will restore them or bring them out. Taking of Minorcas or Leghorns, for instance. A high average of eggs would be worked up far sooner from such a race, by proper treatment and selection, than from any lot of barnyard poultry by mere selection, unaided by at least a cross from such a laying breed. But a cross for three years on a fine dunghill breed, will give a strain seven eighths pure, which comes to almost the same thing, while the foundation will probably increase the hardiness and fecundity, and I would as soon, for laying purposes, cross a succession of Minorca, Andalusian, and Leghorn cocks upon some farmyard mongrels stocks I have seen, as to take any stock I know. But in every case the one essential point is year by year to select for breeding only the very best."

For want of space we cannot give any thing farther on this subject this month; but in our next number will give some suggestions as to crosses which may be made with the common barnyard fowl to good advantage to our farmers and readers generally. S. J. A.

The Dust Bath.

DEAR SIR: The habit which fowls have of rolling and dusting themselves in the dirt has been explained in various ways. They not only dust the feathers, but also the skin on all parts of the body.

The common theory is that dust is applied to remove parasitic insects. The large lice that infest fowls, particularly the under part of their bodies, find it difficult to keep a foothold where the surface is covered with dust, portions of which are as large in proportion to their feet as cobble stones are to ours, and they find it as hard to walk over these fragments as we should going up a steep hill over rolling boulders. Undoubtedly some of the parasites are detached when fowls shuffle the dust among their feathers and then shake it off suddenly.

Another explanation is that the caustic ingredients of some soils kill the vermin, but of course a good deal depends on locality. The dust of our Western Plains, containing so much alkali, would not be very agreeable to the vile creatures, and if we suppose that the ancestors of our domestic fowls lived for a long period of time on or adjoining land of this kind, and there learned to dust themselves, the habit there formed may be easily accounted for now, by the laws of inheritance.

Another explanation is that the keen points which abound amongt dust, if gritty, as shown by the microscope, when thrown against the soft bodies of these insects are as dangerous to them as would pieces of angular flint or glass be to us, thrown against our unprotected faces.

Another theory appears to us quite rational. It is that fowls use dry earth for the sake of cleanliness. The coverings of the quill part of the feathers, which are shed, and the pieces of wornout scarf skin that remain in the feathers, which retain so much animal heat, would lead to uncleanliness if there was no means of relief. Fowls, unlike some other land birds, do not wash themselves in water; but when we think of the disinfecting qualities that dry earth possesses, we see how cleansing a dust bath must be.

Based on the above supposition, an opinion has been advanced, which is this: that the parasites lodge on the fowl's skin and feed on the worn out matter, and that dry earth removes so much of this that the insects starve to death. This theory does not hold good, as they feed upon the juices of the living flesh of the fowl, and not upon this effete matter. They pierce the flesh with a lancet-like point, which incloses a tube for suction, commonly so called. It is not properly suction or the production of a vacuum which makes the fluid pass into the proboscis of the insect, but it is the movement of the walls of that organ, in the same way water may be made to flow through a hose by immersing one end and pressing its side in a particular manner. The operation of milking is also a good illustration.

We have studied up the subject of the dust bath and the anatomy of the parasites infesting poultry quite thoroughly, in order to find a way of ridding fowls of this nuisance, or better still, to prevent them from appearing in the first place.

The conclusion we have come to respecting the dust bath is that its chief value is not on account of serving in the several ways mentioned at the beginning of this article, but that the fine particles of earth operate as follows: The lice which infest poultry (and this is true of all insects) do not take air through nostrils in the head and from thence into the lungs, as most of the larger animals do, but they have minute openings along their sides through which they respire, and these lead to a system of air vessels that branch out to all parts of the body, and take the place of lungs. These external openings are only partially protected from the entrance of foreign particles. Dust clogs these openings, thus preventing the respiratory organs from acting, and the parasite is suffocated as certainly as the fowl itself would be if its head was held under water. This is the opinon which some naturalists hold respecting the dust bath which hens and most other birds delight in. We do not pretend to any original discoveries, but only to some research to verify what others have said. In the discussion of rival theories on this subject, it is sometimes objected that fowls do not care so much for dry earth, but will roll in that which is damp or in almost any thing that is easily pulverized. But it is not to be expected that their instinct for dusting will be less blind than others which they possess, that of incubation, for instance. A hen will sit on china eggs, yet the instinct of incubation is for hatching chickens. In the same way a fowl may take to damp earth, though the passion for dusting may have its justification in the use which dry earth has in smothering parasites.

We should just about as soon think of having our poultry do without buildings as without a dust path, no matter if we did not understand the purpose for which it was intended, as it would only be heeding the voice of nature to give them what they seem to like so well and trust that it serves some beneficial end. Fowls should have good large dusting bins provided for their use, if for no other reason than that they enjoy them so well; these should be replenished regularly with pulverized, gritty loam (which is much better than sand or clay), or coal ashes may be used instead. Fowls do not like wood ashes, because if their feet are wet when they dust themselves a lye is formed, which is too strong for any animal tissue to withstand. But coal ashes are free from this objection, and they can be obtained dry at any season of the year and can be procured in all parts of the country. If dry earth is wanted and it has not been gathered during the summer drought, it can be dug later, even if saturated by rains, as it can be spread out under cover where the winds have free access, and it will dry in a short time.

Dust-bins should be made long and broad and kept nearly full. If too small the fowls do not like them, as the wings are used violently when dusting, and striking against the sides hurts them. They should be kept nearly full, so the fowls will enter, for (except for the purpose of laying) they do not like to enter a box so deep that they can not easily see over the sides.

XERXES.

Poultry Yard.

Light Brahmas as Layers.

A correspondent writes to the editor of the *Poultry World*, respecting the laying qualities of Light Brahmas, as follows:

We want, with your permission, to ask Mr. I. K. Felch