# THE SHEEP*.

THAT all domeſtic animals originally exiſted in a wild or ſavage ſtate, ſeems to be an inconteſtible fact: The hiſtory of thoſe already given furniſhes ample proof of this poſition; for we ſtill find horſes, aſſes, and bulls, living totally independent of the human race. Can man, who has ſubjected ſo many millions of individuals, boaſt of having conquered and enſlaved an entire ſpecies? As all animals were created without his aid, is it not reaſonable to ſuppoſe, that Nature beſtowed on them the faculty of exiſting and of multiplying without his aſſiſtance? If, however, we attend to the weakneſs and ſtupidity of the ſheep; if we conſider, that this helpleſs animal is even unable to ſave himſelf by flight; that all the carnivorous animals are not only his mortal enemies, but prefer him to every other prey; that the ſpecies are not very fertile; that the life of individuals is ſhort, &c. we ſhould be tempted to think, that

* The horns of the common ſheep are twiſted ſpirally and pointed outwards: There are eight cutting teeth in the lowe jaw, and none in the upper; and the hoofs are cloven. *Pennant Synopſ.* p. 10.

Ovis aries, cornibus compreſſis lunatis; *Linn. Syſt. Nat.* p. 97.

Ovis Plinii, lib. viii. c. xlvii. Geſner. quad. 771. Raii Syn. quad. 73.

Widdor Schaaf, Klein. quad. 23.

Aries laniger cauda rotunda brevi; *Briſſon. quad.* 48.

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the ſheep was originally committed to the protection and guardianſhip of man, and that, without his aid, this animal could neither ſubſiſt nor multiply, eſpecially as no wild ſheep have ever been found in the deſerts. Wherever man has not the dominion, the lion, the tiger, and the wolf, reign by the laws of force and of cruelty. Theſe ſanguinary and rapacious animals live longer and multiply faſter than the ſheep. In a word, if our flocks, which are now ſo prodigiouſly numerous, were ſtill abandoned, the number and voracity of their enemies would ſoon annihilate the ſpecies.

It is, therefore, probable, that, without the aſſiſtance of man, the ſheep could never have ſubſiſted, or continued its ſpecies in a wild ſtate. The female is abſolutely devoid of every art, and of every mean of defence. The arms of the ram are feeble and awkward. His courage is only a kind of petulance, which is uſeleſs to himſelf, incommodious to his neighbours, and is totally deſtroyed by caſtration. The wedder is ſtill more timid than the ſheep. It is fear alone that makes ſheep ſo frequently aſſemble in troops: Upon the ſmalleſt unuſual noiſe, they run cloſe together; and theſe alarms are always accompanied with the greateſt ſtupidity*. They know

* Though the talents of the ſheep are not ſo brilliant as thoſe of ſome other quadrupeds; yet he appears not to be that ſtupid, defenceleſs, timid creature painted in the text. All tame animals loſe a portion of that ſagacity, dexterity, and

know not how to fly from danger, and ſeem not even to be conſcious of the hazard and inconve-

and courage, which they are obliged to employ againſt their enemies in a wild ſtate; becauſe they have been long accuſtomed to rely upon the protection of man. Sheep, when enſlaved by men, tremble at the voice of the ſhepherd or his dog. But, on thoſe extenſive mountains, where they are allowed to range almoſt without control, and where they ſeldom depend on the aid of the ſhepherd, they aſſume a very different mode of behaviour. In this ſituation, a ram or a wedder boldly attacks a ſingle dog, and often comes off victorious. But, when the danger is of a more alarming nature, like man, they truſt not to the proweſs of individuals, but have recourſe to the collected ſtrength of the whole flock. On ſuch occaſions, they draw up into a compact body; they place the young and the females in the centre; and the ſtrongeſt males take the foremoſt ranks, keeping cloſe by each other's ſides. Thus an armed front is preſented on all quarters, and cannot be attacked without the greateſt hazard of deſtruction. In this manner they wait, with firmneſs and intrepidity, the approach of the enemy. Nor does their courage fail them in the moment of attack: For, if the aggreſſor advances within a few yards of the line, the rams dart upon him with ſuch impetuoſity, as lays him dead at their feet, unleſs he ſaves himſelf by flight. Againſt the attacks of ſingle dogs, or foxes, they are, when in this ſituation, perfectly ſecure. Beſides, a ram, regardleſs of danger, often engages a bull, and never fails to conquer him; for the bull, by lowering his head, without being ſenſible of his defenceleſs condition, receives between his horns the ſtroke of the ram, which uſually brings him to the ground.

In the ſelection of food, few animals diſcover greater ſagacity than the ſheep; nor does any domeſtic animal ſhow more dexterity and cunning in its attempts to elude the vigilance of the ſhepherd, and to ſteal ſuch delicacies as are agreeable to its palate. The boldneſs of the female, when not in a ſtate of abſolute ſlavery, in protecting her young from injury, is likewiſe extremely remarkable. When perfectly tamed, and rendered domeſtic, the ſportive gambols and troubleſome tricks of this animal, are too well known to require any deſcription.

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nience of their ſituation. Wherever they are, there they remain obſtinately fixed; and neither rain nor ſnow can make them quit their ſtation. To force them to move, or to change their route, they muſt be provided with a chief, who is taught to begin the march: The motions of this chief are followed, ſtep by ſtep, by the reſt of the flock. But the chief himſelf would alſo continue immoveable, if he were not puſhed off by the ſhepherd, or by his dog, an animal which perpetually watches over their ſafety, which defends, directs, ſeparates, aſſembles, and, in a word, communicates to them every movement neceſſary to their preſervation.

Of all quadrupeds, therefore, ſheep are the moſt ſtupid, and derive the ſmalleſt reſources from inſtinct. The goat, who ſo greatly reſembles the ſheep in other reſpects, is endowed with much more ſagacity. He knows how to conduct himſelf on every emergency: He avoids danger with dexterity, and is eaſily reconciled to new objects. But the ſheep knows neither how to fly nor to attack: However imminent her danger, ſhe comes not to man for aſſiſtance ſo willingly as the goat; and, to complete the picture of timidity and want of ſentiment, ſhe allows her lamb to be carried off, without attempting to defend it, or ſhowing any marks of reſentment. Her grief is not even ex-

preſſed by any cry different from that of ordinary bleating *.

But this animal, ſo contemptible in itſelf, and ſo devoid of every mental quality, is of all others the moſt extenſively uſeful to man. From the ſheep we are at once ſupplied both with food and clothing, without mentioning the particular advantages derived from the milk, the fat, the ſkin, the bowels, the bones, and the dung. To this animal, Nature ſeems to have given nothing that redounds not to the immediate advantage and convenience of man.

John xv. 8.

Love, which, in animals, is the moſt active and moſt general ſenſation, ſeems to be the only one that communicates vivacity to the ram. When under the influence of this paſſion, he

* This is another heavy charge againſt the character of the ſheep. But every perſon who has attended to theſe animals, at leaſt in this country, muſt know that the accuſation is not altogether juſt. Individuals, in a ſtate of ſubjection, ſeem to have no idea of reſiſting the attacks of an enemy. But they ſoon learn that their protection lies in the ſhepherd or his dog; for, when it becomes neceſſary, in Britain, to watch the folds, in order to prevent aſſaults from foxes or dogs, upon the firſt alarm, the whole flock run with violence to the place where the watchmen are ſtationed; ſo that, when they chance to ſleep, they are often hurt by the ſheep trampling upon them. On other occaſions they never chooſe to make a very cloſe approach either to men or dogs; but the ſenſe of immediate danger makes them forget their uſual timidity, and their ſagacity teaches them where their ſafety lies. When the female is robbed of her lamb, ſhe bleats in a manner that ſtrongly marks the anguiſh ſhe feels. In the eagerneſs of her ſearch, her eye-balls ſeem to ſtart from their ſockets; and her irregular and diſtracted motions, joined to the violence and conſtancy of her bleatings, are evident indications of the moſt pungent grief.

becomes



becomes petulant, fights, and ſometimes even attacks the ſhepherd. But the ewe, though in ſeaſon, diſcovers not the ſmalleſt emotion: Her inſtinct extends no farther than not to refuſe the approaches of the male, to chooſe her food, and to diſtinguiſh her own offſpring from thoſe of the reſt of the flock. The perfection, or certainty of inſtinct, always augments in proportion to the mechaniſm, or innateneſs of the cauſe by which it is produced *. A young lamb, in the midſt of the moſt numerous flocks, ſearches for, and diſcovers its mother, without ever once committing a miſtake. It has been alleged, that ſheep are ſuſceptible of the pleaſures of muſic; that they feed with more appetite, have better health, and fatten ſooner, by the ſound of the pipe. But the remark is more probable, that muſic ſerves only to amuſe the ſhepherd, and that the origin of the art was derived from this ſolitary and inactive kind of life.

Theſe animals, ſo ſimple and dull in their intellect, are likewiſe very feeble in their conſtitution. They cannot continue long in motion: Travelling weakens and extenuates them. When

* Here, and in many other places, the principles of materialiſm make the Count de Buffon expreſs his ſentiments obſcurely. It would have been more intelligible, and more conſonant to truth, if he had ſaid, 'That the inſtincts of any particular animal are always ſtronger, in proportion to the ſmallneſs of their number.' The ſheep has few inſtincts; and, therefore, as there is leſs danger of being diſtracted by a variety of motives to action, the animal is led with greater certainty to the purpoſes intended by Nature.

they run, they pant, and ſoon loſe their breath. The ardour of the ſun is equally incommodious to them as moiſture, froſt, and ſnow. They are ſubject to many diſeaſes, moſt of which are contagious. A redundancy of fat often kills them, and always renders the ewes barren: They bring forth with difficulty, frequently miſcarry, and require more care than any other domeſtic animal *.

When the ewe is about to bring forth, ſhe ſhould be ſeparated from the reſt of the flock, and watched, in order to be ready to aſſiſt her in delivery. The lamb frequently preſents croſsways, or by the feet. In ſuch caſes, if not aſſiſted, the mother's life is in great danger. When ſhe is delivered, the lamb ſhould be raiſed on its feet, and the milk ſhould be drawn from the paps of the mother. As this firſt milk is bad †, and would be hurtful to the lamb, it ſhould not

* This is unqueſtionably another exaggeration. The ſheep, when nearly in a wild ſtate, is a robuſt, active animal, and capable of enduring much fatigue without injury. But, when immerſed in luxury, and pampered in rich paſtures, like creatures of a higher nature, the ſheep becomes overloaded with fat, and contracts unnatural diſeaſes. Beſides, no tamed animal requires or receives leſs aſſiſtance in bringing forth its young.

† It is difficult to conceive that Nature ſhould prepare a fluid for the nouriſhment of young animals, which, inſtead of being ſalutary, ſhould, in the moſt critical period of their exiſtence, be noxious to them. Such opinions require the ſupport of facts; for, in this country, no lambs thrive ſo well as thoſe which are left entirely to the care of the dam. In caſes of preternatural labour, or when the mother is much debilitated, aſſiſtance is unqueſtionably neceſſary; but caſes of this kind are not common.

be



be permitted to ſuck till a freſh ſtock has accumulated. The lamb is kept warm, and ſhut up for three or four days with the mother, that it may learn to know her. To recover the ſtrength of the ewe, ſhe ſhould be fed, for ſome time, with good hay, grinded barley, or bran mixed with a little ſalt. Her water ſhould be lukewarm, and whitened with the flour of wheat, beans, or millet. At the end of four or five days, ſhe may be allowed to return, by degrees, to her ordinary mode of living, and to paſture among her neighbours *; but, to prevent the milk from being chaffed, ſhe ſhould not be conducted to any great diſtance. Some time after, when the lamb has acquired ſtrength, and begins to friſk about, it may be allowed to follow its mother to the fields.

All the lambs which have the appearance of feebleneſs, are generally ſent to the butcher; and thoſe only are kept which are moſt vigorous, largeſt, and beſt covered with wool. Lambs of the firſt litter are never ſo good as thoſe of ſucceeding litters. When we want to rear lambs which are brought forth in the months of October, November, December, January, or February, they are kept in the ſtable, and only allowed to go out to ſuck every morning and

* In thoſe parts of Britain where the beſt ſheep are bred, they are never houſed, nor, during the lambing-ſeaſon, have any thing adminiſtered to them but their ordinary paſture. When in health, ſheep have no occaſion for water. In our northern climates, it is even injurious to them.

evening, till the beginning of April. Some time before this laſt period, they are fed with a little graſs every day, to accuſtom them to their new ſpecies of nouriſhment. They may be weaned when a month old; but it is better to ſuckle them ſix weeks or two months. White lambs are always preferred to thoſe which are black or ſpotted; becauſe white wool gives a higher price than that of any other colour.

In the temperate weather of ſpring or autumn, the lambs may be caſtrated at the age of five or ſix months, or even a little later *. There are two methods of performing this operation. The teſticles are either removed by inciſion, or the veſſels which terminate in them are deſtroyed by a ſtrait ligature. Caſtration renders lambs ſick and melancholy. To prevent the diſguſt which ſucceeds, they ſhould have bran mixed with ſalt for two or three days.

At the age of twelve months, rams, ewes, and wedders, loſe the two fore-teeth of the under jaw: Six months after, the two neighbouring teeth likewiſe fall out; and, at three years of

* The ſooner lambs are caſtrated, the operation is attended with the leſs danger. But there is always a neceſſity for delaying it till the teſticles fall down into the ſcrotum, which ſometimes happens not till they are ſeveral weeks, or even ſome months old. There are examples where only one of the teſticles deſcends. In caſes of this kind, though the teſticle that has come down be cut off, and the animal cannot be diſtinguiſhed from a wedder; yet he ſtill retains the power of procreating. In Scotland, ſheep of this kind are called *wrigglings*.





age, they are all replaced, and are then equal and pretty white. But, in proportion as the animal increaſes in years, the teeth begin to loſe their enamel, and become blunt, unequal, and black. The age of the ram may be known by his horns, which appear the firſt year, and often at birth, and have a freſh ring added to them every year that he lives. Ewes ſeldom have any horns; but, in place of them, they have two bony protuberances. Some ewes, however, have two, and even four horns. Theſe ewes are every way ſimilar to the common kind; and their horns are from five to ſix inches long, and leſs twiſted than thoſe of the ram. When ewes have four horns, the two anterior ones are ſhorter than the other two. The ram is capable of generating in 18 months, and the ewe can produce when a year old. But it is better to prevent all communication between them till the ewe be two years of age, and the ram three. The young produced at more early periods, and even the firſt productions of theſe animals, are always feeble and ill conditioned. One ram is more than ſufficient to ſerve 25 or 30 ewes *. The ram ſhould always be ſelected from the ſtrongeſt and moſt handſome of his ſpecies. He ſhould be garniſhed with horns; for hornleſs rams, of which there are ſome in our climates, are leſs

* A ram has been often known to beget one hundred lambs in a ſingle ſeaſon:

vigorous and leſs proper for propagating *. A good and beautiful ram ſhould have a ſtrong thick head, a wide front, large black eyes, a flat noſe, big ears, a thick neck, a long high body, a large crupper and reins, maſſy teſticles, and a long tail. The beſt rams for breeding are thoſe which are of a white colour, well covered with wool upon the belly, the tail, the head, the ears, and as far as the eyes. Ewes, whoſe wool is moſt abundant, moſt buſhy, largeſt, moſt ſilky, and whiteſt, are always to be preferred, eſpecially if, at the ſame time, they are large, have thick necks, and walk nimbly. It has alſo been remarked, that thoſe which are rather meagre than fat, are the beſt breeders.

The ſeaſon of ewes is from the beginning of November to the end of April. However, when nouriſhed with ſtimulating food, as bread made of hemp-ſeed, and ſalted water, they conceive at any time †. Ewes are allowed to be covered three

* There are many breeds of ſheep, in which both males and females want horns; yet they are as vigorous as any of the ſpecies. The largeſt and fineſt ſheep in England have no horns. In ſome counties, the inhabitants are perfectly unacquainted with horned ſheep. In other places, a ſheep without horns is as great a rarity as one with four or ſix horns.

† In this climate, ewes fed in good paſtures admit the ram in July or Auguſt; but September and October are the months when the greateſt part of our ewes, if left to Nature, take the ram. Neither is it cuſtomary, at this ſeaſon, to give them dry food; nor would ſuch a practice be poſſible in large flocks. When the object is to force Nature prematurely, ſome ſtimulating



three or four times; after which they are ſeparated from the rams, who prefer the aged ewes, and deſpiſe thoſe that are younger. During the rutting ſeaſon, ewes ſhould not be expoſed to rainy or ſtormy weather; for moiſture prevents conception, and a clap of thunder often produces an abortion. A day or two after copulating, they are allowed to return to their ordinary mode of living; for, if the uſe of ſalted water, hemp-ſeed bread, and other ſtimulating food, were continued, they would infallibly miſcarry. They carry five months, and bring forth in the beginning of the ſixth. They generally produce one lamb, but ſometimes two. In warm climates, they can produce twice a-year; but, in France, and in colder climates, only once. To have lambs in the month of January, the ram is admitted to the ewes towards the end of July, or beginning of Auguſt. Thoſe which are covered in September, October, and November, produce in February, March, and April. We may alſo have plenty of lambs in May, June, July, Auguſt, and September; and they only become rare in October, November, and December. The ewes give milk abundantly for ſeven or eight months. This milk affords pretty good nou-

ing food may, perhaps, have the deſired effect. It is more common, however, to retard the ſeaſon of general copulation, by ſeparating the rams from the ewes, than to forward it. The rule is, to admit the ram at ſuch a time as will bring the ewes to lamb when there will be plenty of food for them; for, if they bring forth before the graſs is good, the lambs become poor and feeble.

riſhment

riſhment to children and country-people *. It makes very good cheeſe, eſpecially when mixed with cow-milk. The time of milking ewes is immediately before they go out to the field, or ſoon after their return. In ſummer they may be twice milked every day, and once in winter.

Ewes, when with young, grow fat; becauſe they then eat more than at any other period. As they frequently hurt themſelves, and miſcarry, they ſometimes become barren, and ſome of them produce monſters. However, when properly managed, they bring forth during life, *i. e.* for ten or twelve years; but they are generally old and uſeleſs at the age of ſeven or eight years. The ram, who lives twelve or fourteen years, becomes unfit for propagating when eight years old. He ſhould then be caſtrated, and fattened along with the old ewes. The fleſh of the ram, even after being caſtrated and fattened, has always a diſagreeable taſte: That of the ewe is flabby and inſipid. But the fleſh of the wedder furniſhes the moſt ſucculent and beſt of all our common diſhes.

When men want to form a flock with a view to profit, they purchaſe ewes and wedders at the age of eighteen months, or two years, and a hundred of theſe might be managed by a ſingle ſhepherd †. If vigilant, and aided by a good

* The milk of ewes, in its natural ſtate, is nauſeous, and ſeldom uſed in this country. We uſually convert it into cheeſe.

† In an open country, and extenſive paſture, a good ſhepherd, aſſiſted by his dog, will manage, with eaſe, ten times the number mentioned in the text.

dog,



dog, he will loſe very few of them. When conducting them to the fields, he ought to go before, accuſtom them to the ſound of his voice, and to follow him without ſtopping, or going aſide among the corn, or the vines, where they commit great devaſtation. The ſea-coaſts, or plains on the top of hills, afford them the beſt paſture. But low, moiſt, and marſhy grounds, ſhould always be avoided. During winter, they are fed, in the ſtable, with bran, turnip, hay, ſtraw, lucern, ſaintfoine, aſh and elm leaves, &c. When the weather is not very bad, they ſhould be allowed, chiefly for the ſake of exerciſe, to go out every day. In this cold ſeaſon, they are not led to the fields before ten in the morning, where they remain for four or five hours; after which they are made to drink, and are conducted back about three o'clock after noon. In ſpring and autumn, on the contrary, they are led out as ſoon as the ſun has diſſipated the moiſture or hoar-froſt, and are not brought back till ſun-ſet. In theſe two ſeaſons it is ſufficient to make them drink once a-day, and immediately before they return to the ſtable, where they muſt always have forage, but in ſmaller quantity than during winter. It is only in ſummer that they ought to feed entirely in the fields, where they are conducted twice a-day, and alſo made to drink twice. They are brought out at day-break, allowed to feed four or five hours, and, after drinking, are led back to the fold, or ſome

other

other ſhady place. About three or four o'clock after noon, when the exceſſive heat begins to diminiſh, they are again paſtured till night comes on. Were it not for the ravages of the wolf, they ought to remain in the field during the whole night, as is practiſed in Britain, which would make them both more vigorous and more healthful. As the rays of the ſun, when very warm, are apt to affect theſe animals with a vertigo, they ſhould always be paſtured with their heads turned from the ſun, ſo that the body may form a kind of ſhade to defend the head. Laſtly, to preſerve their wool, they ſhould not be allowed to feed among thorns, briars, thiſtles, &c.

In dry elevated grounds, where the wild thime and other odoriferous plants abound, the fleſh of the ſheep is of a better quality than when fed in low moiſt plains. But ſandy downs on the ſea-coaſt produce the beſt mutton, becauſe the herbage is ſaltiſh; and nothing improves the reliſh of mutton ſo much as paſture of this kind: Beſides, it gives an agreeable ſavour to the milk of the ewe, and increaſes its quantity. Theſe animals are extremely fond of ſalt, and, when given in moderate quantities, it is very ſalutary. In ſome places, a bag of ſalt, or a ſalt-ſtone, is put into the fold, which the creatures lick alternately.

Every year, thoſe which begin to grow old, ſhould be ſeparated from the flock, for the purpoſe of fattening, becauſe then a different management



nagement is neceſſary: If in ſummer, they ſhould be conducted to the field before ſun-riſing, that they may feed upon graſs moiſtened with dew. Nothing contributes more to fatten wedders than water taken in great quantities; and nothing retards their fattening more than the heat of the ſun. For this reaſon, they ſhould be put into the fold or ſhade at eight or nine o'clock in the morning, before the heat becomes too violent; and they ought to have a little ſalt, in order to excite their appetite for water. They ſhould be led out a ſecond time, about four o'clock after noon, to freſh and moiſt paſtures. By this treatment, they acquire, in two or three months, all the appearances of being fleſhy and fat. But this fat, which originates from the great quantities of water drunk by the animal, is only a kind of purſy ſwelling, and would ſoon occaſion the rot, if not prevented by killing them immediately after they acquire this fallacious appearance. Even their fleſh, inſtead of being firm and juicy, is frequently very looſe and inſipid. To produce good mutton, beſide the treatment above recommended, the animals ſhould have better nouriſhment than graſs. In winter, and indeed in all ſeaſons, they may be fattened by keeping them in ſtables, and feeding them with the flour of barley, oats, wheat, beans, &c. mixed with ſalt, to increaſe their appetite for drink. But whatever mode be followed, it ſhould be executed as quickly as poſſible: for they cannot be fattened a ſecond time,

time *, moſt of them dying of diſeaſes in the liver.

Worms are frequently found in the livers of animals: A deſcription of thoſe of the wedder and ox may be ſeen in the Journal des Sçavans †, and in the German Ephimerides ‡. It was formerly imagined, that theſe worms were peculiar to ruminating animals: But M. Daubenton diſcovered the ſame ſpecies in the liver of the aſs; and it is probable they exiſt in ſeveral other quadrupeds. Butterflies, it has likewiſe been ſaid, are ſometimes found in the liver of the wedder. M. Rouille communicated to me a letter from M. Gachet de Beaufort, phyſician at Montiers, of which the following is an extract: 'It is an old remark, that our Alpine wedders, 'which are the beſt in Europe, ſometimes ſud-'denly loſe their fleſh; that their eyes turn white 'and gummy; that their blood grows ſerous, 'having hardly any red globules; that their 'tongues are parched; and that their noſes are 'ſtuffed with a yellow purulent mucus: Though 'the creatures continue to eat plentifully, theſe 'ſymptoms are accompanied with extreme debi-'lity, and at laſt terminate in death. From re-'peated diſſections, it has been diſcovered, that 'the animals had always butterflies in their li-'vers. Theſe butterflies were white, and fur-'niſhed with wings; and their heads were

* This is not true; for ſheep, like other animals, may occaſionally loſe and regain the fat they had formerly acquired.

† Année 1668. ‡ Tom. v. Années 1675, and 1676.

'nearly



'nearly oval, hairy, and about the ſize of thoſe 'of the ſilk-worm fly. Above ſeventy, which I 'ſqueezed out of the two lobes, convinced me of 'the truth of this fact. The convex part of the 'liver was alſo in a mangled condition. The 'butterflies are found in the veins only, and ne-'ver in the arteries. Small butterflies, and like-'wiſe ſmall worms, have been diſcovered in the 'cyſtic duct. The vena portarum and capſala 'Gliſſonii were ſo ſoft, as to yield to the ſlighteſt 'touch. The lungs, and other viſcera, were 'ſound,' &c. If Dr. Gachet de Beaufort had been more particular in his deſcription of theſe butterflies, he might, perhaps, have removed the ſuſpicion, that the animals he ſaw were only the common worms found in the liver of the ſheep, which are very flat, broad, and of a figure ſo ſingular, as to appear, at firſt ſight, to be rather leaves than worms.

The wool of the ſheep is ſhorn every year. In warm countries, where no danger ariſes from making the animal quite bare, they do not ſheer the wool, but tear it off; and this operation is performed twice a-year. But, in France, and in colder climates, the fleece is ſhorn only once a-year, and a part of it is allowed to remain, in order to protect the animal from the inclemency of the weather *. The operation is performed in

* The fleece of the ſheep, like the fur of moſt other quadrupeds, looſens from the ſkin in the beginning of ſummer, and, if permitted, would fall, of its own accord, from the animal's body.

To

in the month of May, after waſhing the ſheep, to render the wool as clean as poſſible. The month of April is too cold; and, if delayed till June or July, the wool does not grow ſufficiently long to protect the animal from the cold of winter. The wool of the wedder is generally better, and in greater quantity, than that of the ewe or ram. The wool upon the neck, and about the top of the back, is of a better quality than that upon the thighs, the tail, the belly, &c. and that taken from dead or diſeaſed animals, is the worſt. White wool is preferred to gray,

To prevent the waſte which would enſue, the farmer ſheers his ſheep before the fleeces become altogether looſe. If the operation be longer delayed, the fleece breaks and falls off in detached pieces. Thus the proper ſeaſon for ſheering ſheep is determined by Nature. When the young fleece begins to grow, it puſhes the old one before it, which becomes looſe at the root, and the ſheep, after the operation, remains covered with cloſe ſhort wool. When ſheep are ſhorn before the young fleece has begun to grow, they are left too bare, and are in danger of catching cold. Beſides, that part of the old fleece which is left on the animal, is entirely loſt. If, on the other hand, the operation be delayed till the young fleece has grown ſo long as to mix with the old one, a part of the former will be cut off, which, by being too ſhort, is not only perfectly uſeleſs in manufactures, but injures the long wool among which it is blended. For theſe reaſons, a ſkilful farmer ſheers not all his ſheep indiſcriminately at the ſame time, but occaſionally as the fleeces become ripe.

It was formerly the practice, inſtead of ſheering, to pluck the wool from the ſheep. But, though it might be done at different times, as parts of the fleece looſened, without giving the animal any pain; yet the practice is ſlovenly, incompatible with the management of large flocks, and often attended with a conſiderable loſs of wool.

brown,



brown, or black, becauſe it is capable of being dyed any colour; and ſmooth ſleek wool is better than that which is curled. It is even alledged, that wedders, whoſe wool is curled, are not ſo good as the others.

Land may be much improved by folding ſheep: For this purpoſe a piece of ground is incloſed, and the flock ſhut up in it every night during the ſummer-ſeaſon. The dung, urine, and heat of the animals, ſoon meliorate exhauſted, cold, or barren grounds. A hundred ſheep, in one ſummer, will fertilize eight acres of land for ſix years.

It has been remarked by the ancients, that all ruminating animals have ſuet: But this remark, ſtrictly ſpeaking, holds only with regard to the ſheep and goat: The ſuet of the wedder is more copious, whiter, drier, firmer, and better than that of any other animal. Fat or greaſe is very different from ſuet, the former being always ſoft, while the latter hardens in cooling. The greateſt quantity of ſuet is found about the kidneys; and the left kidney furniſhes more than the right. There are alſo conſiderable quantities in the epiploon or web, and about the inteſtines; but it is not near ſo firm or good as that of the kidneys, the tail, and other parts of the body. Wedders have no other greaſe but ſuet; and this matter is ſo prevalent in their bodies, that their whole fleſh is covered with it. Even the blood contains a conſiderable quantity

of ſuet; and the ſemen is ſo charged with it, as to give that liquor a different appearance from that of other animals. The ſemen of men, of the dog, horſe, aſs, and probably of every animal which affords not ſuet, diſſolves with cold; or when expoſed to the air, becomes more and more fluid from the moment it eſcapes from the body. But the ſemen of the ram, and perhaps of every animal that has ſuet, hardens and loſes its fluidity with its heat. I remarked this difference when examining theſe liquors with the microſcope: That of the ram fixes a few ſeconds after coming from the body; and, in order to diſcover the living organic particles, of which it contains prodigious numbers, its fluidity muſt be preſerved by the application of heat.

In the ſheep, the taſte of the fleſh, the fineneſs of the wool, the quantity of ſuet, and even the ſize of the body, vary greatly in different countries. In France, the province of Berri abounds moſt in ſheep. Thoſe about Beauvais, and in ſome other parts of Normandy, are fatter and more charged with ſuet. They are very good in Burgundy; but the beſt are fed upon the ſandy downs of our maritime provinces. The Italian, Spaniſh, and even the Engliſh wools, are finer than the French wool. In Poitou, Provence, the environs of Bayonne, and ſeveral other parts of France, there is a race of ſheep which have the appearance of being foreign. They are larger, ſtronger, and better

Plate XV.

A Bell Sculp.t

EWE

Plate XIV.

A Bell Sculp.t

RAM

better covered with wool than the common kind. They are likewiſe more prolific, producing frequently two lambs at a time. The rams of this race engender with the common ewes, and produce an intermediate kind. In Italy, and in Spain, there are a great variety of races; but they ought all to be regarded as of the ſame ſpecies with our common ſheep, which, though ſo numerous and diverſified, extend not beyond Europe. Thoſe animals with a long broad tail, ſo common in Aſia and Africa, and which are called Barbary ſheep by travellers, appear to be a ſpecies different from the ordinary kind, as well as from the Pacos and Lama of America.

As white wool is moſt valued, black or ſpotted lambs are generally ſlaughtered. In ſome places, however, almoſt all the ſheep are black; and black lambs are often produced by the commixture of white rams with white ewes. In France, there are only white, brown, and black, and ſpotted ſheep: But, in Spain, there is a reddiſh kind; and, in Scotland, there are ſome of a yellowiſh colour. But all theſe varieties of colour are more accidental than thoſe produced by different races, which, however, proceed from the influence of climate, and the difference of nouriſhment.

# SUPPPLEMENT.

I HERE give figures of a ram and ewe, of which drawings were ſent me by the late Mr. Colinſon, fellow of the Royal Society of London, under the names of the *Walachian ram and ewe.* As this learned Naturaliſt died ſoon afterwards, I could not diſcover whether theſe ſheep, whoſe horns are extremely different from thoſe of the ordinary kind, be common in Walachia, or whether they are only an accidental variety.

In the northern parts of Europe, as Denmark and Norway, the ſheep are not good; but, to improve the breed, rams are occaſionally imported from England. In the iſlands adjacent to Norway, the ſheep remain in the fields during the whole year; and they become larger and produce finer wool than thoſe which are under the care and direction of men. It is alledged, that thoſe ſheep, which enjoy perfect liberty, always ſleep, during the night, on that ſide of the iſland from whence the wind is to blow next day. This natural indication of the weather is carefully attended to by the mariners *.

The rams, ewes, and wedders of Iceland, differ chiefly from ours, by having larger and thicker horns. Some of them have three, four, and

* Pontoppidan's Nat. Hiſt. of Norway.

even

even five horns. But this peculiarity of having more horns than two, muſt not be conſidered as common to the whole race of Iceland ſheep; for, in a flock of four or five hundred, hardly three or four wedders can be found with four or five horns, and theſe are ſent to Copenhagen as rarities. As a farther proof of their being ſcarce, they give a higher price in Iceland than the common kind *.

* Hiſt. Gen. des Voyages, tom. xviii. p. 19.