

and on the conditions in which crystalline substances and ores have been produced within the earth.

Among the solids naturally enclosed within other solids, Steno includes, as specially deserving of consideration, fossil shells. His anatomical experience enables him to declare with confidence that even if no living marine shells had ever been seen, the internal structure of the fossils demonstrates that they once formed parts of living animals. He shows that the fossils vary in character according to the extent to which they have been petrified, some still retaining their original composition and internal structures, others having become entirely crystalline, as in those enclosed in marble. He points out further that over and above the predominant testaceous fossils, remains of many other marine animals have been preserved in the strata, such as teeth and vertebrae of dog-fishes, and all kinds of fish-skeletons, while other strata have furnished the skulls, horns, teeth and bones of land animals.¹ Against those who found an insuperable difficulty in granting the length of time required for all the vicissitudes indicated by the strata and their fossils, Steno argues that many of the organic remains found in the rocks must be as old as the general Deluge, and he proceeds to present a summary of what he conceives to have

¹ It is curious to observe that Steno, while he recognised that teeth and bones exhumed from the Agro Aretino were those of elephants, did not realise that they too must be regarded as of prehistoric age. He supposed them to be relics of the African elephants brought into Italy by Hannibal. Brocchi has pointed out that after the battle of the Trebbia the thirty-seven elephants which the Carthaginian general had by the side of the Rhone were reduced to one single animal. *Op. cit.* p. xv.