embarrassment. The excellent character of the scientific work done in many of them is justly adduced as a reason for the request.

Prof. A. W. Williamson, F.R.S., has just resigned the chair of chemistry at University college, London. W.

London, March 7.

GEOGRAPHICAL NOTES.

Africa.

J. T. Last, commander of the London geographical society expedition to the Namuli Hills in East Africa, has sent a report of his trip to the south end of Lake Nyassa. Some of his remarks are of general interest. Starting from the mission station at Blantyre, he passed by Lake Shirwa, ascended Mount Zomba, which he found to be five thousand feet high, and visited the country of the Angoni, south-west of Lake Nyassa. He states that the district around Zomba proves to be very fertile. The English plantations in that district have fine crops of coffee. The culture of tea, cocoa, and arrowroot is being tried, and they promise to do well. On his way north he crossed the Shire, the eastern bank of which is quite uninhabited, while the western one is well-peopled and very fertile. As the kings of the Angoni and Yao — which latter live on the Shire — have made some terms of friendship, the petty wars between the tribes have ceased, and Last travelled without any trouble arising from this source. At the outlet of the Nyassa he encountered a low and sandy country with numerous patches that are covered with water during the wet season, salt being deposited when the water evaporates. The Angoni district, south-west of the Nyassa, forms a large plateau about five thousand feet high, which extends far west. In all this district there is scarcely a tree to be seen, and the fuel commonly used by the people is cornstalks and ox-dung. The land near the east is very poor, but as one proceeds towards the west it greatly improves in appearance, and in its western portions it is extensively cultivated. The expedition returned to Blantyre on the 1st of July. On the 12th they left again, and arrived at the Namuli Hills in August.

The Spanish traveller Sorela Fajardo arrived on the Senegal on Feb. 27. He proposes to cross the continent from west to east, starting from St. Louis in Senegambia.

America.

N. S. Shaler discusses in his paper on 'Fluviatile swamps of New England' (*Amer. journ. sc.*, March, 1887) the formation of river-valleys in New England, more particularly in eastern Massachusetts. A comparison between the rivers flowing north and those running south shows a great difference in the character of their valleys. The former have excavated the glacial deposits which filled their valleys, and deposited alluvial plains that have distinct terraces. The erosion of the old deposits is still continuing. The rivers running south have excavated part of their glacial deposits, but the process ceased a long time since. None of them have sufficiently strong current to clear their beds from the detritus carried into them by floods from their tributaries, and coarse sediments are continually being deposited in their valleys. Shaler supposes that these plains were formed while the river was at a lower level than it is at present, and became swampy by the same changes on the drainage conditions which have so obstructed the flow of the stream. These facts tend to show that the northern slope of the valleys has been diminished. Thus the eroding force of the rivers which run south has increased, while that of those running north has so much decreased as to stop their eroding action. Shaler estimates the tilting of the land necessary to have this effect to be two feet to the mile, and concludes, from the well-known observations on submerged forests on the New England coast, that it consisted in a lowering of the southern part. The result of his researches as to the recent geological history of this district are that the uneven glacial banks were deposited while the land was submerged. When the ice retreated, a re-elevation took place, after which the glacial deposits were rapidly excavated. With the disappearance of the ice from the continent, the southern portion became lower again, and the latter movement produced the swampy character of the valleys of rivers running north by putting an end to the eroding action of their waters.

The Mississippi River commission has just issued a map of the alluvial valley of the Mississippi River from the head of St. Francis Basin (latitude 37° 20′ north) to the Gulf of Mexico, showing lands subject to overflow, the location of levees, and trans-alluvial profiles, on a scale of five miles to an inch (1:316,800). The topography is reduced from detail maps and surveys made by the various government offices and railroads. The object of the map being to illustrate the floods of the Mississippi, the district which is subject to overflow is marked by brown hachure lines, the hydrography and lettering being printed in black. A great number of section-lines and the profiles belonging to them are embodied in the map. The profiles show the high-water line of 1882. Though these profiles are of a darker brown than that of the district subject to inundation, they somewhat dis-

tract the attention from the outlines of those districts. However, the additional information contained in the profiles fully makes up for this disadvantage, particularly as the map is on a large scale, and intended for a special study of the hydrography of the Mississippi.

An advance copy of a geological map of the northern part of the Dominion of Canada, by George M. Dawson, has been received. It embraces arctic America from latitude 60° north, and the adjoining parts of British Columbia and Labrador. The geological coloring is based on the explorations of the geological survey of Canada and on other authorities. The geological structure of the district west of the Mackenzie is still unknown. The most interesting parts of the map are the carboniferous area of the Parry Archipelago, which stretches from the outlet of Robeson Channel into the Arctic Ocean to Banks Land; and the adjoining Devonian and Silurian belt, which stretches in a continuous line from the east coast of Kane Basin to Hayes Sound, North Devon, and the Mackenzie River. The close connection between the geological structure of Grinnell Land and Parry Archipelago is very interesting. Its existence makes the exploration of the unknown area between those islands very desirable. Every thing tends to show that it is probably occupied by a group of islands, and therefore it is probable that an exploration might be accomplished without great difficulty or danger. The field for arctic explorers is not to be looked for only in the extreme north: the unknown districts which are comparatively easily reached deserve as much attention. Another interesting point of the map is the Devonian or Silurian basin of Fox Channel and Baffin Land, and that of Hudson Bay. It would have been desirable to have what little there is known of the orography of arctic America in this map, as it would help to give a clearer idea of the geological character of those districts.

The boundary between Venezuela and Brazil was surveyed in the years 1880 to 1883. The report of the work of the joint commissions has been prepared by the chief of the Brazilian commission, Lieut.-Col. Francisco Xavier Lopez de Araujo, and is printed in the Brazilian parliamentary papers (Rio de Janeiro, 1884). The map which accompanies this report contains much new information. The exploration of the Maturaca revealed the fact that the Orinoco and Rio Negro are not connected by the Cassiquiare alone, but that a great number of bifurcations exist which form a large island that has been named 'Ilha Pedro II.' On the subsequent journeys the river Padauiry and the Serra Curupica were explored. The expedition did not visit the district inhabited by the Maracañas and Kirishanas, who do not allow the whites to enter their territory.

NOTES AND NEWS.

WE learn from *Modern language notes* that the English folk-lore society has invited Prof. T. F. Crane of Cornell university to edit for the society the *exempla*, or illustrative stories of Jacques de Vitry, bishop of Acre, and historian of the Crusades. This compliment to American scholarship is specially marked, because Professor Crane was intrusted with the work with no limitations whatsoever. The *Athenaeum* adds, that these stories are about three hundred in number, and are contained in the hitherto inedited manuscripts No. 17509, Bibliothéque nationale, Paris. They are of great value for the question as to the diffusion of popular tales. They contain every variety of story, from the jest to the *conte dévot*, and are especially rich in fables, among them the oldest European version of 'The milkmaid and the pot of milk.' Professor Crane's edition will consist of an introduction on the life of Jacques de Vitry and the use of *exempla* in mediaeval sermons, the Latin text, and a brief translation or analysis in English, with comparative notes. It will probably be ready by the end of the year.

— The dome for the Lick observatory is well under way at the Union iron-works in San Francisco. It is 70 feet in diameter, will weigh 90 tons, and is to be revolved with a pressure of 135 pounds. The cost of the dome is $56,800.

— The daily papers recently announced the startling discovery that the earth had been retarded in its daily revolution ten minutes and eleven seconds between Feb. 25 and March 3, 1886, and anxious inquiries were made as to the causes and effects of this slowing-down. We are a little surprised that this absurd story comes, not from a wild theorist with unbounded faith in the maxim that figures will not lie, but from a practical man, "taking observations of the sun in his business of regulating and adjusting chronometers for masters of vessels arriving at Wilmington"!

— Dr. Peters of the Hamilton college observatory has given the small planet, No. 264, which he discovered on the 17th of December, the name Libussa. No. 256, discovered by Dr. Palisa, has been named Walpurga. A new asteroid, 265, was discovered by Palisa at Vienna on Feb. 27.

— The lectures under the auspices of the philosophical, anthropological, and biological societies of Washington are announced as follows: March 12, Gen. A. W. Greely, U.S.A., Animals of the