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THE "RED ROCK FAULT"

SIR,—Along many lines separating the outcrops of Triassic (or Permian-Triassic) from older rocks in England faults are frequently mapped and incorporated in the written records. In most of these instances such a fault does not, on the face of it, appear to be necessary to explain the observed facts, and as a general unconformity at the base of the Trias is already universally acknowledged, the burden of proof lies on those who affirm the existence of a fault, not on those who deny it. The purpose of this letter is to draw attention to such "faults", often boldly drawn, along the margins of coalfields, and of these there is probably none so firmly entrenched in the literature as that along the western edge of the North Staffordshire coalfield, and further northwards, between the Carboniferous rocks on the east and the

Triassic rocks on the west. For about a hundred years this supposed dislocation has been known as the "Red Rock Fault", and possibly demonstrated to generations of students working on Sheet 123. It is usually given the same status of certainty as is given to those other faults so clearly seen, from the mapping, to affect the Carboniferous rocks of the exposed coalfield, and in importance it is made to transcend them.

I have investigated the writings, maps, and sections referring to the relation between the Permo-Triassic and the Carboniferous in the Midlands, particularly those referring to the line of the "Red Rock Fault", from Farey, Bakewell, Conybeare and Phillips, Murchison, Jukes, Hull, Green, and Lapworth, to the later works of the Geological Survey published during the first three decades of the present century (by Gibson, Wedd, T. I. Pocock, and others). In all these works (with one exception) we find, where there is obviously some break between the two formations, either a presumption that the break is one of simple unconformity or (more often) a postulation of a fault without any logical discussion and with hardly any records (and those equivocal ones) of practical observations on the ground. The exception is Pocock's careful description of the line of junction and his critical evaluation of the mapping and structural evidence (1906, pp. 55-57). He remarked: "Owing to this uncertainty at several points in the Macclesfield district, whether the boundary is natural or faulted, the Red Rock Fault is not drawn on the map" (in the region surveyed by him). The "Red Rock Fault" has indeed yet to be established.

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FOLD TERMINOLOGY

SIR,—I am prompted by a useful paper on the description of folds recently read to the Geologists' Association by M. J. Fleuty and published in its *Proceedings* (1964) to make a brief comment on procedure in defining geological terms and to make two suggestions about particular terms.

One of the important tasks in the advance of any science is the development of a precise terminology. However, in giving a precise meaning to a familiar word, which may have a variety of meanings in different contexts, we often impoverish our language, for then the word may no longer be available in those other contexts. It follows that great care should be taken in the selection of words for particular meanings not to cause any unnecessary restriction of their use in other perhaps more valuable ways. Above all it is desirable that mere priority should not be the basis for the selection of terms. Of course it is desirable that terms already defined should not be ignored or replaced by others on frivolous grounds. But the claims of clarity and significance are not frivolous. Some terms are bad terms because they have been badly chosen—they should be superseded so long as a general gain in clarity is ensured by so doing.

A case in point is the use of the word "envelope". By analogy with the use of the term "wave-envelope" in optics the meaning of "fold-envelope" in tectonics is obvious. This is clearly the word to use in English where German has *Faltenspiegel*. But there are some who maintain that this term cannot be used because "envelope" has already been used for that part of a fold which invests its "core". Presumably it is for this reason that Turner and Weiss (1963) propose the clumsy term "fold enveloping surface". I wish strongly to recommend that this pedantic attitude should be ignored. In this