

Stages of the Llandovery Series

SIR,—In our correspondence (*Geol. Mag.* 108, 1971, p. 263) Drs Cocks and Toghil circumvent the two main points I wished to make in my letter, when I should expect them to agree with me in what I take to be self-evident principles. The first point is that the four stages of the Llandovery proposed by the authors are in shelly facies and have an unconformable base, yet the authors define the base of the series in a graptolitic facies across a stratigraphical gap that cannot be bridged. My second point is that if nevertheless the base of the Llandovery Series is to be defined in a graptolitic facies it is better defined in the Welsh province, if there is to be collation with the shelly stages at Llandovery, than in the Scottish province. Where in Wales the most appropriate locality might be to define the graptolitic base of the series is a matter of selection: the postulated defects are as yet only negative in the Cothi–Gwesyn country where the very thick Bala rocks have simply not been looked at with the thoroughness that Davies applied to the Llandovery. If, conversely, the Llandovery base is to be defined at Dobb's Linn (where nevertheless the precise zonal relations of the lowest *persculptus* band to the beds immediately beneath are not yet known) the standard stages, or at least the lowest of them, should also be coincidentally defined there.

An unconformity at the base of the Rhuddanian Stage, whose base does not, or is not known to, equate with the authors' graptolitic base of the Llandovery Series, an unconformity at the base of the Ydwian Stage, and an unconformity at the base of the Bronian Stage are scarcely the characteristics of standard stages.

The spelling of Welsh stage names, even to geologists, is not a matter of whim. It may be conceded that foreigners are likely to be unaware of the subtleties of Welsh mutations, and of the need to change 'Fronian' into 'Bronian'. But 'Idwian' was initially a wilful error, and is now being wilfully perpetuated; the reason given is that 'Ydwian' (not 'Rhuddanian'? not 'Telychian'?) 'would be confusing here'—in which 'here' is not Llandovery or even Wales, where the spelling would confuse nobody, but the British Museum in the Cromwell Road. This is barbarian illiteracy at its most presumptuous and aggressive, intended (in a home of the muses!) to meet the naive phonetic expectations of parochial Londoners. To anyone having the slightest sensitivity to words, 'Idwian' matches a Triassic 'Koyper', an Eocene 'Wipersian'. It also frustrates the purpose of using place names as bases for stage names. It cries out to be suppressed.

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SIR,—We reply again to Professor George that we know of no suitable place to define the base of the Rhuddanian in Wales. The Cothi–Gwesyn area is badly affected by cleavage in the Bala, and in any case is poorly known scientifically. We reiterate that, having decided to move the concomitant bases of the Rhuddanian, Llandovery and Silurian away from the type Llandovery area, then the best choice should be made, preferably one with some degree of historical priority behind it. Despite the three metres of barren mudstone under the *persculptus* band at Dobb's Linn, this is still one of the very few places where *anceps* and *persculptus* Zone graptolites follow each other at all. Dobb's Linn has the additional bonus of being well studied and easily accessible. It is also worth recalling here that the *persculptus* Zone is present above the Hirnantian stage in the type area of the latter.

Professor George is not correct in stating that there are unconformities at the bases of the Rhuddanian, Idwian and Fronian stages. There is no unconformity at Dobb's Linn at the base of the Rhuddanian; the unconformity postulated by O. T. Jones near the base of the Idwian stage has been shown by Dr M. A. Woollands to be no more than a local series of minor facies changes in a proximal deltaic sequence,

and, although there is an unconformity at the base of the C₁ sandstone, we were careful to define the base of the Fronian stage a little way above this.

As for the names, we repeat that we consulted several Welsh-speaking Welshmen on the orthography, although we of course accept final responsibility for the usage and still see no reason for change.

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