

a physical phenomenon lately observed in different parts of the globe, and not yet sufficiently explained. Among the cataracts, and wherever the Orinoco, between the Missions of Carichana and of Santa Barbara, periodically washes the granitic rocks, they become smooth, black, and as if coated with plumbago. The colouring matter does not penetrate the stone, which is coarse-grained granite, containing a few solitary crystals of hornblende. Taking a general view of the primitive formation of Atures, we perceive, that, like the granite of Syene in Egypt, it is a granite with hornblende, and not a real syenite formation. Many of the layers are entirely destitute of hornblende. The black crust is 0.3 of a line in thickness; it is found chiefly on the quartzose parts. The crystals of feldspar sometimes preserve externally their reddish-white colour, and rise above the black crust. On breaking the stone with a hammer, the inside is found to be white, and without any trace of decomposition. These enormous stony masses appear sometimes in rhombs, sometimes under those hemispheric forms, peculiar to granitic rocks when they separate in blocks. They give the landscape a singularly gloomy aspect; their colour being in strong contrast with that of the foam of the river which covers them, and of the vegetation by which they are surrounded. The Indians say, that the rocks are 'burnt' (or carbonized) 'by the rays of the sun.' We saw them not only in the bed of the Orinoco, but in some spots as far as five hundred toises from its present shore, on heights which the waters now never reach even in their greatest swellings.

What is this brownish black crust, which gives these rocks, when they have a globular form, the appearance of meteoric stones? What idea can we form of the action of the water, which produces a deposit, or a change of colour, so extraordinary? We must observe, in the first place, that this phenomenon does not belong to the cataracts of the Orinoco alone, but is found in both hemispheres. At my return from Mexico in 1807, when I showed the granites of Atures and Maypures to M. Rozière, who had travelled over the valley of Egypt, the coasts of the Red Sea, and Mount Sinai, this learned geologist pointed out to me that the primitive rocks of the little cataracts of Syene display