

The arrangements for conducting the work are somewhat as follows:—The College has established and will maintain the laboratory for the prosecution of original research. To facilitate such work the Council of the College "appoint a scientific Superintendent, who must devote such portion of his time as may be determined by the Council to the work of the laboratory, where, under the supervision of the Curator and Committee, he shall himself undertake the prosecution of original research, and be prepared to assist, if required to do so, in the work of other investigators. Under like supervision, he shall also be prepared to furnish the Fellows of the College with reports upon such matters as the histology of morbid specimens, and of the chemical and microscopic characters of urines," in which work he is assisted by the resident assistant.

The laboratory is open without fee to Fellows and Members of the College, "to any Licentiate who shall obtain the sanction of the Curator and Committee to use the laboratory for the purpose of scientific research," and "to any medical man or investigator who shall obtain the sanction of the Council of the College, as well as of the Curator and Committee, to use the laboratory for the purpose of scientific research."

The whole of the expense of establishment and maintenance has been and will be defrayed from funds placed at the disposal of the Committee by the Council of the College. Of this, an initial grant of £1000 was made with which to adapt and furnish the house, and buy apparatus, instruments, and chemicals. In addition to this, an annual grant of £650 is made, from which all salaries, rent, and taxes are paid, and stock is kept up. Of these sums, only about £830 of the original £1000, and £600 of the annual grant, were spent during the first twelve months, so that the whole equipment and fittings of the laboratory, together with the current expenses during that period, cost only £1430.

CYCLONES AND CURRENTS.

MR. S. R. ELSON, an experienced pilot of the Hooghly Pilot Service, and author of "The Sailor's East Indian Sky Interpreter," writes as follows with reference to the article on the incurvature of the winds in cyclones, published in NATURE, vol. xxxviii. p. 181:—

So deeply is [the] "old and exploded error of facts," the eight-point theory of storms, rooted in the minds of some, that, ignoring the reiterated warning voice of science, they will have none other. Do they lean towards it because it is so very simple to look at on paper, and so easy of application? I fear that is about the truth of it. So very easy, that Piddington, somewhere in his writings, says of a certain old salt whose ship had been dismantled in a cyclone, that if even a junior P. and O. Company's midshipman had had the handling of his vessel, she would have come through the storm scatheless (the P. and O. midshipman, it must be presumed, having been schooled in Piddington's theory)—a reflection which we, with our more extended knowledge, now perceive was very hard on the old experienced captain. Yet there is the proclaimed peril of using this theory staring mariners sternly in the face.

But there is one more cogent element of trouble and danger besetting the anxious mariner, which, although taken note of in Mr. Pedler's recent Report on the Meteorology of the Bay, is not generally considered when judging, as Piddington used to do, of a shipmaster's proper or improper management of his vessel in a cyclone, and which will probably account for the numbers of vessels, perhaps widely separated before the cyclone came on, which unaccountably get foul of the comparatively small space called the "eye of the storm" as it progresses on its fell course, and so have to bear the brunt of the dreaded rear hurricane wind from south-west or west—that is, the great indraught towards the very centre of the waters in which they float.

This whirling indraught, drift, or set of the sea is on the move long before even the air motion above has gained force enough to impel it, as is so well shown by the westward set at the Hooghly Pilot Station, which usually gets up some time before every cyclone in the Bay, whether far or near. But the worst of it is, when the vessel is out of sight of any fixed object, or the skies are overcast so as to preclude sights being taken, the force and direction of this inset cannot be calculated and allowed for in the dead reckoning as a "course and distance." And it is only after the gale is over, and a sight can be taken, that the

captain is very much astonished to find his vessel's position is so far out of her dead reckoning.

I myself, as a pilot, have experienced this perplexity on more than one occasion at the head of the Bay; and, besides, the published records and logs of vessels involved in these storms show this whirling inset of the sea most conclusively.

Mr. Blanford's rules for finding the bearing of the centre of storms are evidently calculated to suit all winds; but some account should be taken of the fact that, in and off the Hooghly River at least, whether the cyclone is passing up to the eastward towards Chittagong, coming straight on towards the Hooghly, or passing across the Bay to the westward towards False Point, or Balasore, the first wind blows invariably from north-east until the hard part of the storm is close upon you. No special reason has yet been advanced as to why this should be the case; yet so it undoubtedly is, as was noticed first by the late Mr. Wilson concerning a cyclone some years back, and as the meteorological registers and logs of ships during later storms well show, and which, years ago, I drew attention to in my little book, "The Sailor's East Indian Sky Interpreter."

Some authorities of the present day advise, when caught in a cyclone, that vessels should run with the wind more or less on the starboard quarter in the northern hemisphere; but, taking into consideration the now generally acknowledged wind's incurvature, and the great inset of the sea which I have drawn attention to above, there is no safety but with the wind on the starboard beam; always provided, of course, that circumstances of smooth water and sea-room allow of it. As a decisive proof of the advisability of this plan, I may mention that I was in pilotage charge of an inward-bound sailing-ship on the immediate advent of, and during, the Midnapur cyclone of June–July 1872, in which my brother, also a pilot, lost his life, on the foundering of his storm-battered ship, the *Rothsey*, in Balasore Bay. Starting from the Pilot's Ridge on the morning of June 27, under close-reefed topsails and with squared-in yards, we stood away on a south-south-east course, with a hard west-south-west gale blowing (wind on starboard beam), for thirty-six hours, and by so doing raising the rapidly-falling barometer from 29'30 to 29'50 inches, and, as I expected, getting into more moderate weather.

"Look to leeward for the weather," is the old Dutch sailor's advice, and doubtless there is a power of wisdom in the old saw, which seems to chime in better with the modern theory of eleven to twelve points rather than with the old eight-point theory. And, whilst thanking Mr. Blanford for his latest valuable contribution on marine meteorology, as set forth in his letter above alluded to, and looking forward to his promised forthcoming work on the weather and climates of India, I would point out that his directions about finding the bearings of the centre of cyclones of the Bay of Bengal seem to be just a little perplexing to some who read them, when he speaks, as he does, of the wind being three and four points before the beam, while referring to a human being standing with his back to the wind, &c. Of course, what is meant is, supposing a vessel has her stern to the wind, or running with the wind right aft, the centre will be three and four points before the "port" beam; or, in other words, if the wind is, say, north-east by north, the centre of the storm will bear south-south-east or south by east, and not south-east by east, or south-east, as it appears is still stubbornly taught by those who should know better.

A vessel in the northern hemisphere on the starboard tack, unless she happens to be sailing on the same course as the storm, and slower than it is travelling, is invariably going out of bad weather into finer, and out of bad into worse weather when on the port tack.

But much has to be said with regard to this rule of keeping the wind on the starboard beam, with a view of hastening the vessel's distance from the centre and from the hurricane belt of a cyclone. In the first place, on the left-hand semicircle, each squall, as we have above noticed, bursting down from aloft, comes from the right hand of the surface wind, which it displaces, and the vessel necessarily comes up in it, provided the storm is stationary, or is not fully developed; but if it has obtained much velocity, its onward progress will counteract this effect, and the wind will remain stationary in direction, or the ship will actually "break off," and, consequently, be more and more in the "trough of the sea"—a position sometimes critical for a ship if she is deep laden, and a high cross-sea is running, as there probably will be under the circumstances. In this case the only alternative left open to the shipmaster is to so reduce

his sail that the vessel will not forereach (or lay to) on the port tack, and wait until the storm passes on.

But on the right-hand semicircle the case is very different, and the starboard-tack rule is the proper one to adopt both with regard to the wind-shifts and also to the fact of the vessel always coming more and more "head on" to the sea—an all-important consideration.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

CAMBRIDGE.—Mr. Francis Darwin, F.R.S., of Trinity College, has been appointed Reader in Botany in succession to Dr. Vines. Mr. E. H. Douty, M.A., of King's College, has been appointed Senior Demonstrator in Anatomy; and Messrs. W. S. Melsome, Fellow of Queen's College, and Mr. R. W. Michell, of Gonville and Caius College, Junior Demonstrators of the same.

The elections to the Council of the Senate this year may be regarded as generally favourable to science; Dr. Peile, Prof. Macalister, Dr. Routh, Prof. Browne, and Mr. E. Hill, being six of the eight elected. Dr. Lea, however, was unsuccessful, this being his first candidature.

SCIENTIFIC SERIALS.

American Journal of Science, November.—On the deflection of the plumb-line and variations of gravity in the Hawaiian Islands, by E. D. Preston. The observations for gravity were carried out in 1887 on Mount Haleakala on the Island of Maui, which is rather over 10,000 feet high with one of the largest extinct craters in the world on its summit. From these researches it appears that deflections of the plumb-line are greater on insular than on continental mountains, presumably owing to the lighter surrounding sea-water; that gravity is not in defect, because it is here estimated from the true sea-level, and not from a sea-level elevated by continental attraction; that deflections are greater in the vicinity of extinct volcanoes than near active ones; and that the so-called "hidden causes," which in the Himalayas give a variation of gravity several times as great as those arising from the attraction of the mountains themselves, do not exist in the Hawaiian Islands.—Mineralogical notes, by S. L. Penfield and E. S. Sperry. Beryl and phenacite are here studied for the purpose of determining the presence of alkalis in these crystalline bodies. Analytical studies are also given of several other rare minerals, such as a specimen of monazite and oligoclase from North Carolina, sussexite from New Jersey, barium feldspar from Pennsylvania.—The absorption spectra of certain blue solutions, Part 2, by F. B. Pitcher. Here it is shown that blues and violets obtained by absorption in pigments and solutions, differ in several respects from those colours which approximate in hue to the longer wave-lengths of the spectrum. As a rule they are much less completely saturated, and they show irregularities of composition rarely met with in absorption reds and yellows.—An instrument for demonstrating the laws of transverse vibrations of cords and wires, by George S. Moler. The apparatus here described was designed to meet a want, felt in the laboratory, for an improvement over Melde's method of producing transverse vibrations of cords and wires.—Rhætic plants from Honduras, by J. S. Newbury. These fossils, chiefly from the San Juancito district, are clearly Upper Triassic, and greatly resemble those of the coal-bearing strata on the Yaki River, Sonora.—Energy and vision, by S. P. Langley. In this investigation the author has had mainly in view the assumption of H. F. Weber and others that the luminosity of a colour is proportionate to the energy that produces it, an assumption which is shown to be absolutely groundless.—Mr. J. H. Long has a paper on circular polarization of certain tartrate solutions, and Mr. W. E. Hidden sends some notes on some specimens of xenotime from New York and North Carolina.

Bulletins de la Société d'Anthropologie, tome xi. Série 3 fasc. 1 (Paris, 1888).—On aphasia, by M. Hervé, who draws attention to a case recorded by Larrey sixty years ago, of a soldier, wounded at Waterloo on the left frontal, who lost his memory of words, more especially nouns. After death the ball was found close to the dura mater, but separated from it by the portion of bone embedded with it at the moment of the

accident. The case is curious as having been recorded so long before Broca's discovery of the localization of speech.—Monstrosity of the left upper extremity, by M. Variot. The relatively small but otherwise normally formed left hand appears to proceed directly from the stump of the flattened shoulder with no trace of arm, or forearm. The body presents no other anomaly.—The history of the various modifications effected in the ship's rudder, by M. O. Beauregard.—On certain customs, connected with phallic worship, common to the Abyssinians and the ancient Spartans.—On cannibalism and its assumed origin. The consideration of these questions at an earlier meeting by M. de Nadaillac has been again made the subject of an animated discussion between himself and M. Mortillet; for, while the latter believes that this practice must originally have emanated from some perverted religious idea, M. de Nadaillac refers it solely to the promptings of famine, which is capable of engendering in man, if not mania, a depraved taste, and bestial inclinations, which civilization has never been able wholly to eradicate. The absence of animals adapted for human food he considers to have been a powerful factor in widely remote lands, as Mexico, Tierra del Fuego, New Zealand, the Pacific Islands, &c., where the people under various stages of civilization and barbarism have alike practised cannibalism, whether as a national rite or a social custom. The discussion supplies an exhaustive treatise on the subject, which at a subsequent meeting of the Society was again considered at great length by Dr. Bordier, who concludes his comprehensive essay by showing that, as the dental system in man, as in the other Primates, does not allow us to assume that in his primitive condition he was carnivorous, we must consider cannibalism as an acquired and not an original custom.—Communication, by M. D'Acly, regarding Palæolithic mortuary deposits in rock-caves. This paper gave rise to a discussion as to the age of human remains found at Solutré, Furfooz, Spy, Mentone, &c., M. de Mortillet regarding them in opposition to M. D'Acly as Neolithic, rather than Palæolithic.—On the choice of a fixed point of departure for cranial measurements, by Dr. Fauvelle. This the writer considers is to be sought at the base of the cranium, at the cerebral extremity of the vertebral column, where alone one definite point can be found which is always the same in the entire series of the Vertebrata, being indicated in the embryo by the anterior terminus of the dorsal cord, and in the adult by the posterior portion of the first cervical nerve.—The present number of the *Bulletins* contains the ordinary annual report of the statutes, rules, &c., of the Society.

Fasc. 2.—Continuation of the discussion on cannibalism reported in the previous number, and treating specially of the character and adaptability of the dental system in man.—On woman in relation to cannibalism in Polynesia, by M. Letourneau. The exclusion of women from cannibal feasts in some members of this group is referred to a greedy desire on the part of the chiefs to reserve such enjoyments for themselves. Human flesh being early tabooed to women, they gradually acquired a strong distaste for it, which in course of time was transmitted as an hereditary characteristic even to their male descendants, some of whom, as the majority of the Tahitians, had begun to manifest a repugnance for this species of food as early as the time the islands were first visited by Captain Cook.—On the ethnology of Le Rouergne, by M. Durand de Gros. The author regards this district as chiefly Iberian in character, and considered that the whole of the Department of Aveyron, with L'Hérault and La Lozère, forms the eastern confines of a remarkable linguistic region, comprising the whole of ancient Aquitania. He points out that the Garonne is a phonetic frontier, to the north of which all forms of local *patois* possess the letter *f*, while on the opposite side that character is replaced by *h*, the *filha*, *ferre* (*fille*, *fer*), of the peasants on the right bank, being pronounced *hilha*, *herre*, by those on the left. The paper supplies much interesting matter in regard to the various linguistic currents that have been successively incorporated in the main stream of the vernacular through consecutive immigrations; Latin, Celtic and Teutonic suffixes being often associated with some alien root in the names of families and places. The brachycephalic character of the district is at present very strongly marked, while the crania belonging to ancient times, as those found in the dolmens of La Lozère, are without exception dolichocephalic.—On the stature of the Parisians, by M. Manouvrier. A comparative analysis of the results yielded for the twenty arrondissements of Paris shows that, other conditions being equal, affluence, and the absence of want and of the necessity for excessive labour, have a favourable influence on the stature