

ations which he has found within the district under discussion—to read the history told by its fauna or flora, whether of land or sea—and upon this foundation to construct a more or less elaborate account of the history of the region and to outline the various changes that it has undergone. There are many well recognized and generally accepted criteria, for the most part based on the study of present geologic process, by which the history of any region may be inferred from the nature of the deposits found within or adjacent to its boundaries, and from the character of the fossil remains which they contain. A primary pre-requisite to the interpretation of any sedimentary series must necessarily be a knowledge of the conditions under which the given series may be produced. The formation of sedimentary deposits under what may be termed normal conditions is a function of many varying factors and it not infrequently happens that similar formations may be produced in two localities at the same time, or in the same locality at different times, by a totality of conditions in each locality, although the factors contributory to their production were not precisely alike in the two places, or at the two different times.

The general conception of the origin of sedimentary deposits, and of the relations of the various types of deposits to each other, which is set forth in this paper, is one which has been long and widely entertained. In restating what has so long been generally held, the writer has but repeated the work of others. The method of presentation varies somewhat from that usually adopted in that it is deductive rather than inductive. The paper is offered rather as an illustration of the application of the deductive method to geologic problems than as a direct contribution to our knowledge. In the latter part of the paper direct application of the inferences from the study is made to two minor problems of local interest. In the present paper the writer attempts to present the subject in a systematic manner, and in so doing to lay special