

yet, because of the inherent difficulty of proving anything by the microscope, the limestones have been little studied. The tendency has also been to neglect their macroscopic phenomena in the field, although enough data has now been collected to stimulate an interest in its application to causes and events. It may soon be possible to classify sedimentary rocks according to the sequence of formative events which they have undergone. Such a classification is very much to be desired, as it will eventually give us a Natural History of the sedimentary rocks. In this paper the attempt will be made to classify intraformational glomerates with the above facts in mind. Thus, all intraformational glomerates may be divided into two groups: A, those whose present structure is contemporaneous with their primary lithification; and B, those whose present structure is non-contemporaneous with their primary lithification. Again, under class B, the present structures may be either previous or subsequent to the primary lithification. We will examine the classification more closely when we discuss the mode of origin of each type. As stated before, field evidence strongly points to the fact that it is impossible to explain all intraformational glomerates by a single hypothesis. It has been suggested that the rapidly growing amount of data concerning the occurrences of such rocks makes it unwise to classify them all under the term *conglomerate*. This statement will be appreciated fully by those who have observed different occurrences in the field, or have even read the descriptions by the authors who have studied and described them. Laying aside for the moment the conclusions reached by each investigator as to the origin of the particular intraformational glomerates in his area, we may at least rely upon his attempt to describe what he has seen. Descriptions of intraformational glomerates are so varied that one is forced to the conclusion that the variations cannot all be the result of a single set of factors. The study of intraformational glomerates is largely a study of the phenoclasts which bring them so strikingly to the notice of the field geologist, and it is upon the size, shape, structure (if present), and composition of the phenoclasts that this present classification is largely made. The arrangement of the phenoclasts may be heterogeneous, unsorted, parallel, banded, radiate or edgewise. The arrangement, as well as the size, shape, structure and composition, of the phenoclasts is intimately connected with their origin and the depth of water under which they were deposited, the strength of tidal currents, if any, the topography of the sea floor, and character of the sediments. The presence of organisms in the slimy mud of the seas may also have proved a determining factor in their evolution.