These are granular or arenaceous, and to this feature as well as to their richness (65-80%) may be attributed the enormous development which they have enjoyed in such a short period, attaining the annual production of 200,000 tons.

CONGLOMERATES AND BRECCIAS.

Phosphatic beds may also assume these characters, sometimes with the cementing material as the phosphatic element, and at others with the enclosed pebbles or angular fragments as the valuable portion for commercial supplies.

Thus the Cambridgeshire coprolite fields furnish a conglomerate of phosphatic pebbles, cemented by ferruginous sand, while in the Ardennes district (France), is found a peculiar agglomeration of granules of chlorite in a phosphatic cement, the whole yielding 40 to 45% phosphate of lime.

The Belgian (Cipley) deposits yield abundant supplies of a mass of phosphatic nodules, shells casts and fossils, cemented in a calcareous matrix, to utilize which, has puzzled the ingenuity of many an "exploitant."

PHOSPHATIC LIMESTONE AND MARLS.

Are found in most strata from the Silurian epoch down to more recent time.

The metaniorphosis or transmutation of earthy carbonates into phosphates, is a very simple and comparatively rapid process, and the evidence of Dr. R. Ledoux in the following description is instructive. He says in a recent article on Phosphates :--- "Some clients of mine sent a ship to a coral island in the Southern Pacific to bring away a cargo of bird guano. The birds were still in countless thousands. The captain had been there for a load 20 years before, and since that time no guano had been removed. At his first visit the crew had cleaned off a space and made a house of coral rock, covering it with a sail and had used it for a shelter and storehouse while at work. On leaving, the sail was taken away and the walls and board floor left. On the return, 20 years after, there was an average depth of 20 inches over the floor-an inch a year. The underlying limestone was altered into Phosphate for a depth of several feet, but the conversion of carbonate into phosphate gradually became less perfect as depth from surface was attained."