## News and Views.

THE appointment is announced in the *London Gazette* of a Royal Commission on Museums and Galleries under State control in London and Edinburgh. The announcement is a welcome indication of the interest of the Government in the great national collections for which it is responsible. For many years the majority of the twenty institutions named in the terms of reference has each pursued its own course unhampered by consideration of the development of sister institutions, and now the promise arises of a means of unifying efforts and correlating activities, which cannot but result in benefit to the institutions themselves and particularly to the public which supports and makes use of them. The need for such an investigation has recently been strongly urged in NATURE by Sir Ray Lankester, and also in a leading article in our issue of April 16. The Commission is a strong one. Every member has had wide administrative experience: finance is specially represented by the Lord D'Abernon (chairman) and Sir Thomas Heath; artistic interests by the chairman, Mr. Evan Charteris, Sir Martin Conway, and Sir Robert Witt; education and the libraries by Sir George Macdonald and Dr. A. E. Cowley; the buildings in which the properties are housed by Sir Lionel Earle; and science by Sir Richard Glazebrook and Sir Henry Miers, the last of whom was himself at one time an assistant in the British Museum (Natural History). It is unfortunate that the Commission includes no one intimately qualified to weigh the evidence from the biological sciences, although they must occupy a large part of the inquiry, since they cover most of the Natural History Museum at South Kensington, the Royal Botanic Gardens at Kew, a large section of the Royal Scottish Museum, and the Royal Botanic Garden in Edinburgh, the name of which, surely by some slip, does not appear in the terms of reference.

IT is interesting to notice that in this official announcement the present clumsy title of the "British Museum (Natural History)" is simply replaced by "Natural History Museum"—a change long since advocated in these pages. The terms of reference are of the widest character. They include an inquiry into the legal position, organisation, administration, accommodation, and structural condition of the buildings and general cost of the institutions; an investigation of the past growth of the collections and estimate of the probable growth in the next half-century. Consideration is to be made of possible means of lightening the financial burden upon the taxpayer, either by curtailing expenditure or by instituting a more general system of entrance fees. The questions of duplicate specimens and their distribution by sale or loan to provincial museums; of better correlation between the exhibits of the State institutions; of hampering conditions attached to benefactor's bequests and the possibility of their removal or modification, are all specified as part of this comprehensive inquiry. An exceedingly important clause, which may well lead to a turning-point in the history of British national museums and galleries, reads: "to consider whether the existing administrative responsibility for the various institutions is the most appropriate under modern conditions and whether it conduces to the most advantageous distribution and display of the national treasures, and to report whether it would be desirable, while preserving certain defined powers to their Trustees or Directors, to place them all under some central authority or under different authorities than those at present controlling them." The terms of reference treat the national collections as educational units isolated from and independent of the rest of the educational system of the country. The position is a mistaken one; it is to be regretted that no hint is given of a desire to bring museum and art collections into active and responsible connexion with the great teaching institutions which lie outside the control of the State.

THE King of Spain has presented to the Natural History Museum, South Kensington, a group of Spanish ibex (*Capra pyrenaica victoriæ*) from Sierra de Gredos, Avila, Spain. It is a new race which was named by Prof. A. Cabrera after the Queen of Spain. The group, which consists of a male, female, and young, was mounted and realistically arranged in its natural rocky surroundings by Senor Luis Benedito, of Madrid, and the case containing it has been placed in the Central Hall, immediately facing the entrance. These specimens are the first of the race to be received at the Museum and form a valuable accession to the collections. The male and the young one were shot by the King on his estates. The race was a few years ago in danger of extinction, but, thanks to the King's active efforts to preserve it, its numbers have now increased to many hundreds. At the presentation, which was made by King Alfonso on July 7, King George was also present, and their Majesties were received by four of the Trustees—the Archbishop of Canterbury, the Earl of Crawford and Balcarres, Lord Rothschild, and Mr. F. Cavendish Bentinck—and by Sir Frederick Kenyon, Dr. W. T. Calman, Major E. E. Austen, Dr. W. D. Lang, Dr. G. T. Prior, Dr. A. B. Rendle, and Dr. G. F. Herbert Smith. The Spanish Ambassador and the Duke of Miranda were also present.

ELSEWHERE in this issue a communication from Mr. L. S. B. Leaky deals with the discoveries relating to early man in Kenya Colony, to which reference was made in NATURE of Jan. 8 last. Mr. Leaky's more detailed account fully confirms the importance of this discovery, although for the moment, pending a detailed examination of the implements, pottery, and skeletal remains, and a closer acquaintance with the conditions of the finds, judgment as to its full significance must remain in suspense. It is obvious, however, that this fresh evidence of early man in East Africa presents some very striking features. Particularly interesting is the addition to the sites outside Europe upon which

a microlithic industry has been found, especially if Mr. Leaky's contention that it is mesolithic can be sustained. Features of the skeletal remains with which this industry is associated mark it off most emphatically as the culture of a race quite distinct from any of the present or of the known recent inhabitants of the country. Reference to the illustrations will confirm the distinctive character of certain features which Mr. Leaky describes, especially the remarkable character of the Nakuru mandible with its high ascending ramus and the long and narrow non-negroid nose of the Elmenteita people. We regret that in our previous note, as pointed out by Mr. Leaky, it was inadvertently stated that his previous archæological investigations had been carried out in Uganda instead of Kenya, and that it was not made clear that his present expedition had no relation to the previous expedition of which he was a member.

FIFTY years ago a significant event occurred in the history of the human race, whether regarded from the biological or the sociological point of view—the trial of Charles Bradlaugh and Mrs. Annie Besant for republishing Dr. Charles Knowlton's pamphlet "Fruits of Philosophy," in which principles and methods of what are now called birth-control were described. From that trial sprang the neo-Malthusian or birth-control movement; the Malthusian League having been formed on July 26, 1877, followed by leagues in Holland, Germany, France, and several other European countries, and culminating in the American movement pioneered by Dr. W. J. Robinson and Mrs. Margaret Sanger. The interest evoked by the trial was so great that hundreds of thousands of copies and translations of the Knowlton pamphlet, of Dr. George Drysdale's "Elements of Social Science," and other booklets were sold within the next few years, and the birth-rate of England and several other countries, which had been rising before the trial, showed a more or less strong downward tendency from that year. Man had already begun to apply science to master most of the external forces of Nature, but he was still subject to the law of the struggle for existence due to excessive reproduction; and the year 1877 opened up a new era of man's control over his own destiny by the substitution of rational for natural selection. The Malthusian League will celebrate the jubilee of the Knowlton trial and of its own formation by a dinner at the Holborn Restaurant on July 26, at which Prof. J. M. Keynes will preside, and the speakers will be Dr. Annie Besant, Mr. H. G. Wells, Dr. C. V. Drysdale, and Mr. J. Sumner. Particulars can be obtained from the Secretary of the League, 120 Victoria Street, S.W.1.

THERE were at one time few British men of science more widely known than Sir Frederick Abel, the famous chemist, the centenary of whose birth falls on July 17 of this year. All his life Abel was associated with notable men and institutions. One of the twenty-six original students of the Royal College of Chemistry, he was made one of Hofmann's assistants and became the successor of Faraday at the Royal Military Academy, Woolwich. This appointment determined his career and most of his original work related to explosives. He collaborated with Dewar and with Noble, and with Dewar was the inventor of cordite. His standing was such that at various times he was president of the Chemical Society, of the Institution of Electrical Engineers, of the Iron and Steel Institute, and of the British Association. Neither did his public services end here, for on his retirement as Chemist to the War Office he was made chairman of the General Committee on Explosives, and for several years was Secretary and Director of the Imperial Institute. He took a leading part in promoting the testimonial to Hofmann in 1888 and delivered one of the Hofmann Memorial Lectures to the Chemical Society. Abel died on Sept. 6, 1902.

AN interesting development in the financing of industrial research has recently taken place in Australia. For many years tobacco has been grown in various districts, but for the most part the colour and aroma have been unsatisfactory, comparing most unfavourably with Virginian leaf. A leading tobacco manufacturing company in the Commonwealth, The British-Australasian Tobacco Co., Pty. Ltd., has incorporated as much of the local leaf in its products as its customers will accept, and has made considerable effort, without much success, to discover the reasons for its inferiority. It has now offered to provide £20,000 towards the cost of a thorough scientific investigation of the whole problem of tobacco-growing, on condition that the Commonwealth and State Governments provide £10,000. If, when this sum is exhausted, the results obtained appear to justify it, the Company will give an additional £30,000 if the Governments will give a like sum. Thus altogether £90,000 will be available for the investigation.

THE Commonwealth Government has accepted this generous offer, and the executive control of the work is to be handed to a committee of three members, Mr. H. W. Gepp (chairman of the Development and Migration Commission), Dr. A. C. D. Rivett (chief executive officer of the Council for Scientific and Industrial Research), and a third member to be nominated by them, who will probably be Dr. Darnell Smith of the N.S.W. Department of Agriculture. Dr. Smith has recently completed some very successful work on the control of blue mould in tobacco plants. The services of experts in tobacco growing both in the Commonwealth and abroad will be sought, but it is expected that many years of work will be required before the problem of growing first-class Australian leaf is solved. This is one of the first instances of a business organisation placing large funds for the investigation of a national problem in which it is interested at the disposal of government institutions, and it is to be noted that the Company has deliberately refrained from seeking any measure of control of the work or of the expenditure upon it.

SEVERAL interesting photographs of the eclipse of the sun on June 29, including the picture reproduced in NATURE of July 9, were shown at the meeting of

the British Astronomical Association on July 6. Among the lantern slides exhibited were some striking photographs of the corona taken at Giggleswick by Dr. R. L. Waterfield. One of these is here reproduced (Fig. 1) with the disc enlarged to double its diameter on the original negative. This picture was obtained with a Wray visual lens of 4-in. aperture and 60-in. focal length. A super-speed panchromatic plate (reputed speed, 1250), kindly prepared and provided by the Imperial Dry Plate Co., was used, and the exposure was just under one second. Five

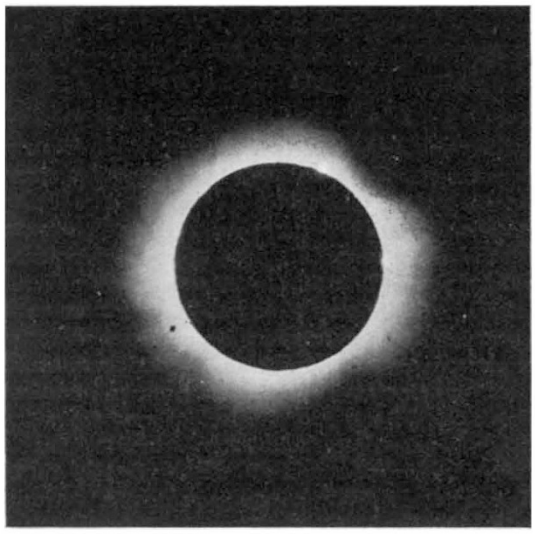

FIG. 1.—Photograph of solar corona, taken at Giggleswick on June 29 by Dr. R. L. Waterfield. ×2. Exposure 1 sec.

inches in front of the plate a Beta (Ilford) filter was placed, and this, by cutting out both the blue and red ends of the spectrum, corrected the visual lens and avoided sky scattering. The exposure factor of the filter was 3; hence the effective focal ratio was increased from *f* 15 to *f* 45. A large part of the extent, and much of the fine detail, has, of course, been lost in the process of reproduction, so that the accompanying illustration does not do justice to Dr. Waterfield's beautiful picture. We understand, however, that lantern slides are being prepared by Messrs. Hamblin, Ltd., 15 Wigmore Street, London, W.1, and will shortly be on sale.

COMMANDER R. E. BYRD, who recently flew the Atlantic and last year flew from Spitsbergen to the Pole and back, proposes to lead an expedition to the Antarctic leaving America in the autumn. According to the *Times* his base of operations will be on the edge of the Ross Barrier and the purpose of the expedition will be scientific exploration of Antarctica. The expedition will number about fifty men and will take two aeroplanes in addition to dogs and sledges. The aeroplanes are to be provided with floats interchangeable with skis. One of the machines will be three engined and used for a flight to the Pole. The other smaller machine, with one engine, is to be employed in reconnaissance work. Commander Byrd is reported to have expressed his belief in the existence of a large area in the continent not covered by snow. Enough is known of Antarctica to make it possible to deny the probability of this. At the same time, if landing-places prove suitable, some useful general work might be done by aeroplane, particularly to the south and east of Edward Land. In the autumn a projected Argentine expedition has already announced its plans of flying from Graham Land to Victoria Land.

THE terrible floods which have recently occurred in the Lower Mississippi valley have been taken as the text for an article issued by Science Service of Washington on the ancient issue of forests versus engineering works as means of preventing floods. America lacks any results based on actual scientific experimental work in this direction. But it is pointed out that the older countries of the world have spent long years (the word might have been centuries) in the hard school of adversity and in acquiring experience in this matter and have learnt many lessons. France, Italy, Switzerland, and Spain have suffered severely in the past through the disafforestation in mountainous regions of the catchment areas of the big rivers. Large sums of money have been spent in Europe and much patient experimental work has been carried out to build up the knowledge and scientific data which are available at the present day. In dealing briefly with this matter, the writer points out that floods are not only detrimental, through the sheer weight and force of the water, to property, both house and land, as also a danger to life; but he shows that they carry along with them in their destructive path great quantities of the earth's most fertile soil, which fills up reservoirs and irrigation works, silts up rivers and streams, chokes harbours and forms bars across the mouths of previously navigable rivers. He instances America's danger owing to the unchecked lumbering of the forests which has for so long taken place; and concludes his note with the statement that expert opinion nowadays is unanimous in making use of a combination of engineering methods and forestry to control floods, rightly saying that both foresters and engineers in Europe hold that the establishment of a forest cover is a very necessary step.

THE new giant dirigible R100, which is being built at North Howden, Yorkshire, will have accommodation for a hundred passengers and a crew of fifty. The electrical equipment is being provided by the Metropolitan Vickers Electrical Company and presents novel features, as considerations of safety and the necessity of using the lightest possible material complicate the problem. It is necessary to use equipment of the least possible size and the highest efficiency. Two generators giving a total output of 25 kilowatts are to be installed in the machinery cars, where they will be driven by the small petrol engines used for starting the main driving engines of the airship. The casings and fittings throughout the ship will be made of light alloys. A cable having its conductor

and sheathing both of aluminium will be used. As the envelope has a capacity of five million cubic feet of gas, every precaution has to be taken to prevent open-air sparking due to any fault in the wiring. The sheathing of the cable, although it is strong, is capable of considerable extension. In the event of undue forces being applied to it, the conductor will break whilst the sheath is still intact, and thus an external spark will be prevented. The electrical system provides for compartment and navigation lighting, compartment heating, cooking, water heating, and radio signalling.

RADIO beam communication has been making most satisfactory progress in Great Britain, mainly due to the ability of the engineers of the Marconi Company. The beam systems connecting the Post Office directly with Canada and Australia are working well. The system connecting London and Cape Town is finished, and the last of the Imperial group of the radio beam stations connecting London and India will be inaugurated next month. In the original contract it was specified that communication with Cape Town should be maintained for at least eleven hours a day. Senatore Marconi found in 1924 that when the wave-lengths transmitted were less than 100 metres, excellent communication could be maintained during the night time. He also found out that when the wave-length was lowered below 30 metres, daylight signals could be sent but night signals deteriorated. Further investigation showed that to Cape Town, wave-lengths of 33 metres were excellent during darkness and waves of 16 metres were equally excellent during daylight. By using two wave-lengths, therefore, they are able to maintain almost continuous service. The Marconi Company calculates that good traffic operation, high-speed duplex operation at speeds of more than 100 words per minute, can be maintained for about 22 hours per day outwards to Cape Town and about 20 hours a day inwards from South Africa. These results are as welcome as they are unexpected. This is the first station to use two wave-lengths, one for daylight and the other for night communication. It is particularly convenient that the standard time of the Union of South Africa is only two hours fast of Greenwich time. Sunset and sunrise therefore in both countries occur at nearly the same time. In the case of the Australian service, only one wave-length is used, but transmission takes place in one direction round the world during one portion of the 24 hours and in the opposite direction during the remainder of the time.

THE Institute of Physics gives notice that its examination of candidates for associateship will take place in London in September next. The latest date of entry for the examination is July 31. Forms of application can be obtained from the secretary, 1 Lowther Gardens, S.W.7.

RESEARCH Fellowships for work on textiles or any problem having a bearing on wool, in chemistry, engineering, physics, zoology, or other sciences, and Advanced Scholarships for those intending to enter the woollen and worsted industries, are being offered by the British Research Association for the Woollen and Worsted Industries, particulars of which are obtainable from the Secretary, Torridon, Headingley, Leeds. The latest date for the receipt of applications is July 31.

THE following have been elected honorary fellows of the Royal Society of Edinburgh: *British Honorary Fellows*—Sir William Bragg, Sir David Bruce, Sir J. B. Farmer, Sir F. G. Hopkins. *Foreign Honorary Fellows*—Niels Bohr, professor of physics, University of Copenhagen; Jules Bordet, professor of bacteriology, University of Brussels; Albert Einstein, professor of mathematical physics, University of Berlin; Hans Horst Meyer, emeritus professor of pharmacology, University of Vienna; Johannes Schmidt, Carlsberg Laboratorium, Copenhagen; Richard Willstätter, professor of chemistry, University of Munich.

A service of airliners for passengers and mails is being rapidly developed in America. Science Service of Washington gives details of several of the longer routes. A service between San Francisco and Chicago is now open and will be extended to New York in August. The transcontinental journey is timed to take 32 hours compared with about four days by rail. Other routes now working are between Boston and New York, Salt Lake City and Los Angeles, and Seattle and Los Angeles. The long-distance routes are now lighted for night traffic. On Aug. 1 the air mail routes will pass from government to private control, and most of the lines which now carry only mails will then cater for passengers also.

THE preliminary programme has been received of the fifth International Congress of Genetics, to be held in Berlin on Sept. 11-18. The presiding committee includes leading geneticists from various countries interested, and general addresses have already been arranged to be given by such well-known workers as Wettstein, Rosenberg, Pearl, Federley, Vavilov, Pézard, Correns, Seiler, Crew, and Muller. English, French, and German are proposed as the official languages, and other languages may be admitted by action of the Congress. The membership fee is 15 Reichsmark, while the subscription price for a copy of the *Proceedings* of the Congress is fixed at 30 Reichsmark. Ladies accompanying members to the Congress pay no additional fee. Those intending to read papers before the Congress are asked to notify the Committee before Aug. 1. The Congress is divided into three sections: (1) General genetics and cytology. (2) Heredity in man and eugenics. (3) Animal and plant breeding. In addition to papers and demonstrations, excursions during and after the meetings are being arranged. Requests for further information should be addressed to Prof. Erwin Baur, Albrecht-Thaer-Weg 6, Berlin-Dahlem.

AT the recent meeting of the Trustees of the Beit Memorial Fellowships for Medical Research, Dr. H. H. Dale, head of the Department of Biochemistry and Pharmacology of the Medical Research Council, was

appointed a member of the advisory board in succession to the late Prof. E. H. Starling. The following elections to fellowships were made, the subject of research and value and term of the fellowship being indicated after the name:—*Senior Fellowship in Tropical Medicine* (£1000 a year for five years): Dr. E. Hindle—spirochætosis, with special reference to the causation of yellow fever. *Junior Fellowship in Tropical Medicine*: Dr. H. P. Hacker—problems in the prevention of malaria. *Junior Fellowships* (£400 a year): Dr. F. R. Winton—the physiology and pharmacology of urinary secretion and the physiology of mammalian plain muscle; Mr. W. R. Wooldridge—bacterial chemistry and its application to immunological problems; Mr. W. T. J. Morgan—the structure of the hexosephosphoric acids by the method of methylation and subsequent oxidation; Mr. P. Eggleton—the carbohydrate metabolism of contractile tissue and a comparative study of different types of contractile tissue; Mr. G. F. Marrian—the physiological rôle of vitamin B, and the chemistry and physiology of the adrenal glands; Mr. A. R. Fee—the oxygen usage of the kidney, with particular reference to the action of pituitrin, and the factors controlling the elimination of acids and alkalis by the kidney, by the isolated heart-lung-kidney preparation and other methods. Three appointments of Junior Fellows to Fourth-Year Fellowships and one appointment of a Fourth-Year Fellow to a Senior Fellowship were also made.

APPLICATIONS are invited for the following appointments, on or before the dates mentioned:—A master for mechanical engineering subjects and mathematics at the Sheerness Technical Institute and Junior Technical School—The Principal, Technical Institute, Sheerness (July 18). Assistant chemistry and engineering drawing and mathematics masters at the Junior Technical School, Smethwick—The Director of Education, 215 High Street, Smethwick (July 23). An assistant to the director of the Clinical Laboratory of the Manchester Royal Infirmary, with research experience in physical or organic chemistry or in biochemistry—The General Superintendent and Secretary, Royal Infirmary, Manchester (July 28). A principal of the Mansfield Technical College—The Director of Education, Shire Hall, Nottingham (July 30). Two research fellows in the Department of Glass Technology, The University, Sheffield—The Registrar, The University, Sheffield (Aug. 6). A student probationer (Aug. 13) and a technical laboratory assistant at the Millport Marine Station of the Scottish Marine Biological Association—The Secretary, Scottish Marine Biological Association, 88 Bath Street, Glasgow. A professor of chemistry in the University of Melbourne—The Agent-General for Victoria, Australia, Victoria House, Melbourne Place, Strand, W.C.2 (Oct. 1). A lecturer in mathematics at the Gordon College, Khartoum—The Controller, Sudan Government London Office, Wellington House, Buckingham Gate, S.W.1. An assistant lecturer in science at the Training College, Carmarthen—The Principal. An engineering workshop instructor at the Battersea Polytechnic—The Principal, Battersea Polytechnic, Battersea, S.W.11. A demonstrator of pathology in the University of Bristol—The Registrar. Two entomologists in the agricultural department of Kenya and two entomologists in the agricultural department of the Straits Settlements and the Federated Malay States—The Private Secretary (Appointments), Colonial Office, 38 Old Queen Street, S.W.1.

## Our Astronomical Column.

THE NAUTICAL ALMANAC FOR 1929.—A number of changes and additions in this issue of the "Nautical Almanac" call for comment. At the meeting of the International Astronomical Union at Cambridge in 1925, a resolution was adopted to the effect that the ephemerides should give 5-figure values of the logarithms of the quantities $\rho \sin \phi'$ and $\rho \cos \phi'$, including the effect of altitude, for each observatory. This has already been done, and natural values as well as logarithms are given. The number of observatories listed has been more than doubled, while the list has been divided into two—active observatories and former observatories. A third or index list gives every conceivable cross-reference. The lists appear to be very complete, and it is stated that in each case the authority for the latitude and longitude is a reply sent by the observatory to a circular letter.

The list of Standard Times has been greatly extended, and Non-Standard Times added, so that two pages summarise the times adopted in every civilised country.

There is an addition which should be welcome to those who compute orbits of comets and asteroids. This is the sun's co-ordinates, both spherical and rectangular, for the equinox of 1950·0, for each midnight in 1928 and 1929. The longitude and latitude are given both to 0°·00001 and to 0″·1, and the natural radius vector (an invitation to calculating machines) to seven decimals; first differences are printed throughout. The co-ordinates $X$ $Y$ $Z$ are given to seven decimals as usual, but with first and second differences.

Two pages are devoted to interpolation tables, in the critical form, giving coefficients of the second, third, and fourth differences. It is believed that this is the first occasion on which the principle of critical tables has been applied to published interpolation tables. They can be recommended not only to astronomers, but also to all who have to deal with the art of interpolation.

The other features remain as in 1928. It is stated on page 667 that considerable changes are contemplated in the "Almanac" for 1931. The "Almanac" is available either in paper covers as formerly, or bound in cloth.

THE STONYHURST COLLEGE OBSERVATORY.—The Report of this observatory for 1926 is to hand. The solar disc was drawn on 281 days; the mean daily disc area of spots, in units of 1/5000 of the visible surface, was 5·33, as compared with 3·53 in 1925 and 1·36 in 1924. The activity was equally divided between the northern and southern hemispheres. The magnetic activity increased in sympathy with the spot activity. There were 31 per cent. 'quiet days' as compared with 36 in 1925. 32 earthquakes were recorded in 1926, 55 in 1925, and 106 in 1924.