

in a report recently issued by the Forestry Branch, Department of the Interior, it is stated that at the present day, owing to altered conditions, there is small possibility of reviving the potash industry as formerly practised. The amount of potash to be recovered from the waste from the sawmills is considered to be too small to be regarded as commercially practicable for the mills to undertake its recovery. In most cases the only use for the ash from sawmill burners is for the farmers in the locality to apply it directly on the land.

Experiments made at Rothamsted recently have shown that the ash of hedge cleanings, consisting of grass, weeds, and clippings, contained on the average about 11 per cent. of potash, that is to say, about as much as kainit (Russell, Journ. Board Agric., 1914, vol. xxi., p. 694). The potash is present in a very soluble form (carbonate) and is rapidly washed away. If it is to be utilised, therefore, care must be taken to protect the ashes from showers of rain while they are cooling.

A rather neglected source of potash is the soapy water used for removing grease from wool. The matter soluble in water contains potash equivalent to 5 per cent. of potassium carbonate, calculated on the raw wool, but as the recovery of potash is not remunerative unless conducted on a large scale, the wool washings are usually allowed to go to waste. On the other hand, in Belgium, France, and Germany the wool suint is utilised as a source of potash; it is estimated that in the Roubaix district alone potash salts to the value of 100,000*l.* are obtained annually from this source.

One of the most promising future sources of potash supplies seems to be the recently discovered deposits in Alsace. In 1904 deep borings were made at Niederbruck in the hope of striking oil, but instead saline matter was encountered at the depth of 1174 ft. Since then the number of mines has increased to twelve; in 1912 the output was 137,243 metric tons, and in 1913, 350,341 metric tons. Recent reports state that the Alsatian deposits are probably continued across the Rhine into Baden.

During the past few years attention has been directed to the possibility of employing as manures, with or without previous treatment, minerals which contain potash in an insoluble form; the more important of these are alunite, felspar, and leucite. An account is given in the pamphlet of the methods which have been experimented with.

W. A. D.

PROF. D. T. GWYNNE-VAUGHAN.

AFTER completing barely one year of duty in the chair of botany at Reading, Prof. Gwynne-Vaughan died on September 4. He was only forty-four years of age, but he had made a solid position for himself as a plant anatomist, and he had already shown his capacity as a teacher and a director of research. A life not

only of promise, but also of notable achievement has thus come to a premature close.

Born in 1871, at Llandovery, he was educated at Monmouth School, whence he passed as scholar to Christ's College, Cambridge, and took the Natural Sciences Tripos. After graduation he held a mastership for a time, but soon relinquished it to pursue research. For this end he went to the Jodrell Laboratory, Royal Gardens, Kew, which was then under the directorship of Dr. D. H. Scott. Here his investigations of stelar morphology began, and in 1897 he published his first results on Nymphaeaceæ (Trans. Linn. Soc.) and Primulaceæ (*Annals of Botany*). A peculiarly lucid preliminary statement at the British Association at Liverpool (1896) led to his appointment as assistant in botany in the University of Glasgow, where he worked for about ten years, laying the foundation of his unrivalled knowledge of the anatomy of the Pteridophyta. In 1907 he became head of the department of botany in Birkbeck College, London, but after two years he was appointed professor of Botany in Belfast. Finally, in 1914, he took up similar duties at Reading. In 1911 he married Dr. H. C. I. Fraser, herself an accomplished botanist, who had succeeded him in the post at the Birkbeck College.

He acted for several years as secretary and afterwards as recorder of the botanical section of the British Association, winning the warm regard of all its members. His funeral occurring on the opening day of its current session in Manchester, the business of the section was by common consent suspended during the time of the service.

Gwynne-Vaughan's position as an anatomist is based, not only on his published works, but also upon a great accumulation of well-assured facts recorded in notes, which he readily made available to his colleagues. He was chiefly interested in stelar problems relating to the Filicales. From the list of his works two series of papers may be mentioned as of outstanding importance. The first includes the two memoirs on solenostelic ferns (*Ann. of Bot.*, 1901, 1903), in which he established the method of representation of the vascular system in the solid, as reconstructed from sections. The second series was written in happy co-operation with Dr. Robert Kidston, and dealt with the fossil Osmundaceæ (Trans. R.S. Edin., 1907-1911). Seldom have two minds blended their results more effectively. The one brought to bear a wide knowledge of fossils from the stratigraphical and systematic point of view. The other supplied critical and expert anatomical experience, based upon study of living plants. The result is a series of beautifully illustrated memoirs, which trace in a natural sequence of plants an anatomical progression which follows most convincingly the successive stratigraphical horizons. They also indicate the underlying method of that progression which finds its reflection in other series of vascular plants. Already these memoirs may be held to have taken their place among the botanical classics.

Work of such a nature already achieved makes

the more acute the loss of Gwynne-Vaughan at a relatively early age. To his colleagues he was most loyal and helpful. His own results were always strictly tested and criticised. The consequence will be that they will be durable, and take permanent place in the web of botanical science.

F. O. B.

THE BRITISH ASSOCIATION AT MANCHESTER.

THE British Association this year was favoured with exceptionally fine weather. The sun shone all day long, and not a drop of rain interfered with the visits to works and the short sectional excursions to places of scientific interest. The number of members and associates (1438), although satisfactory in the circumstances of a great European war, was small as compared with previous meetings. From these two factors it might have been anticipated that the attendances at the sections would be unsatisfactory. But from all accounts that have been received the section rooms have been well filled both in the morning and afternoon sittings, and the proceedings have been of quite exceptional interest and importance. It is evident, therefore, that the modifications of the usual programme that were made for the Manchester meeting have affected those who attend the association for the sake of the excursions and social functions far more than those who regard it seriously as an opportunity for scientific work and exchange of ideas.

It may be a question for the serious consideration of the council whether the Manchester model (1915), as it may be called, is not one which should be followed in future meetings of the association; but it may be said, without fear of contradiction, that the decision of the local executive committee to repeat its invitation, after the declaration of war, has been fully justified.

The reception by the Lord Mayor in the School of Technology on Wednesday evening was the only general social function of the week, but being fixed on the second day of the meeting it gave a welcome opportunity to members to meet their friends as well as to inspect the machinery, appliances, and lecture-rooms with which this great institution is equipped. The arrangements made by the committee for the visits of members to factories, warehouses, municipal undertakings, and various places of special interest in Manchester and district worked well, and the short excursions were well attended. The citizens' lectures given in Manchester and other towns in the neighbourhood attracted large audiences.

The meeting may be pronounced a decided success, and the vote of thanks to the local executive committee moved by the president at the concluding meeting on Friday evening was very heartily accorded.

Next year's meeting is to be held at Newcastle, under the presidency of Sir Arthur Evans, but final arrangements will not be made until about

next March. The place of meeting in 1917 is to be Bournemouth.

Subjoined is a synopsis of grants of money appropriated for scientific purposes on behalf of the general committee at the Manchester meeting just concluded. The names of members entitled to call on the general treasurer for grants are prefixed to the respective committees. Reappointed committees are starred, and it will be noticed that of the forty-one committees receiving grants, only five are new.

Section A—Mathematical and Physical Science.

	£	s.	d.
*Prof. H. H. Turner—Seismological Observations	130	0	0
*Sir W. Ramsay—Tables of constants ...	40	0	0
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Section B—Chemistry.

*Prof. H. E. Armstrong—Dynamic isomerism	20	0	0
*Prof. F. S. Kipping—Aromatic nitroamines	10	0	0
*Mr. A. D. Hall—Plant enzymes	10	0	0
*Prof. H. E. Armstrong—Solubility phenomena	5	0	0
*Prof. H. E. Armstrong—Eucalypts ...	30	0	0
*Prof. Orme Masson—Influence of weather conditions on nitrogen acids in rainfall and atmosphere	20	0	0
*Prof. W. J. Pope—Crystalline form and molecular structure	10	0	0
*Dr. F. D. Chattaway—Non-aromatic diazonium salts	8	10	0
Sir J. J. Dobbie—Absorption spectra, etc.	10	0	0

Section C—Geology.

*Prof. Grenville Cole—Old Red Sandstone rocks of Kiltoran	7	0	0
*Prof. W. W. Watts—Critical sections in Palæozoic rocks	20	0	0
*Prof. P. F. Kendall—List of characteristic fossils	10	0	0
Dr. J. Horne—Old Red Sandstone rocks at Rhynie... ..	25	0	0
Dr. R. Kidston—Lower Carboniferous flora at Gullane	8	0	0

Section D—Zoology.

*Dr. A. E. Shipley—Belmullet Whaling Station	25	0	0
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Section E—Geography.

*Sir C. P. Lucas—Conditions determining selection of sites and names for towns	15	0	0
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Section F—Economic Science and Statistics.

*Prof. J. H. Muirhead—Fatigue from economic standpoint	40	0	0
*Prof. W. R. Scott—Industrial unrest ...	20	0	0
*Prof. W. R. Scott—Women in industry	90	0	0
*Prof. W. R. Scott—Effects of war on credit, etc.	25	0	0

Section G—Engineering.

*Prof. J. Perry—Complex stress distributions	40	0	0
*Dr. Dugald Clerk—Gaseous explosions	50	0	0
Dr. H. S. Hele-Shaw—Engineering problems affecting prosperity of the country	10	0	0