

The content of the various sections is inevitably rather unbalanced because the study of air pollution is a relatively young subject compared with the other environmental stresses and, in consequence, is here more fully documented. The very brief discussion of the environmental variables and the plant's physiological responses to them was, at first sight, disappointing, but a textbook cannot include everything and, as his carefully selected references show, these topics are amply discussed elsewhere.

The illustrations bring together a collection of photographs of stress and pollution injury which will be both useful and unfamiliar to many workers, but how much better they would have been in colour; surely not beyond the publisher in a book at this price? The compendium of symptoms attributable to each stress factor is logically subheaded by reference to the type of plant, the organ affected and the nature of the damage and, for this reason, it is easily used for reference; this is particularly apparent in the pollution section which will be useful to many research workers, students and teachers as a comprehensive survey of the subject literature. Mistakes

appear infrequently, the only ones I noted being minor errors in the citation of a few references.

The chapters on mineral deficiencies and toxicities are disappointing, containing little more than lists of symptoms in different plant species; for diagnostic purposes these will be much less useful than good colour photographs. There are notable omissions in this part of the book: for example, water excess is discussed but soil aeration in general is not; brief discussion of mineral nutrition is there but with no specific reference to the role of soil pH, while interactions between nutrients such as iron and manganese are hardly mentioned. These are criticisms, not so much of the book, which is generally good, but of the title, which is so all-embracing.

I suppose that most botanical and agricultural libraries will buy this book, but its price may deter many undergraduates. It may well open the eyes of some pathologists who naturally think of diagnosis in terms of causative organisms, and act as a salutary warning to those ecologists who sometimes forget that most plants live under recurrent environmental stress.

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## Obituaries

### Mr Tom Eastwood

TOM EASTWOOD, a former assistant director of the Geological Survey of Great Britain, died on March 28. He was born at Burnley in December 1888, and was educated at Burnley Grammar School and Imperial College, gaining his ARCSc in 1911. In the same year he joined the Geological Survey as geologist. He served in the RAMC in the First World War, and was promoted to senior geologist in 1922 shortly after his transfer to the Whitehaven office, newly formed for the purpose of re-surveying the coal and haematite mining field of West Cumberland. In 1930 he succeeded Dr Bernard Smith as district geologist. By 1935 the unit's work in West Cumberland was completed and its members returned in time to be housed at the new Geological Museum in South Kensington. In 1937 Eastwood was appointed assistant director for England and Wales, a position which he occupied with distinction until his retirement in 1949.

During his thirty-eight years as a survey officer the principal efforts of the organization were devoted to the coalfields, then, as now, the most important crustal assets of Britain. Geological surveying on the 1:10,560 scale, both on the surface and underground, had already reached a high state of excellence; by the end of Eastwood's time this work was probably unequalled anywhere else. His own special contributions dealt first with the small Warwickshire coalfield, and then with the Whitehaven-Workington district, at that time at the peak of its productive capacity with workings extending more than three miles under the continental shelf. His final work in Cumberland, only recently published ("The Geology of the Cocker-mouth District", in *Mem. Geol. Surv.*, 1968), dealt with an outlying but geologically interesting area. Here he established the Carboniferous age of the Cocker-mouth basalts, thus extending into England evidence of volcanicity previously supposed to be confined to lowland Scotland. The return to London brought the revision of the Forest of Dean coalfield under Eastwood's control, and he himself mapped a central area of one-inch Sheet



233. Subsequently he introduced two important innovations to Geological Survey practice: the construction of individual seam maps for the coalfields, making it necessary to clarify ideas of precise correlation and enabling the reserves to be worked out with greater accuracy; and the use of borings, specially drilled for the Survey, to explore for new resources.

Eastwood was also deeply interested in metalliferous ore deposits; scientific investigation of the high-grade iron ores of west and south Cumberland, Furness and Dean Forest all came under his control, as did the wartime work on the lead, zinc and copper ores in the north of England and in Wales.

He is survived by his wife Emily, whom he married on Whit Tuesday, 1915.