

the black slates of the ravine of Piedras Azules: at the line of junction these two slates appear rather to pass one into the other, the green slates becoming of a pearl-grey in proportion as they lose their hornblende.

Farther south, towards Parapara and Ortiz, the slates disappear. They are concealed under a trap-formation more varied in its aspect. The soil becomes more fertile; the rocky masses alternate with strata of clay, which appear to be produced by the decomposition of the grünsteins, the amygdaloids, and the phonolites.

The grünstein, which farther north was less granulous, and passed into serpentine, here assumes a very different character. It contains balls of mandelstein, or amygdaloid, eight or ten inches in diameter. These balls, sometimes a little flattened, are divided into concentric layers: this is the effect of decomposition. Their nucleus is almost as hard as basalt, and they are intermingled with little cavities, owing to bubbles of gas, filled with green earth, and crystals of pyroxene and mesotype. Their basis is greyish blue, rather soft, and showing small white spots which, by the regular form they present, I should conceive to be decomposed feldspar. M. von Buch examined with a powerful lens the species we brought. He discovered that each crystal of pyroxene, enveloped in the earthy mass, is separated from it by fissures parallel to the sides of the crystal. These fissures seem to be the effect of a contraction which the mass or basis of the mandelstein has undergone. I sometimes saw these balls of mandelstein arranged in strata, and separated from each other by beds of grünstein of ten or fourteen inches thick; sometimes (and this situation is most common) the balls of mandelstein, two or three feet in diameter, are found in heaps, and form little mounts with rounded summits, like spheroidal basalt. The clay which separates these amygdaloid concretions arises from the decomposition of their crust. They acquire by the contact of the air a very thin coating of yellow ochre.

South-west of the village of Parapara rises the little Cerro de Flores, which is discerned from afar in the steppes. Almost at its foot, and in the midst of the mandelstein tract we have just been describing, a porphyritic phonolite, a mass of compact feldspar of a greenish grey, or mountain-