

CORRESPONDENCE

THE SOUTHERN UPLAND FAULT IN IRELAND

Sir,—Dr. McKerrow's (1959) recent discussion of the Salrock Fault in relation to the Southern Upland Fault is in agreement with my (1951) earlier discussion inasmuch as I had pointed out important differences between the two fault systems. However, I had earlier also suggested that the Salrock Fault is of considerable local importance, dividing the Ordovician rocks into two facies, an allochthonous north of the fault and an autochthonous south of the fault. I had further suggested that the Salrock Fault may continue eastward south of Lough Nafuoey separating the Mweelrea grit on the north from other Ordovician beds on the south. Now, Dr. McKerrow stated (1959, p. 351) "The Salrock Fault does not continue due east of Lough Nafuoey. Lower Palaeozoic rocks crop out for six miles between the lough and the Lower Carboniferous overstep and they show no sign of any major fault continuing eastwards along the line suggested by Bailey and Holtedahl". Although Dr. McKerrow later admitted that a certain fault mapped north-east of Lough Nafuoey might be a continuation of the Salrock Fault, the fault concerned does not agree with the line I suggested which is an east-west line south of Lough Nafuoey.

Dr. McKerrow most kindly loaned me the typescript of his joint paper with Dr. Campbell presented before the Geological Society of London on 12th November, 1958. In that paper, the authors stated that the Glenummera slate thins towards the east and disappears near Bunnacunneen. They state that the presence of fragments of slate in the base of the overlying Mweelrea grit indicates that the Glenummera slate suffered erosion before the deposition of the Mweelrea grit. They further state that faulting is partly responsible for the disappearance of the Glenummera slate to the east. We are all in agreement that considerably smaller thickness of Mweelrea grit occurs in the southern than in the northern limb of the large syncline which occupies the Formnamore Plateau and which was named the Maumtrasna syncline by McKerrow and Campbell. They considered that this southward thinning is an expression of original sedimentation conditions. While I do not wish to dispute this, I had earlier suggested (1951, p. 46) that the eastward continuation of the Salrock Fault system is responsible for the eastward disappearance of the Glenummera slate. In any event, while accepting McKerrow and Campbell's interpretation involving conditions of sedimentation, I would like to point out that both the Glenummera slate and the Leenane grits are present on the south flank of Rinavore. Both are absent east of the right-handed NW-SE fault between Rinavore and Bunnacunneen, and I consider it most unlikely that both formations could have thinned out within the short distance involved. The Salrock Fault is apparently the only agency that could possibly be invoked in explanation of the disappearance of these two formations. If this is so, then the Salrock Fault must have a very much greater throw at this point than that suggested by Dr. McKerrow.

Dr. McKerrow appears to have done rather more detailed field work south of Lough Nafuoey than I have. I would therefore like to ask him to state whatever field evidence he has that throws light on this, our apparent disagreement.

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12th January, 1960.

SIR,—I am glad that Mr. Theokritoff agrees with me that there are important differences between the Salrock Fault and the Southern Upland Fault, though in his paper (1951, p. 47) he merely states that the former "is an overthrust from the north; it is thus not comparable with the Southern Upland Fault". There are more important distinctions than this (McKerrow, 1959).

The Salrock Fault is clearly post-Silurian, and I fail to see why Mr. Theokritoff should point out with such emphasis (both in his 1951 paper and in his letter) that he thinks it separates different Lower Ordovician facies. If he had closely investigated the area around Bunnacunneen, he would have found that all the west of Ireland Lower Ordovician facies are present to the east and south of the Salrock Fault. With Dr. C. J. Campbell (1960), I have found that the (probably Llanvirn) Glenummera Slate outcrops on the western and north-eastern slopes of this hill (i.e. to the east of the dextral NW-SE fault between Rinavore and Bunnacunneen mentioned in the above letter). It follows that the grits below the slate are Lower Ordovician. These grits continue, with only slight breaks due to faulting, to the north of the spillites at Curraghrevagh, so that the area immediately south of Lough Nafooeey is entirely Lower Ordovician. Mr. Theokritoff is thus wrong in following the conclusions of Gardiner and Reynolds (1914), who, because they also did not map Bunnacunneen, thought that the grits present south of the lough were the Upper Ordovician Mweelrea Grits.

North-east of Bunnacunneen, the Salrock Fault separates the Lower and Upper Ordovician grits; its throw is unknown. This need not be great, as the Glenummera Slate is seen to thin out and disappear; the presence of slate fragments in the base of the overlying Mweelrea Grits shows that this disappearance is at least partly due to erosion. The thinning of the Lower Ordovician grits does not affect any conclusions as to the throw—they occur on both sides of the fault.

The continuation of the Salrock Fault may be traced along the ridge to the north-west of Curraghrevagh Stream before being lost below the alluvium south-west of Lough Nafooeey. There is no evidence that the fault suddenly swings to the east to pass south of the Lough. It is last seen, at Curraghrevagh, trending north-east, and it would seem reasonable to expect any continuation to lie in that direction.

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CENOMANIAN AMMONITE ZONES

SIR,—There is a curious anomaly in the present scheme of subdivision of the Cenomanian into ammonite zones, viz:—

Upper Cenomanian .	{	<i>Utaturiceras vicinale</i>
	{	<i>Acanthoceras rhotomagensis</i>
Lower Cenomanian .	{	<i>Mantelliceras mantelli</i>
	{	<i>Mantelliceras martimpreyi</i>

Since 1926, when Spath introduced the Indian "*Acanthoceras*" *vicinale* (Stoliczka) as an index-fossil for the topmost beds of the British Cenomanian,