into these rocks in the Mynachdy area has yielded rare, poorly preserved acritarchs identified as *Cymatiogalea*? and *Stelliferidium*? together with a few indeterminate acanthomorphitic forms (S. G. Molyneux, Institute of Geological Sciences, Internal Rep. PDL/81/24). This assemblage suggests that the sampled *mélange* is late Cambrian at the oldest or early Ordovician in age. Greenly's Gwna Group has apparently little stratigraphical significance, including as it does an extensive range of lithologies of widely differing age.

In our reply to Tegerdine *et al.*, we have referred in more detail to the different Ordovician sequences on either side of the proposed fault and to the line of the fault across the Lleyn. The latter does not interfere with the pumpellyite isograd[10] but approximates to its westernmost boundary, and the fault may thus be responsible for the truncation of the saponite zone.

The Cambrian sediments of Pembrokeshire were derived from the south-west and south-east[5], and it is therefore not surprising that Monian-type fragments are not characteristic of them—wherever Anglesey was at the time.

Our paper showed that the concept of a major dextral displacement along the proposed fault did not originate from the oblique collision model, but from the fundamental geological differences between Anglesey and the mainland. The oblique collision model is invoked as the cause.

It is generally agreed[11,12] that the Iapetus Suture passes to the south of the Devonian Cheviot lavas. The reference[13] quoted by Gibbons and Gayer is based on a misreading of the published evidence[11].

The quoted faults in Scotland and Eire, apart from being of debatable age and direction of movement[14], occurred within the North Atlantic Plate (north of the Iapetus Suture) and are therefore of limited relevance to events within the southern plate containing the area under discussion. Dextral movements on faults in the Lleyn parallel to the proposed transcurrent fault have been indicated by Tremlett[15] and even by Gibbons[16].

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NUTT AND SMITH[1] suggest that the Menai Straits, North Wales, mark the position of a fault of major regional importance and believe that they can assign >100 km of dextral strike-slip movement to it. The possibility of transcurrent faulting has also been mentioned by Barber and Max[2].

It is surprising that the geophysical evidence[3], which strongly favours the existence of a major fault, was not mentioned by Nutt and Smith. South-east of the proposed fault is a striking correspondence between gravity anomaly contours and geological structure, although the anticlines (Bangor–Padarn Ridge and Harlech Dome) correspond to gravity lows. This suggests density inversion, with a large thickness (0.5–1 km) of less dense rocks, probably Arvonian volcanics and granite, underlying the Lower Palaeozoic. (The suggestion of Rast[3] that the gravity anomalies result from basic igneous intrusions in the synclines cannot explain the good fit of gravity isogals with the outcrop pattern, especially around the Harlech Dome.) North-west of the fault, in Anglesey, there is again a good fit with the structure, but without density inversion; a linear positive anomaly of about 45 mGal runs along the Monian amphibolites of the Aethwy Block and similar gravity highs coincide with the other Monian basement blocks of the Central Region and Pentraeth Inliers. However, in contrast to the south-east side of the fault, there is no gravity evidence for any Arvonian, which may be present, but is certainly very much thinner than to the south-east. In contrast to the effect of possible Arvonian granite in Caernarvonshire, there is no gravity anomaly on the published gravity map[4] in the position of the Coedana Granite in Anglesey. This is surprising in view of its apparent intrusion into the dense amphibolite basement, and suggests that the granite does not extend to any great depth.

The direction of movement of the Menai Fault might be suggested by the curvature in the strike of the foliation in the Monian to the south-west of Beaumaris in Anglesey. The mylonitic foliation itself may be related to movements on the fault[2]. Later movement seems to have caused a bend in the foliation about an axis dipping ~22° to 084 °N. This would suggest oblique slip, with a large component of dip-slip movement raising the north-west (Anglesey) side. The smaller, strike-slip component of movement would suggest a dextral displacement on a map, although this is not in accordance with the apparently sinistral displacement of lithologies in this area on the published geological map.

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NUTT AND SMITH REPLY—Whilst we consulted gravity and aeromagnetic anomaly maps of the relevant areas to make sure that they did not contradict the transcurrent fault hypothesis, lack of space prevented us from discussing these aspects. We therefore thank Kohnstamm and Mann for raising the matter in support of the hypothesis, and would in general agree with their interpretation of the geophysical evidence. A similar interpretation to that of the Anglesey/mainland situation can also be applied across the proposed fault in the Lleyn[1], and, as we have mentioned in reply to Tegerdine *et al.*, the aeromagnetic map[2] supports the location of the fault along the Dent Line.

The evidence supplied by distortion of the foliation in the Monian should be treated with caution, for it is largely attributable to later and therefore irrelevant tectonic events.

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