

LESSON TO YOUNG GEOLOGISTS FROM CLAY-BED OF THE  
NORTHERN SUTOR.

THERE is a stiff blue clay much used in Cromarty and the neighbourhood for rendering the bottom of ponds watertight, and the foundations of cellars impervious to the land-springs, and which, save for its greater tenacity, much resembles the blue boulder-clay of our Coal Measures. It is found in the ebb at half-tide, in a bed varying from eighteen inches to three feet in thickness, which overlies the red boulder-clay, and contains minute fragments of shells, too much broken to be distinguished. I had deemed it a sort of re-formation from strata of a greyish-coloured aluminous shale, which occur in the Old Red Sandstone, and are laid bare in the neighbourhood by the sea. The waves dash against them, and then roll back turbid with the lighter particles, to deposit these in the deep still water outside. But in the place at present occupied by the bed the waves could not have deposited them; it is so much exposed to the surf, that the deposit is gradually wearing down under the friction, and it must have been formed, therefore, at a lower level, and when the sea beat against the ancient beaches. We find further proof that such must have been the case in a soft stratum of grey, shaly sandstone, which rises through the bed, and which is thickly perforated by cells of the *Pholas candidus*, containing in abundance the dead shells, but which has been elevated to a too high place to form any longer a fit habitat for the living animals. I had often examined the fragmentary shells of this clayey layer, in the hope of being able to elicit from them somewhat regarding the history of a deposit older than our present coast line, yet newer than our boulder-clay; but I had hitherto found them in every case too comminuted to