

grey copper: it is probably the metalloid diallage that has given the Cerro de Guanabacoa the reputation of riches in gold and silver, which it has enjoyed for ages. In some places, petroleum flows* from rents in the serpentine. Springs of water are frequent; they contain a little sulphuretted hydrogen, and deposit oxide of iron. The Baths of Bareto are agreeable, but of nearly the same temperature as the atmosphere. The geologic constitution of this group of serpentine rocks, from its insulated position, its veins, its connection with syenite, and the fact of its rising up across shell-formations, merits particular attention. Feldspar with a basis of souda (compact feldspar), forms, with diallage, the euphotide and serpentine; with pyroxene, dolerite and basalt; and with garnet, eclogyte. These five rocks, dispersed over the whole globe, charged with oxidulated and titanious iron, are probably of similar origin. It is easy to distinguish two formations in the euphotide; one is destitute of amphibole, even when it alternates with amphibolic rocks (Joria in Piedmont, Regla in the island of Cuba), rich in pure serpentine, in metalloid diallage, and sometimes in jasper (Tuscany, Saxony); the other, strongly charged with amphibole, often passing to diorite†, has no jasper in layers, and sometimes contains rich veins of copper, (Silesia, Mussinet in Piedmont, the Pyrenees, Parapara in Venezuela, Copper Mountains of North America). It is the latter formation of euphotide which, by its mixture with diorite, is itself linked with hyperthenite, in which real beds of serpentine are sometimes developed in Scotland

* Does there exist in the Bay of the Havannah, any other source of petroleum than that of Guanabacoa, or must it be admitted that the "betun liquido," which in 1508 was employed by Sebastian de Ocampo for the caulking of ships, is dried up? That spring, however, fixed the attention of Ocampo on the port of the Havannah, where he gave it the name of Puerto de Carenas. It is said that abundant springs of petroleum are also found in the eastern part of the island (Manantialis de betun y chapapote) between Holguin and Mayari, and on the coast of Santiago de Cuba.

† On a serpentine that flows like a *penombre*, veins of greenstone (diorite), near Lake Clunie, in Perthshire. See MacCulloch, in Edinb. Journ. of Science, 1824, July, pp. 3—16. On a vein of serpentine, and the alterations it produces on the banks of Carity, near West-Balloch in Forfarshire, see Charles Lyell, l. c., vol. iii., p. 43.