

of the term "primitive," applied by mineralogists to the more ancient limestones. Though all trace of organic structure may have disappeared from these strata, he nevertheless believes them to have had an organic origin, and he can indicate the process by which the organic structures might be destroyed. He even goes so far as to affirm that such calcareous matter did not exist in the primitive earth, but like other animal and vegetable substances, only came into existence when it was secreted by living organisms.

4. To the treatment of the fourth problem Lamarck devotes nearly as much space as to the other three taken together, tempted doubtless to this greater discursiveness by the opportunity to re-state and develop his peculiar views in physics and chemistry, and to claim for the subject a far more important place in scientific investigation than his contemporaries seemed disposed to admit. Without entering here into his controversy, it may be sufficient to note the more important geological observations and deductions wherein the author was either wholly or partly in the right, and where he led the way in a line of inquiry wherein much still remains to be accomplished.

The crust of the earth, conjectured by Lamarck to be perhaps 3 or 4 leagues thick (13 to 17 kilometres or 8 to 10½ English miles), was pictured by him to be, as regards its outer part, in a continual state of alteration; ceaselessly worked over by the various forms of water, by the displacements and alternate passages of the ocean-basin, by the continual deposits