

cised any influence beyond the sphere in which they were delivered. Besides establishing the great distinction of primitive and secondary rocks, Lehman illustrated his doctrines by many details concerning the disposition of the carboniferous rocks, and those associated with cupriferous marle-slate (the same since fully described by Friesleben) as exhibited around the Hartz and Erzegebirge: he fell into the common error (which Werner himself afterwards imitated) of supposing that the few rocks which had fallen under his observation in a limited district, were all that the world afforded; and that he had sufficient data, from the inspection of the former, to reason as to the universal structure of the latter.

In 1760 the Rev. J. Michell, in a paper on the Cause and Phœnomena of Earthquakes published in the Phil. Transactions, delivered the whole doctrine of the regular succession of the stratified masses constituting the crust of the earth, in a manner still more satisfactory and compleat: he observes that this structure is such that we always meet with successive zones of the various mineral masses lying parallel to, and rising towards, the crest of the principal mountain-ridge: he illustrates this position by instances derived from the mountains of North and South America, and from England, in which latter country, he observes, the general direction of the strata, and the chains formed by them, runs from east-north-east to south-west; he also particularly remarks (as indeed Lister had done previously) the length and continuity of the range of chalk extending more than 300 miles on the opposite sides of the Channel in England and France; he adds that it would be easy to have carried the proof of the regular succession of the strata of England much farther into detail, and among his papers was found the following list of English strata, bearing date about 1788 or 1789.

| | Yards of thickness. |
|--|------------------------|
| Chalk | 120 |
| Golt | 20 |
| Sand of Bedfordshire | 10 or 20 |
| Northamptonshire lime and Portland limes, lying in several strata | 100 |
| Lyas strata | 70 or 100 |
| Sand of Newark | about 30 |
| Red clay of Tuxford, and several red marles ... | 100 |
| Sherewood Forest, pebbles and gravel, | 50 |
| | <i>unequal</i> |
| Very fine white sand | <i>uncertain</i> |
| Roche Abbey and Brotherton limes | 100 |
| Coal strata of Yorkshire | — |