

without the sure monition of arithmetic, and left to our own observation, aided by the opinions of men of sagacity, and finding no very definite or decided preponderance in those opinions, we are not in a condition to offer to our readers any guidance on which we could safely advise them to found their practice. But we may mention some of those characteristics of the various animals which we have under review, which must be important points of consideration, whenever increased knowledge shall enable us to bring the main question to a definite issue. Before we do so, we may be allowed to premise, in a single sentence, that in the breeding of cattle, as in every other important human pursuit, national objects are promoted by the successful skill and industry of individuals. The first vocation of a cattle breeder is to furnish his countrymen with the dairy, with all its multitudinous comforts and luxuries. We scarcely know a more important national object of its class than to place a free supply of milk within the reach of the great body of our population. The next vocation of the breeder is to supply animal food—milk and animal food in the case of cattle, wool and animal food in that of sheep. Animal food is suited both to our climate and to the hard-working energy of our people. The breeder has to cater for appetites which bodily exertion has made rather active than critical, as well as for others, of which sedentary and intellectual pursuits have blunted the desire for quantity, but at the same time stimulated the appreciation of quality. Bearing these objects in view, we proceed to remark on those qualities of the various descriptions of agricultural animals which subserve to their attainment.

From their general and hitherto progressive prevalence, the new breeds of cattle and sheep claim our first notice. We have already adverted to the manner in which (if at the expense of a little accuracy we may use the most expressive phrase) they were *created*. To the short-horns we must award the merit of uniting milking qualities with a propensity to get fat, in a degree which rarely, if ever, had been previously found in the same animal. We doubt, however, whether the mothers of the prize bullocks are the animals which fill the milk-pail. To that very simple agricultural implement is, as we fancy, to be traced the slack and bare loin which is the characteristic failing of this breed. In the shambles at Birmingham, where a large proportion of the well-fed cows from our dairying districts are slaughtered, you may generally perceive the blue and bare spot on the loin, though the rest of the carcass is loaded with fat. The advocates of the new breeds claim for them, that with a given amount of food, and in a given time, they will yield a larger weight of beef and mutton than animals of the old races. With some qualification, we are prepared to admit the claim. In the case of selected individuals, previously brought to a certain age or point of maturity, we think that the claim is well founded. Our qualification has reference to the previous history of the animals. As we hinted above, we must begin at the beginning. We have no doubt, we might almost say experience has proved, that if 1000 short-horned females were subjected to the breeding process in competition with 1000 West Highlanders, Devons or Herefords, not only in the first named would there be more failures of produce, but among the products there would be more animals of low quality, coarse and utterly exceptionable, than would be the case in any of the three old races. As little doubt have we that 1000 Leicester ewes would produce fewer lambs, and among those fewer more rickety, wry-necked and turn-in-the-head, than 1000 ewes of any other breed. This is because, though art may improve upon nature, it never can become so unvarying and sure in its operation. The varieties and incongruities which have been introduced on account of their connexion with some coveted

quality, will from time to time re-appear. The concocter of a new breed is always liable to disappointment. He introduces into his herd some unknown animal on account of certain apparent excellences, but he cannot tell what qualities, though latent in the individual, run in the blood. The flat side, vulgar head, or hard flesh of some paternal or maternal ancestor may re-appear in the offspring. We have heard Mr. Buckley, of Normanston, the owner of one of the oldest and purest flocks of Leicestershire sheep, say that from time to time grey faces and black feet appeared among his lambs. We have before us a letter from the late Earl Spencer to a friend who had consulted him on a point in breeding, in which he says, "Your cross will not justify a very high-priced bull, but in order to secure you against *anything monstrous* in his stock, you must ascertain that you have several generations of real good blood." With such incidents a breeder of horses is familiar. He selects a bay mare with black legs, and unites her with a male having the same characteristics. If the produce should be chestnut, with a bald face and what the dealers call white stockings, we can assure him of sympathy from many fellow sufferers. To disappointments of this class, the proprietors of original or very old races are less liable. Every connoisseur in cattle is aware, that in a drove of short-horned bullocks or heifers, there be more diversity of shape, of quality, of colour and of aspect, than in a corresponding drove of West Highlanders, Devons or Herefords. Another difficulty besets the breeders of short-horns, and all others who have attained to animals of great merit by many mixings and crossings. You have selected the breeding stock for size, symmetry, propensity to fatten, or for what a Frenchman would call a "*je ne sais quoi*," and a breeder a sparkly appearance. When you have secured the recurrence of these qualities in their offspring, as far as bovine frailty permits, you have invariably attained this object at some sacrifice of fertility. We have known some breeders of short-horns who have been, and perhaps still may be, desirous of having bulls with the heads of heifers and the thighs of bullocks. The offspring of such males is always deficient in quality, and is of weak constitution; the progeny inherits the paternal effeminacy. When such a blunder has established itself in a herd, it can only be redeemed by recurrence to a male.

"cui turpe caput, cui plurima cervix.
Et crurum tenuis a mento palearia pendet."

These are the true and natural indications of taurility.

Our lamented friend, Mr. Edge, of Strelley, having shaped in his imagination a breed of cattle formed on his own model, great size, symmetry, and a propensity to fatten, spared no expense to realise his vision. Aided by a most correct eye, and with no prejudices personal or local, he selected at any cost, and from any quarter in which he found them, the animals, both male and female, which he thought likely to answer his expectations. Nor was he disappointed in the qualities of their offspring. But after some years, when he seemed to have attained, or to be on the point of perfection, he came to a dead lock; his females, though much solicited, refused to give him produce. On this ground, and on this only we believe, he broke up his herd and discontinued the pursuit. Lord Spencer, an enthusiastic advocate of short-horns, admitted in more than one public speech, that in his herd fecundity had diminished to an inconvenient degree, and was only maintained by a degree of care and attention which could hardly be extended to the general breeding stock of a kingdom. We know the ready answer—The females are too fat. But this is not the whole question. We lately inspected a herd of Herefords, the property of a distinguished and (we speak on the authority of his farming accounts) very successful agriculturist. The breeding cows and