

NEWS and VIEWS

H.R.H. The Duke of Connaught, K.G., F.R.S.

By the death, on January 16, at the age of ninety-one, of the Duke of Connaught, the Royal Society has lost its senior Royal fellow, for he was elected so long ago as 1906 under the rule which permits of the election of "Any one of His Majesty's subjects who is a Prince of the Blood Royal". Apart from this distinction, the Duke was probably best known to scientific men as the president for many years past of the Royal Society of Arts, in the activities of which he took a keen interest. He was also president of the Royal Colonial Institute, a fitting acknowledgment of his statesman-like services as governor-general of Canada and on other missions to various parts of the Empire. His work as a public servant will go down in history as an important link in the chain which binds together the peoples of the British Commonwealth of Nations.

Letter from Sir William Hooker

PROF. J. WALTON, regius professor of botany in the University of Glasgow, has recently acquired a letter (the text of which follows) written by Sir William Hooker, the well-known British botanist who was regius professor of botany at Glasgow during 1820-41, after which he was appointed director of the Royal Botanic Gardens, where he was followed by his equally illustrious son, Sir Joseph Hooker. The letter was written from Halesworth to Mr. Morris Pollock of Glasgow, on September 22, 1820. Prof. Walton informs us that it will be preserved in the University of Glasgow; he does not know whether the silver vasculum referred to still exists. The corrections and mis-spellings are as in the original manuscript.

"Let me beg of you to accept for yourself & to offer to the rest of my friends, the students of my first years Clafs my sincere & grateful acknowledgements for the very beautiful Silver vasculum & the kind expressions of regard for me & my family contained in the address therein inclosed, which have reached me this morning.

"The truly elegant box with its appropriate ornaments is greatly enhanced in value in my estimation (though this I feel to be intrinsically far beyond what I can deserve) by the handsome manner in which it has been presented to me, & by a recollection of the smallness of the Clafs from whom I received it. Be assured that though I needed no token of your regard to urge me to exertion in the duties of my profession in the University of Glasgow, I nevertheless have felt a gratification in receiving it which I know not how to express, & which will render my return amongst those who have taken such an opportunity of showing their friendship for me & interest in my welfare doubly agreeable to me.

"I am still labouring in the cause of Scottish botany in the preparation of a Flora of your country which will be published before the commencement of my next years course. The occupation continually brings to my recollection plants that I have long ago gathered amidst the most delightful scenery, & which I little thought would have been turned to any account.

"Once more let me return you my sincere thanks for the most gratifying gift I ever received in my life, & through you let me offer to my other students the expressions of my acknowledgements & the

affectionate attachment with which I have the honor to be, My Dear Sir your & their most obliged & faithful friend & servant Wm. J. Hooker"

Regional Propositions for Tyneside

THE second edition of Mr. D. M. Goodfellow's "Tyneside: the Social Facts" (Newcastle-upon-Tyne: Co-operative Printing Society, Ltd., 1941. 1s.) includes two further chapters on "Regions and their Planning" and on "Regions: the First Facts", which are relevant to the discussion of the regional propositions in the recommendations of the Royal Commission on Local Government in the Tyneside Areas, adoption of which in the main was recommended in the original edition of the pamphlet. The first of these new chapters reviewing the operation of the Town and Country Planning Acts in practice, suggests that the real difficulties in Tyneside are not due to problems of compensation but to the multiplicity of authorities. Territorial planning is a means for reviving and developing the manufacturing and agricultural industries of the area, but these positive purposes will never be realized with the present authorities, and in the second new chapter an area comprising the geographical counties of Durham, Northumberland and the North Riding of Yorkshire is proposed as a possible unit which might come to be defined as a local government region. Such an amalgamation would be a very different matter from one based upon the Mersey, Manchester or Birmingham, but amalgamations are probably most difficult where they are most urgent. However desirable the formation of regions may be, it would not of itself automatically solve all the problems.

A New Form of Government

IN his pamphlet "A Sling against the Philistines: the New Machinery of Government by the People" Denis Becker (London: Andrew Dakers, Ltd., 1941. 9d. net) proposes the establishment of a Ministry and Court of Enlightenment as a means of freeing Parliament and Ministers from the influence of financial and other interests which stultify representation in Parliament and threaten the freedom of the Press. The Court of Enlightenment would consist of nominees of each of the principal universities, of the learned associations such as the Royal Society, the Law Society, the British Medical Association, the Headmasters' Conference; of each of the established royal societies devoted to the arts, such as the Royal Academy of Music, the Royal Society of Arts, the Royal Institute of British Architects; of each of the recognized ecclesiastical bodies; of the agricultural associations, of the Trades Union Congress and of the Employers Federation, with two or three nominees by the House of Commons and the House of Lords of outstanding members, two nominees by the Prime Minister of eminent men not connected with the institutions already specified, and a nominee of His Majesty's judges who would be *ex officio* chairman.

The nominees would be freely elected by the members of the institutions concerned at intervals not exceeding three years, and the Court so constituted would be charged primarily with the duty of advising the Prime Minister on the promotion of welfare and culture with special reference to the best use of the rising standard of knowledge, technique and scientific discovery. It would be responsible for the control of the B.B.C. and of the Ministry of

Education, and, through it, with the provision of the best form of education for the new generation, and also for the publication of a State newspaper. Mr. Becker further proposes that all Parliamentary debates should be broadcast in full on a separate wave-length, and he proposes new parliamentary methods. He claims that his proposals harmonize the three estates of sovereign power, represented by the people, executive power and the power of the mind; but he emphasizes also the need for a spiritual basis if any new machinery is to work successfully.

Inter-American Relations

THE U.S. Office of Education is publishing a new series of some twenty pamphlets under the general title, "Education and National Defence", with the purpose of assisting educational institutions and organizations to make the greatest possible contribution towards the promotion of understanding and the encouragement of effective citizenship. Pamphlet No. 13 in this series, "Hemisphere Solidarity", is a teacher's guide on inter-American relations with special reference to Latin America, designed for senior high schools, to assist a better understanding of Latin-American neighbours and their contribution to the welfare of the western hemisphere as well as to stimulate thought on vital problems affecting mutual co-operation among the nations concerned. In addition to a discussion of methods of teaching hemisphere solidarity, it includes a suggested outline of problems and activities and a useful bibliography on sources of information.

Sir Charles Parsons and Turbo-driven Fans

THE Christmas issue of the *Heaton Works Journal*, which deals with the activities of Messrs. C. A. Parsons and Co., Ltd., contains an article on early turbo-driven fans. In 1894, when Sir Charles commenced his experiments on turbo-driven centrifugal pumps, he constructed the first turbo-driven fan. This was to the order of Ramage and Ferguson, Ltd., of Leith, who fitted it on board the S.Y. *Speedy* for supplying forced draught to the boilers. The unit was a very small one, the turbine developing about 3 h.p. at a speed of 4,000 r.p.m. The fan was of the screw propeller type, but no particulars of its duty or its dimensions are to be found among the records at Heaton Works. In the following year Sir Charles took out a patent, No. 3024, covering "Improvements in Stationary and Portable Pumps Actuated by Steam Turbines". The first part of this patent deals with turbo-driven centrifugal pumps, while the latter part is devoted to turbo-driven fans. The first of the figures given shows a modification of his invention in which he applies the turbine directly to a screw fan for forced draught, or ventilating purposes. One of the steam turbines is directly coupled to the fan shaft upon which the screw fan is fixed. It revolved at a speed of 2,000-3,000 revolutions per minute, gave a pressure of 12-22 in. of water and delivered 5,000-7,000 cu. ft. of air per minute. Simultaneously the second turbo-driven fan was constructed for the lead works of Messrs. Cookson and Sons at Howdon-on-Tyne. Like the first fan, it was required for forced draught purposes. The turbine developed 60 h.p. at 3,000 r.p.m. and operated with steam at 80 lb. pressure. The fan, which was 36 inches in diameter and directly coupled to the turbine shaft, delivered 60,000 cu. ft. of hot lead gases per minute at a pressure of 5 in. of water when running

at 3,000 r.p.m. The plant was run for nearly seven years day and night (Sundays included) in hot lead fumes, at a temperature of nearly 500° F. and was only stopped twice a year, to allow of the flues being cleaned out.

Octonarian Weights and Measures

IN "Octonaria" (*Math. Gaz.*, October, 1941) "Peter Simple" gives, in an account of an imaginary State, what is really a plea for a system of numeration and weights and measures based upon eight instead of ten. It is urged that continued divisibility by two is a property of the greatest importance. For example, the seven weights, each double the last, of 1, 2, 4, 8 ounces, and 1, 2, 4 pounds will make up every weight, to the nearest ounce, up to 127 ounces, whereas with the seven metric weights 1, 2, 2, 5, 10, 10, 20 grams, we get only as far as 50 grams. Some of the existing British measures fit easily into the octonarian system. For example, 8 pints = 1 gallon, 8 gallons = 1 bushel, 8 bushels = 1 quarter. As for money, if the crown (one eighth of £2) were divided into sixty-four pennies instead of the present sixty, each new penny would be fifteen sixteenths of the old.

The further proposal to have an octonarian system of numeration is more startling. In this, 10 would denote eight, 20 twice eight, 100 eight times eight, and so on. It is obvious that the risk of confusion would be very great, and the author's suggestion that 20 should still be called twenty, although denoting twice eight, seems to be a gratuitous increase of this risk. The plea that this system would reduce the length of the multiplication table does not seem a sufficient recommendation. The duodecimal system, which has many advocates, as allowing division by three as well as by four, is rejected by the author on account of the extended multiplication table necessary. There is one possibility not mentioned in this paper. If the octonarians and duodecimalians press hard enough, the British spirit of compromise may split the difference between eight and twelve and adopt a decimal and metric system.

Luminous Paint

IN NATURE of November 1, p. 529, reference was made to luminous strontium sulphide and its possible use for A.R.P. purposes. Dr. S. Rothschild points out that although this substance has a long afterglow when fresh, owing to its great sensitivity to moisture it soon deteriorates, even when protected with a special coating. It is only stable when kept airtight between glass plates and to a certain extent when embedded in plastics. Luminous calcium sulphide is less sensitive to moisture but also less bright. Luminous zinc sulphide, however, is stable even in damp rooms and is now obtainable with an afterglow sufficient for A.R.P. purposes.

A similar luminous effect can be obtained by illuminating a fluorescent substance with the appropriate radiation. The B.A.B. fluorescent system of lighting (Colloidal Research Laboratories, Ltd., 66-70 Petty France, London, S.W.1) has been applied successfully to mark the approaches to Piccadilly Underground Station and elsewhere. The fluorescent substance is applied in the form of hard wearing lacquer on a white undercoat, and is illuminated by either a mercury vapour or a white light lamp fitted with a 'black glass' screen which is claimed to pass only the band 3340-4000 Å., thus absorbing the dangerous radiations of shorter wave-length.