

The Cambrian or Huronian, which is from 10,000 to 26,000 feet thick, is not included in the above, because scarcely any fossils have yet been detected in it. The average thickness of the other fossiliferous strata is 57,035 feet, equal to about eleven miles.

Organic remains occur more or less in all the fossiliferous strata whose thickness has been given. As a matter of fact, they have been dug out several thousands of feet below the present surface.

In the Alps, rocks abound in organic remains from 6,000 to 8,000 feet above the level of the sea; in the Pyrenees, nearly as high; and in the Andes and the Himalayas, at the height of 16,000 feet.

Prodigious accumulations of the relics of microscopic animals and plants are frequently found in the rocks.

EXAMPLE 1.—From less than 1.5 ounce of stone, in Tuscany, Soldani obtained 10,454 chambered shells;—400 or 500 of these weighed only a single grain; and of one species it took 1,000 to make that weight. These were marine shells. *Buckland's Bridgewater Treatise*, vol. 1, p. 117.

EXAMPLE 2.—In fresh water accumulations a microscopic crustaceous animal, called the cypris, often occurs in immense quantities; as in the Hastings sand and Purbeck limestone in England, where strata 1,000 feet thick are filled with them; and in Auvergne, where a deposit 700 feet thick, over an area twenty miles wide and eighty in length, is divided into layers as thin as paper by the exuviae of the cypris. *Same Work*, p. 118.

EXAMPLE 3.—But perhaps the most remarkable example is that derived from microscopic animals and plants which have been regarded by Ehrenberg and others as exclusively animal, under the name of infusoria or animalculæ, but a part of them are doubtless plants. In one place in Germany is a bed fourteen feet thick, made up of skeletons so small, that it requires 41,000,000,000 of them to form a cubic inch; and in another place, a similar bed is twenty-eight feet thick. In Massachusetts are numerous beds composed of these siliceous shields many feet in thickness; and similar beds occur all over New England and New York. Deposits of these *carapaces* or shields, have been discovered by Prof. William B. Rogers in the tertiary strata of Virginia, extending over large areas, and from twelve to twenty-five feet thick!

It is a moderate estimate to say, that two-thirds of the surface of our existing continents are composed of fossiliferous rocks; and these, as already stated, often several thousand feet thick.

This estimate might, without exaggeration, be confined to strata that contain marine exuviae;—that is, such as were deposited beneath the ocean.

At the end of the next section we hope to be able to present a table of most of the fossil animals and plants known.

ICHTHOLOGY.

This branch of Palæontology means literally, *the science of tracks*. It is tracks in stone, however, that fall within the province of geology, and hence we might call the science Ichnolithology.