GEOLOGY IN THE GOYT VALLEY AND NEAR MACCLESFIELD

A FIELD MEETING REPORT

Leader: Fred M. Broadhurst — Sunday, 1st June 1975

The object of this excursion was to see the range of sediments and faunas preserved within the Upper Carboniferous rocks of the Southern Pennines. In particular the non-marine bivalve body fossils preserved within the shales and mudstones of the Coal Measures in the Goyt Valley were to be contrasted with the trace fossils left by non-marine shells in the sandstones of the quarries near Macclesfield.

Goyts Moss (SK 017716) There is a convenient car park (SK 018716) near the exposures but the nearest point for a coach is at a lay-by on the A537 road at SK 018709. In the bed and banks of the R. Goyt westwards of SK 017716 is a sandstone the top of which contains rootlets. This rootlet bed yields interesting specimens in that the black carbonaceous material of the rootlets is conspicuous in the light grey matrix of the sandstone. Above the sandstone there is much loose shale but a few metres downstream from the sandstone exposure the upper part of the Goyt's Coal (equivalent to the Belperlawn Coal of Nottinghamshire) was seen. At other exposures in the vicinity (notably below Derbyshire Bridge at SK 017719) this seam can be seen to rest directly upon the rootlet bed in the sandstone. The Goyt's Coal, well over one metre thick, was extensively wrought in the pre-railway era and the coal used principally for lime-burning in the Buxton area. Numerous mine tunnels can be seen and members (expecially young ones) were warned not to enter workings such as these because of the danger of meeting not only rock falls from the roof but also deoxygenated atmosphere. After examination of the coal the party turned its attention to the shales and mudstones forming the roof of the coal and extending upwards as a cliff in the north bank of the R. Goyt. These shales contain rich courses of non-marine bivalves dominated by the genus *Carbonicola*. The shells were collected and found to contain all growth stages. In many cases the two valves of a single shell were found still attached at the hinge although the valves were in the 'open' position. It was argued that the evidence pointed to death and fossilisation at the site where the shells had formerly lived. Other fossils including fish scales and plant remains were also found.

Finally the roadside exposures at SK 017717 were examined and revealed a local unconformity within the Coal Measures together with a number of small faults.

Kerridge (SJ 936771) After lunch and refreshment at Kerridge the party walked to Sycamore Quarry (SJ 937767) where, by the courtesy of Mr. A. M. Earl, the Milnrow Sandstone was examined. The escape shaft *Lockeia* caused by the upward escape of *Carbonicola* through rapidly deposited sand layers is abundant at certain levels of this quarry. The contrast between the modes of preservation of the bivalves between here (trace fossils only) and Goyts Moss (body fossils preserved in the sediment in which the shells once lived) was emphasised. In addition to *Lockeia* other trace fossils were found, notably the worm-like trace *Cochlichnus* and the xiphosure *Kouphichnium*. The party also noted the presence of various sedimentary structures in this quarry including parting lineation and cross-stratification.

Axe Edge (SK 032711) The party returned towards Buxton and the coach parked in a lay-by on the A54 opposite the pumping station at SK 033714. A small stream was followed upstream to an outcrop of the *Reticuloceras superbilingue* marine band at SK 032711. The characteristic features of *R. superbilingue* were noted and this goniatite together with its associated fauna were collected. Immediately above the marine band highly sheared shales were noted and explained as having been deformed during the folding of the Goyt Syncline.

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References

BROADHURST, F.M., EAGAR, R.M.C., JACKSON, J.W., SIMPSON, I.M., and THOMPSON, D.B. — 1970. *The area around Manchester.* Geologists' Association Guide No. 7.

COPE, F.W. — 1946. *Intraformational contorted rocks in the Upper Carboniferous of the Southern Pennines* Q.Jl. geol. Soc. Lond., vol.101, pp.139-176.

COPE, F.W. — 1949. *Correlation of the Coal Measures of Macclesfield and the Goyt Trough.* Trans. Instn. Min. Engrs. vol.108, pp.466-483.

COPE, F.W. — 1972. *The Peak District.* Geologists' Association Guide No. 26.

HARDY, P.G. — 1970. New xiphosuried trails from the Upper Carboniferous of Northern England. *Palaeontology*, vol.13, pp.188-190.

TAYLOR, B.J., PRICE, R.H. and TROTTER, F.M. — 1963. *Geology of the country around Stockport and Knutsford.* Mem. Geol. Surv. Grt. Br.