

altering this arrangement; break them as we may, we can only separate them into a rhomboidal figure; nor can this condition be altered except by chemical decomposition. If we pursue our investigations yet farther, analysis shows that every atom of these crystals consists of quicklime and carbonic acid, which are each made up of innumerable molecules. "Lime and carbonic acid are also themselves compounds, lime being composed of a metal called calcium and oxygen; and carbonic acid, of carbon and oxygen. Thus these ultimate particles of calcium, carbon, and oxygen, form the indivisible atoms into which all the secondary crystals of lime may be reduced."*

4. STRATIFICATION.—As our previous investigations have shown that the disintegration and solution of the most refractory, and apparently indestructible substances, by the conjoined effects of mechanical and chemical agency, are constantly in progress, we can at once proceed to the consideration of the manner in which the spoils of the ancient lands and seas have been accumulated, and converted into the rocks and strata of existing islands and continents. I have already adverted to the formation of beach and sand, and the deposition of mud and clay in layers or strata, and their subsequent consolidation into rocks. And here let me remind you, that *strata* are the successive layers or accumulations of detritus, spread over each

* Dr. Buckland's Bridgwater Essay.