

which might easily be confounded with real limestone, lies immediately over the mica-slate; while on the opposite side, near Punta Delgada, this sandstone covers a compact bluish gray limestone, almost destitute of petrifications, and traversed by small veins of calcareous spar. This last rock is analogous to the limestone of the high Alps.*

The very recent sandstone formation of the peninsula of Araya contains:—first, near Punta Arenas, a stratified sandstone, composed of very fine grains, united by a calcareous cement in small quantity;—secondly, at the Cerro de la Vela, a schistose sandstone,† without mica, and passing into slate-clay,‡ which accompanies coal;—thirdly, on the western side, between Punta Gorda and the ruins of the castle of Santiago, breccia composed of petrified sea-shells united by a calcareous cement, in which are mingled grains of quartz;—fourthly, near the point of Barigon, whence the stone employed for building at Cumana is obtained, banks of yellowish white shelly limestone, in which are found some scattered grains of quartz;—fifthly, at Peñas Negras, at the top of the Cerro de la Vela, a bluish gray compact limestone, very tender, almost without petrifications, and covering the schistose sandstone. However extraordinary this mixture of sandstone and compact limestone§ may appear, we cannot doubt that these strata belong to one and the same formation. The very recent secondary rocks everywhere present analogous phenomena; the molasse of the Pays de Vaud contains a fetid shelly limestone, and the cerite limestone of the banks of the Seine is sometimes mixed with sandstone.

The strata of calcareous breccia are composed of an infinite number of sea-shells, from four to six inches in diameter, and in part well preserved. We find they contain not ammonites, but ampullaires, solens, and terebratulæ. The greater part of these shells are mixed: the oysters and pectinites being sometimes arranged in families. The whole are easily detached, and their interior is filled with fossil madrepores and cellepores. We have now to speak of a fourth formation, which probably rests|| on the calcareous

* Alpenkalkstein.

† Sandsteinschiefer.

‡ Thonschiefer.

§ Dichter kalkstein.

|| It were to be wished that mineralogical travellers would examine more particularly the Cerro de la Vela. The limestone of the Peñas Negras