

in the peninsula of Reykjanes alone. The capital is situated on its northern side, and thus only fifty to sixty miles from the devastated districts. Some of the inhabitants of the town camped out, but none of its houses, which are mostly of timber, collapsed. The pictures hanging in the Parliament House were all thrown out of position, and rifts were visible in the plastered ceiling.

The eruption of February 27, 1878, is the last one recorded in the vicinity of Hekla. The craters, through which it took place, are situated about four miles to the north-east of Hekla, in one of its outlying spurs. This eruption was preceded by severe earthquakes in the adjacent districts. These, however, caused very little damage.

Mr. Th. Thoroddsen has given the only account and full list we possess of volcanic eruptions and earthquakes in Iceland within historic times. A *résumé* of it is found in the *Geological Magazine*, 1880, pp. 458-467. A much fuller translation, with a bibliography on the subject, is given by Mr. George H. Boehmer in the Smithsonian Report for 1885, pp. 495-541 (Washington, 1886). It appears that no earthquakes in the history of the island were experienced over such an extensive area as the present ones.

The earliest recorded earthquake in Iceland took place in A.D. 1013. Of fifty-five recorded earthquakes, more than one half were not preceded, accompanied, or followed by eruptions. The earthquakes of 1789 were most severe. The section of land between the chasm of Almannagja and that of Hrafnagja settled 60 centimetres, and new hot springs were formed. But the area was restricted to the district of Arnessýsla, and no volcanic eruption took place from 1783 to 1821. Thus it is probable that, though the present earthquakes may not discontinue for some months yet, they will not be followed by an eruption. The largest number of eruptions—fourteen—have taken place in the eighteenth century, and it will be observed that both earthquakes and eruptions are, in each period, concentrated in certain districts of the country, and that, in succeeding each other in time, they rarely make large jumps. It is only the want of seismographic stations which prevents Iceland from being an object-lesson in seismology such as Japan. Iceland, however, cannot any longer with justice be counted among the unexplored regions of the earth. Mr. Thoroddsen has, during the last sixteen years, systematically explored a part of the island every year, and now that he has reached the end of his labours, it is to be hoped that the scientific world will not have to wait long for the publication of the results of his explorations. They promise to be of the highest interest, and will modify in many respects geological views regarding Iceland. The geological map of Iceland, published by Dr. Konrad Keilhack in 1886, is not to be depended upon, for its German authors have put down as actual facts many things which then were only assumed and surmised.

J. STEFANSSON.

THE GERMAN ASSOCIATION.

IN the presence of the Empress Frederick, and under the presidency of Geheimrath Prof. Dr. Hugo von Ziemssen, of Munich, the sixty-eighth meeting of the "deutscher Naturforscher und Aerzte," founded at Leipsic on September 18, 1822, was opened in the Saalbau, Frankfurt-on-the-Main, on the morning of Monday the 21st ultimo. After the preliminary speeches by Prof. Moritz Schmidt and other citizens, the President briefly addressed the gathering; but the principal speakers were Prof. Hans Buchner, who devoted his address to "Biologie und Gesundheitslehre"; Dr. Neumayer, to Antarctic Exploration; and Prof. Lepsius, to "Cultur und Eiszeit." The gathering was then broken up into thirty sections,

eleven of which were for the Naturalists, and nineteen for the various Medical and Surgical branches. The sectional meetings were held morning and afternoon (9 a.m. to 6 p.m.) till midday on Friday, and were well attended, there being, so far as could be estimated (the officials being unable to supply the precise figures), about 2500 gentlemen and 500 lady members. As there were some hundreds of papers under discussion during these days, and the titles of them alone would occupy several pages of NATURE, it will be sufficient here to mention only a few dealt with in some of the sections. Prof. Quincke opened the Physics Section with a paper "Ueber Rotationen im constanten elektrischen Felde," followed by Dr. Tuma, "Ersatz für den Ruhmkorff'schen Apparat." "Ueber Berührungselektricität," by Prof. Nernst; "Ueber den Vorgang bei langsamer Oxydation," by Prof. J. H. van 't Hoff; "Grundlagen seines neuen Systems der Elemente," by Dr. Traube; "Ueber die physikalische Isomerie," by Dr. Carl Schaud; "Demonstration einer Tafel des Systems der chemischen Elemente," by Dr. Wiechert; "Zur Elektrochemie des Kohlenstoffs," by Dr. Coehn; and "Ueber Kathodenstrahlen," by Prof. Lenard, were some of the communications discussed by the Physicists alone or with the Chemists. The Sections for Zoology, Pathology and Pathological Anatomy, and Physiology, joined in a discussion of the paper by Dr. Born, "Ueber künstlich hergestellte Doppelwesen bei Amphibien." The Section devoted to Ethnology, Anthropology, and Geography, had very little work to do, a day sufficing to get through it. Dr. Canheim had a paper on the Faroe Islands, and Dr. Rein on the North Coast of the Island of Hondo (Japan), and the Land and Sea Fauna of Kamaishi. With nineteen sections out of the thirty, the medical men were able to discuss a greater variety of topics than the physicists. Very interesting papers were read by Dr. Däubler on "Die Beri-Berikrankheit," and by Dr. Glogner, of Batavia, on "Neure Untersuchungen über den klinischen Verlauf und die Aetiologie der Beri-Berikrankheit," and by Dr. Plehn, from the Cameroons, on "Erkrankungen der schwarzen Rasse in Kamerun vom October 1, 1894, bis April, 1896." But the doctors' field-day was Wednesday, when the Medical Sections, and a considerable number of members from the Physical Sections, assembled in the Saalbau, under the presidency of Prof. His, to discuss the latest discoveries in brain investigations. Prof. Flechsig's subject was "Die Localisation der geistigen Vorgänge"; Prof. Edinger's "Die Entwicklung der Gehirnbahnen in der Thierreihe"; and Prof. Ewald's "Ueber die Beziehungen zwischen der motorischen Hirnrinde und dem Ohrlabrynth." The closing general meeting was held in the same room on Friday morning, when Dr. Max Verworn discoursed on "Erregung und Lähmung"; Dr. Ernst Below, on "Die praktischen Ziele der Tropenhygiene"; and Prof. Carl Weigert, on "Neue Fragestellungen in der pathologischen Anatomie."

Not the least important features of the Congress were the facilities afforded for inspecting the technical high schools, and the chemical and other establishments in the neighbourhood. Praise is due to the several local committees for the excellent manner in which they carried out their duties, the entertainments having been arranged on a most liberal scale, every night being devoted to recreation. At the close of the Sectional meetings on Friday, Profs. von Ziemssen, König, and the principal members of the Society proceeded to Friedrichshof, by command of the Empress Frederick, while the general body broke up into some half-dozen parties, who were conveyed to as many places in the country—to Darmstadt, to inspect the Technical Institute; to Höchst, to see the Serum establishment, &c. About 500 members accepted the invitation of the town of Homburg to proceed there on Saturday to breakfast, drive to the ruins of the Roman fortifications of Saalburg

to lunch, and to illuminations and fireworks in the Curhaus Gardens in the evening. A large party also went to Marburg on the same day. There was an abundance of literature specially prepared for visitors, and in addition to separate guides to Frankfort for the use of gentlemen and for ladies, Dr. Ziegler and Prof. König had published a large post quarto volume on "Das Klima von Frankfurt am Main" in which they discussed all available meteorological information, the letterpress occupying eighty-four pages, the tables fifty-one pages, and ten double-page diagrams. The records of ice on the river are complete from the year 1825, but prior to that date they are irregular, extending, however, as far back as January 1306.

Several rooms had been set apart for the exhibition of entomological collections; of Jenner relics (the centenary of inoculation for the small-pox); of Röntgen-ray photographs—of the manner in which the photographs are produced; and many other subjects of a scientific or medical character.

A large number of foreigners came to Frankfort to attend the meetings, those from England being Sir William MacCormac, Prof. Armstrong, Mr. Harries, and Drs. Semon and Thin.

NOTES.

THE Gatty Marine Laboratory, which is a continuation of the oldest Marine Laboratory in Britain, will be opened by Lord Reay on Friday, October 30. Invitations to the opening ceremony have just been sent out by the University of St. Andrews.

CABLEGRAMS from Australia report the death, at Melbourne, on October 9, at the age of seventy-one, of Baron Sir Ferdinand von Müller, the eminent botanist, who has added so much to our knowledge of the flora of our Australian Colonies. A German by birth, Baron von Müller had resided in Australia just half a century. He was a Fellow of the Royal Society, and Botanist to the Colonial Government.

THE death is announced of Dr. M. W. Drobisch, Professor of Philosophy in the University of Leipzig, and distinguished for his mathematical as well as his philosophical researches.

THERE seems to be no room for doubt that the company which has acquired the world-renowned Giant's Causeway, intends to prevent free access to it. The honorary secretary of the Ballymoney Sub-committee of the Defence Committee formed to assert public rights, having, in company with other members of the Sub-committee, visited the Causeway a few days ago, has received notice that a writ has been issued against him for trespassing upon the property of the syndicate.

PROF. MELDOLA, writing with reference to our note on wasps and flies (p. 549), says:—"I am glad you have again called attention to the useful part played by wasps in keeping flies in check. Many years ago, in an inn parlour on the Essex coast, I made a similar observation with Mr. W. Cole, who was with me at the time. We found hundreds of wings scattered about the window-ledge inside the room, and we were at first at a loss to explain the depredation. While watching, the mystery was solved. The upper part of the window had been left open a few inches, and a wasp came through, caught a fly on the glass pane, instantly clipped off its wings, and flew out of the open upper part of the window with the body. Other wasps followed and repeated the process. For about an hour we observed the continuous arrival of wasps, every one of which secured a fly before departing."

THE weather over the British Islands last week was unusually stormy; the reports issued by the Meteorological Office show that the atmospheric disturbances followed each other at short

intervals, and were accompanied with heavy falls of rain in nearly all places. One of the most serious barometric depressions approached our islands from the south-westward on the 7th inst., and the disturbance moved during this and the following day along our extreme western coasts, causing heavy south-westerly gales and terrific seas in the west and north; over an inch of rain fell in twenty-four hours at several places, the amount measured at Holyhead, on the 8th, being 1·8 inches. During this severe gale the Daunt's Rock Lightship, near Cork, disappeared, with her crew of ten men. Notwithstanding the recent heavy rainfall, the reports show that there is still a deficiency of five inches from the average in the south-west of England since the beginning of the year, while the north of Scotland has had over six inches in excess of the normal amount.

LIVERPOOL lacks neither men nor societies devoted to the advancement of natural knowledge; what is apparently needed is the amalgamation of these societies for mutual assistance and support. Dr. H. O. Forbes, in an inaugural address delivered before the Biological Society of Liverpool on Friday last, urged the amalgamation of all Liverpoolian societies interested in biological science. He suggested that such a conjoint society, meeting in some central place and to be called, perhaps, the Biological Institute of Liverpool, or the Liverpool Institute of Natural Science, or if all the scientific societies could be induced to unite, the Royal Society of Liverpool, as was the suggestion, some ten years ago, of Prof. Herdman, might be instituted on the model of the New Zealand Institute. Such a combined society in Liverpool would command wider recognition, and contribute more to the advancement of science, than is at present possible with disjointed forces. Dr. Forbes also expressed the hope that two other scientific institutions of the highest educational value, urgently required in a city like Liverpool—a zoological garden and a resuscitated botanical garden under a trained botanist, both conducted in a thoroughly scientific manner—might be accomplished facts before the end of this century.

BLOWN-OUT shots are responsible for a large proportion of the explosions in coal mines. By a blown-out shot is meant a blast which has failed to effect a rupture of the coal owing to the hole for it having been drilled in a wrong position, or owing to the coal not having been properly prepared by holeing or under-cutting. The gaseous products produced by the combustion of the powder are driven violently into the roadways, mixed with the gas distilled from the coal; and this, with the clouds of dust raised at the same time, provides all the conditions for a disastrous explosion. The Commission appointed to inquire into the cause of the explosion at the Brunner Coal Mine, New Zealand, in March last, have, after full consideration of the evidence, concluded that the primary cause was a blown-out shot fired, contrary to the rules of the mine, in a part of the mine where no work should have been in progress. The coal-gas evolved from the surrounding coal is held to have been ignited as the result of the shot, and the flame then spread throughout the dry portions of the mine. The disaster was accentuated by the explosion of the coal dust raised by the concussion along the main road and working-places, which explosion appears, in some cases, to have been locally intensified by small quantities of fire-damp. No direct evidence was obtained by the Commissioners that the explosion was commenced by an accumulation of fire-damp, or that its extreme violence was due to the combustion of fire-damp mixed with coal-dust.

PROF. A. RÖTTI (*Rend. Acc. Lincei*) continues his observations on the cryptochromism or phenomenon corresponding to colour in Röntgen rays. In one of his experiments it was