

VI. *An Account of the Pits for Fullers-Earth in Bedfordshire; in a Letter from the Reverend Mr. B. Holloway, F. R. S. to Dr. Woodward, Pr. Med. Gresh. S. R. & Coll. Med. Lond. Soc.*

BEDFORD, 6 July, 1723.

I Went a few Days ago to the *Fullers-Earth* Pits at *Wavendon* near *Woburn*, where there are several Pits now open; but, as Men were then at work only in one, and I understood the Earth was disposed in much the same Manner in all, I did not trouble myself to go down into more than that wherein they were then digging; in which I found Things dispos'd thus.

From the Surface, for about six Yards Depth, there are several Layers of Sands, all reddish, but some lighter colour'd than others, under which there is a thin *Stratum* of red Sand-stone, which they break through; and then for the Depth of about seven or eight Yards more, you have Sand again, and after that come to the *Fullers-Earth*; the upper Layer of which, being about a Foot deep, they call the *Cledge*; and this is by the Diggers thrown by as useles, by reason of its too great Mixture with the neighbouring Sand, which covers, and has insinuated itself among it: After which they dig up Earth for Use, to the Depth of about eight Feet more, the Matter whereof is distinguish'd into several Layers, there being commonly about a Foot and an half between one horizontal

tal Fiffure and another. Of these Layers of *Fullers-Earth*, the upper Half, where the Earth breaks itself, is ting'd red, as it seems by the running of Water from the sandy *Strata* above ; and this Part they call the *Crop* ; betwixt which and the *Cledge* above-mention'd, is a thin Layer of Matter not an Inch in Depth, in Taste, Colour, and Consistency, not unlike to *Terra Japonica*. The lower half of the Layers of *Fullers-Earth*, they call the *Wall-Earth* ; this is unting'd with that red above-mention'd, and seems to be the more pure and fitter for *Fulling* ; and underneath all is a *Stratum* of white rough Stone, of about two Foot thick, which, if they dig through, as they very seldom do, they find Sand again, and then is an End of their Works.

One Thing is observable in the Site of this Earth, which is, that it seems to have every where a pretty equal horizontal Level ; because they say, that when the Sand-Ridges at the Surface are higher, the *Fullers-Earth* lies proportionably deeper.

In these Works they seldom undermine the Ground, but as they dig away the Earth below, others are employ'd to dig and carry off the Surface ; otherwise, the Matter above, being of so light and flitting a Nature, would fall in and endanger the Workmen : For, as was observ'd before, that *Stratum* of Sand-Stone, which occurs before they come to the *Fullers-Earth*, does not lie, as in Coal-Pits, immediately over the Matter they dig for, like a Cieling, but even in the midst of the superjacent *Strata* of Sand, and therefore can be no Security to them if they undermine.

The perpendicular Fiffures are frequent, and the Earth in the *Strata*, besides its apparent Distinction into Layers, like all other Kinds of Matter, by reason

of its peculiar Unctuousness, or the running of the adjacent Sand imperceptibly among it, breaks itself into Pieces of all Angles and Sizes.

For the Geographical Situation of these Pits, they are digg'd in that Ridge of Sand-Hills by *Woburn*; which near *Oxford* is call'd *Shotover*; on which lies *Newmarket-Heath* by *Cambridge*, and which extends itself from East to West, every where, at about the Distance of eight or ten Miles from the *Chiltern* Hills, which in *Cambridgeshire* are called *Gog-Magog*; in *Bucks*, and *Oxon*, the *Chiltern* Hills, from the chalky Matter, of which they chiefly consist: which two Ridges you always pass, in going from *London* into the North, North-East, or North-West Counties in the Manner I before-mention'd: After which you come into that vast Vale, which makes the greater Part of the Midland Counties of *Cambridge*, *Bedford*, *Bucks*, *Northampton*, *Oxford*, and *Gloucester*, and in which are the Rivers *Cam*, *Ouse*, *Nen*, *Avon*, *Isis*, and others; which I take Notice of, because it confirms what you say of the regular Disposition of the Earth into like *Strata*, or Layers of Matter, commonly through vast Tracts, and from whence I make a Question, whether *Fullers-Earth* may not probably be found in other Parts of the same Ridge of Sand-Hills, among other like Matter.

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