

1876, p. 267), it would appear that from 1856 to 1875 the years of minimum cyclone activity were 1856 and 1867, and the years of maximum activity 1861 and 1872, but that the results for each of these years did not differ much from the results for the year immediately preceding or following it, the variation near the turning-points being small.

Before giving a brief outline of the results which have been obtained since 1875, it may be well to mention that the sources of information were the same as in former years. Two clerks were constantly occupied in tabulating the meteorological observations contained in the log-books of vessels that arrived in the harbour of Port Louis from different places. The number of days' observations tabulated in each year—that is, observations extending over twenty-four hours and made in different parts of the ocean—was as follows:—

Years	Days' Observations	Years	Days' Observations
1876	... 17,017	1881	... 16,473
1877	... 17,005	1882	... 15,089
1878	... 17,050	1883	... 16,930
1879	... 15,889	1884	... 16,700
1880	... 17,306		

The tables give an average of 46 observations of 24 hours each for every day of the nine years over the frequented parts of the ocean.

All details and reports respecting hurricanes, storms, or gales were recorded in separate registers.

For each day on which there was a gale in any part of the ocean between the equator and the parallel of 34° S. a chart was prepared, showing as nearly as possible the positions of the vessels the direction and force of the wind, &c., at a certain hour, namely, noon on the meridian of 60° E.

From these synoptic charts the details given from hour to hour in the log-books, and all the information obtained from other sources, the position of the centres of cyclones at noon on each day were determined, and the tracks laid down on separate charts.

Nine cyclone-track charts have thus been prepared, namely, one for each of the years 1876-84.

These track-charts, together with the twenty that had previously been prepared for the years 1856-75, show, as far as has yet been ascertained, the tracks of the cyclones of the Indian Ocean south of the equator in each of the years 1856-84, and the tracks for the years 1848-55 are nearly ready.

With respect to the period 1876-84, the *areas* of cyclones and the *distances* traversed have not yet been determined, but upon the whole the *number* and *duration* of the cyclones decreased to a minimum in 1880, and then increased till, in 1884, they were more than double of what they were in 1880.

From the accompanying track-charts for the eleven years 1856, 1857, 1860, 1861, 1867, 1868, 1871, 1872, 1879, 1880, and 1884, it will be seen that the number and duration of the cyclones of 1856 and 1857 were much less than those of the cyclones of 1860 and 1861; that the number and duration of the cyclones of 1867 and 1868 were much less than those of 1860 and 1861 on the one hand, and also than those of 1871 and 1872 on the other; and that the number and duration of the cyclones of 1879 and 1880 were much less than those of the cyclones of 1871, 1872, and 1884.

It would appear, however, that in 1884 there was less cyclone activity than in 1861 and 1872.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE

OXFORD.—The commencement of Michaelmas Term does not witness many changes in the *personnel* of scientific departments in Oxford. A lecturer in Human Anatomy has been appointed, and commences work this term. The opening of the new physiological laboratories at the back of the University Museum completes the scheme for physiological education which has been so strenuously opposed by the enemies of scientific research in the University.

One of the most noticeable changes in Oxford to outward view is the opening of the new buildings in Trinity College. The new block of buildings, designed by Mr. Jackson, stretches backward from Kettle Hall in Broad Street to the Bathurst building and college chapel, making a new quadrangle bounded on the south by Broad Street and Trinity Cottages (now thrown into the "quad"), on the west by Balliol, on the north by the

chapel and Bathurst, and to the east by the new buildings. The new "quad" is only second in size to "Tom quad" in Christchurch.

With our respect and sorrow for Dr. Bulley, late President of Magdalen, who died during the vacation, is mingled a feeling of intense satisfaction and not a little surprise at the appointment of his successor.

In Mr. T. H. Warren, the new President, Magdalen has gained a man no less distinguished for his scholarship than for his liberal views on education. Under the virile direction of her new president, Magdalen, already prominent among our Colleges for her recognition of natural science, may well hope to extend her usefulness. In the liberal Oxford of to-day—in the teaching as opposed to the voting University—Mr. Warren's election has been received with enthusiasm.

The following courses of lectures and classes in Natural Science will be given during the ensuing term:—In the Physical Department of the Museum Prof. B. Price lectures on Hydro-Mechanics. Prof. Clifton lectures on Ohm's Law; Mr. Selby lectures on Electrostatics; and Mr. Walker on Elementary Mechanics. The laboratory is open for practical instruction daily.

At the University observatory Prof. Pritchard gives three courses. Firstly, on the Application of the Theory of Probabilities to Astronomical Observation; secondly, on Spherical Astronomy; thirdly, on the Astronomy referred to by Polybius and other classical writers.

At Christchurch Mr. Baynes lectures on Conduction of Heat, and has a class for practical instruction in Electrical Measurements.

At Balliol Mr. Dixon lectures on Elementary Magnetism and Electricity.

In the Chemical Department Prof. Odling lectures on the Phenic Compounds; Dr. Watts gives a course on General Organic, and Mr. Fisher gives a course on General Inorganic Chemistry.

The laboratories are open daily for practical instruction.

At Christchurch Mr. Vernon Harcourt has a class for Quantitative Analysis.

In the Biological Departments Prof. Moseley lectures on the Comparative Anatomy of the Vertebrata; Mr. Spencer lectures on Elementary Animal Morphology.

Prof. Burdon-Sanderson lectures on the Physiology of Motion, Mr. Dixey lectures on Histology, and Mr. Thomson on Human Anatomy.

The Morphological and Physiological Laboratories are open daily for practical instruction.

Mr. Jackson lectures on Parthenogenesis, Mr. Thompson on Osteology, and Mr. Poulton on the Distribution of Animals.

Prof. Westwood lectures on the Orders of Winged Arthropoda. Prof. Prestwich lectures on Geology: Physical Questions, Volcanic Action, &c.

At the Botanic Garden Prof. Gilbert lectures on the Results of Field Experiments, and Prof. Balfour gives practical instruction in Vegetable Morphology and Physiology.

Dr. Tylor lectures at the Museum on Social and Religious Systems.

SCIENTIFIC SERIALS

THE only structural paper in the August and September numbers of the *Journal of Botany* is by Mr. Thomas Hick, on the caulotaxis of British Fumariaceæ. "Throughout the whole of this order," he states, "as represented in the British Isles, a remarkable unity of organisation prevails. In all cases, save that of *Corydalis solida*, the main stem is a sympodium or pseud-axis, composed of binodal caulomeres, except in the basal region, where they are of a higher order, and often in the apical region also, where they become uninodal." The paper is illustrated by woodcuts. In addition the student of descriptive botany will find two papers by Mr. J. G. Baker: a monograph of the genus *Gethyllis* (with two plates), and a synopsis of the Cape species of *Kniphofia*, in addition to a continuation of his synopsis of the genus *Selaginella*; and the numbers are not wanting in other papers of interest in descriptive, systematic, and geographical botany.

THE number for October is an unusually interesting one. Mr. H. N. Ridley gives descriptions and figures of two recent additions to the British flora, both belonging to the Cyperaceæ, and both from Scotland: *Schimus ferruginens*, L., and *Carex*

salina var. *kattagatensis*, Fries. The discovery of the former species is especially interesting. The genus *Schœnus* includes between 60 and 70 species, of which two are natives of the northern temperate zone; all the remainder of Australia and New Zealand. Both of the northern species are now known in Britain.—Mr. J. G. Baker completes his monograph of *Selaginella*, including no less than 312 species.—In addition to smaller original papers the reprints include Mr. Carruthers' report on additions to the botanical department of the British Museum during 1884, and Mr. George Murray's valuable notes on the inoculation of fishes with *Saprolegnia ferax*, extracted from the annual report of the Inspector of Fisheries.

Rivista Scientifico-Industriale, August–September.—Transport and distribution of electricity by means of induced transformers: Gaulard and Gibbs' secondary generators (three illustrations), by Emilio Piazzoli.—Remarks on the objections raised against some of the author's theories in physics and electricity, by Prof. Carlo Marangoni.—On the emissive power of the electric sparks, by Prof. Emilio Villari.—On the true nitrous ethers of the alcohols, by Prof. G. Bertonio.—On the crustaceans of the province of Rome, by A. Statuti.

Bulletins de la Société d'Anthropologie de Paris, fasc. 2, 1885.—Report of Commission of Financial Administration of Society, by M. Dally.—Presentation, by M. Mortillet, of the numbers of the journal *L'Homme* for 1885, in which the question of a Tertiary man is discussed. M. Mortillet took occasion to explain at length his reasons for believing that there existed in the Tertiary age animals of sufficient intelligence to fabricate tools for themselves, and to make use of fire. M. de Nadaillac is unable to accept the opinion of M. Mortillet, and considers it impossible to affirm with any certainty either that the flints in question belong to the period to which they are assigned, or that they have not been deposited in the strata where they are found by the agency of running water, or of some of the great telluric disturbances of which unmistakable traces are present in the beds at Thenay (Loir-et-Cher), which M. Mortillet characterises as Miocene.—M. D'Acly drew attention to the presence of numerous flints similar to those of Thenay which he and others had found among the Maçonnois deposits, and whose cracked and fractured surfaces differed in no way from the normal and natural character presented by the argillaceous flints ordinarily referred to the Tertiary ages.—On the historic significance of the Egyptian word "heter," horse, by M. Piétrement, who refutes the various arguments advanced in proof of the existence of the horse in Egypt before the invasion of the Hyksos, and endeavours to show that its introduction among the Egyptians was due to the so-called "Shepherd" invaders, who were of mixed Mongolian and Semitic origin.—Continuation of Dr. Fauvillé's treatise on "The Will," considered from an anthropological point of view.—On Beauty, by M. Delaunay.—Report of French missionaries' account of the Fuegians in 1884, communicated by Dr. Hyades.—On the Redskins in the Jardin d'Acclimation, Paris, by Dr. Manouvrier, with craniometric and other measurements.—On the characteristics of a native of New Caledonia in the service of M. Moucelon, who explained some of the peculiarities of language and modes of counting prevalent among the people, and described their leading physical and mental characteristics. He remarked that the half-castes, born of white fathers and native mothers, are generally strong and prolific, while they show a tendency to revert to the character of the white type. Cannibalism, however, is not yet wholly eradicated amongst them.—On an anomaly of the humerus, by M. Chudzinski. This consists in a bony excrescence immediately below the deltoid, to which a bundle of muscular fibre is attached. The case, which is believed to be unique of its kind, appears to be one of atavism.—On an anomalous muscle in the hand, by M. Baudoin. Here the presence of a well-developed muscular fascia in the right hand of a man aged fifty, which simulated a part of the muscular development of the foot, may be similarly characterised as an evidence of atavism.—On a case of congenital hypertrophy of the parietals, by M. Topinard.—On supernumerary breasts, by Dr. Blanchard.—The etiology of elephantiasis, by M. Foley.—On the influences of heredity in deaf-mutes, by M. Drouault.—A case of a muscular anomaly of the fore-arm, by M. Chudzinski.—On sterility among the descendants of a white and a mulatto, by the Marquis de Saporta.—On certain crania from Lagoa-Santa, collected by Dr. Lund, and now at Copenhagen, with comparative analysis of a similar number of Californian crania, by M. Ten Kate.

Revue d'Anthropologie, tome 8ème, 3ème fascic., Paris.—On the weight of the cerebral lobes, according to Broca's register, by Dr. Philippe Rey. The data on which Dr. Rey's tables are based were obtained from 347 subjects, of which 231 were men and 116 women. On examining the means the figures yielded for the several lobes, without reference to sex or stature, it is found that while the total weight of the right hemisphere predominates over that of the left, the left frontal is heavier than the right, this difference amounting to 1.6 gr. on the total of 231 cases. This excess of weight of the left frontal had been noted by Broca, who believed it to be due to the influence of the third convolution. The right occipital is, on the other hand, 0.5 heavier than the left. The difference of weight for the entire anterior region between men and women amounts to 69.65 gr., which constitutes a large proportion of the general cerebral excess of weight in the male sex. The weight of both hemispheres is at its maximum between the ages of 25 and 35 years, although this period is generally reached earlier in women than in men, owing apparently to the more rapid evolution in the former of some one of the lobes. Loss of weight is most marked between 55 and 75 years, when it may amount to 62 grammes.—Anthropometric instructions for travellers, by Dr. Paul Topinard. The writer, after considering the true significance of the loosely-applied term "race," and pointing out the importance of accepting one uniform and fixed system of anthropometric measurement, proceeds to describe the nature and mode of application of the various instruments indispensable for the attainment of trustworthy and available results. These admirable instructions are rendered specially serviceable through the addition of numerous comparative tables, including a useful schematic representation of the means of the measurements obtained for the European male adult when taken in proportion with the mean stature, which is estimated at 100. This code of instructions ought to be in the hands of all travellers able and willing to contribute towards the general mass of our anthropological knowledge, and its translation into our own and other tongues would be a gain to science. Numerous diagrams illustrate the way in which the instruments should be used, and the positions of the body best adapted for the purpose of each special observation.—On atavism in man, by Dr. R. Blanchard. The author considers that as the greater number of the teratological conditions observable in man may be explained by the persistence of some embryonic condition which is normally of a transitory character, we must look to atavism for an explanation of such anomalies. Beginning with the cranium, Dr. Blanchard shows that microcephalus and analogous cranial deformities must be characterised as ancestral reversions, the mean cranial capacity of civilised races having demonstratively augmented within the last few centuries, while we find on passing down to the lower animals that the cranial capacity of the gorilla, or chimpanzee, which is more than five times less than the mean given for Parisians of the present day, is only slightly in excess of that observed in microcephalic subjects. After passing in review the various anomalies to be met with in the human anatomical system, and pointing out their analogues in the normal anatomy of the lower animals, he proceeds to the muscular system, in which the writer shows that supernumerary muscles occur three or four times in every hundred cases. This branch of the subject is, however, only briefly touched on in consideration of the exhaustive work of M. Testut bearing on the question, and to this the student is referred. Finally, after considering the comparative history of the development of the human foetus, and of the embryo of some of the lower animals, the author concludes by drawing attention to the importance of studying the normal anatomy of the lower animals, more especially of reptiles, marsupials, and lemuriens, if we desire to elucidate the origin and development of the various anomalies presented by the human organism.—On Broca's method of estimating the capacity of the cranium, by M. P. Topinard. The writer gives a categorical description of the instruments to be used and the steps to be followed in the process, together with tables showing the various results that had been yielded by Broca, Ranke, and others when lead, glass beads, or millet seed had been used as the agent for gauging the capacity.

SOCIETIES AND ACADEMIES

SYDNEY

Linnean Society of New South Wales, June 24.—The following papers were read:—Rough notes on the natural