being deposited, are, to a large extent, inimical to the existence of abundant organic life, but in the clearer waters beyond these zones, provided there is a sufficient food supply, various forms will normally, be more abundant. These types, by the growth of their hard parts and the subsequent comminution of these, transfer the lime from a solution of calcareous compounds in the sea water to the ocean floor to eventually form limestones. Again, under certain conditions the calcareous materials are deposited without the intervention of organic forms. For the formation of limestone beds in these ways *deep* water is thus *not always essential* (and, in the former case, beyond a certain maximum depth, fixed by the depth of water at which a fauna can thrive, detrimental). So long as the lime-producing forms are not hindered in their growth by deleterious material or lack of food supply, they will continue to grow. Hence, under favourable conditions, there will be frequently formed off-shore reefs, usually chiefly of corals, but many other forms will also thrive here, *e.g.*, Barrier reefs of Australasia. These reefs may also be covered with comparatively shallow water, and the older parts might in places be exposed. Under these conditions, the action of the wind and waves will lead to the comminution of the materials of which they are composed and the formation of all the various types of limestone rock, included within the types recently designated calcirudite, calarenite, calcilutite by Grabau.[1] The distribution of these various types of rock will bear the same relation to their source, the coral reefs, as does the normal distribution of sedimentary formations to their source, the oldland. Such conditions seem to have prevailed during the period of the formation of the Silurian and the Devonian limestones in New York and elsewhere.

Still another secondary consideration now suggests itself. If the supply of material detrimental to the existence of a great abundance of organic forms diminishes or

[1] Bull. Geol. Soc. Amer. Vol. XIV., 1903, p. 349.