

colours with different intensities of light (Pflüger's *Archiv*, v. 24, p. 189). From a large number of measurements it was found that, on an average, the red-colour sensation first occurred with a light-quantity equal to  $\frac{1}{3253}$ , while for blue the lowest amount of light was  $\frac{1}{52537}$ . Thus blue gives a sensation with an amount of light sixteen times less than that required for red. With rise in the degree of brightness, the increase of sensibility to red proceeds pretty regularly; but for blue the increase becomes gradually greater (with the weakest degrees of brightness this increase was = 0.22, with the strongest 0.82, with the mean 0.36). Comparing the two sensibilities together, from the maximum of light strength to the minimum, the sensibility to blue is always found to exceed that to red (maximum thirteen and a half times, minimum sixteen times, mean four times).

**ISOETES LACUSTRIS.**—In an interesting paper read before the Academy of Sciences of Paris (January 10, 1881), M. E. Mer calls attention to the peculiar conditions under which different forms of this fresh-water plant seem to originate in the Lake of Longemer. The basin of this lake was once occupied by a glacier, and now presents several different sorts of bottom. The soil to a depth of two to three metres is composed in part of a gravel formed of rock *débris* united by an iron cement, in part of ancient moraines, or where near the surface these will be mixed with the remains of plants and form a pretty tenacious mud. In all these situations *Isoetes* is to be found, but the plants differ most remarkably both as to their form, their structure, and their mode of reproduction as they are found in the different habitats. Taking the leaf-development as a guide, four varieties are easily discerned:—(1) *humilis*, growing sparsely in the gravel and sterile shallows, the leaves are not only few in number, but always of diminutive dimensions; sporangia generally wanting or represented by a small cellular mass which rarely ever forms a propagule, and then these with puny leaves; (2) *stricta*, found on the borders of the lake or in the old alluvial, therefore in less sterile quarters than the preceding; leaves more numerous, stout, but still of small size; (3) *intermedia*, growing on ground formed of a mixture of mud and clay, either on the borders of the lake or at a depth of from one to two metres, leaves quite intermediate in character between the previous variety and the next; (4) *elatio*, growing on the clayey depths, with long leaves. The first form is always found isolated, and as to its asexual reproduction there is nothing more to be said; but the other three, according as they are subject to more or less heat, present each three varieties characterised by the mode of reproduction. 1. *Sporifera*, isolated individuals, mostly furnished with well-developed sporangia, stem large, roots numerous, leaves large. 2. *Gemmifera*, few fertile sporangia, but most of the leaves are furnished with propagula, and these well furnished with leaves, generally dextral, stem fairly developed. 3. *Sterilis*, individuals growing in compact masses, stems and roots slender, leaves not numerous, long and narrow, fertile sporangia very rare, and more often undeveloped masses of cells or abortive propagula. It would seem as if these facts had a practical interest to the collector, who may find in them a guide as to where to look for fertile specimens.

### GEOGRAPHICAL NOTES

ON Friday, April 1, the French Geographical Society held a meeting in the large hall of the Sorbonne for the reception of Dr. Lenz on his return from Timbuctoo. M. Milne-Edwards was in the chair. Dr. Lenz, as our readers know, has been very successful, although his conclusions are adverse to the construction of a railway from the Niger to Algeria throughout the Sahara. On the following morning the Society received a telegram stating that Col. Flatters had been murdered by Touaregs at some distance from the Lebkhha Amagdor. In the evening the sad news was confirmed by an official message, stating that four starving Arabs from the mission had arrived at Ouargla, and that the Khobfa had left with four hundred mehari and camel horsemen to rescue the survivors, who were besieged south of Messaguer in the Touat region proper. Happily the news of the disaster to Col. Flatters' expedition has not yet been further confirmed, and authorities in Paris are inclined to believe that it has been much exaggerated, and that the story of the four natives has many elements of suspicion about it.

DR. LENZ, in his lecture at Paris, gave some interesting details on the present condition of Timbuctoo. Its houses are built of brick, and the population is now only 20,000. It has greatly

decayed, and the inhabited part of the town is surrounded by great spaces covered with ruins. There are numerous schools and rich libraries. Dr. Lenz had a cordial reception, and every night during his twenty days' stay he was present at religious conferences which the learned men of the city held with his interpreter; the commentaries on the Koran formed the only subject of conversation. Timbuctoo is united with the Niger, six miles off, by a series of lakes, formerly canals. Dr. Lenz has also made some interesting observations on the Sahara, tending to confirm the conclusions of Rholf's and other recent scientific travellers as to the variety which is to be met with in the great desert. It is really a plateau about 300 metres in altitude, no part of it being below the level of the sea. Granite hills, sandy plains, shallow lakes, fertile oases, alternate over nearly the whole surface, while beasts of prey are rarely to be met with. Dr. Lenz will contribute a full account of his journey to the Berlin Africa Society, in whose journal many of his letters have already appeared.

IT is with sincere regret that we record the death of Lieut. Karl Weyprecht, at the age of forty-three, on March 29, of consumption. Lieut. Weyprecht will be known to our readers as the discoverer, with Lieut. Payr of Franz-Josef Land, in the Austro-Hungarian Expedition of 1872-4. His observations on the aurora borealis were of especial value, and he has published several papers on the subject. He was also the originator of the scheme for establishing a series of international observations around the Pole, which is likely to be realised next year.

THE Rev. G. Brown, the well-known representative of the church militant in the South Pacific, contributes to the new number of the Geographical Society's *Proceedings* a paper descriptive of a recent journey which he has made along the coasts of New Ireland and the adjacent islands, the latter including Sandwich Island, Portland Islands, and New Hanover. Dr. Benjamin Bradshaw, who has spent some years in collecting natural history specimens in the Upper Zambesi region, also contributes a brief paper on the Chobe River, together with a sketch-map of a portion of its course, adding materially to our knowledge of the geography of this region. Mr. Crocker's paper on Sarawak and Northern Borneo, lately read before the Society, is also given, and is illustrated with a good map. The geographical notes are full of interesting matter, one giving an account, by Mr. Sibiriakoff himself, of the voyage of the *Oscar Dickson* to the Yenisei Gulf in 1880. Another furnishes conclusive proof of the usefulness of the course of scientific instruction provided by the Council for intending travellers in foreign countries. From the last note we learn that Mr. C. R. Markham, the indefatigable secretary, is preparing for the forthcoming volume of the *Journal* a sketch of the Society's work in the past fifty years.

IN the current number of *Les Missions Catholiques*, Père Richard, a missionary in Algeria, commences an account of his journey, in company with Père Kermaben, among the Tuareg-Azguer tribes of the Sahara. The object of their journey was to study this almost unknown region, and to cultivate friendly relations with the chiefs and people generally with a view to the formation of a missionary station. The more interest attaches to Père Richard's narrative, as it deals with the very region which Col. Flatters has been now exploring with the object of settling the best practicable route for the projected Trans Sahara railway. An entirely new map of this part of Africa, based on Père Richard's notes, accompanies the number.

A LATELY-ISSUED batch of *Reports* from H. M. Consuls (Part vi. of last year) contains useful geographical information respecting portions of South America, that relating to Chili and Peru being specially interesting at the present moment.

### UNIVERSITY AND EDUCATIONAL INTELLIGENCE

CAMBRIDGE.—On the 31st inst. the honorary degree of LL.D. was conferred on Prof. Helmholtz of Berlin at a special congregation.

Prof. Humphrey will take his usual May classes for the second M.B. and Natural Sciences Tripos next term, and the demonstrator will give demonstrations of the organs.

Prof. Babington will lecture on botany four times a week next term, beginning April 26. Mr. Hillhouse will give lectures on