

INTRODUCTION.

THE investigation of the structure of the earth belongs to the science of Geology. It may however be interesting to take a rapid survey of the present state of our knowledge respecting it, were it only for the sake of showing its intimate connection with mineralogical pursuits.

In speaking of the earth and of our knowledge of its nature, it is essential that the limited extent of that knowledge should always be had in remembrance. We are acquainted with it only to a very inconsiderable depth; and when it is recollected that, in proportion to the bulk of the earth, its highest mountains are to be considered merely as unimportant inequalities of its surface, and that our acquaintance does not extend in depth more than one fourth of the elevation of these mountains above its general level, we shall surely estimate our knowledge of the earth to be extremely superficial; that it extends merely to its crust.

The term 'Crust of the Earth,' therefore, relates only to the comparative extent of our knowledge beneath its surface. It is not used with the intention of conveying an opinion that the earth consists only of a crust, or that its centre is hollow; for of this we know nothing. The term may not be philosophical, but it is convenient.

The nature of the crust of the earth is most readily studied in mountains, because their masses are obvious; and also because, as they are the chief depositories of metalliferous ores, the operations of the miner tend greatly to facilitate their study. Mountains are composed of masses which have no particular or discernible shape; or, as is more commonly the case, of strata or beds, either horizontal or oblique, sometimes nearly vertical.

In these masses and beds different structures have been observed. Some of them are crystalline; that is to say, are com-