

is almost always very dry. The material which constitutes the chief value of guano is not volatile when existing as deposited by the birds, but only becomes so when it assumes the form of ammonia. This it can only do when subject both to heat and moisture; but little moisture is present on the coast of Peru; decomposition does not take place; no volatile materials are formed, and after ages the guano may remain as when first deposited.

On the coast of Patagonia much rain falls. We have here both causes in action to produce decomposition, and the product of this decomposition, being a volatile substance (ammonia), passes off into the air, leaving the substances which are not volatile, such as phosphate of lime, &c., in greater proportional abundance than they would otherwise be found. The constant tendency of Peruvian guano, when exposed in our climate, is to become similar in composition to Patagonian guano, that is, decomposition will take place in it from the combined agencies of heat and moisture, the valuable volatile materials formed will pass off, and a larger per centage of phosphates, &c., will remain.

These teachings of theory are fully borne out by analysis. We find the quantity of ammonia that already exists, or of materials capable of forming it, in very small quantities; whilst the quantity of fixed materials, such as phosphates, are proportionately larger than in the Peruvian—just as a larger per centage of wheat would exist in a bushel after it was fanned than before that operation took place.

Without giving at full length the analyses made of this substance, I will only state that in 14 specimens of Patagonian Guano, analyzed by Dr. Ure, Teschemacher, and by Way,

The highest per centage of ammonia was	-	4.68
The lowest	- - - - -	1.60
The average	- - - - -	2.54

Of phosphate of Lime, omitting one specimen,

The highest per centage was	- - -	65.5
The lowest	- - - - -	29.3
The average	- - - - -	44.6

The above analyses, to show the composition of Peruvian and Patagonian guano, were made by disinterested, competent parties in England, and show—first, what the composition of good unadulterated, undamaged Peruvian guano should be—secondly, that although it may fall short of what it should be fifty per cent., analysis is required to show it—thirdly, the great difference between Peruvian and Patagonian guano. These are all important facts, to be borne in mind when we come to speak of the proper inspection and money value of this article.