First's time, when the fatal battle was fought." Naseby field, according to Young, contained six thousand acres. The miserable farm-buildings of the days when "the master" always sat in his "long settle" in the kitchen (which was called "the house"), have survived in many places to our days; small barns and stabling, ill-contrived yards, no capacity for stall-feeding, with the horse-pond ready to receive all the soluble parts of the manure.* In some grazing districts there has been retrogression instead of improvement. The land has been let in large quantities to non-resident occupiers, who have pulled down the cottages and farm premises, and only set up a few cow-houses or shelter hovels. The sheep-shearing festivities, with the beechen bowl filled with furmety, are at an end; the worsted-spinners are no longer to be found in the villages, drinking tea twice a day, which custom Young much deplores. The farmer still hires his servants at the "stattie" (statute fair), and some of the ancient holidays are kept up. But the old general intercourse between the farmer and his labourers has been too much destroyed by a system which fears to provide sufficient cottage accommodation, through the baneful influence of the Law of Settlement. The repeal, in 1775, of the Act of Elizabeth against building cottages, which Act the legislators of George III. truly said "laid the industrious poor under great difficulties to procure habitations," was insufficient to remove the rate-payers' jealousy of parochial burthens; and that jealousy has produced an amount of misery and demoralization which cannot be too quickly remedied.

The improvements of Bedfordshire are intimately associated with the exertions of Francis, duke of Bedford. He laboured at Woburn to accomplish results similar to those which Mr. Coke produced at Holkham. Burke, in his famous "Letter to a Noble Lord," tells the duke that his landed possessions "are more extensive than the territory of many of the Grecian republics; and they are without comparison more fertile than most of them." These possessions, says the rhetorician, are irresistibly inviting to an agrarian experiment. "Hitherto they have been wholly unproductive to speculation; fitted for nothing but to fatten bullocks, and to produce grain for beer." The sans-culotte carcase-butchers and the philosophers of the shambles are regarding his Grace as they would a prize-ox; "their only question will be that of their Legendre, or some other of their legislative butchers, how he cuts up? how he fattens in the caul or on the kidneys?" These bitter sarcasms upon the duke of Bedford's political opinions cannot be adequately

* "Journal of Agricultural Society," vol. xiii. p. 86.

understood except as having reference to his enthusiastic labours for the improvement of the land, and of the stock that fed upon it. Burke did not despise such pursuits. He was himself an agricultural improver. Young saw him experimenting on carrots at his farm at Beaconsfield, and says, "Buckinghamshire will be much indebted to the attention this manly genius gives to husbandry." What the great commoner was doing upon a small scale, the no less patriotic nobleman was accomplishing on a large scale. In his early time two-thirds of Bedfordshire were in common field; a third of the arable land was under a dead fallow every year; the part under crop was wofully damaged by water; the meagre-looking-sheep were often swept off in entire flocks by the rot; the neat cattle were no distinct breed; the farm-implements were of the rudest kind. "No one that lived in or near the times of the duke of Bedford, can be ignorant of the efforts which that nobleman put forth to arouse the torpor-stricken agriculturists of his day." The duke did not, like his friend and fellow-labourer, Mr. Coke, live to see the triumphs of improved farming; by which, according to the Report from which we quote,* "there are scores of farms now producing 50 per cent. more corn than in 1794, and supplying the metropolitan markets with a stone of meat for every pound supplied at the former period."

The great agricultural reformers who succeeded lord Townshend, the introducer of the turnip-husbandry, came at a period when Robert Bakewell, a yeoman of Leicestershire, held levees in his kitchen at Dishley, of the greatest in rank, and the most eminent in science, who came to learn his new art of producing breeds of sheep and oxen that would fatten the most readily, and be the most valuable when fat. With regard to oxen, "the old notion," says Young "was, that where you had much and large bones, there was plenty of room to lay flesh on; and accordingly the graziers were eager to buy the largest horned cattle." Bakewell maintained that the smaller the bones the truer will be the make of the beast, the fattening quicker, and the weight would give a larger proportion of valuable meat. The proportion of value to the cost of production was the real question. He applied the same principle to sheep,—that of fattening on the most valuable part of the body.† When Paley was told that Bakewell could lay on the flesh of his sheep wherever he chose, the blunt divine said it was "a lie." His art really was to deduce, from a series of observations on many beasts, a

* Mr. Bennett on the Farming of Bedfordshire—"Royal Agricultural Journal," vol. xviii. p. 26.

† Young, "Eastern Tour," vol. i. pp. 110 to 134.

knowledge of the peculiar make in which they all agreed in fattening readily, or the contrary.* Bakewell's mode of management was as peculiar as his wonderful inductive skill in accomplishing the improvement of breeds. He made all his cattle docile. He trained bulls to be as gentle as horses under Rarey. They stood still in the fields to be examined. "A lad, with a stick three feet long, and as big as his finger, will conduct a bull away from other bulls, and his cows from one end of the farm to the other. All this gentleness is merely the effect of management; and the mischief, often done by bulls is undoubtedly owing to practices very contrary or else to a total neglect." † To Robert Bakewell, independently of his merit as the founder of the famous breed of Leicester sheep, is to be ascribed the great impulse which raised the occupation of the grazier into an art. This progress, concurrent with the turnip husbandry, the general improvement in the cultivation of arable land, and the conversion of barren sands and drowned fens into rich corn-bearing districts, has enabled the supply of an improved quality of meat constantly to keep pace with the increase of population. The population has trebled since the days when the Dishley yeoman gave lectures upon stock, to peers who desired to learn, and to farmers who came to sneer, as he smoked his pipe in his great chimney corner, or walked over his fields in his brown coat, red waistcoat, leather breeches, and top-boots. The average weight of the ox and the sheep has been doubled since the beginning of the eighteenth century. The number produced has increased in a greater ratio. In 1732 there were seventy-six thousand cattle, and five hundred thousand sheep sold at Smithfield; in 1770 eighty-six thousand cattle, and six hundred and fifty thousand sheep; in 1859, two hundred and sixty thousand cattle, and a million and a half of sheep.

The consumption of animal food in England has always been a matter of surprise to foreigners. An intelligent Frenchman, M. Grosley, who came to this country in 1765, speaks of the large export of grain, under the bounty-system, as exciting his astonishment, being compared with the extent of cultivation. "In the counties of England through which I travelled, upon my way either to London, Oxford, or Portsmouth, I saw scarce anything but commons, meadows, large parks, wilds, heaths, and very little arable land." He considers the land leased by rich farmers to be well cultivated. "Nevertheless," he continues, "it is not so much the harvests, as the small consumption of corn by the English,

* Whateley—See "Quarterly Review," vol. ciii. p. 396.

† "Eastern Tour," vol. i. p. 113.

which enables them to export a great quantity of corn. In fact, six or seven ounces of bread are sufficient for the daily subsistence of an Englishman; and that even among the lower sort. They, properly speaking, live chiefly upon animal food." * M. Grosley saw the Londoners eating two or three thin slices of bread and butter with their tea at breakfast; and he says of their bread-eating capacity, "what would be scarce enough for a Frenchman of an ordinary appetite would suffice three hungry Englishmen." † He had not seen the labourers of the South eating their rye-bread with their hard cheese, and rarely tasting animal food; nor those of the North, satisfied with their oat-meal feast of crowdie or parritch. It was estimated, upon the most careful inquiry, at the beginning of the reign of George III., that not more than one half of the people were fed on wheaten bread; ‡ and therefore the ordinary consumption of the fine bread of London would supply no criterion of the general use of coarser bread in the country districts. Rye bread, barley bread, and oat-cake, supplied the usual food of the rural population. Notwithstading this limitation of the consumption of wheat, the increasing numbers of the people could not have been adequately fed without an extension of the area of cultivation. Even after the American war, the quantity of uncultivated land, and the indifferent husbandry, were manifest to the foreigner who could see and compare. Jefferson came here in 1786, and he thus writes from France to a friend in America: "I returned here but three or four days ago, after a two months' trip to England. I traversed that country much; and own, both town and country fell short of my expectations. Comparing it with this, I found a much greater proportion of barrens; a soil in other parts not naturally so good as this; not better cultivated, but better manured, and therefore more productive." §

There can be no more interesting feature in the progress of our country than that of the conversion of its "barrens" into fertile fields. The steady as well as rapid course of this great change is strikingly illustrated in the agricultural county of Cambridge. It contains about 536,000 acres of land. In 1794, 112, 500 acres were fens, commons, and sheep-walks. In 1806, 63,000 of these wastes had been inclosed and cultivated. In 1846 only 10,000 of these "barrens" remained uninclosed, and of these, 5000 were mown and fed in the summer. ‖ The Isle of Ely, the fen district, is that

* "Tour to London," translated by Nugent, vol. i. p. 139. † *Ib.d.*, p. 69.

‡ Eden's "State of the Poor," vol. i. p. 562.

§ Tucker, "Life of Jefferson," vol. i. p. 225.

‖ "Journal of Royal Agricultural Society," vol. vii. p. 35.

which offers the most remarkable example of improvement. The subject of the fen cultivation of Cambridgeshire may be treated in common with that of the neighbouring county of Lincoln.

Since Richard de Rulos, eight hundred years ago,—being "a person much devoted to agricultural pursuits, and who took great delight in the multitude of his cattle and sheep"—embanked the river Welland, and "out of sloughs and bogs accursed formed quite a pleasure garden," * there have been many generations of improvers, labouring in the Great Level of the Fens, with the same laudable objects They have succeeded, as all persevering work will succeed, in spite of opposing obstacles, whether of the forces of nature or the prejudices of man. This great morass extended from Cambridge to Lincoln; and was inhabited in the time of Elizabeth by men who walked upon stilts, fishing and fowling, and keeping a little stock upon the hay which they secured out of the fat grass when the streams had retired under the summer drought. In the reign of Elizabeth, and in that of James I., several attempts were made to bring a part of this district under cultivation. In 1630 the undertaking was vigorously set about by Francis earl of Bedford; and a company of adventurers was formed who undertook to drain the land, having ninety-five thousand acres for their recompense. The men who walked upon stilts were indignant at these innovations, which threatened to exterminate the wild ducks which they cherished as more profitable than sheep or oxen; and they destroyed the drainage works, in a true conservative spirit. The district upon which these incorporated adventurers worked was called the Bedford Level, in honour of the nobleman who was the great encourager of the undertaking. They engaged Cornelius Vermuyden, a Dutch engineer, as the director of the works. They embanked the Welland river, the Nene river, and the Ouse. They made deep cuts, of sufficient length to obtain the name of rivers. The Lincolnshire fens were undertaken to be drained by other companies, about the same period. Various local Acts were passed, and the work went on, more or less prosperously. But the waters sometimes broke down the embankments, and scientific engineering, with all the powers of the giant steam, was not applied till very recent times. Mr. Pusey considers that "though the body of stagnant water was greatly reduced, still it was not subdued, so that the fen land was worth little, even when George III. came to the throne." † In 1800 it was stated that more than 300,000 acres in Lincolnshire suffered, on an average, a loss of 300,000*l.* a year for want of an efficient drainage. Mr. Rennie looked upon the wide

* *Ante*, vol. i. p. 225. † "Journal of Royal Agricultural Society," vol. iv. p.

waste with the comprehensive glance of science, and saw that the outfall to the sea was not sufficient to carry off both the waters of the rising slope which surrounded the whole margin of the Fen. He made a separate channel to carry off the upland waters. The great invention of Watt pumped out the water into the artificial rivers, instead of the feeble wind-mills that did the work imperfectly in the eighteenth century, a plan first introduced in the reign of George I. The whole land has been made dry. Districts growing nothing but osiers, three feet deep in water, and reeds filled with water-fowls; watery deserts of sedge and rushes, inhabited by frogs and bitterns—these now bear splendid crops of corn. Sheep are no longer carried to islets of rank pasture in flat-bottomed boats; cows are no longer turned out of their hovels, to forage for a morsel of food, swimming rivers and wading up to their middles. The cattle were as wretched as the wild inhabitants of the isolated huts to whom they belonged.* "Since the drainage of the Fens numerous villages have sprung up where previously was nothing but a watery waste, without house or inhabitant, and several of the bordering towns have doubled their population." † The effect of these vast changes upon the health of the people of this district, seventy miles in length, and from twenty to forty miles in breadth, is no less important than the additions they have made to the productive power of the country.

The fens of Lincolnshire are not the only portions of that great county which have been reclaimed from barrenness to fertility. On a sunny November morning of 1842, Mr. Pusey, having journeyed through a high level tract from Sleaford towards Lincoln, stood under a tall column by the road side, about four miles from Lincoln, on which it is recorded that it was erected for the public utility in the year 1751. That column, says the great agricultural reformer, "was a land lighthouse," built "as a nightly guide for travellers over the dreary waste which still retains the name of Lincoln Heath, but is now converted into a pattern of farming." The district over which he had passed was "a cultivated exuberance" such as he had never seen before. Thousands after thousands of long-woolled sheep were feeding in netted folds upon the most luxuriant turnips. Every neatly built farm-house, with its spacious courts, was surrounded with abundant ricks. And yet the farms were not large; the land showed no marks of natural fertility. Most justly does Mr. Pusey say, "This Dunston pillar, lighted no longer time back for so singular a purpose, did appear to me a striking witness of the spirit and industry which in our own days

* "Journal of Royal Agricultural Society," vol. xii. p. 306. † *Ibid.*, p. 259.

have reared the thriving homesteads around it, and spread a mantle of teeming vegetation to its very base." Beyond Dunston pillar, he continued to see the same "beautiful farms" till he reached Lincoln. Passing through the Roman arch, he travelled by the old Ermine street for twenty miles, along North Lincoln Heath, where similar neat inclosures, heavy turnip crops, numerous flocks, spacious farm-buildings, and crowded corn-ricks, met his gaze. Through the whole day he saw to the right a long range of hills running parallel to the Heath, from south to north. These were the Wolds of Lincolnshire, where the same high farming prevailed. "This vast tract of hill land had been redeemed, like the Heath, from nearly equal desolation within living memory." About 1760, Arthur Young saw this great district of the Wolds, and writes, "it was all warren for thirty miles, from Spilsby to Caistor." In 1799 he beholds great improvement. "By means of turnips and seeds there are now at least twenty sheep kept to one there before." But there were then still many miles of waste on the same range of hills; and the farmers said the land was "good for nothing but rabbits." This district, nearly as large as the county of Bedford, has now been added to the corn-land of England.*

In the county of Nottingham, Arthur Young saw little to admire. The quantity of good land which was in an improved state of culture was small, in comparison of the lands which were almost uncultivated. These light soils were called "forest land," being part of the vast tract of the old forest of Sherwood. † In 1794, when a Report of the Agriculture of this county was published, the greater portion was still a sandy waste, divested, for the most part, of its ancient oaks, and no longer affording covert to the stag and the roe—no longer the hunting ground which would suggest memories of Robin Hood and his merry men. In the time of Camden, the woods were much thinner than of old. Few uncleared spots now remain. But half a century ago Sherwood Forest presented nothing but desolation. "As the forest was cleared of its stately trees it was left one wide waste, so naturally sterile, as scarcely to have the power of clothing itself with the scantiest vegetation; even in the present day some districts remain which bear testimony to its former sterility." But art has triumphed over nature. Where only rabbits once browsed, large flocks of sheep are now fed. The gorse and the fern have been driven out by the turnip and the alternate wheat crops. The introduction of the Swede turnip has mainly

* See Mr. Pusey's most interesting paper in "Journal of Royal Agricultural Society," vol. iv. p. 287.

† "Eastern Tour," vol. i. p. 427.

produced the improved farming of Nottinghamshire. At the extreme northern part of the county, six thousand acres of bog-land, called "The Cars," were attempted to be reclaimed about the beginning of the century. The success of the effort was very imperfect. The difficulty of drainage threatened again to throw the morass out of cultivation. The steam-engine at last effected what drains without its aid could not accomplish.*

The agriculture of Derbyshire has derived its great impulse from the progress of the cotton manufacture. The first cotton-mill was established upon the Derwent, at Cromford, near Matlock, by Arkwright. The streams of this beautiful county were soon employed in driving the spindles of the spinning frame. Large factories were established in rural districts. The new population gave a stimulus to the industry of the cultivator. "Agriculture and manufactures joined hands." †

Our glance at the rural economy of the South-Eastern Counties must be very rapid. Surrey has made no remarkable strides in improvement. Its "barrens" are probably now more extensive than in any other county of southern England. The mutton of Banstead Downs used to be famous; but a great landowner of that district says that this Common, as well as Walton Heath, not now worth 3*d.* or 4*d.* an acre, would be worth 14*s.* an acre if inclosed.‡ We should, perhaps somewhat selfishly, grudge this gain; for round a metropolis of three millions of people we want the old wide breathing-spaces. Middlesex is described in the Agricultural Survey of 1798, as abounding in Commons, the constant rendezvous of gipsies and strollers, and the resort of footpads and highwaymen. Finchley Common and Hounslow Heath were, at the end of the last century, the terror of all travellers. Gibbets, by the way-side, told their horrible tale of the absence of prevention and the ineffectiveness of punishment. The grass farms to the north of London were the admiration of Arthur Young in 1770. Enfield Chase, a vast useless tract of fine land, he regarded as a nuisance. East Kent, and the Isle of Thanet, have the admiration of this excellent judge: "This tract of country has long been reckoned the best cultivated in England, and it has no slight pretensions to that character. Their drill-husbandry is most peculiar; it must astonish strangers to find such numbers of common farmers, that have more drilled crops than broad-cast ones, and to see them so

* "Journal of Royal Agricultural Society," vol. vi.

† *Ibid.*, vol. xiv.

‡ *Ibid.*, vol. iv. p. 307.

familiar with drill-ploughs and horse-hoes."* Gray, in 1766, was surprised at the beauty of the road to Canterbury. "The whole country is a rich and well cultivated garden; orchards, cherry grounds, hop grounds, intermixed with corn and frequent villages."† Arthur Young enters Sussex in a pleasant mood. The roads from Rye to Hawkhurst were good; the villages numerous, with neat cottages and well-kept gardens. He speaks as if such a sight were rare: "One's humanity is touched with pleasure to see cottages the residence of cheerfulness and content."‡ The iron furnaces of wooded Sussex were not then superseded by the coal of the midland districts. The Downs then carried that breed of sheep whose value has never been impaired. The Isle of Wight did not disappoint his expectation of finding "much entertainment in excellent husbandry." Of the New Forest, that vast tract which has so long been suffered to run to waste, under the pretence of furnishing a supply of oak for the navy, Arthur Young said, what many have since repeated, "there is not a shadow of a reason for leaving it in its present melancholy state." Much of the picturesqueness which Gilpin described is gone. The hundreds of hogs, under the care of one swineherd, led out to feed on the beech-mast during the "pawnage month" of October, no longer excite the wonder of the pedestrian. Some of the old romance of Hampshire has also vanished. The deer-stealers of the time of George I., known as the Waltham Blacks,—for whose prevention a special statute was made, §—were not quite extinct in the days of Gilbert White. They are gone, with the Wolmer Forest and Waltham Chase that tempted their depredations.

In Berkshire the king was setting a good example to the agricultural portion of his subjects, and earning the honourable name of "Farmer George." In the Great Park of Windsor he had his "Flemish Farm," and his "Norfolk Farm." He was a contributor to Young's "Annals of Agriculture," under the signature of "Ralph Robinson." Meanwhile the Forest of Windsor exhibited one of the many examples of a vast tract wholly neglected or imperfectly cultivated. It comprised a circuit of fifty-six miles, containing twenty-four thousand acres of uninclosed land. It was not till 1813 that an Act of Parliament was passed for its inclosure. Much of this district was that desolate tract of sand, known as Bagshot Heath and Easthampstead Plain; but very large portions, where only fern and thistles grew, were capable of cultivation.

* "Eastern Tour," vol. iii. p. 108.
† Letter to Wharton.
‡ "Eastern Tour," vol. iii. p. 125.
§ 21 Geo. I.

Much has been turned into arable; more has been devoted to the growth of timber, under the direction of the Office of Woods and Forests. Vast plantations have been formed of oak and fir; plains, where a large army might have manœuvred fifty years ago, are covered with hundreds of thousands of vigorous saplings; heaths, where a few straggling hawthorns used to be the landmarks of the traveller, are now one sea of pine. The farms, scattered about the seventeen parishes of the Forest, were small. The cultivation was of a very unscientific character. The manners of the farmers and their in-door laborers were as primitive as their turf fires. This obsolete homeliness is as rare now as the thymy fragrance of the thin smoke that curled out of the forest chimneys. The large kitchen, where the master and mistress dwelt in simple companionship with their men and their maidens; the great oaken-table which groaned with the plentiful Sunday dinner—the one dinner of fresh meat during the week: the huge basins of milk and brown bread for the ploughman and the carter and the plough-boy before they went a-field; the cricket after work in summer, and the song and chorus in the common room as the day grew short—these are pleasant to remember amidst the other changed things of a past generation. "The scenes which live in my recollection can never come back; nor is it fitting that they should. With the primitive simplicity there was also a good deal of primitive waste and carelessness. Except in the dairy, dirt and litter were the accompaniments of the rude housekeeping. The fields were imperfectly cultivated; the headlands were full of weeds. I have no doubt that all is changed, or the farm would be no longer a farm."*

* "Once upon a Time," by Charles Knight.