

A stone hatchet of an oval form, like that represented at fig. 9, p. 115, was discovered at the same time, about one foot lower down, at *c*, in densely compressed gravel. The surface of the fundamental chalk is uneven in this pit, and slopes towards the valley-plain of the Somme. In a horizontal distance of twenty feet, I found a difference in vertical height of seven feet. In the chalky sand, sometimes occurring in interstices between the separate fragments of flint, constituting the coarse gravel No. 4, entire as well as broken fresh-water shells are often met with. To some it may appear enigmatical how such fragile objects could have escaped annihilation in a river-bed, when flint tools and much gravel were shoved along the bottom; but I have seen the dredging instrument employed in the Thames, above and below London Bridge, to deepen the river, and worked by steam power, scoop up gravel and sand from the bottom, and then pour the contents pell-mell into the boat, and still many specimens of *Limnea*, *Planorbis*, *Paludina*, *Cyclas*, and other shells might be taken out uninjured from the gravel.

It will be observed that the gravel No. 4 is obliquely stratified, and that its surface had undergone denudation before the white sandy loam, No. 3, was superimposed. The materials of the gravel at *d* must have been cemented or frozen together into a somewhat coherent mass to allow the projecting ridge, *d*, to stand up five feet above the general surface, the sides being in some places perpendicular. In No. 3 we probably behold an example of a passage from river-silt to inundation mud, or loess. In some parts of it, land shells occur.

It has been ascertained by MM. Buteux, Ravin, and other observers conversant with the geology of this part of France, that in none of the alluvial deposits, ancient or modern, are there any fragments of rocks foreign to the basin of the Somme — no erratics which could only be explained by sup-