

number, structure, forms, and relations of plants and animals, are to be ascertained as facts, and employed in reasoning, for tracing a general and continuous history of the physical revolutions which the earth has experienced since it became a planet.*

In this comprehensive definition of the objects of geological science, we include its real and legitimate field of research, without interfering in the least with the independent exercise of collateral sciences. To astronomy belongs the investigation of the history of the globe, as a part of the planetary system, and the results thus reached help to correct and limit geological inferences. Chemistry employs itself upon the inquiry into the laws and modes of mutual action among the particles of matter, and gives its results to aid in the general history of terrestrial phenomena. It is the province of zoology and botany to arrange and interpret the facts connected with life and organisation in plants and animals; and to these branches of knowledge geology owes immeasurable obligation. Thus the study of the ancient natural history of the earth draws help from every kind of inquiry which man can make into the actual constitution of nature, but robs none of its interest or glory; on the contrary, by the novelty of its discovered facts, fresh problems are presented to the cultivators of natural science, and a perpetual excitement is kept up, which has proved of infinite service to them all.

2. MEANS OF GEOLOGICAL INVESTIGATION.

THUS ample and various are the problems clearly proposed in geology: in order to see how far they are de-

* "Geology is principally distinguished from Natural History, inasmuch as the latter is limited to the description and classification of the phenomena presented by our globe in the three kingdoms of nature, whilst it is the business of the former to connect these phenomena with their causes." "It consists in the knowledge of the causes which have acted, and still act, upon this earth, and thus embraces all the knowledge we can gain of nature, by an attentive study of terrestrial phenomena." — *De Luc Lettre Premiere.*