

tinue in the line pursued on the other side of the water and improve the breeds already existing. Cattle breeding as a science is comparatively a novelty in this country and naturally in its infancy there will be discordant views among those engaging in it practically and those theoretically sounding the trumpets from the watch towers. When the late illustrious naturalist Darwin, to whose studies and experiments farmers, and especially breeders, are with others so much indebted, published his pioneer essay in his great work, "The Origin of Species," the element in it that met the strongest opposition was, not the assumption that all organic forms have been evolved from one or more primordial germs, or that this had been effected by natural selection, but that such natural selection was without design and conducted by unintelligent physical causes, and, however true this disputed point may be as to early creations, we know, not only from the history of all the leading breeds of cattle which are of record, but from the books of Mr. Darwin himself, that the present condition of the most highly esteemed beef and dairy animals is owing to judicious selection and intelligent scientific breeding.

This science was but a swaddled infant when our ancestors settled in the wilderness of America, and even if they had been familiar with it, their conditions and surroundings were such that compliance with its requisites would have been impracticable, even if judicious. The segregation of employment, even then existing in the older-settled countries, could not at once be established here, and as the attorney and barrister were united in one person, the barber and surgeon in another, and the apothecary and doctor were one and the same individual, so, the farmer was the agriculturist, the butcher, the milkman, and often the shoemaker and carpenter combined, and the cattle that he needed, were of a like composite nature carrying beef and producing milk, butter, veal, and leather, for the use of the community generally. Now, as we have progressed in civilization, population, and wealth, we are approximating in all these and other employments and conditions to our elder brethren across the water, and the farmer's cows are different in their requirements from their predecessors. With the exception of the Devons, none of the original introductions from the various counties and districts of Great Britain, from Holland, Sweden, and other Continental regions, were preserved in their purity by the colonists, and our "native" cattle are derived from all these importations graded up again, occasionally, by the introduction of pure-bred English bulls, usually Durhams.

Now we have come to the "parting of the ways," and the question is mooted whether the farmer had better, according to his business of beef raiser or dairyman, select from one of the established breeds and continue the improvement of that, or attempt from a combination of these to raise a new variety better adapted to his special needs. There have been one or two almost successful efforts in this country to establish an independent milking species from our domestic varieties, but in all probability the principle of *heredity*, and that form of it termed *atavism*, interfered with the continuance of the experiment. There are so many conditions inseparable from breeding, under the most intelligent and scientific manipulation, that an ordinary farmer will hesitate before making the attempt—the time required; the prepotency of a single animal—as in the case of the famous Shorthorn bull Favorite—of one race over another, as in the case of the Shorthorns generally; the results of selection from the same stock by different breeders—the sheep of Buckley and Burgess, from the original flock of Bakewell, differing so as to appear of different varieties—and the various conditions of soil, climate, extent and character of country.

Heavy breeds of cattle could not be formed or improved on

mountainous pastures—the cattle of the small islands of Jersey, Guernsey and Alderney could not have come to their present merits as butter-producers with the same rapidity in a widely extended country, nor could the wool of sheep have been so increased in length within the tropics, nor the varieties of round bodied, short-snouted pigs have attained their rotundity and early-fattening qualities if allowed to roam as in Homer's day, searching for their own provender; though they would be thereby more healthy as food for us. We have in this country, with its diverse characters of soil and various temperatures, as good conditions for the experiment of improving the present, or creating a new species of useful cow for the shambles or dairy as can exist, and perhaps the easiest way for the enterprising and intelligent farmer is to select from such one of the improved breeds as is adapted to his purpose as perfect specimens as he can afford to obtain, and improve them, instead of starting *de novo*, and running the risk of all the obstacles interfering with his progress which have already been met and eliminated. The butter-maker can hardly expect in his generation to raise up a cow which will exceed in production seven to eight hundred pounds per annum; the beef producer to improve the improved Durham or Hereford; and the ordinary farmer can get satisfactory results by the crossing of our best "native" cows with the Jersey, Ayrshire or Shorthorn bulls, according to the needs of his family or business for butter, milk or beef.

Lenox, Mass.

#### The Agricultural Press.

About a hundred years ago, Arthur Young conducted a pioneer agricultural gazette in England, and gave the first great impulse which has gradually rendered the farm practice of Great Britain a pattern for all countries, and made the farmers, and (more slowly) their laborers, intelligent men. General Washington was then a farmer, and his correspondence with Arthur Young is the matter of a very interesting book. But Mr. Young was sneered at at home, because he was not himself a successful farmer—probably because his time was absorbed in travel, interview, and constant work at the desk. The foot of the owner is well said to be the best manure for the farm; and certainly a farmer who cannot be out all the time, to note the doings of all his hands and the condition of all his flocks, and to make shifts and changes as the variations of the weather render them needful, cannot keep his farm up to the highest mark of neatness and profitability.

This subject reminds the writer of a remark once made by a veteran American culturist and writer, Suel Foster of Iowa, who was one of the earliest, most faithful and sagacious advocates of special agricultural schools, and to whose efforts the State of Iowa (not the farm fraternity alone) is largely indebted for the excellent service rendered by the college at Ames. A little before the outbreak of the rebellion, when the Pennsylvania State College was newly instituted, Mr. Foster came east to visit it, and as it was just then a question whether it should be entitled "Model Farm," in addition to its original name of Farmers' High School, he remarked that a farm intended for experiment, and to be largely worked by students, could not possibly be at the same time a model farm, as the practice must necessarily differ greatly from that of a regular business farm. Experience proved the correctness of this view, and the remark would apply to the operations of almost any weekly writer for agricultural papers, who must base his opinions necessarily on prior experience and current observation, rather than on tests which his other duties debar him from making himself.

Modern agricultural papers do not depend upon their edi-