

plains (llanos), steppes, and deserts, have not that uniform tertiary formation which has been too generally supposed. Do the fine pieces of riband-jasper, or Egyptian pebbles, which M. Bonpland picked up in the savannahs of Barcelona (near Curataquiche), belong to the sandstone of the Llanos of Calabozo, or to a stratum superposed on that sandstone? The former of these suppositions would approach, according to the analogy of the observations made by M. Rozière in Egypt, the sandstone of Calabozo, or tertiary nagelfluhe.

VII. FORMATION OF THE COMPACT LIMESTONE OF CUMANACOA.—A bluish-grey compact limestone, almost destitute of petrifications, and frequently intersected by small veins of carburetted lime, forms mountains with very abrupt ridges. These layers have the same direction and the same inclination as the mica-slate of Araya. Where the flank of the limestone mountains of New Andalusia is very steep, we observe, as at Achsenberg, near Altdorf, in Switzerland, layers that are singularly arched or turned. The tints of the limestone of Cumanacoa vary from darkish grey to bluish white, and sometimes pass from compact to granular. It contains, as substances accidentally disseminated in the mass, brown iron-ore, spathic iron, even rock-crystal. As subordinate layers, it contains (1) numerous strata of carburetted and slaty marl, with pyrites; (2) quartzose sandstone, alternating with very thin strata of clayey slate; (3) gypsum with sulphur, near Guire, in the Golfo Triste, on the coast of Paria. As I did not examine on the spot the position of this yellowish-white fine-grained gypsum, I cannot determine with any certainty its relative age.

The only petrifications of shells which I found in this limestone formation consist of a heap of turbinites and trochites, on the flank of Turimiquiri, at more than 680

the limestone with nummulites, of Siwa. The primitive rocks from which the fine-grained marble was believed to be extracted, if there be no deception in its granular appearance, are far distant from the Oasis of Siwa.

* This sandstone contains springs. In general it only covers the limestone of Cumanacoa, but it appeared to me to be sometimes enclosed.