The Treasury Grant to Universities.

WE have already referred on several occasions to the proposed reduction, from 1,500,000*l.* to 1,200,000*l.*, in the Treasury grant-in-aid of university education for the coming financial year 1922–23. A memorandum, in which the dangers of reducing the grants and the rightful claims of the universities are ably stated, signed by the Vice-Chancellors of the Universities of Birmingham, Durham, Leeds, Liverpool, Manchester, and Sheffield, has been forwarded to the Prime Minister. The document has also received the approbation of the Vice-Chancellors of the Universities of Oxford, Cambridge London, Bristol, Glasgow, Aberdeen, and Wales. As we have repeatedly pointed out, the universities are the chief centres of research; they advance science and, to regard the matter from the purely commercial side, they have unquestionably added millions to the national wealth by the way in which they have enriched industry and commerce. In return for their great services, and in order to continue to be able to give such service, they are asking the Government to assist in maintaining their relatively modest financial resources. Encouraged by the hope that funds raised locally would be met by a corresponding increase in Treasury grants, great efforts have been made and every form of self-help employed; severe economy has been practised in structural expenditure and in the maintenance and equipment of laboratories; students' fees have been increased so that one-third of the total income of the universities of the North is derived from this source; private benefactors have given 1,175,000*l.* in response to urgent appeals; and local authorities have increased their grants to these universities from 74,268*l.* in 1913–14 to 135,868*l.*

In spite of this effort and the proportion of the Treasury grant allocated to the universities of the North of England, heavy losses were sustained in the working of the last academic year. It is therefore considered that with a curtailment of the existing grant the efficiency of the universities will be seriously impaired. In other countries, with which Britain must come into competition, efforts are being made to increase the resources of the universities. It is only necessary in this connection to recall the case of McGill University of Montreal, which has recently received sums amounting to seven million dollars in gifts from private benefactors and subsidies from public funds. The universities are admittedly of prime national importance, and when their resources, exploited to the uttermost, are insufficient for the maintenance of efficiency and vigour, it becomes a national duty to provide the necessary additional funds.

The Royal Academy Winter Exhibition.

THE exhibition which opened this week of works by recently deceased members of the Royal Academy affords an opportunity of comparing the pictures which have been exhibited at different dates during the past fifty years with those of the present time as shown year by year at the summer exhibitions. Even a rapid tour round the galleries shows that, so far as landscapes and Nature studies are concerned, the past can well bear comparison with the present, the number of unsatisfactory representations of Nature in the present exhibition being remarkably few. This does not prove that such pictures were not exhibited fifty years ago; it may indicate only that the Selection Committee in making choice has avoided pictures of that type. It may, on the other hand, indicate that "recently deceased members" were less addicted to post-impressionism and similar phases of art than those still living.

Thirty-six artists are represented in the exhibition. Of those who excelled in landscapes Sir Ernest Waterlow must be mentioned. He is represented by eighteen works of almost uniform excellence. Alfred Parsons's landscapes are equally pleasing, particularly No. 233, "River Scene," first exhibited in 1878. His garden pictures are not quite so successful, the flowers not presenting in all cases an entirely natural appearance. Napier Hemy, whose sea paintings are so well known, is represented by several of these works, and also by views of the Thames in London, of which No. 80, "The Riverside, Chelsea" (1873), derives an added historical interest as showing a wooden bridge over the Thames in the foreground, the familiar square tower of Chelsea old parish church being seen behind. Much more ancient history is shown in "The Catapult" (No. 208), a stout wooden apparatus manipulated by Roman soldiers in the siege of a walled city. The construction looks strangely modern.

Peter Graham's works show much more variety than was to be found in his recent paintings. One of the earliest shown, "A Spate in the Highlands" (No. 105), exhibited in 1866, is typical of his modern work with hill-mist in a Scotch glen, but without cattle. Then in 1873 came a Highland farm scene, and in 1896 and 1898 two really excellent pictures of sea and rocks (Nos. 191 and 216). It is a great pity that a subject in which the artist showed such skill should have been entirely discarded later in favour of the mountain scenes, successful as these were. It would not be fitting to close this note without favourable mention of Briton Riviere's numerous scenes from animal life, some of which are very striking.

J. S. D.

Botany of the Argentine Republic.

THE Anales (vol. 29, 1917) of the Museo Nacional de Historia Natural de Buenos Aires, recently received, a bulky volume of 700 pages, is devoted to the botany of the Argentine Republic. The earlier portion of the book contains the first part of a catalogue of the flowering plants, with the preparation of which Messrs. Hauman and Vanderveken have been occupied since the foundation of the botanical section of the museum in 1914. The catalogue consists of a list of all the species recorded for the area, under their families, which are arranged according to Engler's system. The entries in each family have been revised by the latest monograph dealing with the family in question. Under each species references are given to the publications on the authority of which the species is included. A systematic enumeration of the results of botanical explorations in this large area of temperate and sub-tropical South America has been much needed, and it is to be hoped that the authors will carry it to completion. A communication by Mr. Hauman on the orchids of the Argentine gives some indication of the work which remains to be done.

Two main groups are represented, a sub-Antarctic (Patagonian-Andine) and a sub-tropical, the latter being the more important. The present work has increased by 50 per cent. the number of genera and species belonging to the sub-tropical group. Mr. Hauman also supplies a number of floristic notes, which conclude the series of memoirs he has already published on the Monocotyledons of the Argentine, in which he has added some seventy species to the flora, about one-third of which are new. The volume concludes with a revision by Mr. Carlos Spegazzini of the Argentine Laboulbeniales, that remarkable group of minute fungi which live parasitically on insects. The enumeration includes 213 species, each of which is carefully figured; a large proportion are described for the first time. The volume is a very important contribution to our knowledge of the botany of temperate South America.

University and Educational Intelligence.

DR. A. SMITH WOODWARD will give a lecture on fossil man, with special reference to the Rhodesian skull, on Tuesday, January 24, at 5.30 p.m. at University College, London. Tickets for the lecture, at 5*s*. and 2*s*. 6*d*., can be obtained from the Secretary of the college. The proceeds will be devoted to the St. Christopher's Working Boys' Club in Fitzroy Square, which is largely worked by students and members of the staff of University College. The chair will be taken at the lecture by the Right Hon. the Earl of Plymouth, who is president of the club.

THE second term at University College, London, begins on Tuesday next, January 17. The following are some of the public lectures to be given during the term:—"Industrial Unrest," by Mr. B. Seebohm Rowntree; "The Bridges of London," by Mr. A. T. Walmisley; "The Preservation of Ancient Buildings," by Mr. A. R. Powys; "The Evolution of Man" (four lectures), by Prof. G. Elliot Smith; "The University of London: Its History, Present Resources, and Future Possibilities," by the provost, Sir Gregory Foster; and two lectures by Sir George Aston on "Some Principles of Amphibious Warfare" and "War History and its Application." A copy of the full programme may be obtained by sending a stamped addressed envelope to the Secretary, University College, London, W.C.1.

THE annual general meeting of the Incorporated Association of Head Masters was opened on January 4 at the Guildhall, and the new president, Mr. C. M. Stuart, delivered his inaugural address. Mr. Stuart stated that the two most revolutionary changes in education—the introduction of the schemes for 25 per cent. of free scholars and advanced courses—were instituted without consultation with secondary school representatives. In consequence, the original schemes had already required several modifications. The whole scholarship system needed reform based upon the study of the capacities of boys. In making awards it was of no use to go below the first 10 per cent., for this meant rewarding mediocrity, and it was by no means certain that the best from among the mediocrity were selected. The following resolution was carried unanimously by the meeting:—"That this meeting, while recognising the need for economy in every department, is of opinion that the recently awakened public interest in education demands that no hindrance of any kind shall be placed in the way of educational progress."

Calendar of Industrial Pioneers.

January 13, 1890. Daniel Adamson died.—A pioneer in the use of Bessemer steel for boilers, in the application of hydraulic power for riveting, and in the use of high-pressure steam, Adamson in 1861 built one of the earliest triple expansion engines. He became the head of the Penistone Ironworks, served as president of the Iron and Steel Institute, and was one of the chief promoters of the Manchester Ship Canal.

January 14, 1908. John Macfarlane Gray died.—When manager of a works at Liverpool Gray in 1866 constructed for the s.s. *Great Eastern* the first successful steam steering engine, thus enabling one man to do what had previously required as many as one hundred. He was well known for his writings on thermo-dynamics and his advocacy of the application of scientific principles to engine construction.

January 14, 1830. Johan Georg Repsold died.—The founder of the famous firm of instrument makers, Repsold was born in 1771, and was long connected with the Hamburg Fire Brigade. He introduced improvements in meridian circles and supplied many instruments to the large observatories.

January 15, 1900. Thomas Egleston died.—After graduating at Yale, Egleston studied for some years at the Ecole des Mines in Paris, and in 1863 initiated the plan for the School of Mines of Columbia University, New York, where he held the chair of mineralogy and metallurgy for thirty-three years.

January 17, 1909. Francis Elgar died.—Trained in Portsmouth Dockyard, Elgar became one of the first fellows of the Royal School of Naval Architecture and Marine Engineering at South Kensington. He was assistant to Reed, Adviser to the Japanese Government, John Elder professor of naval architecture at Glasgow, Director of Dockyards, and head of the Fairfield Shipbuilding Company.

January 17, 1833. Friedrich König died.—At the age of thirty-two, in 1806 König removed from Leipzig to London, and in 1811 with Andreas Friedrich Bauer (1783–1860) patented the printing machine in which the paper was pressed against the type by a revolving cylinder. On November 28, 1814, the *Times* was first printed on one of König's machines driven by a steam engine, "a memorable day in the annals of typography."

January 18, 1861. John Heathcoat died.—A journeyman frame-smith, Heathcoat at Loughborough in 1808–9 brought out his lace-making machines. The first square yard of plain net sold for 5*l*.; the price in 1890 was 5*d*., while the annual value of the trade had grown to 4,000,000*l*. Heathcoat's factory at Loughborough was destroyed by the Luddites in 1816 and he removed to Tiverton.

January 18, 1865. James Beaumont Neilson died.—While in charge of the Glasgow Gasworks, where he introduced clay retorts and the use of sulphate of iron as a purifier, Neilson experimented on the air-supply for blast-furnaces, and in 1828 patented the "hot blast," which enormously increased the production of iron and made available the black band ironstone discovered by David Mushet. It has been said Neilson did for iron manufacture what Arkwright did for the cotton industry.

January 18, 1873. Pierre Charles François, Baron Dupin, died.—A student of the Ecole Polytechnique, Dupin first gained distinction by his papers on naval architecture and engineering. He made a profound study of the industries of Great Britain and was one of the first in France to raise statistics to the rank of a science. E. C. S.