

of the meetings. The final meeting of the members of the conference was held at the Palais d'Orsay at a banquet presided over by M. Loucheur, the Minister of Industrial Reconstruction, at which Lord Moulton was also present.

During the meeting of the conference some interesting papers were read. Prof. H. Louis gave an excellent summary of the magnetic concentration of poor iron-ores, a subject of special importance to our Allies at the present moment.

Dr. F. Cottrell reported fully on the recent production of helium in the United States, describing the new plant which has been erected in the U.S.A. for the freezing of gases by the cylinder-expansion process. Helium is one of the most recent and best illustrations of the co-operation of science and practice. First detected in the sun by Sir Norman Lockyer by means of its spectrum, and afterwards found in the earth by Sir William Ramsay, it was detected in gases from subterranean sources by various observers, especially by Prof. Moureu, who published his results in the *Annales de Chimie* in 1915 and 1916, and gave some further particulars of his researches in the discussion on Dr. Cottrell's paper. At the commencement of the armistice the practical work done in the United States, following that carried out in connection with the British Admiralty Board of Invention and Research (see *NATURE*, February 20), had resulted in the accumulation of a large quantity of helium, which is now available for other than warlike purposes.

On April 16 many of the delegates visited the devastated region of Chauny, Tergnier, and St. Gobain. This is classic ground for the chemist, as it was here that the Leblanc soda process was first installed on a large manufacturing scale, and the Gay-Lussac tower was also originated there, its inventor being a director of the St. Gobain Company. The date, 1665, on the ruined portal of the glass factory shows its antiquity. The ruin wrought by the invaders was systematic and complete; in the villages not even the humblest cottage remained uninjured, and what was an industrious and prosperous community has been totally ruined: let us hope for a short time only.

The Inter-Allied Council has a big task in front of it, and the first thing will be for the various members of the council and committees to get to know each other. Not only has the work to be done, but the right men have also to be chosen to do it. It will be some time before the different nations, speaking different languages and looking at matters from different points of view, can so organise themselves that they can accomplish their task smoothly and efficiently. But the goodwill and determination which exist should be sufficient to enable them to achieve success. The various chemical societies in this country will no doubt communicate their wishes and ideas to the Federal Council, and by the end of this summer it should be possible to put forward some practical scheme and a carefully considered programme.

NO. 2584, VOL. 103]

THE ROYAL ACADEMY.

A VISIT to the Royal Academy cannot fail to be of interest to those who take pleasure in the ways of Nature, the varying moods of which are shown in so many of the pictures exhibited. Unfortunately, it has to be admitted that while there is much of interest to the scientific worker in each year's exhibition, there is also much that is jarring by reason of its lack of adherence to the truth. So much adverse comment is passed upon the works of the exhibitors by artistic critics at the opening of the exhibition each summer that it is perhaps natural for artists to make greater efforts to meet this criticism than a purely scientific criticism, which in general, though well deserved, remains unvoiced. To the man of science no result can be pleasing which is produced merely for the sake of effect and in its production overrides the laws of Nature. As an example of this type may be cited "Off the Western Land" (198) in the exhibition which opened at Burlington House at the beginning of the present week. It is difficult to believe that the combination of colours there depicted on the sea and in the sky could ever be approached in Nature. In the same way the colouring of the clouds in "The House on the Sea Wall" (309) cannot be passed over without comment. The complete semicircular rainbow in "Passing Storm" (232) seems to be independent of the presence of raindrops in its formation. While rain is seen to be falling in one part of the sky, the artist appears to have gone out of his way to indicate that there is no rain in another part of the bow, the cumulus cloud behind showing up with absolute clearness.

A study of the landscapes in successive exhibitions reveals the fact that an artist may often be known by his clouds, just as surely as by the type of country which he chooses for his subject. The typical cloud in a Leader is the soft cumulus, always produced with admirable effect. Arnesby Brown is another whose works may readily be distinguished by the cloud forms depicted, though the meteorologist is not always able to pass an entirely favourable verdict upon the result. The cloud effect in "A Village by the Sea" (96) by this artist deserves, however, its meed of praise. Peter Graham's mountain scenes generally show patches of mist amongst the hills, while this year, in "A Shower across the Hills" (150), falling rain has been introduced with a very pleasing result. A study of the fairly numerous pictures in which a portrayal of rain is attempted leads to the conclusion that the subject is far from an easy one to treat successfully. In "By the Woodside" (H. Sylvester Stannard, 673) an unpretentious but natural sky showing through the trees adds much to the success of the picture. Snow scenes have attracted an unusually large share of attention in this year's exhibition, and they are generally dealt with successfully. In "Through the Woodland Snow" (J. Farquharson, 19) the soft, moist look

of the snow which half covers the ground allows of no other conclusion than that a thaw has set in, and that the snow covering will not long remain. In "Day Departing in the West" (171) the same artist has another attractive snow picture. There is a curiously unnatural appearance about "The Bathers' Pool" (765). Here a sandy beach is depicted, but the sand, instead of sloping gently to the sea, is cut away in an almost vertical "cliff" at the water's edge, the face standing at an angle which looks most unreal.

The sea scenes which appear in numerous pictures call for little comment, and, though some are pleasing, few are of outstanding excellence. In this branch of painting, the gap left by the death of C. Napier Hemy seems to remain unfilled. Now that the scientific spirit is beginning to permeate the world, and is no longer confined to a few specialists, it may be hoped that artists will come to realise that a true representation of Nature may be not inconsistent with the highest artistic success, while a travesty of Nature must fail to satisfy a large and growing section of the general public.

J. S. D.

ROBERT CHAPMAN DAVIE.

OF the sad fates that have befallen so many who have helped to win the war for us, the succumbing to an attack of influenza on return home after years of physical hardship in the war zone is of the saddest. That has come to Capt. Robert Chapman Davie, R.A.M.C., a botanist from whom much was expected as teacher and researcher. Capt. Davie crossed the Channel on his way home on January 25, was attacked by influenza two days later, and after a week's struggle died of pneumonia at Largs on February 4.

Born in Glasgow thirty-two years ago, Davie was educated at the Glasgow High School and at the University of Glasgow, where he graduated M.A. in 1907, obtaining a first class in English literature. Later, in 1909, he took the degree of B.Sc., distinguishing himself particularly in botany and in chemistry. In botany he was Dobbie-Smith gold medallist and also Donaldson research scholar. Whether botany or chemistry was to attract him for his life-work he had difficulty in deciding. The enthusiasm of his botanical teacher, Prof. Bower, finally determined his devotion to botany, and he became an assistant in the botanical department of his *alma mater*. In 1912 Davie migrated to fill the post of assistant in the botanical department of the University of Edinburgh, and in 1913 he was appointed lecturer on botany in the University. In 1915 he graduated D.Sc. of the University of Glasgow. His appointment a couple of years ago as one of the secretaries of the botany section of the British Association pleased him greatly, and was an apt choice of a man with much business capacity and wide botanical knowledge. An attack of rheumatic fever in early life had somewhat undermined his health, causing him frequently some heart trouble,

NO. 2584, VOL. 103]

and in consequence of this he was able to join the Army only in 1917 to fill a post where scientific knowledge rather than physical endurance was required, and he was at the time of his death senior chemist in the 4th Water Tank Company in France.

A prominent characteristic of all that Davie did, whether as teacher or as researcher, was that of precision, and his literary gifts enabled him, alike in the lecture hall and in his writings descriptive of his scientific research, to present his facts and arguments with a fluency of diction and a grace of style that ensured lucid exposition. His chief research was in the domain of the Pteridophyta, a natural consequence of his upbringing in the home of work in the group under Prof. Bower. An investigation of the East Asiatic ferns of the genera *Paranema* and *Diacalpe* was his first essay (1912), and in the course of settling disputed points of their relationships he entered the controversial field of the "fern stele and pinna-trace," wherein he reaped largely then and also later, carrying on his line of research from the ferns, through the Cycads, into the Angiosperms.

Davie's grouping of the ferns by the form of the leaf-trace in his last paper, published so recently as 1918 during his absence, is essentially in harmony with groupings to which Prof. Bower and others had been led by analysis of other characters, and shows that amidst the laborious examination of the dry bones of anatomy Davie's research was inspired throughout by thought of origins and adaptations. How, why, when, are its keynotes, and the facts, bald statement of which as evidence of difference or likeness satisfied many of the older writers on the same subject, interested Davie solely from the point of view of interpretation. This attitude finds expression in his most important paper—delayed in publication through the manuscript having been destroyed by a fire at the printers', and having to be rewritten—in an interesting analysis of the relative degree in which phyletic factors and those of specific adaptation have been operative in bringing about the forms of leaf-trace development in connection with water supply in plants. If the precision of his mind led him at the moment to segregate factors in the several groups and classes of vascular plants with a definiteness of generalisation which addition to the few data as yet available outside the ferns may show to require modification, the attempt and its methods are suggestive, and, carried further, as was his intention, must, in his hands, have thrown much light upon the proper appraisal of the value of anatomy in questions of obscure relationships of the higher plants, and given clues helping to the understanding of their phylogeny in relation to cosmic history.

On removal to Edinburgh, Davie took up the study of the Proteaceæ from the phyletic point of view; their conjectured relationship to Leguminosæ fascinated him. Assisted by a grant from the Royal Society, he spent some months of 1914 in Brazil making observations and gathering material, especially of *Roupala*, which, through its