

may have produced effects that probably had not, and could not with any degree of certainty, have been foreseen. That these qualities are not lost would appear evident, as it is found that peculiarities of even remote ancestors will from time to time, more or less frequently, according to the skill and perseverance of the breeder, show themselves, or crop out, to use a geological expression."

"The law of crossing is, that when each parent is of a different breed, and when both are of equal age and vigour, the male gives the back head and locomotive organs, the female gives the face and nutritive organs. This law, in its effects on the domesticated animals, is very similar to the law of selection; but, in crossing, the parents *always* maintain this relative position, while in ordinary breeding, the parents change positions in proportion to the comparative greater vigour of the characteristics of each, and when one imprints the prevailing characteristics the other stamps the opposite. The cause that, in the crosses, the male gives the cerebellum and locomotive system, is both striking and beautiful. If no being can desire that of which he is already in possession—if, on the contrary, it must desire what it most wants, (if not incompatible) it cannot be wondered at that, in crosses, when the desired difference is greatest, the male, whose desire is most ardent, should stamp the system by which he exercises that desire, namely the voluntary locomotive, upon the progeny. If, then, of the two great series of organs described, each belongs entirely to a distinct parent, we can neither derive, in the progeny, both series from one parent, nor portions of both from each parent; and every attempt to do so must be a failure. It, moreover, shows that, in a feeble or imperfect cross, bad as well as good combinations may be produced; but that such a progeny as presents the desired qualities must be alone preserved for future breeding, while the inferior must be cast aside. The intermediate character of the qualities produced in crossing is owing, not to each parent imperfectly giving its shares in the progeny's organization, but to circumstances that, in their new combination, each series of organs acts with, and therefore modifies the others." (1)

(By the Editor).

(1) Walker on Inter-marriage.

WHY BREED UNPROFIABLE LIVE STOCK?

In making a short review of this subject, which is so important to the pecuniary success of all farmers who breed live stock, we willingly concede that, after every endeavor has been made, there will be misfits in breeding; but, because that is so, it is none the less a mistake to keep these misfits to propagate other misfits, and so to lower the standard of the animals of the country. The argument is applicable to all descriptions of live stock, but in the present article we confine it principally to Shorthorn cattle. In most farmers' stocks in the northern counties of the United Kingdom you find some half-dozen cows of more than ordinary excellence—good in shape, flesh and milk, and which would do no discredit if brought in contact with the best pedigree herds. But the others, it may be from thirty up to fifty milch cattle on each farm, fall by gradation, and you have the feeling that some of them are not paying for their keep. They have been bred in a happy go-lucky way, from lack of thought mainly, but with the intention strongly underlying, although not openly confessed, of saving a shilling in the service fees. Unsound horses on the road at low fees are not the only sinners. For some years past a system has grown up amongst northern farmers of using a pedigree bull and rearing all their male calves for sale. These latter are mainly sold in the auction marts as pedigree stock, although they are mostly bred from unregistered dams, and much disappointment frequently results, following the use of such bulls. The trade, too, has been so overdone that it is not unusual to see yearling bulls sold at from 6 to 10 gs., a price that cannot pay the breeder and rearer. These are the mongrels that keep farmers' stocks mongrel and unprofitable. At a sale of pedigree stock the purchaser has the opportunity of seeing both sire and dam of the young bull he decides to buy, and can thus assure himself that they are good alike in both milk and flesh. After taking stock of the best of the dams in his own herd from which he purposes to breed his future produce, he can then satisfy himself if they are lacking in any salient feature, and then select the bull most likely to supply the defect in his dam. It was precisely in thus selecting male animals to supply shortcomings in the females that the Holker and Inglewood herds