

It is admitted that if the cascades of Tivoli, for example, can give birth to the oolitic grains, the same thing happens in the quietest basins, that in stalactite-caverns oolitic grains develop themselves, which afterwards, becoming cemented together from the continued, but very slow, affluence of the calcareous waters, give rise to certain kinds of oolitic rocks.

On the other hand, it is known that nodules, more or less large, develop themselves in marls in consequence of the concentration of the calcareous elements, without the possibility of any wearing action of water. Now, as there exists every gradation of size between the smallest oolitic grains and the largest concretions, it is reasonable to suppose that the oolites are equally the product of concentration.

Finally, from research to research, it is found that perfectly constituted oolites—that is to say, concentric layers, as in the Jurassic limestone—develop themselves in vegetable earth in places where the effects of water in motion is not more admissible than in the preceding instances.

Thus we arrive at the conclusion, that if Nature sometimes forms crystals with perfect terminations in magmas in the course of solidification, she gives rise also to spheroidal forms surrounding various centres, which sometimes originate spontaneously, and in other cases are accumulated round the débris of fossils, or even mere grains of sand. Nevertheless, all mineral substances are not alike calculated to produce oolitic rocks; putting aside some particular cases, this property is confined to limestone and oxide of iron.

With regard to the distribution of the Jurassic formation on the terrestrial globe, it may be stated that the Cotteswold Hills in England, and in France the Jura mountains, are almost entirely composed of these rocks, the several series of beds being all represented in them—this circumstance, in fact, induced Von Humboldt to name the formation after this latter range. The Upper Lias also exists in the Pyrenees and in the Alps; in Spain; in many parts of Northern Italy; in Russia, especially in the government of Moscow, and in the Crimea; but it is in Germany where it occupies the most important place. A thin bed of oolitic limestone presents, at Solenhofen in Bavaria, a geological repository of great celebrity, containing fossil Plants, Fishes, Insects, Crustaceans, with some Pterodactyles, admirably preserved; it yielded also some of the earliest of the feathered race. The fine quarries of lithographic stone at Pappenheim, so celebrated all over Europe, belong to the Jurassic formation.