

The building was erected at a cost of \$12,000; and this sum, wisely and economically expended, leaves the chemical department as amply provided with facilities for instruction as any institution west of the Mississippi.

E. H. S. BAILEY.

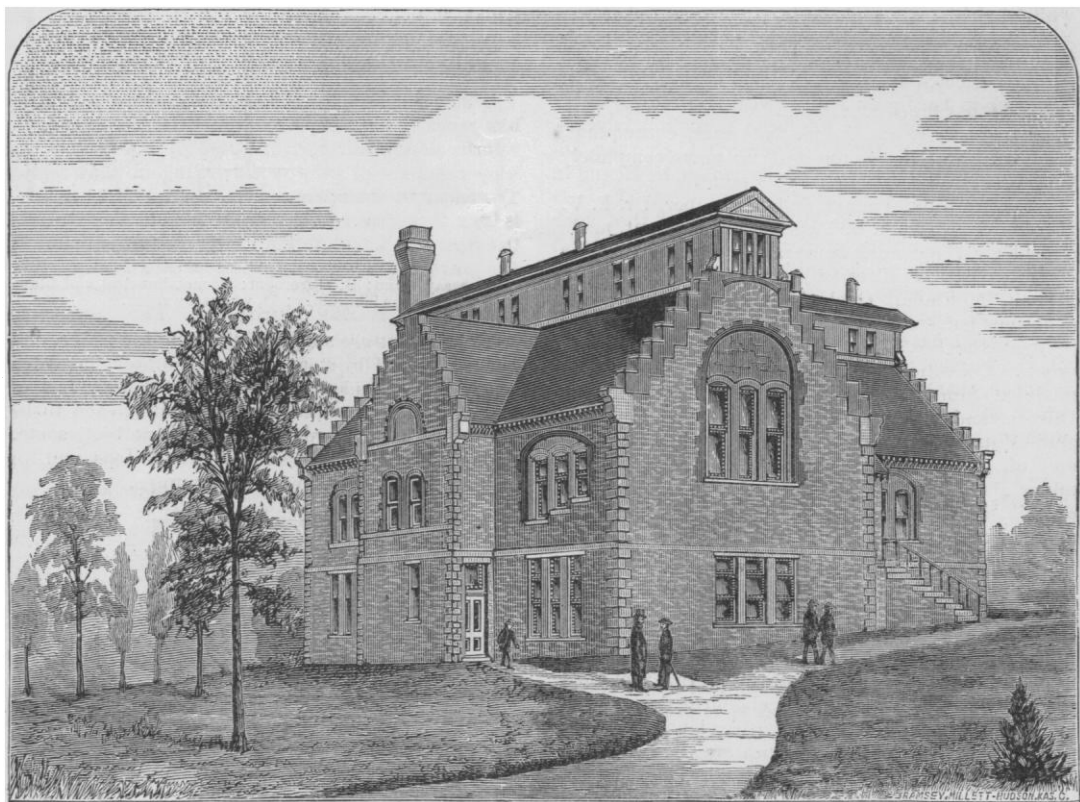
Lawrence, Kan.

NOTES AND NEWS.

Nature states that the Swedish frigate *Vanadis* has just started on a cruise round the world. King Oscar's second son participates in the cruise, as well

ing in the Parc de Montsouris for the use and annual exhibitions of the Central society of apiculture and insectology. It is hoped to hold there the exhibition of 1885.

— M. Bourdalou having published in 1864, in his work 'Nivellement général de la France,' that the average level of the Mediterranean is by 0.72 metre lower than that of the Atlantic, this result was received with some distrust by geodesists. Gen. Tillo points out now, says *Nature*, that this conclusion is fully supported by the results of the most accurate levellings made in Germany, Austria, Switzerland,



NEW CHEMICAL LABORATORY OF THE UNIVERSITY OF KANSAS.

as Dr. Hjalman Stolpe, who has been commissioned by the government to collect materials for the nucleus of a national ethnographical museum in Stockholm. The frigate, whose mission is chiefly scientific, will call at many places of interest, as, for instance, the Straits of Magellan, the Marquesas and Hawaiian Islands, the remarkable Malden Island, etc. A Swedish merchant, M. Fürstenberg of Gothenburg, has contributed six hundred pounds for the purchase of objects of scientific value.

— The Conseil municipal of Paris has granted a subsidy of 38,000 francs for the construction of a build-

ing and Spain, which have been published this year. It appears from a careful comparison of the mareographs at Santander and Alicante by Gen. Ibanez, that the difference of levels at these two places reaches 0.66 metre, and the differences of level at Marseilles and Amsterdam appear to be 0.80 metre when compared through Alsace and Switzerland. The 'Comptes rendus de la commission permanente de l'association géodésique internationale' arrive at 0.757 metre from the comparison with the Prussian levellings; whilst the fifth volume of the 'Nivellements der trigonometrischen abtheilung der landesaufnahme' gives 0.809 *viâ* Alsace, and 0.832 *viâ*

Switzerland. The difference of levels at Trieste and Amsterdam, measured *via* Silesia and Bavaria, appears to be 0.59 metre. Each of these four results (0.72, 0.66, 0.80, and 0.59) having a probable error of 0.1 metre, their accordance is quite satisfactory; and we may admit thus that the average level of the Mediterranean is in fact lower by 0.7 metre than that of the Atlantic.

—Many years ago the late Mr. Leonard Horner communicated to the Royal society the results of a series of borings which he had caused to be made in the upper part of the delta of the Nile, with a view of ascertaining the antiquity of the civilization of Egypt. Since that time, Figari Bey, an Italian geologist in the service of the Egyptian government, has made and published the results of a large series of borings effected in different parts of the delta; but his work is hardly on a level with the requirements of modern science. It has been thought advisable, therefore, by the British government, to take advantage of the presence of its troops in Egypt in order to carry out a series of borings across the middle of the delta, in the full expectation that such borings, if made with proper care, and carried down to the solid rock, will afford information of the most important character, and will throw a new light upon the natural and civil history of this unique country. Instructions have been sent to the officer commanding the engineers to undertake the operations; and it is hoped, that, before long, information will reach us which will be of no less interest to the archeologist than to the geologist.

—The committee of the British association for the advancement of science, consisting of Profs. G. H. Darwin and J. C. Adams, for the harmonic analysis of tidal observations, made its report at the Southport meeting of the association last year (1883). Professor Darwin, who is the author of the report, states, that, although it is drawn up in a form probably differing widely from that which it would have had if Professor Adams had been the author, the latter agrees with the correctness of the methods pursued. The general scope of the paper is to form a manual for the reduction of tidal observations by the harmonic analysis inaugurated by Sir William Thomson, and carried out by the previous committee of the association; and it is intended to systematize the exposition of the theory of the harmonic analysis, to complete the methods of reduction, and to explain the whole process. The method of mathematical treatment differs considerably from that of Professor Thomson; he having followed in particular, and extended to the diurnal tides, Laplace's method of referring each tide to the motion of an *astre fictif* in the heavens, considering that these fictitious satellites are helpful in forming a clear conception of the equilibrium theory of tides. Professor Darwin, however, having found the fiction rather a hinderance than otherwise, has departed from this method, and connected each tide with an 'argument,' or an angle increasing uniformly with the time, and giving by its hourly increase the 'speed' of the tide. In the

method of the *astres fictifs*, the 'speed' is the difference between the earth's angular velocity of rotation and the motion of the fictitious satellite amongst the stars. The committee practically found itself engaged in the question of the reduction of Indian tidal observations; since it is only in that country that any extensive system of observation, with systematic publication of results, exists. Professor Darwin has discussed the entire subject with Major A. W. Baird, R.E., the officer in charge, at Poona, of the tidal department of the survey of India; and their general agreement as to the modifications to be made in the notation of the old reports appears to insure a harmonious course of future procedure. Major Baird returned to India in the spring of 1883, and lately began revising all the published results, so as to bring them into the uniform system here recommended.

—The southern part of the peninsula of California has recently been explored by Dr. H. Ten Kate, who reports (*Rev. d'éthnogr.*, ii. 321-326) that there are no longer Indians of pure race dwelling in that region. The blood of the ancient Pericuis and Coras flows, it is true, in a great number of méfis; but they resemble the Spaniard far more than they do the Indian. In the graves of the dead few relics are found. Here and there on the cliffs are rock-paintings, a few of which Dr. Ten Kate reproduces. The paper closes with the account of a discovery in Sonora. M. Emeric has found upon the shore of the sea, about ten metres above the water-mark, under innumerable blocks of lava, objects resembling fishes and turtles cut out of marble and a hard green rock. He also found several stone knives smoothly polished.

—The Society of naturalists of Moscow has sent Kudriatzeff to examine in detail the geology of the region drained by the upper waters of the Oka. Dokuchaeff undertakes similar studies for the region traversed by the Volga. Both these investigations are made at the special request of the authorities of the provinces named; and their results, combined with those already derived from the studies of Russian geologists for other districts, will go far toward a basis for a satisfactory geological map of this part of Europe.

—The calculation by Gladisheff, of Stebnitzki's astronomical data for the position of Ka-uchit Kala, the capital of the Merv oasis, has been concluded, and places it in 37° 35' 19" north latitude, and 59° 27' 20" east longitude, from Paris, — a position tolerably near that derived from older and less perfect observations.

—Some interesting facts regarding the public collections of American archeology in the United States are given by Henry Phillips, jun., in a paper to the American philosophical society. Judging by this report, there are six museums of the first class in this country, containing upwards of five thousand specimens, — the Academy of natural sciences in Philadelphia, the Davenport academy of natural sciences, the National museum at Washington, the Peabody museum of American archeology and ethnology at Cambridge, the Peabody academy of science at Salem,

and the Wisconsin historical society at Madison. To these must doubtless be added the American museum of natural history at New York, and the Peabody museum at New Haven, from which he received no reports.

Four museums should apparently be grouped in a second class as important ones, but not so extensive as those of the first class; namely, Amherst college, the New London county historical society, the Wisconsin natural history society of Milwaukee, and the Wyoming historical and geological society at Wilkesbarre, Penn. Eleven other museums are reported to have collections of considerable interest. To judge from the statements given in this paper, the Peabody museum at Cambridge is the largest in the country.

A list of twenty-five other institutions believed to have collections, and from which no information was received, is appended. We have already referred to two. It may be remarked concerning these, that the Boston society of natural history has no such collections, and that there is no institution bearing the title 'Academy of natural sciences, Baltimore, Md.'

— Dr. George M. Beard and Mr. Herbert Spencer almost simultaneously sound the alarm against our modern worry in the words, 'The gospel of work must make way for the gospel of rest.' An English writer, signing himself E. S., protests, in the *Journal of science*, against a theory of civilization which makes the acquisition of material wealth almost its sole object, and which brands all men not engaged in such pursuit as idlers. "We have under its inspiration stripped our own country, over a great and increasing part of its surface, of every beautiful feature. We have blackened its skies with smoke-clouds, polluted its air with sulphurous acid, filled its streams with liquid filth, covered its hills with 'spoil-banks,' blighted its green fields, cut down its woods, and extirpated many of its most lovely animal and vegetable species. Our cities, from London downwards, present, as their main feature, meanness, monotony, and ugliness by the square mile; rarely, indeed, relieved by a street or a single building upon which the eye may rest without pain." The diseases caused by over-work, public morals, and the effect of our system on true intellectual progress, receive vigorous treatment. The author concludes that our industrial civilization is found wanting in every particular. "It has broken down more rapidly and more disastrously, even, than the military régime which preceded it, and will be found to have left upon the human race even deeper marks of its failure."

— About half way between the mouth of the Santa Cruz River and the base of the Andes, and situated along the left bank, Signor Moreno has discovered an eocene deposit rich in mammalian remains. It lies at the base of an elevated terrace some eight hundred and twenty-five feet in height, and is made up of alternate lacustrine and marine strata (eocene, miocene, and pliocene), whose summit is mantled by an extensive accumulation of glacial detritus. The most important find here was the skull of a huge mammalian named by Burmeister 'Astrapotherium

patagonicum,' and by him supposed to be closely related to Brontotherium, but which Moreno (under the new name of Mesembriotherium Brocae) considers to be a generalized type of marsupial, probably aquatic in its habits, and having certain characters in the skull to ally it with the Carnivora. In the same deposit were found the remains of a true marsupial. At a somewhat newer horizon, Moreno found the skulls of two genera of small-sized mammals, which form a direct transition between the rodents and toxodonts. No traces of either miocene or eocene edentates were detected. In a deposit apparently transitional between the cretaceous and eocene were found two molars, with part of the cranium, of an animal (*Mesotherium Marshii*) whose true position has not as yet been absolutely ascertained, but which appears to represent the most ancient South American mammalian thus far discovered. Contrary to the opinion of geologists before him, Moreno considers Patagonia as the region whence the mammalia (late tertiary and quaternary) of the more northern regions have been derived. Instead of there having been a late southward migration into Patagonia, it is contended that a northerly migration set in with the advent of the glacial period; of which last, it is further claimed, there is convincing evidence. Patagonia is believed to have been united with the Antarctic continent on the one hand, and with Australia on the other.

— One of the reasons which led to the construction of inductive coils of the large diameter, employed by Professor Rowland in his present work on the ohm, is the hope of using them in a determination of the ohm according to the method of Lorentz. Their large size will admit of the use of a revolving-disk of more than half a metre in diameter.

— *The auk*, a quarterly journal of ornithology, the continuation of the *Nuttall bulletin*, as the organ of the American ornithologists' union, begins with January, 1884, under the editorial supervision of Mr. Allen, with Dr. Elliott Coues, Mr. Robert Ridgway, Mr. William Brewster, and Mr. Montague Chamberlain as associate editors, and with Messrs. Estes & Lauriat as publishers, necessitating the same general character as heretofore the *Nuttall bulletin* has borne, but with increased size and enlarged facilities.

— The Saturday lectures under the auspices of the Anthropological society and the Biological society of Washington will be delivered this year, as heretofore, in the lecture-room of the U. S. national museum, Saturday afternoons, at half-past three o'clock, beginning Jan. 5. The series will include twelve or more lectures, and will be divided into courses of four lectures each. The programme for the first course is herewith presented. The lectures are free, and the public are invited to attend. Jan. 5, Mr. Grove K. Gilbert, Cliffs and terraces; Jan. 12, Professor Otis T. Mason, Child-life among savage and uncivilized peoples; Jan. 19, Professor Edward S. Morse, Social life among the Japanese; Jan. 26, Major J. W. Powell, Win-tun mythology.