

SHEEP, <i>n. s.</i>	} Sax. <i>ŕceap</i> , of which the plural was <i>ŕcep</i> ; Belgic <i>schaep</i> ; Gothic <i>skyfa</i> . A well-known animal. See below. To sheep-bite is to practise petty thefts: a sheep- biter is a petty thief: sheep-cot and sheep- fold, enclosures of sheep: sheepish, timo- rous; awkward; mean: the noun substantive corresponding: the o- ther compounds do not seem to require explanation.
SHEEP'BITE, <i>v. n.</i>	
SHEEP'BITER, <i>n. s.</i>	
SHEEP'COT,	
SHEEP'FOLD,	
SHEEP'HOOK,	
SHEEP'ISH, <i>adj.</i>	
SHEEP'ISHNESS, <i>n. s.</i>	
SHEEP'MASTER,	
SHEEP'S'EYE,	
SHEEP'SHEARING,	
SHEEP'WALK,	
SHEP'HERD,	
SHEP'HERDESS.	
SHEP'HERDISH, <i>adj.</i>	

We are his people, and the *sheep* of his pasture.

Psalms.

His gate like a *sheepbiter* fleeing aside. *Tusser.*

She put herself into the garb of a *shepherdess*, and in that disguise lived many years; but, discovering herself a little before her death, did profess herself the happiest person alive. not for her condition, but in enjoying him she first loved; and that she would rather, ten thousand times, live a *shepherdess* in contentment and satisfaction, *Sidney.*

He would have drawn her elder sister, esteemed her match for beauty, in her *shepherdish* attire. *Id.*

She saw walking from her ward, a man in *shepherdish* apparel. *Id.*

Shew your knave's visage, with a pox to you; shew your *sheepbiting* face, and be hanged. *Shakspeare.*

Wouldst thou not be glad to have the niggardly rascally *sheepbiter* come to some notable shame? *Id.*

Bedlam beggars, with roaring voices,
Fom low farms, *sheepcots*, and mills,
Enforce their charity. *Id. King Lear.*

I am *shepherd* to another man,
And do not shear the fleeces that I graze. *Shakspeare.*

These your unusual weeds to each part of you
Do give a life: no *shepherdess*, but Flora
Peering in April's front. *Id. Winter's Tales.*

If that the world and love were young,
And truth in every *shepherd's* tongue,
These pretty pleasures might me move,
To live with thee and be thy love. *Raleigh.*

A nobleman was a great grazier and *sheepmaster*.
Bacon.

The one carried a crosier of balm-wood, the other
a pastoral staff of cedar like a *sheep-hook*.
Id. New Atlantis.

Thy gentry bleats, as if thy native cloth
Transfused a *sheepishness* into thy story. *Herbert.*

He beheld a field,
Part arable and tilth, whereon were sheaves
New reaped; the other part *sheep-walks* and folds. *Milton.*

Up to a hill anon his steps he reared,
From whose high top to ken the prospect round,
If cottage were in view, *sheepcot*, or herd;
But cottage, herd, or *sheepcot*, none he saw. *Id.*

The like some *shepherdess* did shew,
Who sat to bathe her by a river's side. *Dryden.*

His doric dialect has incomparable sweetness in
its clownishness, like a fair *shepherdess* in country
russet. *Id.*

If you dare think of deserving our charms,
Away with your *sheephook*, and take to your arms. *Id.*

Fire the bramble, snare the birds, and steep
In wholesome water-falls the fleecy *sheep*. *Id.*

Cast a *sheep's-eye* behind you: in before me. *Id.*
There are political *sheepbiters* as well as pastoral;
betrayers of public trust as well as of private. *L'Estrange.*

Of substances there are two sorts of ideas; one of
single substances, as they exist separately, as a man,
or *sheep*. *Locke.*

Wanting change of company, he will, when he
comes abroad, be a *sheepish* or conceited creature. *Id.*

Sheepishness and ignorance of the world, are not
consequences of being bred at home. *Id.*

Without success, let a man be never so hardy, he
will have some degree of *sheepishness*. *Grew.*

There happening a solemn festivity, such as the
sheepshearings used to be, David begs some small re-
past. *South.*

The bear, the lion, terrors of the plain;
The *sheepfold* scattered, and the *shepherd* slain. *Prior.*

Lead up all those who heard thee, and believ'd;
'Midst thy own flock, great *shepherd*, be received,
And glad all heaven with millions thou hast saved. *Id.*

SHEEP, in zoology. See OVIS and WOOL.
Among the various animals with which Divine Providence has stored the world, for the use of man, none is to be found more useful, or more valuable, than the sheep. It supplies us with food and clothing, and finds ample employment for our poor at all seasons of the year, whereby a variety of manufactures of woollen cloth is carried on without interruption to domestic comfort and loss to friendly society, or injury to health, as is the case with many other occupations. Every lock of wool that grows on its back contributes to the support of staplers, dyers, pickers, scourers, scribblers, carders, combers, spinners, spoolers, warpers, quillers, weavers, fullers, tuckers, burlers, shearmen, pressers, clothiers, and packers, who, one after another, tumble, and toss, and twist, and bake, and boil, this raw material, till they have each extracted a livelihood out of it; and then comes the merchant, who, in his turn, ships it, in its highest state of improvement, to all quarters of the globe, whence he brings back every kind of riches to his country in return for this valuable commodity which the sheep affords. Besides this, the useful animal, after being deprived of his coat, produces another against the next year; and, when we are hungry, and kill him for food, he gives us his skin to employ the feltmongers and parchment-makers, who supply us with a durable material for securing our estates, rights, and possessions; and, if our enemies take the field against us, supplies us with a powerful instrument for rousing our courage to repel their attacks. When the parchment-maker has taken as much of the skin as he can use, the glue-maker comes after and picks up every morsel that is left, and therewith supplies a material for the carpenter and cabinet-maker, which they cannot do without, and which is essentially necessary before we can have elegant furniture in our houses; tables, chairs looking-glasses, and a hundred other articles of convenience. And, in absence of the sun, the sheep supplies us with an artificial mode of light, whereby we preserve every pleasure of domestic society, and with whose assistance we can continue our work, or write or read, and improve our minds, or enjoy the social mirth of our friends. Another part of the slaughtered animal supplies us with an ingredient necessary for making good common soap, a useful store for producing cleanliness in every family, rich or poor. Even the horns are converted by the button-makers and turners into a cheap kind of buttons, tips for bows, and many usefu' ornaments. From the very trotters an oil is extracted useful for many purposes; and they afford good food when baked in an oven. Even the bones are useful also; for, by a late invention, they are found, when reduced to ashes, to be a useful and essential ingredient in the composition of the finest artificial stone in

ornamental work for chimney-pieces, cornices of rooms, houses, &c., which renders the composition more durable by effectually preventing its cracking. This meek inoffensive creature can feed where every other animal has been before him and grazed all they could find; and, if he takes a little grass on our downs or in our fields, he amply repays us in the richness of the manure which he leaves behind him. He protects the hands from the cold wintry blast, by providing them with the softest leather gloves. Every gentleman's library is also indebted to him for the neat binding of his books, for the sheath of his sword, and for cases for his instruments; in short, there is hardly any furniture or utensil of life but the sheep contributes to render either more useful, convenient, or ornamental.

Wales breeds a small hardy kind of sheep, which has the best tasted flesh, but the worst wool of all. Nevertheless it is of more extensive use than the finest Segovian fleeces; for the benefit of the flannel manufacture is universally known. The sheep of Ireland vary, like those of Great Britain; those of the south and east being large and their flesh rank; those of the north and the mountainous parts small, and their flesh sweet. The fleeces in the same manner differ in degrees of value. Scotland breeds a small kind in Shetland, and their fleeces are remarkably fine. But the new Leicestershire breed is perhaps one of the most profitable breeds in the island. See RURAL ECONOMY. Joseph Altom of Clifton, who raised himself from a plough-boy, was the first who distinguished himself in the midland counties of England for a superior breed of sheep. How he improved his breed is not known; but it was customary for eminent farmers in his time to go to Clifton in summer to choose and purchase ram-lambs, for which they paid two or three guineas. This man was succeeded by Mr. Bakewell; and it may reasonably be supposed that the breed, by means of Altom's stock, had passed the first stage of improvement before Mr. Bakewell's time. Still, however, it must be acknowledged that the Leicestershire breed of sheep owes its present high state of improvement to the ability and care of Mr. Bakewell.

This subject is pretty fully treated of under RURAL ECONOMY. The feeding sheep with turnips is a great advantage to the farmers. When they are made to eat turnips they soon fatten; but there is some difficulty in bringing this about. The old ones always refuse them at first, and will sometimes fast till almost famished; but the young lambs fall to at once. The common way of turning a flock of sheep at large into a field of turnips is very disadvantageous; for they would thus destroy as many in a fortnight as will keep them a whole winter. There are three other ways of feeding them on this food. The first is to divide the land into hurdles, and allow the sheep to come upon such a portion only at a time as they can eat in one day, and so advance the hurdles farther into the ground daily till all be eaten. This is infinitely better than the former random method; but they never eat them clean even this way, but leave the bottoms and outsides scooped in the ground: the

people pull up these indeed with iron crooks, and lay them before the sheep again; but they are commonly so fouled that they do not care for them. The second way is by enclosing the sheep in hurdles, as in the former; but in this they pull up all the turnips which they suppose the sheep can eat in one day, and daily remove the hurdles over the ground whence they have pulled up the turnips: thus there is no waste, and less expense; for a person may in two hours pull up all those turnips, the remaining shells of which would have employed three or four laborers a day to get up with their crooks out of the ground trodden hard by the feet of the sheep; and the worst is that, as in the method of pulling up first, the turnips are eaten up clean; in this way, by the hook, they are wasted; the sheep do not eat any great part of them; and, when the ground comes to be tilled afterwards for a crop of corn, the fragments of the turnips are seen in such quantities on the surface that half the crop at least seems to have been wasted. The third method is to pull up the turnips, and remove them in a cart to some other place, spreading them on a fresh place every day; thus the sheep will eat them up clean, both root and leaves. The great advantage of this method is, when there is a piece of land not far off which wants dung more than that where the turnips grew, which perhaps is also too wet for the sheep in winter; and then the turnips will, by the too great moisture and dirt of the soil, sometimes spoil the sheep, and give them the rot. Yet such ground will often bring forth more and larger turnips than dry land; and, when they are carried off, and eaten by the sheep on ploughed land in dry weather, and on green sward in wet weather, the sheep will succeed much better; and the moist soil where the turnips grew, not being trodden by the sheep, will be much fitter for a crop of corn than if they had been fed with turnips on it. The expense of hurdles, and the trouble of moving them, are saved in this case, which will counterbalance at least the expense of pulling the turnips and carrying them to the places where they are to be eaten. They must always be carried off for oxen.

The manner in which Mr. Bakewell raised his sheep to the degree of celebrity in which they long stood, is, notwithstanding the recentness of the improvement, a thing in dispute; even among men high in the profession, and living in the very district in which the improvement has been carried on! This proprietor alone perhaps was in possession of the minutæ of his own improvement: it is most probable that no cross with any alien breed whatever was used; but that the improvement was effected by selecting individuals from kindred breeds, or varieties of long-woolled sheep, with which Mr. Bakewell was surrounded on almost every side, and by breeding in and in (i. e. from the same family) with this selection: solicitously seizing the superior accidental varieties produced; associating these varieties; and still continuing to select, with judgment, the superior individuals. It now remains to give a description of the superior class of individuals of this breed, especially ewes and wethers, in full condition, but not immoder-

ately fat. The rams will require to be distinguished afterwards. The head is long, small, and hornless, with ears somewhat long, and standing backward, and with the nose shooting forward. The neck thin, and clean toward the head; but taking a conical form; standing low, and enlarging every way at the base; the fore end altogether short. The bosom broad, with the shoulders, ribs, and chine extraordinarily full. The loin broad, and the back level. The haunches comparatively full towards the hips, but light downward; being altogether small in proportion to the fore parts. The legs of a moderate length; with the bones extremely fine. The bone throughout remarkably light. The carcase, when fully fat, takes a remarkable form; much wider than it is deep, and almost as broad as it is long. Full on the shoulder, widest on the ribs, narrowing with a regular curve towards the tail; approaching the form of the turtle nearer perhaps than any other animal. The pelt is thin, and the tail small. The wool is shorter than long wools in general, but much longer than the middle wools; the ordinary length of staple five to seven inches, varying much in fineness and weight. This breed surpasses every other in beauty of form; they are full and weighty in the fore quarters; and are remarkable for smallness of bone.

Mr. Marshall, who has been of so much benefit to agriculture and his country by his publications, informs us, in his *Rural Economy of the Midland Counties*, that he has seen a rib of a sheep of this breed contrasted with one of a Norfolk sheep: the disparity was striking; the latter nearly twice the size; while the meat which covered the former was three times the thickness: consequently the proportion of meat to bone was in the one incomparably greater than in the other. Therefore, in this point of view, the improved breed has a decided preference: for surely while mankind continue to eat flesh and throw away bone, the former must be, to the consumer at least, the more valuable.

The manner of managing sheep in Spain, a country famous for producing the best wool in the world, is as follows:—Here there are two kinds of sheep: the coarse-wooled sheep, which always remain in their native country, and are housed every night in winter; and the fine-wooled sheep, which are always in the open air, and travel every summer from the cool mountains of the northern parts of Spain, to feed in winter on the southern warm plains of Andalusia, Mancha, and Estremadura. Of these latter it appears, from accurate computation, that there are about 5,000,000, and that the wool and flesh of a flock of 10,000 sheep produced yearly about twenty-four reals a-head, or about the value of twelve English sixpences, one of which belongs to the owner, three to the king, and the other eight are allowed for the expenses of pasture, tythes, shepherds, dogs, salt, shearing, &c. In the sixteenth century the travelling sheep were estimated at 7,000,000; 10,000 sheep form a flock, which is divided into ten tribes, under the management of one person, who has absolute dominion over fifty shepherds and fifty dogs. M. Bourgoanne, a French gentleman, who resided many years in

Vol. XX.

Spain, and directed his enquiries chiefly to the civil government, trade, and manufactures of that country, gives the following account of the wandering sheep of Segovia. 'It is,' says he, 'in the neighbouring mountains that a part of the wandering sheep feed during the fine season. They leave them in October, pass over those which separate the two Castiles, cross New Castile, and disperse themselves in the plains of Estremadura and Andalusia. For some years past those of the two Castiles, which are within reach of the Sierra Morena, go thither to pass the winter; which, in that part of Spain, is more mild; the length of their day's journey is in proportion to the pasture they meet with. They travel in flocks from 1000 to 1200 in number, under the conduct of two shepherds; one of whom is called the mayoral, the other the zagal. When arrived at the place of their destination, they are distributed in the pastures previously assigned them. They return in April; and whether it be habit or natural instinct that draws them towards the climate, which at this season becomes most proper for them, the inquietude which they manifest might, in case of need, serve as an almanac to their conductors.' Mr. Arthur Young, in that patriotic work which he conducted with great industry and judgment, the *Annals of Agriculture*, gives us a very accurate and interesting account of the Pyrenean or Catalonian sheep. 'On the northern ridge, bearing to the west, are the pastures of the Spanish flocks. This ridge is not, however, the whole; there are two other mountains, quite in a different situation, and the sheep travel from one to another as the pasturage is short or plentiful. I examined the soil of these mountain pastures, and found it in general stony; what in the west of England would be called a stone brash, with some mixture of loam, and in a few places a little peaty. The plants are many of them untouched by the sheep; many ferns, narcissus, violets, &c., but burnet (*poterium sanguisorba*) and the narrow leaved plantain (*plantago lanceolata*) were eaten close. I looked for trefoils, but found scarcely any: it was very apparent that soil and peculiarity of herbage had little to do in rendering these heights proper for sheep. In the northern parts of Europe, the tops of mountains half the height of these (for we were above snow in July) are bogs; all are so which I have seen in our islands, or at least the proportion of dry land is very trifling to that which is extremely wet:—Here they are in general very dry. Now a great range of dry land, let the plants be what they may, will in every country suit sheep. The flock is brought every night to one spot, which is situated at the end of the valley on the river I have mentioned, and near the port or passage of Picada: it is a level spot sheltered from all winds. The soil is eight or nine inches deep of old dung, not at all enclosed: from the freedom from wood all round, it seems to be chosen partly for safety against wolves and bears. Near it is a very large stone, or rather rock, fallen from the mountain. This the shepherds have taken for a shelter, and have built a hut against it; their beds are sheep skins, and their door so small that they crawl in. I saw no place for fire; but they

M

have it, since they dress here the flesh of their sheep, and in the night sometimes keep off the bears by whirling fire brands: four of them belonging to the flock mentioned above lie here. I viewed their flock very carefully, and, by means of our guide and interpreter, made some enquiries of the shepherds, which they answered readily, and very civilly. A Spaniard at Venasque, a city in the Pyrenees, gives 600 livres French a-year for the pasturage of this flock of 2000 sheep. In winter he sends them into the lower parts of Catalonia, a journey of twelve or thirteen days, and when the snow is melted, in the spring, they are conducted back again. They are the whole year kept in motion, and moving from spot to spot, which is owing to the great range they every where have of pasture. They are always in the open air, never housed or under cover, and never taste of any food but what they can find upon the hills. Four shepherds, and from four to six large Spanish dogs, have the care of this flock; the latter are in France called the Pyrenees breed; they are black and white, of the size of a large wolf, a large head and neck, armed with collars stuck with iron spikes. No wolf can stand against them; but bears are more potent adversaries. But, as we have neither wolves nor bears in Britain, we need not quote Mr. Young's remarks on this subject. He adds respecting the sheep: 'They are in general polled, but some have horns; which in the rams turn backwards behind the ears and project half a circle forward; the ewes' horns turn also behind the ears, but do not project: the legs white or reddish; speckled faces, some white, some reddish; they would weigh fat, I reckon, on an average, from fifteen to eighteen pounds a quarter. Some tails short, some left long. A few black sheep among them: some with a very little tuft of wool on their foreheads. On the whole they resemble those on the South Downs; their legs are as short as those of that breed; a point which merits observation, as they travel so much and so well. Their shape is very good; round ribs and flat straight backs; and would with us be reckoned handsome sheep; all in good order and flesh. To be still better acquainted with them, I desired one of the shepherds to catch a ram for me to feel, and examine the wool, which I found very thick and good of the carding sort. I took a specimen of it, and also of a hoggit, or lamb of last year. In regard to the mellow softness under the skin, which, in Mr. Bakewell's opinion, is a strong indication of a good breed, with a disposition to fatten, he had it in a much superior degree to many of our English breeds, to the full as much so as the South Downs, which are for that point the best short-woolled sheep which I know in England. The fleece was on his back, and weighed, as I guessed, about eight pounds English; but the average, they say, of the flock is from four to five, as I calculated by reducing the Catalonian pound of twelve ounces to ours of sixteen, and is all sold to the French at 30s. the pound, French. This ram had the wool of the back part of his neck tied close, and the upper tuft tied a second knot by way of ornament; nor do they ever shear this part of the fleece for

that reason: we saw several in the flock with this species of decoration. They said that this ram would sell in Catalonia for twenty livres. A circumstance which cannot be too much commended, and deserves universal imitation, is the extreme docility they accustom them to. When I desired the shepherd to catch one of his rams, I supposed he would do it with his crook, or probably not be able to do it at all; but he walked into the flock, and, singling out a ram and a goat, bid them follow him, which they did immediately; and he talked to them while they were obeying him, holding out his hand as if to give them something. By this method he brought me the ram, which I caught, and held without difficulty.'

To find a proper composition for *marking* sheep is a matter of great importance, as great quantities of wool are every year rendered useless by the pitch and tar with which they are usually marked. The requisite qualities for such a composition are, that it be cheap, that the color be strong and lasting, so as to bear the changes of weather, and not to injure the wool. Dr. Lewis recommends for this purpose melted tallow, with so much charcoal in fine powder stirred into it as is sufficient to make it of a full black color, and of a thick consistence. This mixture, being applied warm with a marking iron, on pieces of flannel, quickly fixed or hardened, bore moderate rubbing, resisted the sun and rain, and yet could be washed out freely with soap, or ley, or stale urine. In order to render it still more durable, and prevent its being rubbed off, with the tallow may be melted an eighth, sixth, or fourth, of its weight of tar, which will readily wash out along with it from the wool.—Lewis's Com. Phil. Techn. p. 361.

The criteria of good and bad flesh, while the animal is alive, differ in different species, and are not properly settled in the same species. One superior breeder is of opinion that, if the flesh is not loose, it is of course good; holding that the flesh of sheep is never found in a state of hardness, like that of ill-fleshed cattle; while others make a four fold distinction of the flesh of sheep; as looseness, mellowness, firmness, hardness; considering the first and the last equally exceptionable, and the second and third equally desirable; a happy mixture of the two being deemed the point of perfection. The flesh of sheep when slaughtered is well known to be of various qualities. Some is composed of large coarse grains, interspersed with wide empty pores like a sponge; others of large grains, with wide pores filled with fat; others of fine close grains, with smaller pores filled with fat; and a fourth of close grains without any intermixture of fatness. The flesh of sheep when dressed is equally well known to possess a variety of qualities; some mutton is coarse, dry, and insipid; a dry sponge, affording little or no gravy of any color. Another sort is somewhat firmer, imparting a light colbred gravy only. A third plump, short, and palatable; affording a mixture of white and red gravy. A fourth likewise plump and well flavored, but discharging red gravy and this in various quantities. Some mutton when dressed appears covered with a thick, tough;

parchment-like integument; others with a membrane comparatively fine and flexible. But these, and some of the other qualities of mutton, may not be wholly owing to breed, but in part to the age and the state of fatness at the time of slaughter. Examined in this light, whether we consider the degree of fatness, or their natural propensity to a state of fatness, even at an early age, the improved breed of Leicestershire sheep appear with many superior advantages. The degree of fatness to which the individuals of this breed are capable of being raised will perhaps appear incredible to those who have not had an opportunity of being convinced by their own observation. 'I have seen wedders,' says Mr. Marshall, 'of only two shear (two or three years old), so loaded with fat as to be scarcely able to make a run; and whose fat lay so much without the bone, it seemed ready to be shaken from the ribs on the smallest agitation. It is common for the sheep of this breed to have such a projection of fat upon the ribs, immediately behind the shoulder, that it may be easily gathered up in the hand as the flank of a fat ballock. Hence it has gained, in technical language, the name of the fore-flank; a point which a modern breeder never fails to touch, in judging of the quality of this breed of sheep. What is perhaps still more extraordinary, it is not rare for the rams, at least of this breed, to be 'cracked on the back;' that is, to be cloven along the top of the chine, in the manner fat sheep generally are upon the rump. This mark is considered as an evidence of the best blood. Extraordinary, however, as are these appearances while the animals are living, the facts are still more striking after they are slaughtered. At Litchfield, in February, 1785, I saw a fore-quarter of mutton, fattened by Mr. Princep of Croxall, which measured upon the ribs four inches of fat. It must be acknowledged, however, that the Leicestershire breed do not produce so much wool as most other long-wooled sheep.'

As the practice of *letting rams* by the season is become profitable, it may be useful to mention the method of rearing them. 'The principal ram-breeders,' says Mr. Marshall, 'save annually twenty, thirty, or perhaps forty ram-lambs; castration being seldom applied in the first instance to the produce of a valuable ram; for in the choice of these lambs they are led more by blood, or parentage, than by form; on which, at an early age, little dependence can be placed. Their treatment from the time they are weaned, in July or August, until the time of shearing, the first week in June, consists in giving them every indulgence of keep, in order to push them forward for the show; it being the common practice to let such as are fit to be let the first season, while they are yet yearlings, provincially 'sharhogs.' Their first pasture, after weaning, is pretty generally, I believe, clover that has been mown early, and has got a second time into head; the heads of clover being considered as a most forcing food of sheep. After this goes off, turnips, cabbages, colewort, with hay, and (report says) with corn. Something considerable depends on the art of making up, not lambs only, but rams of all ages. Fat, like charity,

covers a multitude of faults; and besides is the best evidence of their fattening quality which their owners can produce (i. e. their natural propensity to a state of fatness), while in the fatness of the sharhogs is seen their degree of inclination to fat at an early age. Fattening quality being the one thing needful in grazing stock, and being found in some considerable degree at least to be hereditary, the fattest rams are of course the best; though other attachments, well or ill placed, as to form or fashionable points, will perhaps have equal or greater weight in the minds of some men, even in this enlightened age. Such shearlings as will not make up sufficiently as to form and fatness are either kept on to another year to give them a fair chance, or are castrated or butchered while sharhogs.' From the first letting, about forty years ago, to the year 1780, the prices kept gradually rising from 15s. to a guinea, and from one to ten. In 1780 Mr. Bakewell let several at ten guineas each; and, what is rather inexplicable, Mr. Parkinson of Quarndon let one the same year for twenty-five guineas; a price which then astonished the whole country. From that time to 1786 Mr. Bakewell's stock rose rapidly from ten to 100 guineas; and that year he let two-thirds of one ram (reserving one-third of the usual number of ewes to himself) to two principal breeders, for 100 guineas each, the entire services of the ram being rated at 300 guineas! Mr. Blakewell making that year, by letting twenty rams only, more than £1000! Since that time the prices have been still rising; 400 guineas have been repeatedly given. Mr. Bakewell this year (1789) makes, says Mr. Marshall, 1200 guineas by three rams (brothers we believe); 2000 of seven; and of his whole letting, full 3000 guineas! Besides this extraordinary sum, made by Mr. Bakewell, there are six or seven other breeders who make from 500 to 1000 guineas each. The whole amount of moneys produced that year in the Midland counties, by letting rams of the modern breed for one season only, is estimated by those who are adequate to the subject at the almost incredible sum of £10,000.

The *diseases* to which sheep are subject are, rot, red-water, foot-rot and hoving, scab, dunt, rickets, fly-struck, flux, and bursting. The rot, which is a very pernicious disease, has of late engaged the attention of scientific farmers. But neither its nature nor its cause has yet been fully ascertained. Some valuable and judicious observations have, however, been made upon it, which may furnish an antidote for this malignant distemper, or be the means of leading others to some more efficacious remedy. Some have supposed the rot owing to the quick growth of grass or herbs that grow in wet places. But the constant practice of most farmers in the kingdom, who with the greatest security feed their meadows in the spring, when the grass shoots quick, and is full of juices, militates directly against this opinion. Mr. Arthur Young ascribes this disease to moisture. In confirmation of this opinion, which has been generally adopted, we are informed in the Bath Society papers (vol. 1. art. xlv.) by a correspondent, that there was a

paddock adjoining to his park which had for several years caused the rot in most of the sheep which were put into it. In 1769 he drained it, and from that time his sheep were free from this malady. But there are facts which render it doubtful that moisture is the sole cause. We are told the dry limed land in Derbyshire will produce the rot as well as water meadows and stagnant marshes; and that in some wet grounds sheep sustain no injury for many weeks. On dissecting sheep that die of this disorder, a great number of insects called flukes (see *FASCIOLE*), are found in the liver. That these flukes are the cause of the rot therefore is evident; but to explain how they come into the liver is not so easy. It is probable that they are swallowed by the sheep along with their food or drink, while in the egg state. The eggs deposited in the tender germ are conveyed with the food into the stomach and intestines of the animals, whence they are received into the lacteal vessels, carried off in the chyle, and pass into the blood; nor do they meet with any obstruction until they arrive at the capillary vessels of the liver. Here, as the blood filtrates through the extreme branches, answering to those of the vena porta in the human body, the discerning vessels are too minute to admit the impregnated ova, which, adhering to the membrane, produce those animalculæ that feed upon the liver and destroy the sheep. They much resemble the flat fish called plaice, are sometimes as large as a silver two-pence, and are found both in the liver and in the pipe (answering to that of the vena cava), which conveys the blood from the liver to the heart. It is therefore easy to conceive that sheep may, on wet ground especially, take multitudes of these ova or eggs in with their food; and, that the stomach and viscera of the sheep being a proper nidus for them, they of course hatch, and, appearing in their fluke or last state, feed on the liver of the animal, and occasion this disorder. It is a singular fact that no ewe ever has the rot while she has a lamb by her side. The reason of this may be, that the impregnated ovum passes into the milk, and never arrives at the liver. The rot is fatal to sheep, hares, and rabbits, and sometimes to calves, but never infests animals of a larger size. Miller says that parsley is a good remedy for the rot in sheep. Perhaps a strong decoction of this plant, or the oil extracted from its seeds, might be of service. Salt is also a useful remedy. It seems to be an acknowledged fact that salt marshes never produce the rot. Salt indeed is pernicious to most insects. Common salt and water expel worms from the human body; and sea-weed, if laid in a garden, will drive away insects; but if the salt is separated by steeping it in the purest spring-water for a few days it abounds with animalculæ of various species. Lisle, in his book of husbandry, informs us of a farmer who cured his whole flock of the rot by giving each sheep a handful of Spanish salt for five or six mornings successively. In wet and warm seasons the prudent farmer will remove his sheep from the lands liable to rot. Those who have it not in their power to do this, may give each sheep a spoonful of common salt, with the same quantity of flour, in a quarter of a pint

of water, once or twice a-week. When the rot is recently taken, the same remedy, given four or five mornings successively, will in all probability effect a cure. The addition of the flour and water (in the opinion of Mr. Price of Salisbury) will not only abate the pungency of the salt, but dispose it to mix with the chyle in a more gentle and efficacious manner. A farmer of a considerable lordship in Bohemia, visiting the hot-wells of Carlsbad, related how he preserved his flocks of sheep from the mortal distemper which raged in the wet year 1769, of which so many perished. His preservative was very simple and very cheap:—‘He fed them every night, when turned under a shed, cover, or stables, with hashed fodder straw; and, by eating it greedily, they all escaped.’ ‘Red-water is a disorder most prevalent on wet-grounds. I have heard,’ says Mr. Arthur Young, ‘that it has sometimes been cured by tapping, as for a dropsy. This operation is done on one side of the belly towards the flank, just below the wool.’ ‘The foot-rot and hoving, which is very common on low fenny grounds, is cured by keeping the part clean, and lying at rest in a dry pasture.’ The scab is a cutaneous disease, owing to an impurity of the blood, and is most prevalent in wet lands or in rainy seasons. It is cured by tobacco-water, brimstone, and alum, boiled together, and then rubbed over the sheep. If only partial, tar and grease may be sufficient. But the simplest and most efficacious remedy for this disease was communicated to the society for the Encouragement of Arts, &c., by Sir Joseph Banks:—‘Take one pound of quicksilver, half a pound of Venice turpentine, half a pint of oil of turpentine, and four pounds of hog’s lard. Let them be rubbed in a mortar till the quicksilver is thoroughly incorporated with the other ingredients: for the proper mode of doing which, take the assistance of some apothecary. In using the ointment, begin at the head of the sheep, and, proceeding from between the ears along the back to the end of the tail, the wool is to be divided in a furrow till the skin can be touched; and, as the furrow is made, the finger slightly dipped in the ointment is to be drawn along the bottom of it, where it will leave a blue stain on the skin and adjoining wool: from this furrow similar ones must be drawn down the shoulders and thighs to the legs, as far as they are woolly; and, if the animal is much infected, two more should be drawn along each side parallel to that on the back, and one down each side between the fore and hind legs. Immediately after being dressed, it is usual to turn the sheep among other stock, without any fear of the infection being communicated; and there is scarcely an instance of a sheep suffering any injury from the application. In a few days the blotches dry up, the itching ceases, and the animal is completely cured: it is generally, however, proper not to delay the operation beyond Michaelmas. The *hippobosca ovina*, called in Lincolnshire sheep fagg, an animal well known to all shepherds, which lives among the wool, and is hurtful to the thriving of sheep both by the pain its bite occasions and the blood it sucks, is destroyed by this application, and the wool is not at all injured. Our wool buyers

purchase the fleeces on which the stain of the ointment is visible, rather in preference to others, from an opinion that the use of it having preserved the animal from being vexed either with the scab or faggs, the wool is less liable to the defects of joints or knots; a fault observed to proceed from every sudden stop in the thriving of the animal, either from want of food or from disease. This mode of curing is now so generally received that the scab, which used to be the terror of the farmers, and which frequently deterred the more careful of them from taking the advantage of pasturing their sheep in the fertile and extensive commons with which that district abounds, is no longer regarded with any apprehension: the most of them have their stock anointed in autumn, when they return from the common, whether they show any symptoms of scab or not; and, having done so, conclude them safe from infection. There are people who employ themselves in the business, and contract to anoint our large sheep at 5s. a score, insuring for that price the success of the operation; that is, agreeing, in case many of the sheep break out afresh, to repeat the operation gratis even some months afterwards.' The dunt is a distemper caused by a bladder of water gathering in the head. No cure for this has yet been discovered. The rickets is a hereditary disease for which no antidote is known. The first symptom is a kind of light headedness, which makes the affected sheep appear wilder than usual when the shepherd or any person approaches him. He bounces up suddenly from his laze, and runs to a distance, as though he were pursued by dogs. In the second stage the principal symptom is the sheep's rubbing himself against trees, &c., with such fury as to pull off his wool and tear away his flesh. 'The distressed animal has now a violent itching in his skin, the effect of a highly inflamed blood; but it does not appear that there is ever any cutaneous eruption or salutary critical discharge. In short, from all circumstances, the fever appears now to be at its height.' The last stage of this disease 'seems only to be the progress of dissolution, after an unfavorable crisis. The poor animal, as condemned by Nature, appears stupid, walks irregularly (whence probably the name rickets), generally lies, and eats little; these symptoms increase in degree till death, which follows a general consumption, as appears upon dissection of the carcass; the juices and even solids having suffered a general dissolution.' To discover the seat and nature of this disease, sheep that die of it ought to be dissected. This is said to have been done by one gentleman, Mr. Beal; and he found in the brain or membranes adjoining a maggot about a quarter of an inch long, and of a brownish color. A few experiments might easily determine this fact. The fly-struck is cured by clipping the wool off as far as infected, and rubbing the dry parts with lime or wood ashes; currier's oil will heal the wounds, and prevent their being struck any more; or they may be cured with care without clipping, with oil of turpentine, which will kill all the vermin where it goes; but the former is the surest way. The flux is another disease to which sheep are subject. The best remedy is

said to be, to house the sheep immediately when this distemper appears, to keep them very warm, and feed them on dry hay, giving them frequent glisters of warm milk and water. The cause of that distemper is either their feeding on wet lands, or on grass that is become mossy by the lands having been fed many years without being ploughed. When the farmer perceives his sheep-walks to become mossy, or to produce bad grass, he should either plough or manure with hot lime, making kilns either very near or in the sheep-walks, because the hotter the lime is put on the sweeter the grass comes up, and that early in the year. Bursting, or as it is called in some places the blast, attacks sheep when driven into fresh grass or young clover. They overeat themselves, foam at the mouth, swell exceedingly, breathe very quick and short, then jump up, and instantly fall down dead. In this case, the only chance of saving their life is by stabbing them in the maw with an instrument made for the purpose. The instrument is a hollow tube, with a pointed weapon passing through it. A hole is made with the pointed weapon; which is immediately withdrawn, and the hole is kept open by inserting the tube till the wind is discharged. Sheep are infested with worms in their nose called *œstrus ovis*, and produced from the egg of a large two-winged fly. See *ŒSTRUS*. The frontal sinuses above the nose in sheep and other animals are the places where these worms live and attain their full growth. These sinuses are always full of a soft white matter, which furnishes these worms with a proper nourishment, and are sufficiently large for their habitation; and when they have here acquired their destined growth, in which they are fit to undergo their changes for the fly-state, they leave their old habitation, and, falling to the earth, bury themselves there; and, when these are hatched into flies, the female, when she has been impregnated by the male, knows that the nose of a sheep or other animal is the only place for her to deposit her eggs, in order to their coming to maturity. Mr. Vallisnieri, to whom the world owes so many discoveries in the insect class, is the first who has given any true account of the origin of these worms, though the creatures themselves were very early discovered. The fly produced from this worm has all the time of its life a very lazy disposition, and does not like to make any use either of its legs or wings. Its head and corselet together are about as long as its body, which is composed of five rings, streaked on the back; a pale yellow and brown are there disposed in irregular spots; the belly is of the same colors but they are there more regularly disposed, for the brown here makes three lines, one in middle and one on each side, and all the intermediate spaces are yellow. The wings are nearly of the same length with the body, and are a little inclined in their position, so as to lie upon the body: they do not, however, cover it; but a naked space is left between them. The ailerons, or petty wings, which are found under each of the wings, are of a whitish color, and perfectly cover the balancers, so that they are not to be seen without lifting up these. The fly will live two months after it is first produced, but will take no nourishment of

any kind; and possibly it may be of the same nature with butterflies, which never take any food during the whole time of their living in that state.—Reaumer, *Hist. Ins.* vol. iv. p. 552, &c.

The following instructions for purchasing sheep may be useful to our country readers:—The farmer should always buy his sheep from a worse land than his own, and they should be big-boned, and have a long greasy wool, curling close and well. These sheep always breed the finest wool, and are also the most approved of by the butcher for sale in the market. For the choice of sheep to breed, the ram must be young, and his skin of the same color with his wool, for the lambs will be of the same color with his skin. He should have a large long body; a broad forehead, round, and well rising; large eyes; and straight and short nostrils. The polled sheep, that is, those which have no horns, are found to be the best breeders. The ewe should have a broad back; a large bending neck; small, but short, clean, and nimble legs; and a thick, deep wool covering her all over. To know whether they be sound or not the farmer should examine the wool that none of it be wanting, and see that the gums be red, the teeth white and even, and the brisket-skin red, the wool firm, the breath sweet, and the feet not hot. Two years old is the best time for beginning to breed; and their first lambs should not be kept too long, to weaken them by suckling, but be sold as soon as convenient. They will breed advantageously till they are seven years old. Farmers have a method of knowing a sheep's age, as a horse's is known, by the mouth. When a sheep is one shear, as they express it, it has two broad teeth before; when it is two shear it will have four, when three six, and when four eight. After this their mouths begin to break. The difference of land makes a very great difference in the value of sheep. The fat pastures breed straight tall sheep, and the barren hills and downs breed square short ones; woods and mountains breed tall and slender sheep; but the best of all are those bred upon new ploughed land and dry grounds. On the contrary, all wet and moist lands are bad for sheep, especially such as are subject to be overflowed, and to have sand and dirt left on them. The salt marshes are, however, an exception to this general rule, for their saltness makes amends for their moisture; salt, by reason of its drying quality, being of great advantage to sheep.

Rams, previous to the season, are reduced from the cumbrous fat state in which they are shown. The usual time of sending them out is the middle of September. They are conveyed in carriages of two wheels with springs, or hung in slings, twenty or thirty miles a-day, sometimes to the distance of 200 or 300 miles. They are not turned loose among the ewes, but kept apart in a small enclosure, where a couple of ewes only are admitted at once. When the season is over, every care is taken to make the rams look as fat and handsome as possible. In the choice of ewes the breeder is led by the same criteria as in the choice of rams. Breed is the first object of consideration. Excellency in any species

or variety of live stock cannot be attained with any degree of certainty, let the male be ever so excellent, unless the females employed likewise inherit a large proportion of the genuine blood, be the species or variety what it may. Hence no prudent man ventures to give the higher prices for the Dishley rams, unless his ewes are deeply tinged with the Dishley blood. Next to breed is flesh, fat, form and wool. After the lambs are weaned, the ewes are kept in common feeding places, without any alteration of pasture, previous to their taking the ram. In winter they are kept on grass, hay, turnips, and cabbages. As the heads of the modern breeder are much finer than most others, the ewes lamb with less difficulty. The female lambs, on being weaned, are put to good keep, but have not such high indulgence shown them as the males, the prevailing practice being to keep them from the ram the first autumn. At weaning time, or previously to the admission of the ram, the ewes are culled, to make room for the thaves or shearlings, whose superior blood and fashion entitle them to a place in the breeding stock. In the work of culling, the ram-breeder and the mere grazier go by somewhat different guides. The grazier's guide is principally age, seldom giving his ewes the ram after they are four shear. The ram-breeder, on the contrary, goes chiefly by merit; a ewe that has brought him a good ram or two is continued in the flock so long as she will breed. There are instances of ewes having been prolific to the tenth or twelfth year; but in general the ewes of this breed go off at six or seven shear. In the practice of some of the principal ram-breeders, the culling ewes are never suffered to go out of their hands until after they are slaughtered, the breeders not only fattening them, but having them butchered, on their premises. There are others, however, who sell them; and sometimes at extraordinary prices. Three, four, and even so high as ten, guineas each have been given for these outcasts. There are in the flocks of several breeders ewes that would fetch at auction twenty guineas each. Mr. Bakewell is in possession of ewes which, if they were put up to be sold to the best bidder, would, it is estimated, fetch no less than fifty each; and perhaps, through the present spirit of contention, much higher prices. As to the time of putting the rams to the ewes, the farmer must consider at what time of the spring his grass will be fit to maintain them and their lambs, and whether he has turnips to do it till the grass comes; for very often both the ewes and lambs are destroyed by the want of food; or if this does not happen, if the lambs are only stunted in their growth by it, it is an accident that they never can recover. The ewe goes twenty weeks with lamb, and according to this it is easy to calculate the proper time. Where there are not enclosures to keep them in, they should yeap in January, that the lambs may be strong by May-day, and be able to follow the dam over the fallows and water-furrows; but the lambs that come so early must have a great deal of care taken of them; and so indeed should all other lambs at their first falling, else, while they are weak, the crows and magpies will pick their eyes out.