North America. This abundance of glauconite is continued into the Tertiary formations, from the lowest up to the highest horizons of the series.

From this rapid enumeration it will be seen that glauconite traverses the whole of the geological periods, and its formation is continued in modern deposits along many continental shores explored by the Challenger and other expeditions. A remarkable analogy is also found between the size of the grains now formed in marine deposits and that of the grains found in the geological series of rocks. It has been stated that some of the grains in the primary formations are of very large size—several centimetres in diameter. All the specimens of this kind, however, which we have been able to examine are found, on microscopic examination, to be made up of an agglomeration of grains rarely exceeding a few millimetres in diameter, and therefore closely resembling the glauconitic nodules or aggregations dredged by the Challenger on the Agulhas Bank off the Cape of Good Hope, in depths of 100 and 150 fathoms.

It is also important here to point out the association that exists in geological formations between glauconitic and sandy calcareous deposits, and the absence or rarity of glauconite in formations of pure chalk, or in nearly pure carbonate of lime deposits; glauconite may therefore be regarded as having been formed either in deep water not far from the coasts or in shallow water at parts of the coast where no large quantity of continental debris was deposited. This fact is significant, as it appears to prove the coast and subcoast character of these glauconitic deposits in past geological times, which consequently present a complete analogy with the glauconitic deposits of modern seas, both with respect to the conditions under which they were formed and their mineralogical composition. These analogies likewise prove the continuity of geological phenomena and the presence of nearly identical conditions in the sea during long periods in the history of the globe; they indicate that the presence of terrigenous matters, directly derived from the disintegration of continental land, is a necessary condition for the formation of glauconite, and this fact must be taken account of in any discussion bearing upon the origin of this mineral.

Chemical Composition and Mode of Formation.—While it must be admitted that we have arrived at certain definite and satisfactory conclusions as to the conditions under which glauconite is found in our present seas, as well as in geological formations, we are far from having at our disposal all the facts necessary for a complete explanation of its mode of origin. So many possible reactions may take place in the deposits being laid down in existing seas, that it is difficult to be certain that any one of them is necessarily the one which has been followed in the deposition of this silicate in the terrigenous deposits. The explanations that are given with reference to the formation of glauconite must then be more or less hypothetical; it is not to be wondered at that its origin has remained for a long time enigmatical, and that the researches of numerous mineralogists up to the present time have not led to any very definite results. The chemical analyses of glauconite have been very numerous; but, from the nature of the