

Conodont Biostratigraphy of the British Silurian.

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In his highly influential paper on Silurian conodonts, WALLISER (1964) proposed a conodont zonation of the Silurian, based mainly on material from the Carnic Alps. Subsequent work in other parts of the world has established the widespread distribution of some of the key species, but the complete sequence of zones has not been recognized elsewhere. In Britain, for example, only the *celloni*, *amorphognathoides*, *sagitta* and *eosteinhornensis*-Zones have been identified by the occurrence of the index species. Consequently, several local zonal schemes have been introduced in different parts of the world and a widely applicable zonation seems a distant prospect.

Conodonts do, however, show considerable promise for international correlation in the Silurian, and the distribution of species in reference successions should be fully documented. Of particular importance are the classic sections of Britain, especially in the type areas of the Llandovery, Wenlock and Ludlow Series. Low abundances in parts of the succession and environmental variation in others mean that a British zonal scheme is probably inoperable, but the datum plane approach of COOPER (1980) offers a possible solution. Although only four of his eight selected events are recognised in Britain, several additional species would certainly prove useful. However, datum planes correlate only biological events, which may well be diachronous; a scheme based not on conodonts alone but on whole biotas may, in the end, provide the best basis for stratigraphy.

Dinantian Conodont Studies in the British Isles 1969–1979.

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The past decade has seen a dramatic increase in the number of publications devoted to the recording and description of Dinantian conodonts from the British Isles. A faunal zonation requires an established reference section of rocks. The reference section for Dinantian rocks in Britain at the commencement of the decade was the sequence exposed in the Avon gorge at Bristol, described by VAUGHAN in 1905. In 1969 RHODES, AUSTIN and DRUCE published a description of conodonts which included elements recorded from the type section at Bristol. Subsequently conodont faunas were described by research workers who had studied Dinantian sequences in many parts of Britain and Ireland. Gradually sequences of conodont faunas were recognised which differed in different parts of the region. These differences were attributed in part to differences in the environments of deposition of the Dinantian sediments. An initial attempt was made to reconstruct the apparatuses of Dinantian conodont bearing organisms. In 1976 a working party of the Geological Society of London proposed a new set of stratotype sections comprising six stages. In recent years conodont faunas characteristic of these stages have been reported, although unfortunately some of the stratotype sections have yielded poor faunas. The Dinantian conodont biostratigraphy in Britain is at present poorly defined. The appearance of diagnostic and often exotic forms has been used in the past for the recognition of what may well represent facies faunas. Recent studies have been devoted to the systematic investigation of genera which exhibit relatively slow evolutionary changes. A refined zonation can be adopted by application of statistical techniques to successive conodont populations. It is anticipated that in the future the boundaries of the regional stratotypes will be recognised by the selection of a quantitative value for a particular conodont biocharacter within an evolving population and that this method will also be used to correlate Dinantian strata in different parts of the region.

Comparison of Conodont- and Ammonoid-Based Correlation of the Mississippian-Pennsylvanian Boundary in North America with the Namurian of Europe.

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Correlation of Late Mississippian-Early Pennsylvanian strata in North America with their European