

it is often more than 200 feet in thickness; nor in the Norfolk crag, nor in our own London clay, often far more than 300 feet in depth; nor in the alternations of fresh-water and sea-water beds down to the chalk; nor in the chalk itself or any earlier formation. This is surely going low enough: and it demands to be considered, on the one hand, that the formations above the chalk occupy a small proportion of distance which would be perpendicular, if all the strata could be restored to strict horizontality; in comparison with the total amount of the lower stratified rocks, scarcely one thirtieth part; and, on the other, that Mr. Babbage, referring probably to these Tertiary or supracretaceous beds, but certainly never intending to go farther, regards it as a truth supported by irresistible evidence, "— that the formation even of those strata which are nearest the surface, must have occupied vast periods, probably *millions* of years."*

I am sensible of the delicacy and danger of venturing upon this ground; but I will do no more than touch it. It will be going as far as in reason we can be desired to do, if we take the general surface with the drifts of sand and gravel, and whatever masses of clay or loam may be fairly deemed of equal age with those drifts, and to regard them as representing the period from the creation of man. That period, according to the usually received chronology, is a little more than 5840 years; according to the late Dr. Hales's system, it is about 7250. Now the average thickness of this superficial accretion is perfectly inconsiderable, compared with the formations composing what is commonly called the Tertiary series. If we were to say that each of those formations in number six or seven, should be considered as requiring for its production some such term as we have mentioned, we should be presuming upon a really contracted scale. The probability is that several of those formations, if not each one, must have singly required a length of time equal at least to our present period: consequently the product would be from forty to fifty thousand years. But the whole bearing of the evidence, upon considering its component parts, goes to mark that conclusion as not furnishing a period sufficiently long for a probable computation of the processes which it involves. Each stratum and each group of strata has its limits in extent; each was deposited and otherwise affected under its own special circumstances; to each, correspondents or equivalents are generally found upon other areas; in each case, the mechanical and chemical circumstances of production and alteration, recognizable in their results, carry plain evidences of very great periods of time for their action: but one formation cannot give law

* Ninth Bridgewater Treatise; p. 79.