

heriot at my death, and no doubt when that occurs, the steward to the lord of the manor will claim my best horse or bullock, as well as 1½ year's rent.

Implemental Improvers.—We owe to T. W. the drill and horse-hoe, to Bell the reaper, and to Meikle the thrashing-machine. The two last were Scotchmen. It is hardly possible to overrate the important benefits these implements will confer on British agriculture. The time and money they save largely aid us in the successful competition with foreigners. It is a singular but significant fact that although Mr. Bell had used the reaper (invented by his brother, the Rev. Patrick Bell, still living at Carmylie, near Arbroath, who in 1828 received a £50 prize for it from the Highland Agricultural Society) for thirty years, no one seemed to know any thing about it; and when his machines, Americanized, appeared in the great exhibition of 1851, they were regarded as curiosities and novelties. The public trial of them, on my farm, in 1856, in the presence of a distinguished company, at once launched them into practical use. I have used one of them ever since.

Agricultural Implements and Machinery.—If I wished to convince agriculturists of the importance of steam, I would in their presence ask the implement makers how much they would enhance their prices if compelled to go back to manual labour or horse-power as a motive force? The answer would probably be, "It is not a question of price, for we could not produce enough even at an advance of 50 to 100 per cent." As I wander through the implemental labyrinth at our great shows, I ponder in my mind whether farmers ever entertained this question, and applied it to their own case. We no longer see the farmer or his men making their own wooden plough and other tools at home as in ancient times; but the steam-blast, the steam-hammer, the steam circular saw, and the steam-turned lathe, have transformed our blacksmiths' shops into gigantic and money-making factories, whence agriculture derives the cheap and effective means of a successful competition with less advanced corn-growing countries. It would be ungracious to omit honourable mention of the Ransomes, Garretts, Hornsblows, Claptons, Howards, Barretts, and others, who have so admirably met the mechanical demands of modern agriculture. It is my lot to welcome many foreign agriculturists, and as I catechize them, I often wish that I had by my side the agricultural alarmist. He would hear them say, "We have no roads, or we cannot use them in bad weather; we have the old wooden plough; we never hoe our corn, our men do not understand this machinery; we do not drill our corn; we keep our sheep three or four years before they are fat; we use no oilcake—our animals live on straw in the winter; we are very far from a market or river; we have no railways

or canals; we grow three, four, or five bushels for one." A brother of a neighbour of mine emigrated to America, and, writing to his brother, said, "I expect to see something of the country, for so-and-so is going out with a load of corn to market (Chicago); he will be gone three weeks, as it is 30 miles away." This I know to be a fact. It is a variety of these difficulties which beset the foreign cheap producer; and it is the reverse of all this that comforts and profits the British farmer.

The Establishment of Farmers' Clubs and Agricultural Societies has had a most beneficial influence on agricultural progress, which has been stimulated and improved by competitive exhibitions, by the reading of papers on Agricultural subjects, by the discussions following thereon, and above all, by the diffusion of those readings and discussions by means of the agricultural press. It is a painful, unaccountable, and not very creditable fact, that the only society in Britain that forbids the free and public reporting of its discussions and proceedings is the Royal Agricultural Society of England! In other respects it has conferred great benefits on British Agriculture, especially by its itinerating annual exhibitions for live stock and machinery. Its "Journal" has also done good service. The same good results have followed from the Highland Society and its "Journal;" and the Irish Agricultural Society, and its "Journal," and their exhibitions. It would be doing an injustice to Scotch Agriculturists not to compliment them on the talent displayed at their discussions, resulting, no doubt, from those more abundant educational facilities which have existed in Scotland, compulsorily, more than in England. Probably this was the cause of their "Agricultural Journal" appearing so many years before that of the English Society.

The Smithfield Club, by its early and original Exhibition of Live Stock, deserves especial commendation as the pioneer in animal competitive exhibitions, which have dispelled self-sufficiency and developed animal perfection. Among the greatest benefactors to agriculture stands

Baron Liebig.—If an accurate account could be taken of the quantity and value of the additional food produced through his discoveries, the world would be grateful, and we should look upon him as a great benefactor to mankind. By the light of his great mind, the darkness of agriculture, with regard to the nutrition of plants and of animals is being rapidly dispelled. Like a great magician, he has taught us to convert bone and mineral apatite, into milk, cheese, mutton, and beef. He has taught us that the earth on which we tread forms an indispensable portion of animal and vegetable structure. He discovered floating in the passing breeze the fat and muscle of our bodies. The once exhausted pastures of Cheshire owe to him their fruitful regeneration, and every Cheshire cheese should