appointment among farmers. New hybrids immune from biotypes *A*, *B*, *C*, *E* and *F* are now under trial.

During 1950, the foliage of certain woody perennial species of *Solanum* were attacked by blight. In the Highlands of Kenya, these plants abound as weeds of waste places and pastures and as forest undershrubs. No blight had been observed on them hitherto. The disease was first seen on *S. indicum*, growing in forest shade at 6,000 feet near Nairobi. A few weeks later it was collected on leaves of a *Solanum* species, near to *S. pandurœforme*, in forest clearings at the foot of Mt. Kenya some hundred miles to the north-east. A further search discovered *S. incanum*, one of the commonest species, to be generally attacked in the vicinity of the originally observed outbreak on *S. indicum*. (All plants were determined by P. J. Greenway, East African Herbarium.)

Sporangia from *S. incanum* readily infected an unknown variety of potato, from which plants the fungus was transferred to *S. indicum*. Tests by Dr. Black with cultures from this isolation indicated strain *C* as the biotype.

It would appear that a period of approximately ten years elapsed before the resistance of three of the indigenous *Solanum* species to this exotic fungus was broken down.

The occurrence of *P. infestans* on widely distributed perennial host plants may offer new scope for the evolution of yet more aggressive strains of the fungus.

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[1] Nattrass, R. M., *E. Afric. Agric. J.*, **7**, 196 (1942).

Changes in Colour Sensitivity of the Eye with Posture

The colour sensitivity of the human eye appears to be influenced, among other factors, by the physical position of the observer.

Normally, when an observer is making colour comparisons, he is in the erect position and with normal vision both eyes exhibit similar colour sensitivities. I have observed, however, that if the observer is in the prone position lying on one side, a gradual difference between the colour response of the two eyes develops. After a few minutes the lower eye becomes markedly red-sensitive compared with the upper eye. If now the observer lies on his back, the two eyes gradually return to equality of colour response. By turning on to the opposite side, the eye formerly red-sensitive will be uppermost and will then gradually develop blue-sensitivity compared with the lower eye.

It occurred to me that this effect, which I have not seen mentioned elsewhere, may be of interest in connexion with theories of colour vision.

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The Theory of Magnetic Storms and Auroras

In *Nature* of June 16, in a communication on the theory of magnetic storms and auroras, Prof. H. Alfvén emphasizes the need for the theorist to test his work by experiment. He and his colleagues have striven to follow this laudable maxim, which was also urged in his book[1], for example, on p. 37 regarding cosmic discharges, and on p. 78 regarding magneto-hydrodynamic waves (and a note added in proof records the success of S. Lundquist in experimentally demonstrating them). He gave (pp. 39–41) the scale relations between various physical magnitudes involved in laboratory experiments for illustrating large-scale natural phenomena, and these he discussed also (pp. 201–203) in relation to Malmfors's experiment intended to illustrate magnetic storm and auroral theory.

The difficulty is that it may be beyond present experimental powers to fulfil these scale relations in the laboratory—and Prof. Alfvén remarks (p. 201) that this is so regarding the magnetic field in Malmfors's experiment. I have myself recently proposed[2] another experiment to illustrate magnetic storm theory; the fulfilment of the scale relations involved will certainly be difficult, though apparently not impossible. Not having at my disposal experimental skill or facilities, I should much welcome the execution of the experiment by Prof. Alfvén and his colleagues.

Failing such experiments, a purely theoretical treatment, as Prof. Alfvén remarks (p. 37), though "certainly very precarious", is "still, in many cases, the only way of attack". Prof. Ferraro and I, in our work on magnetic storms[3], have often mentioned our consciousness of the precarious nature of such work, and Prof. Alfvén, in his summary and discussion[1] of his own theory[4], likewise very properly makes many reservations as to the proof of his conclusions and the need for the extension of his analytical treatment.

A theorist in such a field must select what he considers the initial bases for the theory, and then develop it from these premises as accurately as possible; mathematical difficulties may force him to stop his chain of deductions without having taken it as far as he would like, and also to leave some of the links weaker than he would wish. The choice of the initial bases may be partly a matter of dispute, and so may be the accuracy of the chain of reasoning from them.

Prof. Ferraro and I will welcome the publication of the objections to our theory that Prof. Alfvén believes are fatal to it, so that if they are invalid we may rebut them, or if valid, re-direct our efforts.

Prof. Cowling[5] has criticized the accuracy of the deductions made by Prof. Alfvén from his initial premises, and his criticisms have not yet received a satisfactory answer, though they are referred to in "Cosmical Electrodynamics", p. 200.

But the subject is far too intricate to be suitable for its details to be discussed in the correspondence columns of *Nature*.

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June 28.

[1] Alfvén, H., "Cosmical Electrodynamics" (Clarendon Press, Oxford, 1950).
[2] Chapman, S., *J. Terr. and Atmos. Phys.*, **1**, 189 (1951).
[3] Chapman, S., and Ferraro, V., *Terr. Mag. and Atmos. Elec.*, **36**, 77, 171, 186 (1931); **37**, 147, 421 (1932); **38**, 79 (1933); **45**, 245 (1940); **46**, 1 (1941).
[4] Alfvén, H., *Kungl. Sv. Vet. Akad. Handl.*, (3), **18**, Nos. 3 and 9 (1939, 1940).
[5] Cowling, T. G., *Terr. Mag. and Atmos. Elec.*, **47**, 209 (1942).