phosphoric acid is mostly due to animal life; and when we say "due" to animal life we wish to imply that animal life is the assimilating and concentrative medium of pre-existing phosphoric acid: whether as sea and fresh-water shells, as fish and animal bones, as excreta of birds and saurians, etc., animal organisms have been from the beginning of life and still are, the silent but mighty laboratory of nature, never resting to collect and store up the dispersed molecules of phosphoric acid. Among such are the guano beds of recent epochs, coprolite deposits, bone beds, shell beds, etc.

Nature's operations of bringing these materials or their debris together to form whole geological areas are equally varied, but the estuaries and depressions of the sea-bottoms of the different and respective geological periods, are recognized to have been the receptacles or storehouses of these wonderful supplies. A curious disposition to concretionary action, displayed by nuclei of certain organisms to absorb and accumulate phosphatic matter, with which the ancient seas abounded, is more easily seen in its effects than explained.

Such is the origin of many odd species of nodules, some varieties of which exist in immense quantities.

The abrupt or imperceptible, but never ceasing operations of geological rearrangement, follow the afore mentioned accumulations, and we then have new forms of mineralized phosphatic matter, giving rise to conglomerates, breccias, phosphatic limestone, shells and marls, sandy and ablation deposits, etc., and most of the known natural deposits of mineralized phosphate display examples of two or more of these products. For instance, the perplexities experienced just now with some of the exploratory workings of the lately discovered Florida deposits, are chiefly occasioned by the character of these beds containing boulders, and nodules from pea size to masses of several hundred pounds in weight, fish bones, sharks' teeth and fossil bones, in fact *debris* from several geological epochs, each of these materials naturally varying in purity, and therefore also in commercial value, so that the more successful enterprises may be looked for where regular and homogenous deposits occur, or some cheap and efficient mechanical means are applied for the separation of the marketable products from the less valuable or worthless intermixtures.