reports of the sections, the only two papers are concerned with literary subjects. The report of the council contains an announcement that the society has decided to publish a book on the Trias by Mr. T. O. Bosworth, a member of the geological section of the society, which should be of great assistance to students of the geology of the county.

A WELL-ARRANGED and excellently illustrated catalogue of their electrical specialities has been received from Messrs. F. Darton and Co., 142 St. John Street, Clerkenwell, E.C. Special attention may be directed to the large number of designs of small electric motors and dynamos this firm is able to supply. In addition, the catalogue gives particulars of a great variety of electrical appliances and accessories.

OUR ASTRONOMICAL COLUMN.

THE IDENTITY OF SCHAUMASSE'S AND TUTTLE'S COMETS (1912*b*).—Using new observations made by M. Schaumasse, and extending over the period October 18 to November 1, MM. Fayet and Schaumasse have derived a set of elements for comet 1912*b* which, when compared with the elements for Tuttle's comet, taking into account the approximate perturbations of Jupiter during the period 1900–01, show that the comets are undoubtedly identical. The comet is now too low to be observed in these latitudes, its positions for November 21 and 23 being $\alpha = 11$h. 43m., $\delta = -37^\circ\ 14'7''$, and $\alpha = 11$h. 50 m., $\delta = -39^\circ\ 6'8''$, respectively. (*Astronomische Nachrichten*, No. 4612.)

BORRELLY'S COMET 1912*c*.—A number of observations of comet 1912*c* are published in No. 4612 of the *Astronomische Nachrichten*, where elements and an ephemeris, extending to December 9, are also given. An observation made at the Bergedorf Observatory on November 3 gave the magnitude as 7·5, and showed that the comet was a round nebulous body with a nucleus but no tail; other observations made between November 3 and 6 gave the magnitude as 9·5, while the calculated magnitude for November 7 was 8·3. Dr. Kobold's ephemeris gives the following positions:—

Ephemeris 12h. Berlin M.T.

1912	α h. m.	δ ° ′	1912	α h. m.	δ ° ′
Nov. 21...19	30·2...	+11 50·1	Nov. 29...19	53·1...	+4 40·2
23...19	36·5...	+ 9 49·9	Dec. 1...19	57·9...	+3 11·6
25...19	42·4...	+ 7 58·7	3...20	2·5...	+1 49·4
27...19	47·9...	+ 6 15·7	5...20	6·9...	+0 33·1

It will be seen that between November 22 and 27 the comet apparently travels along a line nearly parallel to, and about 3m. west of, that joining γ, α, and β Aquilæ; its calculated magnitude is now 9·0, and sinks to 9·5 by December 1.

OBSERVATIONS OF GALE'S COMET 1912*a*.—A number of observations, and some excellent photographs, taken by M. Quénisset at Juvisy, of comet 1912*a* are published in the November number of *L'Astronomie*. On October 16 the principal tail (p.a. = 65°) extended beyond the edge of the plate, and was at least 6° in length. The secondary tail (p.a. = 138°) was strongly curved towards the south, having the appearance of a cock's spur, and was 1° long; the successive photographs, October 6 to 16, showed that the angle between these two tails was increasing by nearly 1° per day. A third tail, near to and north of the principal, was photographed on October 14, and showed a marked dislocation at a distance of 33′ from the head. Several good spectra were secured with the Baume-Pluvinel prismatic camera, and will be reduced at M. de la Baume-Pluvinel's laboratory. They show a strong continuous spectrum, in which the usual cometary bands are shown as well-marked condensations, and the spectrum somewhat resembles that of Brooks's comet (1911*c*) at the end of October, 1911.

On November 1 the comet was still just visible to the naked eye, and photographs showed the principal tail to be 6° long with extremely undulating borders; the angle (86°) between the two tails had still further increased to the extent of 13° since October 16. Other observations of this comet are published in No. 4612 of the *Astronomische Nachrichten*.

NEBULÆ AND CLUSTERS PHOTOGRAPHED WITH THE CROSSLEY REFLECTOR.—Lick Observatory Bulletin No. 219 contains descriptions of 132 nebulæ and star clusters that have been photographed with the Crossley reflector. The descriptions in many cases are extremely interesting, and are written by Dr. H. D. Curtis, who states that the modern photographic studies of nebular structure show that the visual observations made in the past are almost valueless, in comparison, even when made with powerful instruments by skilful observers. For example, in the case of N.G.C. 83, the catalogue gives thirteen nebulæ in this region, while in reality there are at least fifty small nebulæ and nebulous stars.

One or two examples must serve to illustrate the importance of the present publication. N.G.C. 1300 shows a two-branched spiral, 6′ long, where the whorls start from the extremities of straight extensions on each side of the nucleus. Nova Aurigæ on November 16, 1901, Nova Geminorum on April 23, 1903, and Nova Lacertæ on September 13, 1912, showed no traces of nebulosity, although long exposures were given in each case. With two hours' exposure the stars of Præsepe show no signs of being nebulous. N.G.C. 5921 is a very interesting spiral, with a strong oval nucleus 1·8′ long, crossed by a straight lane of matter. N.G.C. 6960 is a wonderful object, more than 1° in length, made up of bright filaments like the "Network" nebula. N.G.C. 6914 is a very irregular diffuse nebulosity about 4′ across. The neighbouring stars, BD. +41°3731 and 3737, are surrounded by bright nebulosity not noted in the N.G.C., although that around the second star is brighter than N.G.C. 6914.

CAPTAIN AMUNDSEN'S JOURNEY TO THE SOUTH POLE.

CAPTAIN ROALD AMUNDSEN communicated the results of his journey to the south pole at a meeting of the Royal Geographical Society on November 15, in the Queen's Hall. His expedition "landed" on the ice-barrier in the Bay of Whales, which, he observes, was charted by Ross in 1841; it is therefore to be considered, not as a casual formation of the ice, but as a permanent feature, owing its existence to shallow banks or to land beneath the ice but above sea-level. This view was confirmed by the discovery, on landing, of a surface broken by steep hills and ridges, instead of one approximately level and unbroken. The work of the expedition in laying depôts for the march to the south pole was completed in April, 1911, and it may be said at once that it was thoroughly successful, for when we follow Captain Amundsen on the journey itself it would appear (however thickly he glosses its dangers) to have been carried through with less difficulty than any of a similar character preceding it, so far as concerned food supply, the health of the party, and the condition of the sledge-dogs; there is here no tale of suffering from hunger or exhaustion, and on the return march from 86° S., the party had not even to go on fixed

rations. One remarks, among other wise provisions, the practice of setting up lines of signs across the line of march for some distance on either side of some of the depôts, so that if, on the return, a deviation had been made, the depôts could still have been found. During the depôt-laying journeys a minimum temperature of −50° F. was observed.

The expedition was extraordinarily favoured by the weather conditions. During the year of the sojourn in the south only two moderate storms were encountered; otherwise the wind was mostly light and easterly. During five months temperatures below −56° F. were observed, and on August 13 −74·2° F. was recorded. These low temperatures delayed the start for the pole, and even occasioned a false start and an enforced return early in September. It was not until October 20 that settled weather justified the journey being finally undertaken.

In 83° S. high mountains—10,000 to 15,000 ft.—were observed to the south-west (the travellers' course lying due south). These probably belong to the South Victoria land range, and were found to be met, about 86° S., 163° W., by a much lower range trending east and north-east. The junction of the ice-barrier and the land was reached on November 17 in 85° S., 165° W. No very grave difficulties were encountered in ascending to the polar plateau between the great peaks of the above range. The greatest height, attained on December 6, was 10,750 ft., from which the plateau was found to continue flat to 88° 25′ S., and thence to slope slightly down. Progress was easy, and even leisurely. Beautiful weather was experienced; the region seemed to be one of constant calm, and even the absolutely plain surface of snow strengthened this impression. At the latitude last mentioned the last good azimuth observation was obtained. On December 14 and 15 close observations gave the latitude as 89° 55′. On December 16 the camp was removed the remaining distance to the pole, and observations were taken hourly by four men through twenty-four hours. The plateau was given the name of King Haakon VII.

So far as concerns the Antarctic land-mass, the main geographical importance of the expedition seems to lie in the observations of the great mountain-range mentioned above, which, with clear weather on the return journey, was observed from 88° S., where it was lost on the horizon, to the junction-point in 86° S., and has been given the name of Queen Maud. But three of the party, including Lieut. Prestrud, who did not accompany the southward expedition, carried out topographical work in the vicinity of the Bay of Whales, and east of it as far as Scott's King Edward Land, while Captain Nilsen, in the course of cruising which extended from Buenos Aires on one hand to Africa on the other, made oceanographical observations at sixty stations, and by navigating the *Fram* to a point further south than any known vessel had reached before, set the crown on the fame of that ship in polar exploration.

ANTHROPOLOGY AT THE BRITISH ASSOCIATION.

NOTWITHSTANDING the unfortunate overlapping in the dates of the meetings of the Association and the International Congress of Prehistoric Archæology at Geneva, which seemed likely at one time to affect seriously the attendance of anthropologists at Dundee, the proceedings of Section H (Anthropology), which met this year under the presidency of Prof. G. Elliot Smith, F.R.S., were, if anything, of even greater interest than usual, and included several communications of considerable importance. The attendances throughout were good, and if, in the first half of the meeting, the discussions were a little below the customary standard, this was due to lack of time rather than to lack of interest, and was more than counterbalanced in the second part of the meeting, when the problems of Mediterranean archæology and the President's views on the origin and distribution of megalithic monuments gave rise to animated interchanges of opinion.

In any detailed review of the papers presented to the section it would be necessary, on more grounds than one, to give a prominent place to the two communications by Prof. Anthony, of Paris, who attended the meeting as the distinguished guest of the section. These dealt respectively with the suprasylvian operculum in primates with especial reference to man, and the brain of La Quina man, one of the earliest and the finest of the brains of Palæolithic man yet known, and now described for the first time. With these two papers must be included Prof. Keith's exhibit of the brain of Gibraltar man, the three forming a group pendant to the President's address, and affording further evidence in support of his conclusions as to the evolution of the human brain, and in particular of the association areas.

Other communications also dealt with early types of man. Dr. Duckworth's description of the fragment of a human jaw of Palæolithic age found in Kent's Cavern, Torquay, in 1867, but previously undescribed, in the absence of the author was appropriately presented to the section by Prof. Boyd Dawkins, who was a member of the committee appointed to explore Kent's Cavern which recorded the discovery in a report presented to the Association at the Dundee meeting in 1867. On anatomical grounds, Dr. Duckworth considers the jaw to belong to the Neanderthal type. Dr. Ewart gave an account of an important find of human remains in a raised beach at Gullane, the skeletons being described by Prof. Keith. When the results of this discovery are published in full, they will be found to have an important bearing upon the prehistory of the Scottish area. In the discussion which followed the reading of the paper, Prof. Bryce stated that, in his opinion, the skeletons found in association with the very early types of Neolithic implements represented the earliest type of man yet discovered in Scotland, antedating the men whose remains have been found in the cairns of Tiree.

Other papers dealing with the physical side of the study of man were Dr. Duckworth's contributions to Sudanese anthropometry based upon measurements made in the south-eastern Sudan by Dr. Atkey; Dr. Wood Jones's papers on the lesions caused by judicial hanging, in which injuries received by criminals executed in Egypt in Roman times were contrasted with those received in modern instances, and on the ancient and modern Nubas, in which he suggested an origin for the foreign immigrants into Nubia in the early Christian era whose remains have been discovered by the Archæological Survey of Nubia; Mr. D. E. Derry's description of a macrocephalous skull from Egypt; and a highly interesting paper by Mr. L. Taylor on the Bontoc Igorots now exhibited at Earl's Court, based upon measurements which suggest that these people may not be of such unmixed Indonesian stock as has usually been supposed.

Two organised discussions were largely attended and aroused much interest. The discussion on the ethnological aspects of Scottish folklore was opened by Mr. Crooke with a paper on customs connected with the Scottish calendar, followed by Mr. Hartland with a paper on folklore as an element in history. Canon J A. McCulloch, after a reference to features in