

Field Meeting Report: Wenlock Edge, led by Mike Bassett & Ruth Charnes 13th April 1986

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JONES, J. & KRAUSE, J. (1987). Field Meeting Report: Wenlock Edge, led by Mike Bassett & Ruth Charnes 13th April 1986. *Proceedings of the Shropshire Geological Society*, 6, 6–10. The purpose of the field meeting was to visit exposures typical of the Silurian geology exposed along Wenlock Edge, with particular reference to the Wenlock Limestone fauna.

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GEOLOGICAL SETTING

The leaders introduced the day by expressing their intention of showing the variations in fossil fauna within the Wenlock Limestone. The Wenlock Limestone is of middle Silurian age, dated at between 415 and 435 million years, parts of which are 90 feet thick.

The Wenlock Limestone, a carbonate deposit, showed the presence of large unbedded masses, which Murchison called 'crog balls' – these were the fossil equivalent of modern reefs and were formed when the area was positioned south of the equator and covered by a warm shallow sea, equivalent to the modern Caribbean. This was not a barrier reef (which could be said of the Amestry Limestone ridge to the south), but was instead composed of patch reefs.

The reefs along Wenlock Edge today yield the purest limestone and most have been quarried, leaving just the peripheries to view (Figure 1). The reefs are composed of corals, stromatoporoids, bound together by the remains of calcareous algae and also entrapping crinoids (echinoderms) brachiopods and trilobites.

West of an area called Hilltop on Wenlock Edge the reefs disappear and only bedded limestone is evident (Figures 2 and 3). This indicates that deeper water covered this area and the sediments are quite different.

Unfortunately, the most interesting quarry which had many features indicative of the variation to be found could not be visited as the owners had refused permission to enter, but several smaller locations would be looked at for comparisons.

There were five main sections of the Wenlock Limestone:

1. The reefs or 'crog balls'
2. The 'Measures': regularly bedded limestone.
3. 'Jack Soap': nodular limestone surrounded by shale, giving a slippery feel.
4. Gingerbread: cemented gravel formed of broken stems of echinoderms which occurred all along Wenlock Edge into the non-reef area, becoming gradually more fine grained.
5. Blue Stones.

ITINERARY

The first location was a disused quarry a few yards to the north of the National Trust Car Park, where green deposits of calcareous algae were pointed out and an upper layer of 'Gingerbread' type limestone.

The second location was at the top of Steetley Shadwell Rock Quarry. Blocks by the entrance gate were of the gingerbread facies and included stromatoporoids in which the typical layered structures were identified. Stromatoporoids grow differently to corals. Stromatoporoids start from a connection point to a hard surface and grow into a dome shape, a new generation then forms on top of this and the first layer's living parts die, whereas corals contain living tissue from the base to the top.

The top surface of the quarry edge was of Lower Ludlow age and picking up individual brachiopod fossils was similar to finding shells on a modern beach; specimens of trilobite,

stromatoporoids, gastropods, and bryozoans were also found.

The third location was Coates Quarry. Dr Charnes went in and collected splendid specimens of Rugosan coral, a colonial species, a tabulate coral and a stromatoporoid. It was explained that Palaeozoic corals were able to attach to a hard surface and then grow out over soft muds, whereas modern corals must be fully supported.

The quarry face showed a band of volcanic ash, now mud called bentonite, which is quite soft and apparently uncompacted. This makes problems for quarrymen as the upper strata tend to slide on this weak layer.

There was evidence of reefs and regular beds of limestone not containing shale bands; these are the 'Measures'.

The last location of the morning before adjourning for lunch was to stand on Hilltop, the largest reef of Wenlock Edge which occupies almost the total thickness of Wenlock Limestone and is the reef found furthest to the west. The leaders pointed out the prominent features on the skyline (such as the Precambrian Wrekin) and below the sharp drop of the scarp slope of Wenlock Edge into Ape Dale.

The afternoon session of the field trip continued the journey south westwards towards the Onny Gap. There were four stops along the line of Wenlock Edge and a fifth at the "classic site" at Millichope. The first stop after lunch was near Wenlock Edge School where the Much Wenlock to Church Stretton road (B4371) begins its diagonal descent of the scarp. The contrast with the rocks exposed at Ippikins Rock and further north-east, was very marked indeed. Gone were the reefs, clearly indicating the change in environment. The rocks were an even bedded – almost flaggy – nodular, crystalline limestone. The exposure was quite limited in extent but the bedding could be seen running clearly through the entire length.

Stop 2 was on the road from Longville to Corvedale. The location was south-west of Wilderhope Manor Youth Hostel in the side of the road, where it begins its steep climb up the Edge. The nodular nature of the limestone was still visible with some chert developments.

Stop 3 was the famous stream bed site of Millichope. Over-collecting in the last 20 years or so has caused the land owner to control access.

Please obtain permission before attempting to visit this site. The site suffers from the problem of over-use in that once clearly-defined and extensive stream sections have now been degraded such that they have been replaced by unstable and incomplete sections under overhanging vegetation. The exposures are not in the Wenlock Series, but in the Elton Beds of the Ludlow Series. They are olive green flaggy siltstones with many brachiopods such as *Leptaena* but, more importantly, the trilobite *Dalmanites*. On the day the party did quite well, finding fragments of trilobite. One of the characteristic features of the site is the way the remains break up on death or after the trilobite has 'moulded' (*Ecdysis*). Only the very lucky collector found the entire remains with well preserved compound eyes.

Stop 4 was back on the Wenlock Series on the line of Wenlock Edge: another roadside cutting at Roman Bank on the road between Rushbury and Millichope. The exposure was of roughly bedded nodular and finely crystalline argillaceous limestone. There were thin siltstone beds and, near the top, a development of chert. A dip of about 10 degrees to the south-east was visible in the cutting.

And so to the last stop of the day. If you have faith in the British weather then April showers mean just that. By the time we reached the last stop only the hardy remained. The Mancunians, having travelled to Shropshire and wanting to get the maximum, lasted best. However, the sun shone on the righteous. This last stop was a relatively overgrown quarry on the Edge on the road between Ticklerton and Westhope; again the relatively fine layering including the nodular limestone. Much better was the view back up Wenlock Edge from Wolverton Wood. An excellent end to a demanding, but very enjoyable day.

Disclaimer - The information contained in this account has been prepared from notes taken during the field meeting. Its sole aim is to provide a record of what was seen and provide an insight into the diversity of geology exposed along Wenlock Edge. It should not be used for any other purpose or construed as permission or an invitation to visit the sites or localities mentioned.

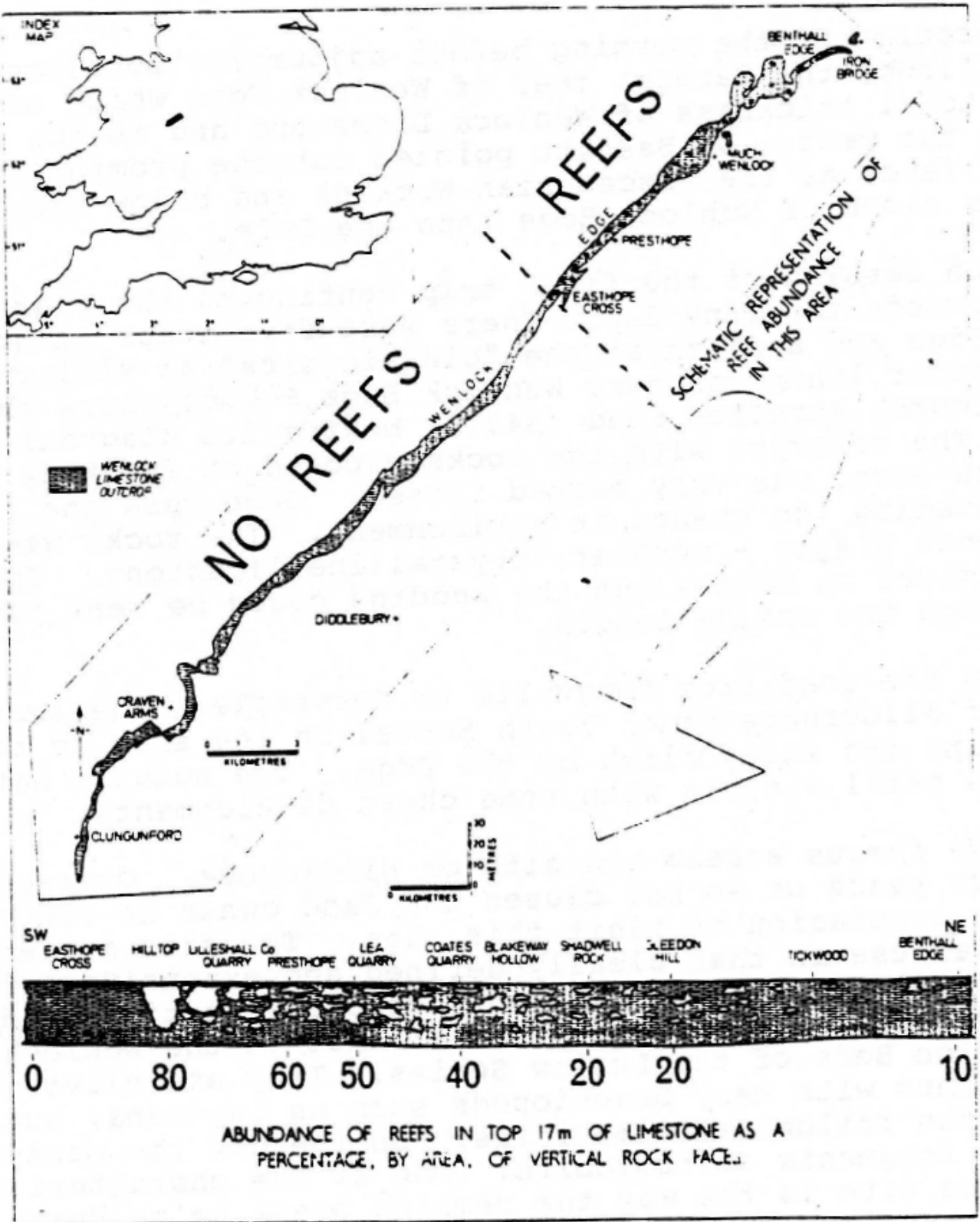


Figure 1: Locality map and reef distribution.

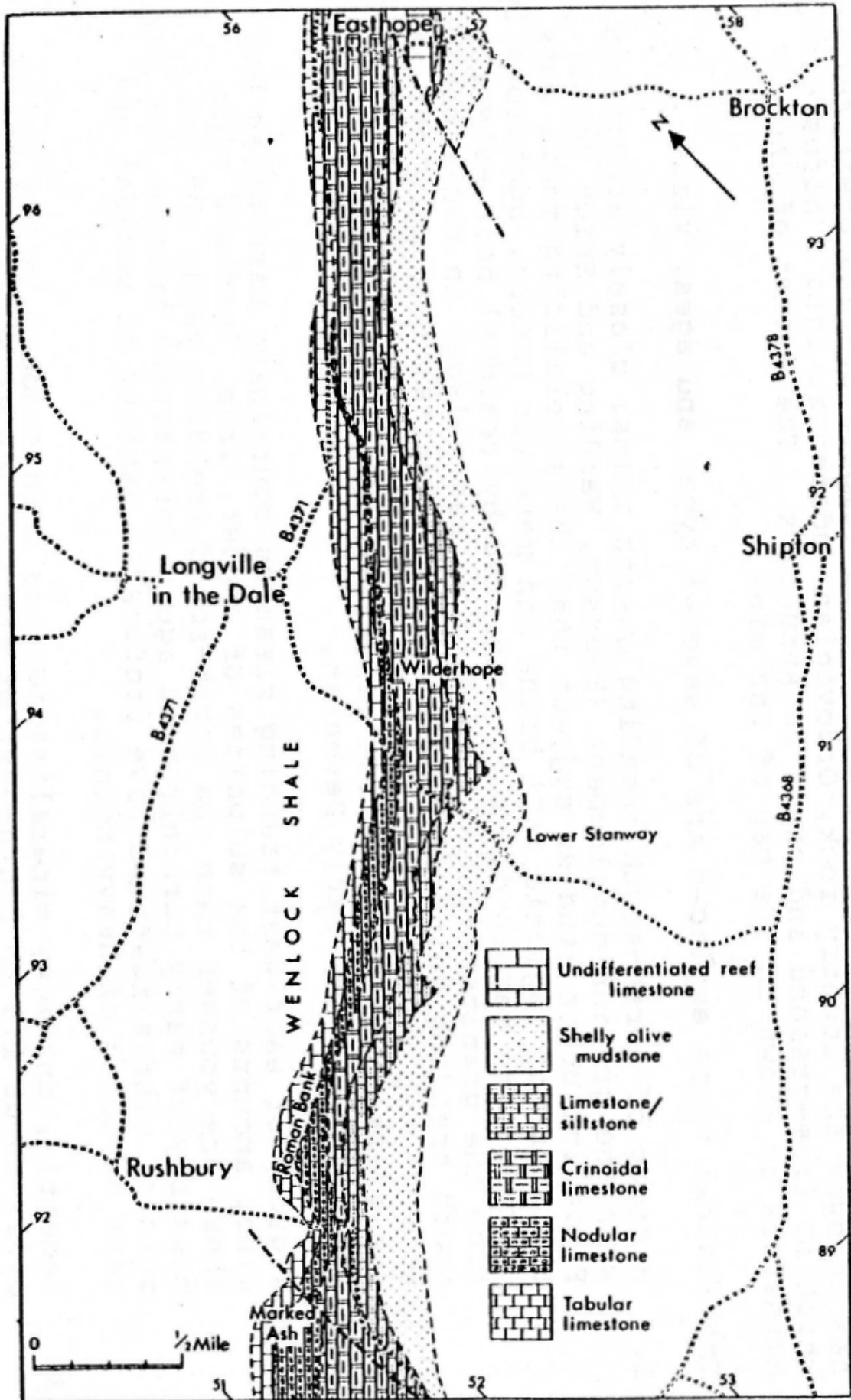


Figure 2: Distribution of lithofacies in the Wenlock Limestone and Lower Elton Beds between Rushbury and Easthope.

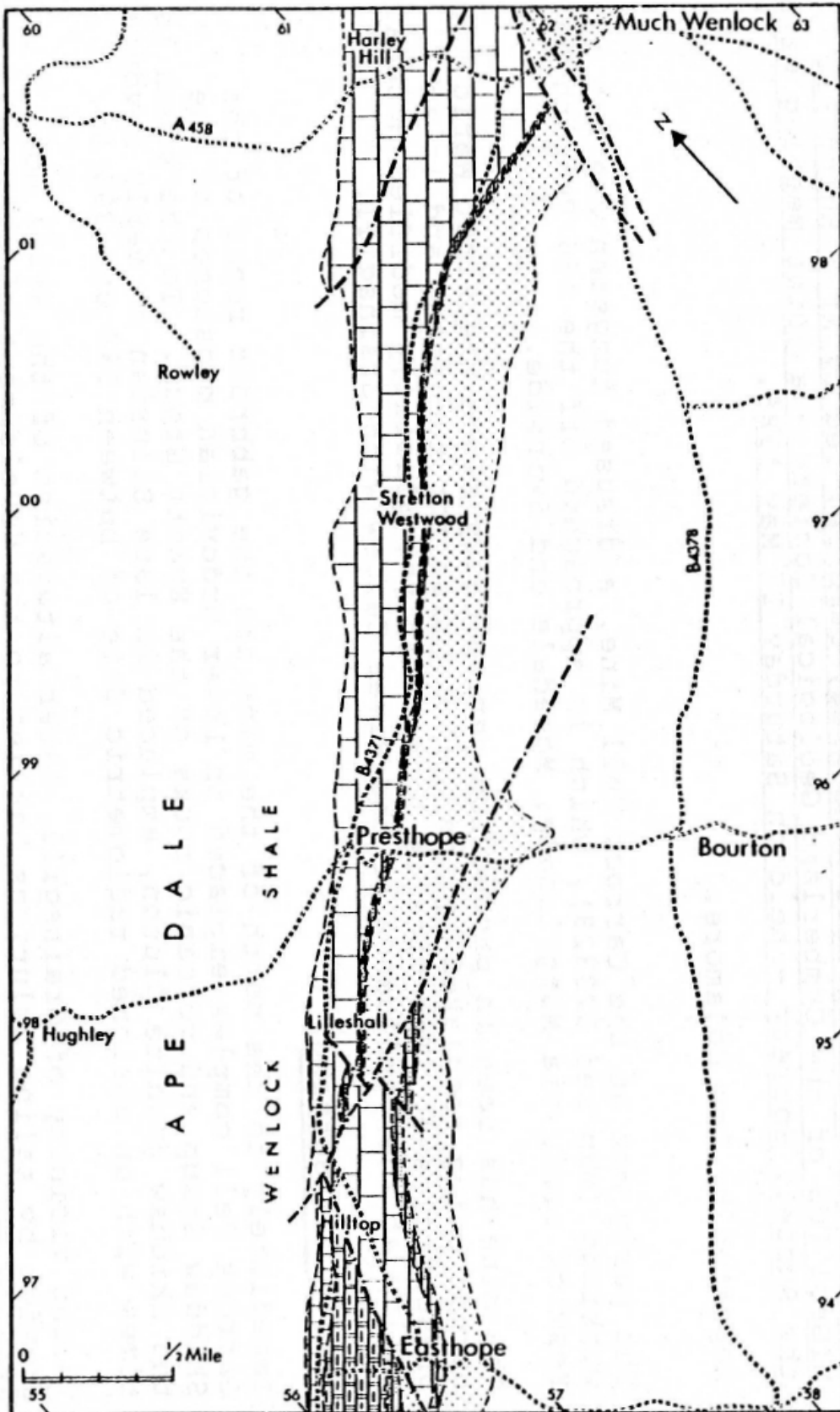


Figure 3: Distribution of lithofacies in the Wenlock Limestone and Lower Elton Beds between Easthope and Much Wenlock. Key the same as for Figure 2.

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