that the mineral industry of the United States is in a sound and flourishing condition, and that the vast mineral resources of that great country are being steadily and profitably developed.

As to the volumes in which the results of these operations are chronicled, it is impossible to do more than express admiration for the care and attention bestowed upon them, and we can only wish that we had in this country a department capable of doing anything like similar justice to our own British mineral industry. H. L.

SIR TREVOR LAWRENCE, BART.

SIR TREVOR LAWRENCE, late President of the Royal Horticultural Society, and sometime Treasurer of St. Bartholomew's Hospital, died at his seat at Burford, Dorking, in his eighty-second year, on Monday night, December 22. Born on December 30, 1831, Sir Trevor was educated at Winchester, and afterwards at St. Bartholomew's Hospital, where his father was one of the staff and one of the teachers. After qualifying as a medical man, Trevor Lawrence joined the Indian Medical Service in 1853, seeing much active service during the Mutiny. In 1863 he retired from India, and in 1867 succeeded his father as second baronet. In 1869 he married Elizabeth, daughter of the late Mr. J. Matthew, of Burford, Dorking. From 1875 till 1892 he sat in Parliament.

Always interested in plants, Trevor Lawrence became during his Indian service a keen and successful gardener. This taste and talent he exercised and developed on his return to England, and although he was doubtless best known in gardening circles as an orchid grower, there was no particular branch of horticulture in which he was not keenly interested and in which he was not highly successful. Even in that especial branch of the craft in which he was deservedly famous—the cultivation of orchids—his innate love of plants for their own sake, which he appears to have inherited from his mother, was very conspicuous. In addition to one of the finest private collections of showy sorts, Sir Trevor had at Dorking probably the largest private collection of the less conspicuous, but very often more scientifically interesting genera and species from both hemispheres.

There was therefore everything that was appropriate in the election of Sir Trevor, in 1885, to the presidentship of the Royal Horticultural Society. But on Sir Trevor's part there was also a strong strain of chivalry and gallantry in his acceptance of this, at that time, thankless post. The Society was at a miserably low ebb, with an inadequate membership and still more inadequate finances. Supported in the struggle which ensued by a number of far-seeing and courageous colleagues, both against adverse external circumstances and against opposition from within the Society, the difficulties were overcome, and the assured financial position in which the Royal Horticultural Society stands to-day has been largely due to the steadfastness of purpose, tact and wisdom of Sir Trevor Lawrence during the presidentship of twenty-eight years, which ended with his retirement from that position on April 1 last.

Almost as great as the services he was able to render to gardening were those which Sir Trevor rendered to his own old hospital, the treasurership of which he was invited to undertake when he retired from Parliament. This post he held during twelve years of financial and other difficulties. The qualities which had stood him in such good stead in the Royal Horticultural Society enabled him here again to inaugurate much that was useful in the matter of extending the scientific equipment of the hospital, of securing for the staff some share in its management, and of establishing a sounder administrative policy with regard to its property. As a member of the council of King Edward's Hospital Fund, Sir Trevor was able to do much for the cause of hospitals generally.

A well-known and skilled collector of Chinese and European porcelain and the possessor of one of the finest collections of Japanese lacquer in Britain, Sir Trevor placed students of the latter under much obligation by printing for private circulation in 1895 a finely illustrated catalogue of his collection. A host of exquisite courtesy, and a counseller of great sagacity, Sir Trevor's death will be greatly mourned by a wide circle of friends.

A NEW BRITISH ANTARCTIC EXPEDITION.

THE science of geography will enlarge its bounds if the expedition to the South Pole, planned by Sir Ernest Shackleton, ends successfully. A start is to be made next October from Buenos Aires, and the plan proposed is to cross the south polar continent from the Weddell Sea, on the Atlantic side, to the Ross Sea, touching at the South Pole *en route*—a distance of some 1700 miles. Altogether the party will number forty-two, twelve being actual explorers, and the remainder the crews of the two ships that are to support the venture, one on each side of the Antarctic continent. Of the explorers, six expect to cover the whole ground from the point of landing on the Weddell Sea to the point of embarkation on the Ross Sea. The other six will be divided into two groups: one, composed of a biologist, a geologist, and a physicist, will probably remain at an experimental station on the Weddell Sea side; the other party of three will be told off to explore the land to the east, which is at present entirely unknown. These two wings of the expedition will eventually be taken back to South America, while the party which will accompany Sir Ernest across the continent is to be met at the Ross Sea base by the second ship from New Zealand, whither it will take them.

For the outward journey the *Aurora* has been chosen. Both this and the sister vessel will depend

for fuel on oil, and not on coal. The advantage of this arrangement of being free from ballast need scarcely be expatiated upon; when the oil is used up, water can be pumped into its place. Both ships will also be fitted with cages and tanks for bringing home live seals and penguins. Moreover, the *Aurora* will have a gyroscopic compass, which will therefore not be affected by magnetism in the ship. The expedition will be fitted with a wireless installation—one of about 500 miles' radius. But more useful still, two sledges driven by aëroplane propellers, with aëroplane engines, and an aëroplane with clipped wings to glide over the ice, are being taken. The team of trained dogs numbers 200. The expedition will be equipped for two years, and is to be known as "The Imperial Antarctic Expedition." The minimum cost is 50,000*l.*, and this amount has been provided by the generosity of a friend. In order to equip the expedition with full efficiency, however, 60,000*l.* or 70,000*l.* would be required. No public appeal is to be made for subscriptions to make up the additional amount, but contributions for this purpose will be welcomed and will be of service.

The following statement as to scientific work contemplated was made by Sir Ernest Shackleton on Monday:—

No one knows whether the great plateau dips gradually from the pole towards the Weddell Sea, and no one knows whether the great Victoria chain of mountains, which has been traced to the pole, extends across the continent and links up with the Andes. The solving of the problem is of intense interest to geographers all over the world, and the discovery of the great mountain range, which we assume is there, will be one of the biggest geographical triumphs of the time.

The geological results will be of the greatest interest to the scientific world. The expedition will at its winter quarters make geological collections, also typical rocks will be taken on the journey if we come across exposed rocks when crossing the mountain ranges. One ship will land parties for the purpose of making geological collections on the west side of the Weddell Sea, and the ship will at the same time trace, if possible, the continuation of Graham Land southwards.

The expedition will take continuous magnetic observations from the Weddell Sea right across the pole, and the route followed will lead towards the magnetic pole and make an ideal method of determining the general dip of the magnetic needle. This magnetic work has a direct bearing on economic conditions, in that an absolutely true knowledge of magnetic conditions is of use to ships in navigable waters. I also propose to set up a magnetic observatory at winter quarters and take continuous magnetic observations throughout the winter. On my last expedition we could only take field magnetic observations, as, owing to lack of money in the first place, I could not afford to provide a large magnetic equipment, though we did important work, as one of the parties reached for the first time the south magnetic pole.

The meteorological conditions would be carefully studied, and would help to elucidate some of the peculiar problems of weather that at present are only dimly recognised as existing. Continuous meteorological observations, both at winter quarters and on the journey across, are of extreme importance, and the results can be correlated with the observations of the last three expeditions in the Antarctic.

Biological work will be thoroughly carried on, and the distribution of fauna and plant life will be studied. Both ships will be equipped for dredging and sounding.

All branches of science will be most carefully attended to, and the net result scientifically ought to be a large increase to human knowledge, but, first and foremost, the crossing of the polar continent will be the main object of the expedition.

NOTES.

THE Academy of Sciences of Bologna has elected Prof. Silvanus P. Thompson as a corresponding member in the class of physical science.

AT the last meeting of the Academy of Sciences in St Petersburg Sir William Ramsay was unanimously elected an honorary member of the academy; he was previously a corresponding member.

SIR HOWARD GRUBB, F.R.S., has been appointed scientific adviser to the Commissioners of Irish Lights, in succession to the late Sir Robert Ball, who held the position for the past twenty years.

IN a flight from the naval aërodrome at Fréjus, France, on December 27, M. Legagneux, succeeded in reaching a height of 20,300 ft., which is the greatest altitude yet attained with an aëroplane.

THE next grants from the Elizabeth Thompson Science Fund will be made in February, 1914. Applications should be sent to the secretary, Dr. Charles S. Minot, Harvard Medical School, Boston, Mass., before February 1.

WE regret to see the announcement of the death, on December 26, at fifty-three years of age, of Mr. W. Popplewell Bloxam, formerly professor of chemistry in Presidency College, Madras, and the author of a number of reports and papers on the production and chemistry of indigo.

MR. W. LAWRENCE BALLS, botanist to the Egyptian Government, Department of Agriculture, has just left the service of the Government, his agreed term of years having expired, and is returning to Cambridge to work up unpublished data on cotton accumulated since his appointment to the staff of the Khedivial Agricultural Society as cryptogamic botanist in 1904, and in the post he has now vacated.

MEN who have been trained at the Royal Botanic Gardens, Kew, occupy posts in botanic gardens in most parts of the world. The following new appointments of members of the gardening staff at Kew are announced in the *Kew Bulletin*:—Mr. G. S. Crouch, to be assistant director of horticulture in the Egyptian Department of Agriculture; Mr. T. H. Parsons, to be curator of the Royal Botanic Gardens, Peradeniya, Ceylon, in succession to Mr. H. F. Macmillan, who has been appointed superintendent of horticulture in the department of agriculture, Ceylon; Mr. C. E. F. Allen, to be curator of the Botanic Garden, Port Darwin, Northern Territory, South Australia, in succession to Mr. N. Holtze, deceased.