## Midland naturalist (IA midlandnaturalis01lond).pdf/37



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visited again and again in order to obtain satisfactory results, chiefly owing to the uncertainty of building operations being begun. Then there was no map published that was on a scale large enough to admit of detailed observation s, so I enlarged one to a scale of one inch to 200 feet, which, divided into small handy sections for field use, I found to answer very well. For the levels, without which it would have been impossible for me to have constructed the horizontal sections to illustrate the character of the rocks below the surface. I am indebted to the kindness of Mr. Tarbottom, the borough engineer. No. 1 Section extends from the top of Dame Agues Street to a point on Blue Bell Hill, north-west to south-cast; No. 2, from Hawkridge Street, along Blue Bell Hill, to a point a few yards beyond Belle Vue House: and No. 3, from Great Alfred Street South, along the slope of Blue Bell Hill, to Bombay Street; each to a scale of 50 feet to an inch, and a maximum depth of 220 feet.

Turning now to the new map, perhaps the most striking feature is a broad, ribbon-like band of Keuper marl, shut in on each side by two parallel white lines, stretching across the map from the south-east to north-west. Those white lines are the equivalents of the straight and the curved faults respectively of the Government map, The fault nearest to Nottingham I have, for convenience, called No. 1 fault; the equivalent to the curved fault is No. 2. No. 1 fault, you will

observe, has the effect of bringing down the Lower Keuper marl (f5) alongside the Bunter sandstone (f2) all along its course after leaving Blue Bell Hill, where the outcrop of the Keuper is on the south-west side of the fault. This fault strikes N.W., but before reaching Mapperley Read it seems to became deflected, bearing N.N.W., through Patchitt's Park, and joining No. 2 fault somewhere near the bottom of Red Lane, while only a minor dislocation is found taking the north-westerly course. Both faults throw down the Lower Keuper marl, the N.N.W. fault being well seen breaking through the east end of the sandstone cliff and bringing down the Lower Keuper twenty or thirty feet. Beyond No. 2 fault, that is on its north-east side, instead of the three-cornered inlier of Bunter (f2) which appears on the Government map, we have a double tongue of Bunter stretching up towards the Westminster Abbey, (as on the Government map,} on the one hand, and forming the valley at the foot of the Hunger Hills on the other—evidently the extremity of a broad offshoot up the St. Ann's Valley from the main area of Bunter to the south-west. We thus find that what the Geological Surveyors supposed to be a curved fault turns out to be a parallel fault to the straight one, striking about 55° west of north. This fault was exposed during the excavations for lowering Mapperley Road, near the reservoir, some years ago, then at the top of Dame Agnes Street, again half-way down that street, where it crosses obliquely, and may be traced passing down Martin Street and through the field where the St. Ann's Flower Show is held, across the hills to Carlton Road, where it is

again seen at the elbow turn, and also in a section off Crown Street, opposite. It appears to have a throw of about 95ft. in Dame Agnes Street, increasing slightly further south, throwing down the Upper Keuper alongside the Lower, and the latter level with the Bunter. When cut through in Dame Agnes Street this fault was found to hade to the south-east, just as we should expect, considering that it unites with No. 1 fault, which hades in the opposite direction, to let in a sort of broad wedge of clay rocks belonging to a higher level; and the space between the walls of the fault was filled with pebbles embedded in a crystalline calcareous red sandy matrix, associated with red marl and "skerry." Acting as a sort of connecting link between the two main faults, and shifting the boundary line of the Upper Keuper about four hundred feet, is a fault familiar enough to most of us on account of its being long exposed in the section of marl opposite

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