seventy-seven to five, none of which are from stations west of New England. All the display-stations of the New-England coast have been closed, with the exception of one kept open by the Boston board of trade. The weather synopses have been discontinued, printing and telegraphing reduced, and salaries cut down. All the West-India stations have been closed; and thus, with the cyclone season upon us, we are without warnings which the country is abundantly able to provide. The report of the committee was accepted, and its members were requested to serve for another year.

Mr. J. C. Hoadley then gave an address on driven wells, explaining their action, comparing it with that of dug wells, and giving the results of his experimental investigations of the subject.

A vote of thanks was extended to the retiring secretary, Prof. S. W. Holman, and to Mr. Hoadley.

—At the meeting of the Philosophical society of Washington, May 19, Dr. Robert Fletcher presented a review of Recent experiments on venom poison, discussing especially the supposed antidote discovered in Brazil, and the separation of rattlesnake poison by Dr. Mitchell into three parts, two of which have definite and distinct toxic properties.

Mr. Farquhar, whose experiments in binary arithmetic have already been noticed in SCIENCE, gave an account of some additional experiments, confirming the conclusion that a binary notation may successfully compete with a denary for rapidity of arithmetic work, and showing that the ratio between the horizontal and vertical dimensions of the binary character has a material influence on facility of computation.

—A large company assembled in the rooms of the Cincinnati society of natural history on Wednesday evening, May 23, to celebrate the 176th anniversary of the birthday of Carl von Linné. The lecture-room was beautifully decorated with ferns and natural flowers, and mounted specimens of plants adorned the walls. The name of Linné in evergreens was placed above a beautiful miniature portrait of the great botanist, the frame of which was wreathed in smilax, while below was an autograph letter lent by a local collector. Three papers were read, on the life, the botanical and the zoölogical labors of Linné, by Mr. Davis L. James, Prof. A. P. Morgan, and Prof. Joseph F. James. After the reading, the audience was invited to the council-room, where an interesting microscopical *soirée* was held.

RECENT BOOKS AND PAMPHLETS.

Bate, J. Influence of the mind on mind. London, *Woolmer*, 1883. 696 p. 8°.

Bernhardi, Fritz. Das norddeutsche diluvium eine gletscherbildung, ein versuch, die richtigkeit der Forel'schen theorie aus der beschaffenheit und gestaltung unseres heimischen bodens zu erweisen. Züllichan, *Augustin*, 1883. 3+48 p. 8°.

Brown, T. T. Photometry and gas analyses. London, 1883. 8°.

Brown, Walter Lee. Manual of assaying gold, silver, copper, and lead ores. Chicago, *Jansen, McClurg, & Co.*, 1883. 318 p., illustr. 12°.

Burgess, J. Archeological survey of western India. iv., v.: Report on the Buddhist and Elura cave-temples. London, *Trübner*, 1883. f°.

Colquhoun, A. R. Across Chrysê: being a narrative of a journey of exploration through the South China borderlands, from Canton to Mandalay. London, *Low*, 1883. 2 vols., maps, 300 illustr. 8°.

Cramer, C. Ueber das bewegungsvermögen der pflanzen. Basel, *Schwabe*, 1883. 8°.

Fenton, H. J. H. Notes on qualitative analysis, concise and explanatory. London, *Cambridge Warehouse*, 1883. 128 p. 4°.

Fergusson, James. The Parthenon: an essay on the mode by which light was introduced into Greek and Roman temples. London, *Murray*, 1883. 8+135 p., 5 pl., illustr. 4°.

Galton, Francis. Inquiries into human faculty and its development. N.Y., *Macmillan*, 1883. 12+380 p., 6 pl. 8°.

Griffin, La Roy F. Lecture notes in chemistry: a syllabus of chemistry, compiled principally from the manuals of Miller and of Roscoe and Schoelemmer. Philadelphia, *Sower, Potts, & Co.*, [1883]. 6+99 p. 12°.

Houghton farm. Series III. Experiment department. No. 1-2. N.Y., *Dodge pr.*, 1883. 45 p., 4 pl. 8°.

Iowa state academy of sciences. Constitution and by-laws [including summary of transactions], Des Moines, *Brewster pr.*, 1882. 24 p. 12°.

Joly, N. Man before metals. N.Y., *Appleton*, 1883. 8+365 p. 12°.

Kayser, H. Lehrbuch der spectral-analyse. Berlin, *Springer*, 1883. 11+358 p., illustr. 8°.

Keller, C. Das thierleben in grossen meerestiefen. Basel, *Schwabe*, 1883. 8°.

Kraepelin, Karl. Ueber die geruchsorgane der gliederthiere. Eine historisch-krit. studie. Hamburg, *Nolte*, 1883. 48 p., 3 pl. 4°.

Macloskie, G. Elementary botany, with student's guide to the examination and description of plants. N.Y., *Holt*, 1883. 8+373 p., illustr. 12°.

Müller, F. Max. India: what can it teach us? A course of lectures delivered before the University of Cambridge. London, *Longmans*, 1883. 11+402 p. 8°.

National academy of sciences. Constitution and membership, April 21, 1883. Washington, *Academy*, 1883. 24 p. 8°.

Ontario — Entomological society. Report for the year 1882. Toronto, *Robinson pr.*, 1883. 83 p. 8°.

Page, T. Physical geography of mountains and rivers; together with a general explanation of geographical terms. London, *Moffatt*, 1883. 80 p. 12°.

Palestine exploration fund. The survey of western Palestine. Memoirs of the topography, orography, hydrography, and archeology. Vol. 3. Sheets 17-26. London, *Fund*, 1883. 7+450 p. 4°.

Palmer, A. S. Folk-etymology: a dictionary of verbal corruptions or words perverted in form or meaning by false derivation or mistaken analogy. N.Y., *Holt*, 1883. 22+664 p. 8°.

Perrot, G., and **Chipiez**, C. A history of art in ancient Egypt. Translated and edited by Walter Armstrong. 2 vols. London, *Chapman & Hall*, 1883. 64+444, 16+426 p., illustr. l. 8°.

Pocket logarithms to four places of decimals, including logarithms of numbers and logarithmic sines and tangents to single minutes; to which is added a table of natural sines, tangents, and co-tangents. N.Y., *Van Nostrand*, 1883. 139 p. 16°.

Pressensé, E. de. A study of origins; or, the problems of knowledge, of being, and of duty. Translated by Annie H. Holmden. London, *Hodder & Stoughton*, 1883. 36+515 p. 16°.

Saunders, William. Insects injurious to fruits. Illustrated with 440 cuts. Philadelphia, *Lippincott*, 1883. 436 p. 8°.

Schleiden, M. J. The sciences among the Jews before and during the middle ages. From the 4th German ed. Baltimore, *Binswanger & Co.*, 1883. 64 p.

Stearns, Winfrid A. New England bird-life: being a manual of New England ornithology. Revised and edited from the manuscript of Winfrid A. Stearns, by Elliott Coues. Part 2: Non-oscine Passeres, birds of prey, game and water birds. Boston, *Lee & Shepard*, 1883. 409 p. 12°.

Wagner, M. Untersuchungen über die resorption der calcium-salze und über die abstammung der freien salzsäure im magensaft, nebst einigen erörterungen über die pathogenese der rachitis. Zurich, *Füssli*, 1883. 8°.