

THE Committee of the Liverpool Naturalists' Field Club begin their report for the past year by observing that for twenty-five years past statistics have been exhausted and lectures also, so far as their usefulness is concerned. "Your Committee, therefore, on this occasion, will spare you figures and forbear admonition, contenting themselves with a bare record of the year's proceedings, and leaving members to draw their own conclusions as to what has been and what might have been done." With such a lugubrious commencement, one might expect that the affairs of the Club were in a "parlous" state, but this is far from being the case. One complaint is that the attendance at the excursions was not satisfactory, and therefore either the number will have to be cut down, or the distances travelled be less. The average attendance was about 60,—which many similar societies would consider an uncommonly good one, especially when it is remembered that some of the journeys were rather long. The Treasurer has the handsome balance of nearly 90*l.* in his hands; the President, the Rev. H. Higgins, delivered an excellent address on "Calcareous Sea-Weeds: an Essay in Comparative Phytology;" the lists of interesting plants noticed on some of the excursions show that the members who did go kept their eyes open; the competition for the prizes appears to have been pretty keen; and there is a tolerably long list of members,—so that, on the whole, notwithstanding the low spirits of the Committee, the case of the Society is far from hopeless. But we trust the members will attend in larger numbers when the Society next goes to the Cefn Caves, Caergwrle, or Humphry Head, notwithstanding the long distances. They will thereby not only add to their own enjoyment and instruction, but will bring relief to the minds of their depressed and anxious Committee.

THE greatest balloon in the world has been lately constructed at San Francisco by a Mr. van Tassel. It will hold 150,000 cubic feet of gas, and has been made for the purpose of traversing the American Continent from ocean to ocean. From the bottom of the car to the top of the inflated balloon will be 119 feet, and when filled the diameter will be 68 feet. The car is 21 feet in circumference and has sides 34 inches high; 15 persons can be seated in it.

FOR several years attempts have been made in Sweden to extract tannic matter from the Swedish species of pine, similar in quality, &c., to that of the American hemlock (*Pinus canadensis*), but without satisfactory results, chiefly on account of the manner in which this is done not being known. Now, however, the question has been solved by a chemist, Dr. Laudin, who, having visited North America for this purpose, has, on his return to Sweden, succeeded in producing tannic matter by a chemical process, which has been found equal to the American, though the colour of the Swedish leather produced therewith is more yellow in colour than the American. It is hoped that this discovery will have the effect of causing a great tanning industry to spring up in Sweden.

THE additions to the Zoological Society's Gardens during the past week include a Guinea Baboon (*Cynocephalus sphinx*), from West Africa, presented by Mr. C. Palgrave, F.Z.S.; an Alpine Marmot (*Arctomys marmotta*), two Tawny Owls (*Syrnium aluco*), European, presented by Mr. Lionel H. Hanbury, F.Z.S.; a Bank Vole (*Arvicola pratensis*), British, presented by Mr. G. T. Rope; two Derbian Screamers (*Chauna derbiana*) from the North Coast of Columbia, presented by Capt. H. Rigaud; a Peregrine Falcon (*Falco peregrinus*), European, presented by Mr. J. Howard; a Golden-crowned Conure (*Conurus aureus*) from South-East Brazil, deposited; three Long-fronted Gerbilles (*Gerbillus longifrons*), eight Elliot's Pheasants (*Phasianus ellioti*), bred in the Gardens.

ASTRONOMICAL PHENOMENA FOR THE WEEK 1886 AUGUST 22-28

(FOR the reckoning of time the civil day, commencing at Greenwich mean midnight, counting the hours on to 24, is here employed.)

At Greenwich on August 22

Sun rises, 4h. 58m.; souths, 12h. 2m. 42'2s.; sets, 19h. 7m.; decl. on meridian, 11° 44' N.; Sidereal Time at Sunset, 17h. 11m.

Moon (at Last Quarter) rises, 22h. 6m.*; souths, 5h. 21m.; sets, 12h. 46m.; decl. on meridian, 13° 18' N.

| Planet | Rises | | Souths | | Sets | | Decl. on meridian |
|---------|-------|----|--------|----|------|----|-------------------|
| | h. | m. | h. | m. | h. | m. | |
| Mercury | 4 | 13 | 11 | 19 | 18 | 25 | 12° 1' N. |
| Venus | 2 | 28 | 10 | 19 | 18 | 10 | 19° 43' N. |
| Mars | 10 | 47 | 15 | 49 | 20 | 51 | 12° 3' S. |
| Jupiter | 8 | 25 | 14 | 22 | 20 | 19 | 1° 27' S. |
| Saturn | 1 | 11 | 9 | 16 | 17 | 21 | 21° 53' N. |

* Indicates that the rising is that of the preceding evening.

Occlusions of Stars by the Moon (visible at Greenwich)

| Aug. | Star | Mag. | Disap. | | Reap. | Corresponding angles from vertex to right for inverted image | |
|------|----------|------|--|----|---------------|--|-----------|
| | | | h. | m. | | | |
| 23 | 48 Tauri | 6 | 1 | 23 | 1 | 54 | 126° 186° |
| 23 | γ Tauri | 4 | 3 | 22 | 4 | 13 | 118 215 |
| 23 | 58 Tauri | 6 | 4 | 1 | near approach | 348 | — |
| Aug. | h. | | | | | | |
| 22 | 12 | | Jupiter at greatest distance from the Sun. | | | | |
| 25 | 11 | | Mercury stationary. | | | | |
| 27 | 20 | | Venus in conjunction with and 3° 0' north of the Moon. | | | | |

Variable Stars

| Star | R.A. | | Decl. | Aug. | h. | m. |
|------------|------|------|------------|--------------------------|----|------|
| | h. | m. | | | | |
| U Cephei | 0 | 52'2 | 81° 16' N. | 22 | 21 | 8 m |
| Algol | 3 | 0'8 | 40° 31' N. | 27 | 20 | 47 m |
| V Tauri | 4 | 45'4 | 17° 21' N. | 27 | 21 | 7 m |
| W Virginis | 13 | 20'2 | 2° 47' S. | 27 | 0 | 0 m |
| U Coronæ | 15 | 13'6 | 32° 4' N. | 22 | 0 | 4 m |
| U Herculis | 16 | 20'8 | 19° 9' N. | 28 | 21 | 46 m |
| R Draconis | 16 | 32'4 | 67° 3' N. | 24 | | M |
| U Ophiuchi | 17 | 10'8 | 1° 20' N. | 22, 23 | 50 | m |
| | | | | and at intervals of 20 8 | | |
| β Lyrae | 18 | 45'9 | 33° 14' N. | Aug. 24, | 2 | 0 M |
| R Lyrae | 18 | 51'9 | 43° 48' N. | 28, | | M |
| δ Cephei | 22 | 24'9 | 57° 50' N. | 27, | 2 | 0 M |

M signifies maximum; m minimum.

Meteor Showers

Meteors have been observed at this time of the year from near α Ceti, R.A. 53°, Decl. 0°; near Castor, R.A. 110°, Decl. 32° N.; near ζ Draconis, R.A. 260°, Decl. 64° N.; and from near ο Draconis, R.A. 282°, Decl. 57° N.

GEOGRAPHICAL NOTES

WE have before us Nos. 5, 6, 7, and 8 of *Petermann's Mittheilungen* for the present year, and Supplement No. 82. The last is a detailed account, by the late Herr Robert Schlagintweit, of the Pacific railways of North America. No. 5 contains a paper on the Xingu Expedition (concluded in No. 6), by Herr Claus, detailing the cartographical surveys and the physical and astronomical measurements made in the course of the explorations. The paper may be regarded as a supplement to the work of Dr. von den Steinen, "Durch Zentralbrasilien," lately published by Brockhaus. Dr. Ooppel, in the same number, contributes a statistical paper showing the steady and enormous increase in the population of Europe. No. 7 contains two very interesting and original geographical papers—one by Herr Engelhard on the Island of Saleijer, a Dutch settlement in the Malay Archipelago, situated immediately south of Celebes. The island is described in an exhaustive way, its climate, people, situation, &c., being discussed in some detail. In the second

Dr. Posewitz refers to recent formations in the Island of Banka, off the east coast of Sumatra. This is an instance of an island, undisturbed by volcanic activity, in which erosion and denudation are constantly at work forming the coast. Herr Strass has a paper in the same number dealing with the statistics of emigration from Germany between 1871 and 1884. No. 8, which is the last published, contains a report by Herr Pohle on the expedition sent in 1884 to that part of the coast of South-Western Africa between the Orange River and Walfisch Bay, which came at that time into the possession of Herr Lüderitz. The expedition was intended mainly to ascertain what useful minerals existed in the new territory, and also to study its fauna, flora, and soil. The report is one of considerable length, and deals with all these points. The paper on the forests of North America is based on Prof. Sargent's report, contained in the ninth volume of the United States Census Report for 1884.

THE *Proceedings* of the Royal Geographical Society for August contain several papers of interest. In "Recent Portuguese Explorations in the Zambezi Region" two journeys are described—one between the Zambezi and Pungué, the other between Tete on the Zambezi and Makanga. Mr. J. W. Wells, in a short paper, contributes some information on the delta of the Tocantins, in Brazil, and there is also a summary (the first, we believe, that has appeared in English) of the Von den Steinen exploration of the Xingu. The results of this expedition confirm the conclusion with regard to the geology of the interior of Brazil arrived at by the late Prof. Hartt, and by Mr. Wells, that south of the Amazon valley the whole interior of Brazil was at one time an immense plateau, and that the changes which it has undergone are due to water denudation. But the most important communication in this month's *Proceedings* is the report of the measures adopted by the Council of the Society for the improvement of geographical education. These are of two classes, to be carried out with the co-operation or assistance of the two Universities and the Education Office respectively. Under the first head the Council offer to appoint and pay a lecturer or reader in geography to deliver courses of lectures at both Universities, arranged so as to suit students in the Honour Schools; or, in the alternative, to join with both Universities in appointing and paying a reader in geography. In addition, the Council offers to contribute the funds for an exhibition. In connection with the Education Office, the Council offers various prizes in money and books to pupil teachers. Further, a donation of 30*l.* for the present year is made in aid of the geographical lectures in the University extension courses; copies of the *Proceedings* are to be sent to various public school libraries, and travellers and geographers are to be put in communication with the head masters of public schools. The proposal for a readership in geography at the Universities is obviously the most important of these, and the result of the communications now passing between the President and the Vice-Chancellors will be awaited with much interest.

THE last number (Bd. xxix. No. 4) of the *Mittheilungen* of the Geographical Society of Vienna has for its first article a discussion, by Prof. Penck, of the proportion of the areas of land and water on the surface of the globe. The writer gives at the outset an interesting sketch of the history of the subject, and of the various theories which have prevailed from time to time on the subject, beginning with Columbus, who thought the proportion of land to water was as 6 to 1. Starting from the generally accepted proportion of Wagner as that of 1 to 2.76, Prof. Penck advances various reasons for believing this to be unreliable, especially our ignorance of the regions around the North and South Poles. The blanks on our maps are still too numerous and important to permit of any reasonable approach to accuracy being made. Dr. Paulitschke writes on the hydrography of the Upper Webi, one of the two hydrographic problems of the Somáli peninsula, the other being the Juba, which Capt. Cecchi calls *complicata e misteriosa*. The writer appears to throw much light on the first from his own explorations. He thinks we must seek the source of the Webi in one of the lakes of Gurage. Prof. Blumentritt criticises that part of Dr. Montano's recent work on the Philippines which deals with the ethnology of Mindanao. Accepting for his present purpose (though he refuses to do so as a general proposition) Montano's division of the inhabitants into three main heads—Negritos, Indonesians, and Malays—he advances various reasons for holding that that writer does not arrange the tribes of Mindanao

accurately under these heads. These are based chiefly on the languages; but if it does nothing else, the paper demonstrates the wide knowledge which Prof. Blumentritt possesses of these regions. Indeed, for years past he has made every department of research connected with the Philippines his own, until now he is without a living rival.

A REPORT has been received at the Hydrographic Department of the Admiralty from Commander Moore, of the surveying-vessel *Rambler*, relative to the existence of an island lying between L'Echiquier group and Durour Island, recently discovered by Mr. Allison, commanding the British steamer *Fei Lung*, when on the passage from Sydney to Shanghai. This island is covered with trees, and appeared to be 2 or 3 miles long in a north-west and south-east direction, and 100 to 150 feet in height. Both Durour Island and this were visible at the same time from the *Fei Lung* when passing between them. The approximate position as reported is lat. 1° 25' S., long. 143° 26' E. The Hydrographer to the Admiralty says that, unless the positions of the islands already on the chart are more inaccurate than they are believed to be, there is little doubt that the island now reported is a new discovery.

THE August number of the *Scottish Geographical Magazine* contains a translation of Col. Fontana's lecture on the Patagonian Andes to the Argentine Geographical Institute, describing his recent journey from Chubut to the slopes of the Andes. The latter are mentioned with great enthusiasm: they teem with fertility, and Nature is as exuberant there as farther north in the Gran Chaco. Finally, the sub-Andean portions of Patagonia are described as the country of the future, being another added to the long list of countries of the future.

IN tome x. fascicule 5, of the *Bulletin* of the Geographical Society of Antwerp, M. van den Gheyn discusses the question whether there is unity, duality, or plurality of races in Australia, and comes to a conclusion in favour of unity. He thinks that the differences found amongst them are to be explained by mixture with the Indonesians on the one side and the Polynesians on the other.

THE French Minister of Public Instruction has intrusted M. Alfred Marche with a mission to the Marianne Islands to study the geography, natural history, anthropology, and ethnography of the Archipelago.

THE AUGUST PERSEIDS

THE shower of Perseids has been a fairly conspicuous one this year notwithstanding the somewhat unfavourable circumstances attending the display. On the nights of August 9, 10, and 11 the nearly-full moon was visible during the greater part of the time available for observation, and robbed the phenomenon of its chief prominence during the evening hours. Those, however, who continued to watch the heavens until after the moon set on the early morning of the 11th must have been rewarded by a tolerably rich exhibition of meteors. The number observable by one person fell little short of 100 per hour, and this rate compared with similar observations in past years proves the late display to have fully maintained its decided character. Numerically this shower of Perseids cannot be placed in the same category as the brilliant meteoric storms of November 13, 1866, and November 27, 1872 and 1885, but it must be remembered that the August shower is one which returns *annually*, and apparently without much variation in its leading features. Its frequent and regular appearances compensate for whatever it lacks in other respects, and it yields many fine meteors of the same type as the Leonids, flashing out with remarkable swiftness, and projecting lines of phosphorescence upon the background of the sky.

The importance of watching every recurrence of the leading meteor showers is acknowledged on all hands, for if we would successfully trace out the modern history and developments of these wonderful systems we must first carefully secure the materials to form the basis of such investigations.

With reference to the shower of Perseids this year, the observations were much interrupted by cloudy weather. Preparation had been made here to commence a look-out during the last week in July for *avant-couriers* of the stream, but the nights were persistently overcast, and it was not until August 2 that a good view was obtained. Clouds were, it is true, somewhat prevalent before midnight, but afterwards the firmament became very clear, and it remained uniformly serene until daybreak.