Whilst in Harford during May last, I had an opportunity to notice the durable effect of bones which I applied to land from seventeen to twenty years since. All the fields to which they were applied continue to produce heavy crops under the judicious management of the present owner, Mr. Hanway.

There was one field of 10 acres upon which I applied 300 bushels of crushed bones. He enlarged it, and applied 15 bushels to the acre over the whole, but finding the 10 acres which I had manured as above so much more productive than the rest, he applied to the latter (which I had not taken in) 18 or 20 bushels more per acre. He expected, by this means, to equalize the fertility of the whole enlarged field. He informs me, however, that his expectation in this regard was not realized, and he was satisfied would not be until he shall apply another manuring of bones, as he intends to do, to the part upon which I had applied none.

Loudon, Johnston and other writers, inform us that the effects of heavy dressings with bones are clearly shown in England to endure for forty to fifty years.

We shall be prepared to discuss the cause of all this after having described the chemical and physical constitution of bones.

A bone may be described in general terms as a spongy structure, made up in part of a frame-work of phosphate and carbonate of lime, whose interstices are filled with animal matter analogous to gelatine, and a small portion of fat or oil. A piece of bone, long exposed to dilute muriatic acid, will be deprived of its phosphoric acid and other mineral matters, and leave the cartilage or gelatine in nearly original form. If we expose a bone in an open fire until it shall burn white, its form will not be changed, but the animal matter will have been burnt away. If, however, the bone be exposed to heat in a close vessel, all its animal matter, except a portion of the carbon, will be driven off. The remaining carbon, with the earthy matters, constitute what is called animal charcoal, ivory black, or bone black.

We have on record numerous results of analysis of bones of different animals, but the following, which gives the composition of the bones of the ox, will answer our present purpose:

Animal matters analogous to gelatin and albumen, called azotic compounds,	33.30
Phosphate of lime,	55.85
" " magnesia,	2.05
Carbonate of lime,	3.85
Fluate of lime,	2.50
Soda, common salt, &c.,	2.45