

straining, you may suspect that an egg is passing and producing extra distress. You may make yourself certain, if you please, by passing the finger greased into the vent. It may be passed perfectly easy for an inch and a half, and if the finger is directed upward towards the back of the fowl, the hard egg will probably be felt. There is a great satisfaction in this, for it assures one that in all probability, when the egg is passed, the bird will be all right again. If the egg is quite hard, there is little difficulty in detecting it; but if the egg is soft it needs the practised touch. The soft egg is like a rounded elastic swelling, and if it has already received a slight calcareous lining it yields less elastically to the finger, but recovers its form on removal of the finger. Should the hen be much distressed, give a dose of castor oil; if the egg does not pass in a few hours, give a pill of half a grain of powdered opium, and a sixth of a grain of tartar emetic, which may be repeated in five or six hours. This will probably remove the spasm, and the egg will probably be passed. It is wisdom to watch closely for the egg; if it is soft the hen is almost certain to reward herself for her misery by eating it off-hand. Often if the egg is thoroughly formed, the only reason for the delay and misery to the poor bird would seem to be the very rough condition of the shell. In these cases, could we be quite certain of passing a feather oiled into the egg passage, I think it would be most useful; but I confess it to be very difficult if the egg is high up, and almost impossible to give safe directions for the performance. Should the egg be low down, and the egg passage be at all in sight, it may then be possible to pass a soft feather, well oiled round the egg, and it would certainly be useful. I need not say that gentleness is essential. In my early poultry keeping I lost a Minorca hen in laying. The accident happened thus:—She had great difficulty in passing the egg: I was endeavouring to assist her, when a violent effort forced the passage encircling the egg outside, and almost immediately a slit took place, and the egg was forced through at once. The bird seemed very ill after. I had her placed in a basket, fed on soft food, and gave one of the calomel and tartar emetic pills every three or four hours, and the next day she appeared wonderfully better. I had to leave home for some days. The first sight that greeted me as I passed through the yard was the dead body of the poor hen. In this case I suspect that an egg was again forced through, and the result was fatal, but I could not be sure.

Another form of functional derangement which is sometimes seen is when a hen, apparently in good health, and with all the outward appearance of being in full lay, goes to nest regularly, and after squatting there for some time, leaves, cackling her delight; but it is *vox et præterea nihil*—simply a song of triumph—but nothing to show for it. Here, after deciding that the egg is not laid and eaten, which is rarely done without some traces of the misdemeanour appearing, I should put the bird under the same regimen as to food and medicine as if continually passing soft eggs, and arrest the desire to lay. Should the hen get broody, set her by all means; the rest will be most beneficial.

So far as my experience goes, the Polands suffer more in egg production than other fowls. A Poland hen will often exhibit a most deplorable picture, the wings drooping even to the ground, and every movement one of apparent agony. The next day, possibly, she will be perfectly well.

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Pedigree Breeding.

Many of the queries we receive in all departments of this Journal, and which we endeavour to answer to the best of our ability, while they testify on the one hand to a widely-

spread and fast-increasing interest in the skilled breeding of pedigree stock, prove none the less conclusively that some of the very first principles of that fascinating and profitable pursuit are yet far from being as well understood as they should be. If they were, many of these questions would never be put; if they were, many complaints which reach us of the results of certain "investments" would never be penned, if they were—but we had better stop, for if all our readers were too knowing, what would become of us? But a query we answered privately having specially suggested this subject to us, we have thought that a few brief notes on the subject, continued from week to week as opportunity offers, may be read with interest and not without some profit by many of our friends. If they lead to question and discussion so much the better—and we have little doubt but what they will.

We shall naturally turn to poultry for the chief of our illustrations. It is not only that a long and practical personal experience, in a yard for many years so small that every bird and every fact was brought immediately under our own eye, has made such illustrations the most apt and ready to occur to us, but—as Mr. Darwin himself has remarked in his great work on the "Variation of Animals under Domestication"—the frequency with which fowls and pigeons breed makes investigation and observation in their case much more easy, and results more rapid, than is found with animals which reproduce at longer periods. Hence these very races have always been favourite media of investigation with those who desired to inquire into the phenomena of breeding for definite objects, even without any special interest in them more than in other living creatures. But the facts thus ascertained are general in their bearing, and may be readily applied by an intelligent reader to any other race of animals.

And in the first place, all the facts known to breeders or fanciers tend to diminish very materially the value of any of the specimens so constantly advertised as being vaguely of a "prize strain." Taking this expression at its best, and supposing it to be—as it is not always—honestly used, we may take it to mean that certain animals are the product of others which have won a prize. Some one having won at a certain show, advertises eggs, or chickens, or pups, of his "prize strain;" and we are frequently asked to give our opinion of the value of such. It is not going beyond the truth to assert that such produce may be worth almost any sum; but that it may also be—and is far more likely to be—worth just common market price and no more. And, though this is certainly an extreme case, comparatively seldom to be affirmed, yet still in some cases it is the fact, that the worthless specimens may be descended from parents quite equal in value as show specimens to the ancestors of those which are of the highest worth.

Several reasons for this will at once appear. Supposing any breeding stud to be no more than purely-bred—that is, supposing them, however poor as regards standard features, to be pure Mastiff, or Shorthorn, or Cochin—an almost perfect specimen for the show yard is perfectly possible to occur by chance at any time. They are not of course frequent, but they do occur; and however accidental their occurrence may be, since the judge can only go by what he sees, they are as valuable for exhibition purposes as the best bred specimens in the world. Yet almost every one can see that the produce of such specimens is far more likely to be of the inferior type of the yard from which they accidentally sprung, than to resemble the higher points of the specimens themselves. Again, cross-bred specimens not seldom assume a shape which precisely resembles that of pure breeds; and since breeders know this, and are perfectly aware of the fact that crossing tends, as a rule, to increase size and vigour of constitution, it is not unknown for such cross-bred specimens to be purposely