chanical agency alone, magnesia is indicated, and if it had no other use, should be applied.

Chaptal says, that "magnesia soils are by no means fertile," and that whenever lime, containing magnesia, is used for agricultural purposes, it no longer produces the same effect."

Against this sweeping declaration of the poverty of magnesian soils, no better argument can be used than that of showing the composition of some fertile soils.

Johnston, J. F. W., Lectures on the Application of Chemistry and Geology to Agriculture, p. 284, "gives a soil which had been cropped for 100 years successively, without manure or naked fallow," containing 1.16 per cent of magnesia, equal to about 350 bushels of magnesia to the acre, to the depth of twelve inches; another containing .312 per cent of magnesia, equal to about 94 bushels, "a virgin soil celebrated for its fertility;" another containing a carbonate of magnesia, 10.36 per cent, equal to about 3,100 bushels of carbonate of magnesia, which had been "unmanured for twelve years, and during the last nine, had been cropped with beans, barley, potatoes, winter barley and red clover—clover, winter barley, wheat oats, naked fallow."

Analyses of Spengle, too, shows very fertile soils containing—

.6 of one per cent of carbonate magnesia.
1.64 " " of " "
.52 " " of " "
2.22 " " of " "
.84 " " of magnesia.
1.04 " " of " "

The following analyses of my own, also show, that magnesian soils, so far from being barren and unproductive, are exceedingly fertile. No. 1. Soil from Kent county, producing 20 bushels of wheat, and 10 barrels of corn per acre, contains of magnesia .35 of one per cent, equal to 100 bushels. No. 2. Also from Kent county, producing $22\frac{1}{2}$ bushels of wheat, 8 barrels of corn, and fine crops of clover, contains .27, equal to eighty bushels to the acre. No. 3. A soil from Queen Anne's county, producing 30 or 35 bushels of wheat, 12 barrels of corn, and fine clover, contains of magnesia .4 per cent., equal to 120 bushels. No. 4. Soil from Queen Anne's county, producing 30 or 35 bushels of wheat, 12 or 15 barrels of corn, fine clover, contains of magnesia .38 per cent.

There is another soil from the same neighborhood, favorably situated, and in a fine state of cultivation (Dr. W. H. DeC.,) having very nearly the same constituents as the two last mentioned, which produces only 20 or 25 bushels of wheat, and contains only .01 per cent, equal to about 3 bushels of magnesia. These shows the necessity of magnesia, as strongly as facts can show anything.

Again in Talbot and Dorchester, we have fertile soils containing from 60 to 400 bushels of magnesia to the acre; and in Caroline and Worcester we have soils deficient in magnesia, all things else