Mycelium similar to that found in other parts of the plant has been traced in the floral organs and in the ripe seed. So far mycelium has not been absent from any seed examined from an infected plant.

The mycelium occurs as scattered strands in the pales and pericarp, but it is most abundant immediately outside the aleurone layer and between the endosperm and the scutellun. The mycelium does not appear to penetrate the cells. It has been traced within the tissues of the embryo itself, and in the first leaf of seedlings grown from infected seed under aseptic conditions.

The cytological relationship of the host and parasite as revealed under the microscope does not betoken any decided parasitic tendency on the part of the fungus, but an examination of the seed produced by infected plants gave definite statistical evidence of the adverse influence of the parasite.

The invasion of *Festuca rubra* by *Epichloe typhina* and its transmission by the seed are of particular interest in comparison with the endotrophic fungus of the genus Lolium investigated by Freeman and by McLellan.[1] Certain points of difference, notably the intracellular mycelium of the Lolium fungus, and its more thorough invasion of the seed, make it unwise in the present state of knowledge to push the comparison too far. Another parallel might be drawn between the behaviour of *Epichloe typhina* and the mycorrhizal fungus of Calluna described by Rayner.[1]

A further point of interest arising out of the present studies is the discovery of a fungus, in the roots of *Dactylis glomerata*, *Alopecurus pratensis*, and *Festuca rubra*. The fungus has an intracellular mycelium of the Phycomycete type and resembles that recently described in the mycorrhiza of various plants including wheat, *Holcus mollis*, *Festuca ovina*, and the genus Lolium.[1] In my opinion this fungus has no genetic connexion with *Epichloe typhina*.

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[1] References to the original papers on these topics may be found in the recent book by Dr. M. C. Rayner, entitled "Mycorrhiza, an Account of Non-pathogenic Infection by Fungi in Vascular Plants and Bryophytes," *New Phytologist Reprint*, No. 15, 1927. The references are too numerous to print here.

Activation of Hydrogen by Electric Discharge.

IN a recent paper, Mr. G. A. Elliott (*Trans. Faraday Soc.*, **23**, 60; 1927) describes experiments on active hydrogen in an ozoniser. The activation was determined as usual by leading the active hydrogen over solid sulphur (which was placed very near to the discharge tube).

A mechanism of activation is herewith proposed which does not need such hypothetical species as H_3 (see F. Paneth, etc., *Zeit. f. El. Ch.*, **33**, 102; 1927) and only involves ions and electrons. If the stream of hydrogen leaving the discharge tube carries ions (H^+_2, H^+, or both) and electrons, due to the fact that they have not all recombined, then the electrons may readily combine with the sulphur atoms, because the latter have a decided affinity for electrons. Sir J. J. Thomson uses this idea to explain certain phenomena in the electrodeless discharge in gases (*Phil. Mag.* [7], **4**, 1153 and 1157; 1927). The next step in the ozoniser reaction is then a simple ionic combination (see S. C. Lind, "Chemical Effects of Alpha Particles and Electrons." Second edition, Jan. 1928, Chemical Catalog Co., New York) between H^+ and S^- with the resultant production of H_2S. With the sulphur placed close to the discharge it is very likely that it is under an electric field due to leakage, and it is not necessary then to regard a slow rate of recombination of gas ions as essential.

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Oxfordshire Flowers and the Plot Memorial Windows.

IN NATURE of May 28, 1927, p. 798, in the excellent account of the unveiling of the Wren-Ashmole-Plot Memorial Windows at Oxford, it is said that "the surrounding wreath is of two Oxfordshire flowers which Plot was the first to recognise as new to the British flora"—*Viola palustris* and *Geranium dissectum.*

I have dealt with these in my Oxfordshire Flora (lxxvii) and quote Morison's remark upon the Viola. He says (*Pl. Hist. Un. Ox.*, iii. 475, 1680): "Detecta fuit a Jacobo Bobert decennio abhinc"; moreover, it is doubtless Parkinson's ("Theatrum," 755, 1640) *Viola rubra striata Eboracensis.* So, too, with *Geranium dissectum*, Morison does not give Plot, but Bobart as its discoverer. It was actually included in Thomas Johnson's "Catalogue of Kentish Plants," published in 1629. So that neither of the two plants selected to appear in the wreath were actually new to Britain.

Plot, however, did discover a new species of elm (*Ulmus Plotii* Dr.) as well as *Potentilla procumbens*, *Sagina apetala*, and *Eleocharis acicularis*, the two latter not very adaptable for depiction in a floral wreath. The viola, however, and geranium are both figured in his History.

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Experimental Measurement of the Surface Tension of Solids.

IN previous publications I have shown that the surface tension of solids can be determined experimentally by methods which do not involve any hypothesis as to molecular structure. As there is evidence that the structure of rock salt is more complicated than it appears at first sight, I devised a method which enables the molecular forces to be determined in a direct way. The method is limited to a certain range of values and is not applicable when the substances used act on each other; I have determined the surface tension of glass and rock salt. Now I find that this method, described in the *Phil. Mag.*, June 1926 and Oct. 1927, suitably modified, can be also used for many other substances and some metals in particular. Thus it is possible to determine the surface tension of antimony, bismuth, lead, tin, aluminium, cadmium, and zinc. For metals with higher surface tension, certain adjustment of physical properties is still necessary, and this will be done in due course.

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AN unfortunate error has crept into the last paragraph of my article (NATURE, Dec. 31, 1927, p. 969). 125 pengö (not penzö) approximately equals, not 14*s.* 4*d.*, but £4 4*s.*, and 25 pengö is about 16*s.* 8*d.* Since the article was written in Budapest, I am at a loss to account for the error, and I apologise for having overlooked it in proof.

F. A. BATHER.