for bringing the uplands nigh to the proper state, in this particular?

In several of the Parishes I have visited I have found Habitant farmers, who had themselves or by their fathers before them, found the good effects of claying sandy soils. And in the idea above mentioned, of the clayey parts being washed off by the rains, (which is indeed visible by the lower parts of many fields, consisting mostly of clay,) the replacing it is the more necessary, as the same cause of this deterioration of fertility, must be operating every year; and it will not be very expensive, where beds or banks of clay are found at moderate distances; and this operation will be requisite altho' that excellent plan for manuring and enriching lands by rotation crops should be generally introduced, for as has been above shewn, the most abundant supply of manure, on the uplands, does not make up for a deficiency in the proper proportion of clay.

Clay more or less sandy is found in the valley below St. Foys, and I believe in considerable quantity at La Suede, it is found in some places at Cap Rouge, at Lorette, at St. Ambrouse and no doubt, more or less, in all the other Parishes, in their lower parts. There is also a considerable quantity of Terre Noir found four

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observations on the influence of Earth in vegetation. "As the earth is destined to transmit to the plants the water which is to support them, the nature of the soil cannot be a matter of indifference, but must be varied according as the plants require a more or less considerable quantity of water, and requires more or less in a given time, and as its roots extend to a greater or less distance. A proper soil is that, which, affords a sufficiently *firm support to the roots to prevent the plant from* being shaken; secondly which permits the roots to extend themselves to a distance with ease: Thirdly, which becomes impregnated with humidity and retains the water sufficiently. To answer these several conditions, it is necessary to make a proper mixture of the primitive earths, for none of them in particular possess them. N. B. The primitive earths are five, sand, lime, clay, barytes or ponderous earth, and magnesia. These mixed in various proportions, rarely all in one soil, but are in part contained in, and form the bases of all.

Siliceous or sandy and chalky earths may be considered as hot and drying; argillaceous or clayey, as moist and cold, and the Magnesian as possessing intermediate properties. Each *in particular has its faults.* Clay absorbs water, but does not communicate it; chalky earth receives and gives it too quickly, but the properties of these earths are so happily opposed that they correct each other by mixture. Accordingly by adding lime, to an argillaceous or clayey earth it is divided, and the drying property of the lime is mitigated, and the stiffness of the clay diminished."

N. B. What he says of chalks and clays above will equally apply to sandy and clayey soils, each of which will correct the other, by being added to the soil intended to be improved, in proper quantity, and I have given above, the proper proportion of clay and sand most fitted for corn, by the experiment of Mr. Tillet, (see page 101)