gold medals for geographical work have been awarded this year. The first was granted to M. Alphonse Milne-Edwards for his submarine investigations; the second to M. Thouar for his journey to the Grand Chaco in search of the survivors of the Crevaux Mission; and the third to M. Charnay for his explorations and archæological discoveries in Yucatan. The last paper in the number is composed of a series of extracts from the letters of Abbé Desgodins on the boundary region between Thibet, Burmah, Assam, and China.

THE Danish gunboat *Fylla* returned from the Arctic regions to Orkney last week, having been sent out by the Danish Government on an exploring and surveying expedition. She has had a most satisfactory voyage, occupying nearly four months, and extending along the whole coast of Greenland to 70° N. lat. Her work included a scientific exploration of the inland glaciers in that country, and dredging, trawling, and meteorological observations there and in Davis Straits, Baffin's Bay, and Disco Bay. Many hitherto unknown specimens were brought up by the dredging, the greatest depth being 900 fathoms. Valuable collections have been brought home by the ship in all the scientific sections. The members of the expedition speak in high terms of their collections, which include a meteoric stone estimated to weigh about 2000 lb.

LIEUT. GREELY, in connection with his paper at the British Association, took occasion to say that the fact that had surprised him was the discovery that when the tide was flowing from the North Pole it was found by his observations that the water was warmer than when flowing in the opposite direction. He took trouble to have an elaborate set of observations showing this wonderful phenomenon prepared, which would be eventually published. To him the peculiarities were unexplainable.

A CORRESPONDENT of the *Standard* writes:—"On July 26 the lighthouse-keeper at Cape Reykjanes, the south-west point of Iceland, on scanning the sea with his glass, saw what he at first took for a very large ship, but which a closer inspection showed to be a new island. It had the form of a rounded flattened cone, was of considerable size, and lay, according to his estimate, about fourteen miles north-west of the volcanic island Eldey, or the Mealsack (Melsekken), which lies eight miles off Reykjanes to the south-west. Several earthquake shocks had been felt during the preceding days, and they have since occurred at intervals, but no other volcanic manifestations heralded or attended the rise of the island from the deep. Owing to the danger of approaching the island in an open boat, no one has as yet attempted to land on it. The light-keeper has observed it from day to day when not prevented by foggy weather, and reports no change in its appearance save that a large part of one side of the cone appears to have slipped or fallen down into the sea. From time to time since the colonisation of Iceland, volcanic islands have sprung up out of the waves in the neighbourhood of Reykjanes, only to disappear again after a brief period. In the end of last century an island arose at or near the same place as the present one occupies, and was taken possession of by the Danes, under the name of Nyöe (New Island), but as it consisted only of loose volcanic ash and pumice the action of the waves speedily broke it down, and after little more than a month it disappeared as mysteriously as it had arisen."

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VARIABLE STARS.—Several papers upon these interesting objects have lately appeared in the publications of scientific bodies:—

(1) "A Catalogue of known Variable Stars, with Notes," by Mr. J. E. Gore, in the *Proceedings* of the Royal Irish Academy, vol. iv. Mr. Gore has brought together particulars relating to about 190 stars, including their positions for 1880, the limits of magnitude, mean periods, and epochs of maximum and minimum, for the most part taken from Schönfeld's Catalogue of 1875; indeed, this Catalogue is the source of much of the information contained in Mr. Gore's paper. His summary will be very useful to those who are entering upon the study of the variable stars; some corrections are needed, but they are not of very much importance. Observations by himself of several of the stars are added in the notes following the Catalogue, and others by various observers made since Schönfeld's last Catalogue was published. The positions as printed have a lame appearance, from being given to seconds of time in right ascension and to seconds in declination: if the right ascension of an object is assigned to the nearest second of time, the more legitimate expression of the declination is to the nearest tenth of a minute. The reference to the fancied identity of "the Biblical star of the Magi" with Tycho's celebrated star of 1572 seems out of place.

(2) "Recent Observations of Variable Stars," presented by Prof. Pickering to the American Academy of Arts and Sciences. The author had previously issued a pamphlet and a circular from the Harvard College Observatory, in the hope of promoting a more systematic observation of the variable stars, and in response has received communications from a number of observers who have expressed their willingness to join in his scheme of observations. In the paper in question Prof. Pickering has brought together the results of observations of variable stars for 1883, so far as he had them at hand, to show the nature of the information which he desires to obtain in order to be in a position to issue a further circular early in 1885. It should be mentioned that Mr. S. C. Chandler is preparing a bibliography of the variables, which will eventually furnish the means of forming a catalogue of all the stars now known to be in a state of change, to a much more reliable extent than hitherto; such a work cannot fail to be of vast assistance to any one desirous of looking up the history of particular stars, which is now an operation attended with much trouble and uncertainty. With regard to his next circular, Prof. Pickering hopes that observers of variable stars, whether professional or amateur, will be generally disposed to furnish information on the following subjects—(*a*) the method of observation, if photometric, some account of the instrument, and the manner of using it; if not photometric, whether the observations are made by Argelander's method, or by direct estimation of magnitude; (*b*) stars observed in 1884, with the number of nights on which each was observed; (*c*) the time and form of publication contemplated by the observer; (*d*) plans for 1885, naming the stars selected and the number of nights on which it is proposed to observe them. This information it is desired to receive at Harvard College Observatory by February 1, 1885, as well as any material which may be useful towards making the table for 1883 more complete. Prof. Pickering's first table gives the positions of the variable stars for 1875, with the limits of magnitude and the periods; also the discoverer and year of discovery, with references to observations made in the years 1880–83. In a second table is a list of suspected variables extracted from Mr. Chandler's unpublished catalogue.

3. The Rev. T. E. Espin publishes in the *Transactions* of the Liverpool Astronomical Society "A Catalogue of the Magnitudes of 500 Stars in Auriga, Gemini, and Leo Minor," which have been determined from photographs taken by means of the equatorial stellar camera at the Society's Observatory. The apparatus was placed at the disposal of the Society by Mr. Howard Grubb. The magnitudes determined from the photographs are entirely based on those of Argelander. It is stated that the deduced magnitudes of 341 stars out of the 500 agree within 0·4 m. with those of Argelander, while in twenty-five cases the differences exceed a whole magnitude. The nebulæ M 35 and 51 have been photographed after exposures of 2h. 55m. and 2h. 0m. respectively, as also the cluster Præsepe, of which the photographs show the smallest of Argelander's stars, and some which do not occur in the *Durchmusterung*. Two stars are noted as presenting indications of variability: viz. 41°, 1222 in Auriga, which was 8·6 m. on March 10, but was not found on a plate taken a few nights afterwards; and 33°, 1895 in Leo Minor. Mr. Espin concludes with the remark, "The difficulty of reducing the stars to Argelander's scale is complicated, from the fact that near the *minimum visibile* the bluer stars alone are photographed, the yellowish ones disappearing."

COMET 1884 *b* (BARNARD).—The following positions for Berlin midnight have been calculated by Herr Stechert from his elements (NATURE, p. 431).

	R.A. h. m.	Decl. ° ′	Distance from Earth	Light
Sept. 15	19 21·4	−29 23	0·703	0·76
17	19 29·3	28 43		
19	19 37·1	28 1	0·729	0·69
21	19 44·7	27 19		
23	19 52·2	26 35	0·759	0·62
25	19 59·5	25 52		
27	20 6·7	−25 8	0·792	0·55