should be converted into coracles. Literature is honoured in Corea as in other Eastern countries, but the monument erected over the graves of the doctors of letters are at least unique. It consists of the trunk of a tree painted like a barber's pole, some 30 feet up. The top and branches are cut off, and on the summit rests a carved figure of slim proportions, 20 feet long, and with a forked tail in imitation of a Corean dragon. From the head, which resembles that of an alligator, depends cords on which brass bells and a wooden fish are strung. The total absence in even the most ancient and historical provincial towns of any remains of art and culture, leads Mr. Carles to think that perhaps the Corea of olden days differed but little from that of the present time, and that her early civilisation has been greatly overrated. Frequent evidences of mineral wealth were observed. The contradictory reports on this subject are very perplexing. Not long since we published a statement from a traveller in Corea that there were few or no traces of mineral deposits, while the general impression has been that the country was very wealthy in gold, iron, and coal. Nothing but a special survey will set the question at rest. No map or sketch accompanies this report. Unfortunately maps of Corea are rare. An excellent one was published not long since in *Petermann's Mittheilungen*. It is compiled, with Mr. Satow's assistance, and under his supervision, from the maps of the Japanese general staff. A slight sketch-map of Corea would have rendered Mr. Carles's interesting report much more intelligible than it is at present.

THE last *Bulletin* of the American Geographical Society contains an account of the reception of Lieut. Greeley by the members of the Society, and a paper by Lieut. Schwatka describing his exploration on the Yukon River in 1883. A marvellous account is given of the ravages of the mosquito pest in Alaska during the warm months. Shooting on one occasion was out of the question, not altogether on account of the venomous attacks of these insects, but because they were so thick and dense that no one could have seen clearly through the mass in taking aim. Native dogs are killed by them under certain circumstances, and Lieut. Schwatka heard reports from persons so reliable that, coupled with his own experience, he never doubted them, that the great grizzly bear of these regions is at times compelled to succumb. "The statement seems preposterous, but the explanation is simple: the bear, in trespassing on a swampy habitation of mosquitoes, instead of seeking safety in flight, rears upon his hind-quarters and fights them bear-fashion until his eyes are closed by their repeated attacks on them, when starvation is the real cause of death."

THE German Foreign Office has made a communication to the Berlin Geographical Society on the changes in the political geography of South America (which were, the statement says, not inconsiderable) produced by the late war between Bolivia, Peru, and Chili. (1) By the treaty of Ancon of October 20, 1883, Peru ceded to Chili, "permanently and unconditionally," the coast province of Tarapaca, the boundaries of which were declared to be "in the north the defile and River Camarones, in the south the defile and River Loa." This new Chilian province is, by a law of October 10, 1884, divided into two departments, Pisagua and Tarapaca. The latter, chief town Iquique, has for boundaries "towards the territory of Antofagasta the River Loa to Quillagua, and a line from the latter across the volcanoes Miño and Olca to the volcano Tua." The boundary between the two departments is formed by the Quebrada des Aroma to Curana, and from there to a point on the coast two kilometres from Caleta Buena. This change in the dominion of the respective States is regarded as final. But the two following appear to be regarded as provisional only. (2) Bolivia agreed, in the armistice convention concluded at Valparaiso on April 4, 1884, and ratified on November 20 last, that Chili shall hold provisionally (that is, during the armistice, the length of which is not defined) the coast of Bolivia from the 23rd degree south latitude to the mouth of the Loa River, and eastward to the boundary line "from Sapalega to the volcano Licancaur, from there to the volcano Cavana, thence to the southern watercourse of Lake Ascotan, Mount Allagu, and the borders of Tarapaca." This portion of Bolivia corresponds to the Bolivian province of Atacama, and had not been organised by Chili at the commencement of the present year. (3) Peru, by Article 3 of the Treaty of Ancon, has ceded to Chili until March 28, 1894, the provinces of Tacna and Arica. This territory "is bounded on the north by the Sama River from its source in the chain of mountains on the frontiers of Bolivia, to its mouth, and on the south by the defile and River Camarones." By a Chilian law of October 31, 1884, these form a single province with the departments Tacna and Arica.

BEFORE the Royal Colonial Institute, on April 14, Mr. Justice Pinsent, of Newfoundland, read a most interesting paper on this oldest of British colonies. From a geographical point of view, the earlier and more antiquarian portion of the paper is the most interesting. The writer describes the discoveries of Sebastian Cabot and the early history of Newfoundland, a name which was originally given to the continent and islands *en masse*, and which, when divers parts were given different names, came to be applied only to that island which still bears the name, and which long lent to those discoveries their chief importance.

AT the meeting of the Paris Geographical Society, on the 10th inst., M. Venukoff communicated a letter which he received from the Russian General Stebintsky, reporting that Capt. Guedenoff had completed a journey in the Trans-Caspian regions with the object of determining the positions of various points in the basin of the Amu-Darya. He commenced at Kizil-Arvat, whence he went to Igdy, and then towards Petro-Alexandrovsk by Khiva. He ascended the Oxus to Charjni, and then returned through Southern Turkomania by Merv and Askabad. He travelled 1200 kilometres, and determined forty-eight points.—A letter was read which General Faidherbe had addressed to the Italian Geographical Society on the subject of doubts expressed in its *Bulletin* on the authenticity of the story of a journey by M. Buonfanti to the Soudan and Timbuctoo. The General reports a conversation which he held on the subject with the "envoy" of Timbuctoo recently in Paris. The envoy had not seen this traveller in Timbuctoo, but recollected hearing of his having been there.—M. de Rivoyre described the Bay of Adulis in the Red Sea, which now belongs to France. The possession of this place and of Obock, he said, gave France a position from which she could watch calmly the events now proceeding in Ethiopia.—M. Germain Bapst described his explorations in Armenia, on the frontiers of the three empires of Turkey, Russia, and Persia, and gave some interesting information on the semi-barbarous populations living in these regions.

THE last number (Bd. xix. Heft 6) of the *Zeitschrift der Gesellschaft für Erdkunde zu Berlin* contains a translation of the Report on the Russian National Survey for 1883, and the usual tabulated catalogue of books, articles, maps, and plans, published between November, 1883, and 1884, in the domain of geography.

THE SCOTTISH METEOROLOGICAL SOCIETY

AT the annual meeting on March 23, Dr. Arthur Mitchell, F.R.S.E., in the chair, it was stated in the Report of the Council that since last meeting in July two new stations had been established—one at Lednathie, Kirriemuir, and the other at Comrie, Perthshire. During the summer and autumn the Secretary inspected twenty-six stations. In addition to the ordinary work of the office he had prepared a third paper on the climate of the British Islands, embracing the rainfall, which would appear in next issue of the *Journal*. As regards the Ben Nevis Observatory, the observations during the winter had been carried on by Mr. Omond and his assistants every hour by night and by day, without the break of a single hour, except during a great storm which raged around the Observatory in February, when from 6 p.m. of the 21st to 7 a.m. of the following day such was the violence of the wind, that for those fourteen hours no light could be carried outside by which the thermometers could be read. The directors had given permission for the erection of a seismometer for registering earth-movements at the Observatory, a grant of 200*l.* for its erection having been obtained by Mr. George Darwin and Prof. Ewing from the Government Grant Committee. The total cost of the erection and maintenance of the Observatory up to January 31, 1885, was 5935*l.*, which was 325 in excess of the subscriptions and other moneys received. The actual cost above what was originally estimated amounted to upwards of 1600*l.* This excess arose chiefly from the additions it was found necessary to make to the buildings, the extra furnishings required for the new portion, the great cost of making and maintaining the road, and of the transport to the top of building materials and stores. It was hoped that the public, to whose liberality this great national observatory owed its existence, would by additional subscriptions

enable the directors to place the Observatory in efficient working order. The work at the Scottish Marine Station continues to be prosecuted with energy and success. The Council had recommended that the grant from the Fishery Fund of the Society for the year ending November next be increased from 250*l.* to 300*l.* In November, 1884, an application on the part of the Tweed Salmon Commissioners was made to the Council for advice and assistance in investigations which the Commissioners had resolved to undertake into the salmon disease, and questions generally affecting the salmon fisheries; and the Commissioners were now carrying out a scheme of observations recommended by the Council.

Mr. John Murray read a report on the Scottish Marine Station, stating that there is every reason to be satisfied with the support which the Station is receiving and with the work done. A sum of 1456*l.* 13*s.* 1*d.* has up to the present time been received in subscriptions from the general public, to which is to be added the donation of 1000*l.* which led directly to the foundation of the Station. The Scottish Meteorological Society has promised an annual contribution of 300*l.* for three years, and for the present year the British Association has voted a grant of 100*l.* The Royal Society of London and the Government Grant Committee have sanctioned grants to the amount of 520*l.* to assist scientific men who will carry on their researches chiefly by means of the appliances and conveniences offered by the Station. The total expenditure up to the present time for the equipment and maintenance of the Station amounts to 2751*l.* 8*s.* 1*d.* The completion of the additions now in progress, and the maintenance of the station till November 1, 1885, will cost a further sum of 900*l.* At the request of a number of naturalists it is proposed to establish a temporary laboratory at Millport, on the Clyde, with sufficient accommodation for six workers, during the months of July and August of this year. The yacht *Medusa* will be in attendance to carry on dredging or assist in making observations in the estuary of the Clyde or any of the lochs which open into it. It is hoped that a permanent branch of the Station may ultimately be established at Millport.

Mr. H. R. Mill, B.Sc., submitted a detailed report of the meteorological part of the work carried on at the Marine Station, in which it was mentioned that plans of a new chemical laboratory were being prepared. A number of observations had been made to ascertain the temperature and salinity of the water at the bottom and the surface, and to find out the penetrability of light. It was found that a piece of photographic printing paper was completely blackened by exposing it to 109 hours of daylight at a depth of 30 feet, while at fifteen feet it was blackened by 42 hours' exposure. As to the temperature, the general law seemed to be that the range between summer and winter was nearly four times as great at Alloa and twice as great at Queensferry as it was at the Isle of May; and that in summer the temperature of the water fell steadily from Alloa to the May, and in winter rose with equal uniformity. The variations in salinity were very slight from Inchkeith to the mouth of the Forth, while from Inchgarvie to Alloa they were very great both between high and low tide, bottom and surface, at the same place and between differences on the Forth short distances apart.

A paper on anemometrical observations at Dundee was read by Mr. Cunningham, C.E., showing the diurnal velocity of the wind during the seasons and during cyclones and anticyclones. The daily maximum velocity occurred a little after 2 p.m., and the minimum from midnight to 6 a.m. During anticyclones the velocity of the wind was less during the night in summer than during winter, but stronger during the day. Mr. Cunningham also showed an elaborate diagram he had prepared for facilitating hygrometric calculations. A paper by Mr. Omond was read, on the formation of snow-crystals from fog on Ben Nevis (NATURE, vol. xxxi. p. 532), and a paper by Mr. Buchan, on the meteorology of Ben Nevis to February, 1884.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE

CAMBRIDGE.—The Report of the Examiners at the last Cambridge Local Examinations speaks very favourably of the Euclid and Algebra papers. Trigonometry and Mechanics were done badly at some centres, but very well at others; the seniors did well in Statics, but the majority of candidates answered poorly in Astronomy.

In Practical Chemistry a larger proportion of juniors than last year gained high marks, and the percentage of failures was considerably less than in the theoretical paper. A few seniors sent in very good answers, but the greater number wrote answers to which it was difficult to attach a definite meaning. The phenomena and principles of Chemistry were evidently quite unreal to most of the senior candidates.

In Heat the juniors did rather worse than last year; book-work was fairly done, but the simpler laws and principles were often converted into utter nonsense. The seniors as a whole answered badly; many were quite unfamiliar with most elementary facts and every-day occurrences, and had no notion of scientific methods or accurate reasoning.

In Statics, Hydrostatics, &c., the work was moderately well done; but the questions on Dynamics and Friction were very unsatisfactorily answered by the seniors.

Electricity and Magnetism showed a slight improvement.

Biology showed a large percentage of failures, owing to inadequate practical study.

Botany was ill done by most juniors; inaccurate descriptions and incorrect use of terminology were prominent. Many seniors showed fair knowledge of at least some part of the subject. Morphology and Classification of Flowering Plants, with descriptions of specimens, were the weakest parts of the examination.

In Zoology many of the junior candidates were quite unfit to enter for the examination; antiquated text-books and inefficient teaching were answerable for this. The seniors did slightly better, but had little practical knowledge of animals.

In Physical Geography all but a few did inferior papers, having learnt some facts and reasons by rote, without attempting to understand them. There was, in most cases, complete ignorance of the meaning of sections and contour lines.

UNIVERSITY OF NEW ZEALAND.—The annual meeting of the Senate of this University was recently held at Auckland, and extended over several days at the end of February and beginning of March. In consequence of the death of the Chancellor, Mr. Henry John Tancred, who had held office for twelve years, the Vice-Chancellor, Dr. James Hector, F.R.S., C.M.G., &c., was elected to the Chancellorship, and Rev. J. C. Andrew was chosen Vice-Chancellor. Dr. Hector, as Chancellor-Elect, announced, on the authority of Sir Julius Vogel, that the Government contemplated the establishment of four scholarships for the promotion of scientific and technical education, the management and administration of which were to be intrusted to the University. They would be tenable for eight years, and would be open to pupils from any school in the colony, or to competitors at any industrial exhibition, subject to an examination equal to the fourth standard of primary schools. Holders of these scholarships would spend the first four years at a secondary school, the next three in a University course, in preparation for a science degree, and the last year in preparation for taking honours in science.

The report of the Vice-Chancellor dealt mainly with local matters, but referred to the attendance of an ex-Vice-Chancellor as a representative of the University at the tercentenary celebration of the University of Edinburgh, and to the election by the Senate of new examiners during the previous year. It may not be generally known to English readers that all the degree examinations of this University are conducted entirely by papers set and printed in England, and that the answers are revised by the English examiners, who in all cases either are, or have been, examiners for the Universities of London, Cambridge, or Oxford. The standard maintained is, as nearly as possible, that of the University of London. More than eighty candidates presented themselves at the degree examinations last November from a population not exceeding half a million. The agent for the University in England is Mr. Wm. Lant Carpenter, B.A., B.Sc., of Harlesden, London, N.W.

SCIENTIFIC SERIALS

Journal of the Franklin Institute, No. 711, March, 1885.—E. A. Gieseler, on tidal theory and tidal predictions.—Prof. E. J. Houston, glimpses of the International Electrical Exhibition, No. VI. McDonough's telephonic inventions. This gives an interesting account of the instruments invented by McDonough between the years 1867 and 1876, the receiver of which anticipated in all its main features the form of receiver introduced by Graham Bell.—Prof. C. A. Young, physical constitution of the sun; a lecture delivered at the Electrical Exhibition, illustrated