

that the chalk was already solid when the clay was deposited.

The next formation in ascending order was one of sand and the Calcaire Grossier. It was shown to consist of a number of bands or alternations of limestone and marl; following each other always in the same order, and traceable as far as the two observers had followed them. Some of the strata might diminish or disappear, but what were below in one district were never found above in another. "This constancy in the order of superposition of the thinnest strata," the writers remark, "for a distance of at least 12 myriamètres (75 English miles), is in our opinion one of the most remarkable facts which we have met with in the course of our researches. It should lead to results for the arts and for geology all the more interesting that they are sure."

One of the most significant parts of the essay is the account it gives of the method adopted by the explorers to identify the various strata from district to district. They had grasped the true principle of stratigraphy, and had applied it with signal success. The passage deserves to be quoted from its historical importance in the annals of science: "The means which we have employed, among so many limestones, for the recognition of a bed already observed in a distant quarter, has been taken from the nature of the fossils contained in each bed. These fossils are generally the same in corresponding beds, and present tolerably marked differences of species from one group of beds to another. It is a method of recognition which up to the present has never deceived us.