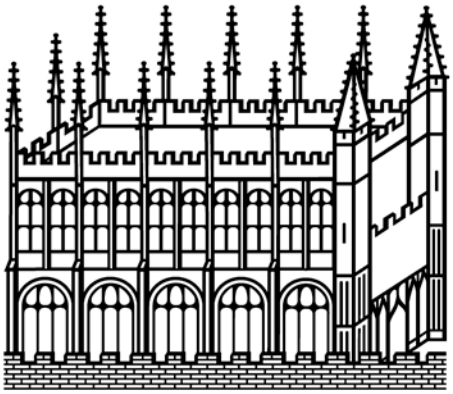

ADDRESS

TO THE

SOCIETY

FOR THE

IMPROVEMENT OF BRITISH WOOL;

CONSTITUTED AT EDINBURGH,

ON MONDAY, JANUARY 31, 1791.

By Sir JOHN SINCLAIR, Bart.

Thro' all the brute creation, none, as ſheep,
To lordly man ſuch ample tribute pay;
For him their udders yield nectareous ſtreams;
For him their downy veſtures they reſign:
For him they ſpread the feaſt.

THE FLEECE. Book II.

THE SECOND EDITION.

LONDON:

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MDCCXCI.

5.

ADVERTISEMENT.

THE following Paper was very haſtily drawn up, and is, in many points of view, a defective performance. But the Society, to whom it was read, being of opinion that the publication of it might diffuſe a ſpirit of inveſtigation and experiment, and a zeal for the improvement of Wool in the country at large, the Author could not refuſe his concurrence to any meaſure that could poſſibly tend to promote ſo deſirable an object.

There are two objects, for the advantage of this Country, which cannot, indeed, be too often inculcated. The firſt is, to raiſe a ſufficient ſupply of fine Wool at home:

The ſecond, to produce within our own territories the Naval Stores neceſſary for our fleet. Until theſe two objects are attained, Great Britain cannot be juſtly accounted either an Independent, Manufacturing, or Maritime Nation. The firſt will probably be ſecured by the exertions of the Society now conſtituted for that purpoſe. The other is equally practicable, with a very moderate degree of public ſpirit, attention, and perſeverance.

EDINBURGH,
Jan 31, 1791.

ADDRESS,

&c. &c.

GENTLEMEN,

AS it is propoſed, on the anniverſary of this day, that a regular account ſhall be drawn up of the progreſs made by the Society in the important object which it has undertaken, viz. that of improving, and it is to be hoped of bringing to perfection, the moſt valuable production of which the country boaſts, it may not be improper, on the firſt day in which we are aſſembled, to trouble you with ſome obſervations tending to point out the many public advantages which may be derived from this inſtitution. It is a circumſtance which ought more particularly to be enlarged upon, that, though the commerce of wool is the moſt ancient which hiſtory records, though in former times Kings were ſhepherds, and females of the higheſt rank were anxious to diſplay their dexterity at the diſtaff; *

* ——The Egyptian Prince
A golden diſtaff gave that beauteous nymph,
Too beauteous Helen: No uncourtly gift,
Then, when each gay diverſion of the fair
Led to ingenious uſe.——

and above all, though it is well known, that no country ever acquired great commercial opulence without carrying the manufacture of wool to a very high degree of perfection, yet (ſtrange to tell!) there is not in this, nor I believe in any other country in Europe, a ſingle individual (M. D'Aubenton in France alone excepted) who has paid that attention to this important ſubject to which it is ſo well entitled, or at leaſt who has ever acquired ſuch an univerſal, theoretical, and practical knowledge of it as would be deſirable. Particular *breeds* of ſheep, if I may be allowed that expreſſion, have been brought to great perfection in England, and indeed, in other countries. Many individuals alſo have ſhewn great knowledge of the natural hiſtory of this valuable animal, and have collected information reſpecting the different kinds which exiſt in various parts of the world. Much practical ſkill has been acquired by ſhepherds tending their flocks at different times and in various places. In Spain, a very curious ſyſtem, for the management of flocks, adapted to the peculiar nature of that country, has been formed: But, as far as my information reaches, all the experiments which are neceſſary for preciſely aſcertaining the effects of climate, food, or management, have never been made; nor is there any work publiſhed upon this

ſubject

ſubject alone, which can ſufficiently guide the unſkilful ſhepherd, how to manage, and ſtill more how to improve, the fleecy ſtore with which he is intruſted *.

This circumſtance is perhaps owing to the prejudice, that, in regard to ſheep, climate is every thing, and that we are fighting againſt nature, when we attempt to bring the animals or the productions of one country into another. So abſurd and dangerous a tenet cannot be too loudly reprobated. Were Great Britain at this moment confined to thoſe particular articles which its ſoil naturally produced, many of the moſt valuable productions of its fields, and almoſt all the productions of its gardens, would never have exiſted here, and this iſland could never have been able to have fed one half of its preſent inhabitants.

Indeed, ſo far is climate from being an objection, that its effects on that particular production which we wiſh to bring to perfection in this country, to wit, fine wool, have never yet

* Many uſeful hints may be collected from various works; but I do not know of any complete ſyſtem, at leaſt in our language.

been aſcertained. Some people imagine that hot climates are thoſe in which we are to expect it in the greateſt perfection, and yet we cannot but acknowledge the great beauty and excellence of the wool produced on the cold and rugged ſhores of the Shetland iſlands, as appears from the ſpecimens before us. Others imagine that the fineſt wool is to be expected from ſheep which are perpetually kept wandering about in the open air, as is the caſe in Spain, and that confinement is ruinous: Whereas, on the other hand, it can be indiſputably proved that the antient Greeks and Romans kept and fed their fineſt wooled ſheep in houſes, and even clothed them to make their wool more valuable. Theſe, and other circumſtances which might be mentioned, ſeem to render climate, though of ſome, yet undoubtedly of leſs eſſential, conſequence. For my own part, I have no doubt, that if a good breed of ſheep is procured, and if they are put under a proper ſyſtem of management, that we may grow in this Iſland as much fine wool as the extent of the country will admit. I ſhall therefore reſtrict the obſervations with which I am now to trouble you, to the two heads of Breed and Management.

I. BREED.

I. BREED.

I do not propoſe to enter into that ſpeculative queſtion, Whether all the various kinds of ſheep which are now ſcattered over the face of the globe have ſprung from the ſame original, or whether different kinds have exiſted from the beginning? It is certain that great varieties now actually exiſt; and the firſt point undoubtedly is, to procure that particular breed, which either from natural cauſes, or by art and management, has been brought to the greateſt perfection, or is the moſt likely to anſwer the object we may wiſh to obtain.

The firſt point of view in which the different breeds of ſheep may be conſidered, is bulk or ſize. There are certainly advantages in a large ſized animal, were the carcaſe the only object in view. In the ſpace of two years, the large ſheep of Lincolnſhire, and of other parts of England, are ſuppoſed to be fit for the butcher, while ſmaller ſized animals muſt in general be kept one or two years longer, at a conſiderable riſque and expence*. Where food, therefore, can be procured in ſufficient abundance, the large ſized

24.2 concerning the Food.

* The South Down and Norfolk breeds are an exception. Though ſmall, they fat early.

ſheep

ſheep muſt naturally be preferred by the farmer, as being on the whole the beſt calculated to yield him profit *. Not a moment need be loſt in bringing the carcaſe to market; and, though the wool is coarſe, and conſequently low priced, yet the enormous quantity, in ſome meaſure, makes up for the deficiency of quality. If, therefore, this country had no occaſion for fine wool, either to clothe its own inhabitants, or to export, when manufactured, to other nations, the ſooner that the large ſized, though coarſe wooled ſheep, could be ſpread over the whole kingdom the better. But our ſituation is very different: we are obliged to import conſiderable quantities of clothing wool from another kingdom; and, from the progreſs of improvement in this iſland, the quantity of that valuable ſpecies of wool calculated for the manufacture of cloth is daily diminiſhing. We cannot, therefore, too ſoon endeavour to remedy what, in a manufacturing view, muſt be conſidered as an evil, before it takes too deep a root, and be-

* There is one advantage attending large fized ſheep, which deſerves to be mentioned. From their quiet diſpoſition a ſmall quantity of them can eaſily be kept with horſes or cattle; and in places where the fences are very imperfect, which could not confine the more active ſorts generally produced in the northern parts of the kingdom.

comes

comes more difficult to eradicate. Fortunately, alſo, the nature of the ſoil and paſture of the northern parts of England, of Wales, and of Scotland, by judicious management, ſeems to be well adapted to the production of that ſpecies of wool which is the moſt eſſential to us at preſent.

Wool is conſidered, by a moſt intelligent manufacturer *, as properly comprehended under two grand diviſions, viz. *combing* and *clothing* wool. A variety of ſorts may be claſſed under each diviſion; but under the one or the other, every kind of wool may be comprehended. The combing wool is diſtinguiſhed by the length of its ſtaple, and is peculiarly well calculated for ſtockings, worſted ſtuffs, and the like. It is univerſally acknowledged that this kind of wool has been brought to very great perfection in England. It is, however, becoming of leſs value every day. Thoſe worſted ſtuffs in which women of all ranks were formerly clothed, have given way to ſilk, to linen, and to cotton †. Some

* Mr. Anſtie of the Deviſes.

† The combing wool is ſometimes cut to pieces, and uſed in the manufacture of cloth. Perhaps it would be better

Some new uſes have been diſcovered for this ſpecies of wool; but it is already produced in great abundance, and any addition to the quantity, (particularly were a war at the ſame time to take place,) might ſo much reduce its price, as to render it leſs worth the attention of the farmer.

The other ſpecies of wool, known under the name of ſhort, the carding, or the *clothing*, ſort, is of a very different nature. Its ſtaple is not ſo long, but the pile is finer; and inſtead of terminating, like the combing ſort, in a point, it is exactly of the ſame thickneſs from one end to the other. Hence the hairs eaſily incorporate together, and the cloth acquires that firm texture ſo deſirable in that ſpecies of goods. The ſheep which produce this ſort of wool are ſmall, delight in an extenſive range of paſture, and do not thrive in thoſe narrow bounds with which the long wooled, and large ſized ſheep are content. They were formerly to be found in thoſe extenſive commons in England, of which ſo many

better to cut the fleeces of the long wooled ſheep for that purpoſe twice or thrice a year, and to keep them in houſes in bad weather; the expence of which their manure, and the great quantity of wool they would produce, might repay. This at leaſt would be worth the trial.

have been incloſed by the authority of the legiſlature ſince the commencement of his preſent Majeſty's reign. It is computed, that above a million of acres have been incloſed during that period; and if the ſame progreſs continues for ſome years to come, there will ſcarcely be a veſtige of an extenſive common in the ſouthern parts of the iſland *. Unleſs, therefore, the clothing breed of ſheep will thrive in the open and extenſive paſtures, which the northern parts of England, which

* A very intelligent and reſpectable Gentleman has ſent me the following account of the progreſs of this ſyſtem in the weſtern parts of England. It is only within theſe forty years that the incloſing of commons began to prevail there; and before that took place, every farmer in the dry lands thought it his intereſt to attend to the fineneſs of the wool, whence his chief profit aroſe, and not to the ſize of the animal, the carcaſe being of ſo little value, that his fat ſheep, even in the month of March, did not fetch above 3d. a pound inſtead of 4½d. its price at preſent. Soon after this period, the turnip and clover huſbandry began to flouriſh; and the beſt farmers, encouraged by the better price for meat, began to think that their land might be turned to a more productive uſe, by introducing larger ſized and more bony animals. The ſheep of 8 lib. per quarter producing 1 lib. of wool worth 1 *s.* 3*d.* were, by procuring Dorſetſhire rams, changed to 14 lib. per quarter, and gave 3 libs. of wool worth 2*s.* 3*d.* The difference of value between the two animals amounted to about 9*s.* per head. Such large ſized animals could not thrive upon the ſhort graſs which uncultivated commons produced. It became an

 object

which Wales, and which Scotland furniſh, Great Britain muſt every day become more and more dependent on foreign countries for the raw material of its moſt important branch of manufacture. Now, therefore, is the time to try every neceſſary experiment for that purpoſe, not only for the peculiar advantage of thoſe diſtricts of the united kingdoms above alluded to, but for the general intereſts of the empire.

It is the more neceſſary to attend to this circumſtance, eſpecially in Scotland, becauſe any improvement of wool that has been attempted there has in general been by ſubſtituting the *combing* for the *clothing* ſort, which, though well adapted for particular parts of the country, is far from being calculated for the whole kingdom. At this moment alſo ſheep farming is beginning to extend itſelf to the moſt diſtant corners of that kingdom; but on principles which

object therefore to incloſe and improve the commons, by which ſyſtem of huſbandry, the produce of the lands has been ſo exceedingly increaſed, that what was formerly common or ſheep walks is now generally let at 15*s*. per acre, and the antient incloſure of 7*s*. value is now let at 20*s*. This accounts for ~~the~~ one alterations in the quality of the wool: but the new ſyſtem, in a national view, has produced the happieſt conſequences, by increaſing the general wealth and produce of the country.

ſeem

ſeem to me to be of a very dangerous and noxious nature. The value of that part of the country, and the rents of the lands, have been gradually increaſed by theſe means. It is well known that, in the ſpace of 25 years, the income of an eſtate in the Highlands has been raiſed from 400*l.* to about 1800 *l.* a year, without any other improvement than merely converting it from cattle, into ſheep, farms. The wool which it produces is nevertheleſs ſold at the rate of only $4\frac{1}{2}d.$ a pound. What an amazing addition would it be to the value of that property, and of other eſtates in the ſame ſituation, were the wool which they produced rendered four or five times more valuable! By attention and good management there is not the leaſt doubt of obtaining this deſirable object.

In fact, nothing can be more detrimental than the mode now uſed of converting cattle, into ſheep, farms in the Highlands. The firſt thing that is done is to drive away all the preſent inhabitants. The next is to introduce a ſhepherd and a few dogs; and then to cover the mountains with flocks of wild, coarſe wooled, and ſavage animals, which ſeldom ſee their ſhepherd, or are benefited by his care. The true plan of ren-

dendering the Highlands valuable would be to follow a different ſyſtem. As many as poſſible of the preſent inhabitants ought to be retained. They ought to be gradually brought to exchange their cattle for a ſufficient ſtock of valuable ſheep. A flock of three hundred ſheep might be maintained on the generality of Highland farms as they are at preſent conſtituted; and the profit of ſuch a flock, with a few cattle, is ſufficient to maintain a family in the manner in which the natives of the Highlands are accuſtomed to live. Thus the value of the country might be at leaſt doubled, without diminiſhing the numbers of the people. Sheep farming, when conducted upon proper principles, is not ſo great an enemy to population as is commonly imagined*.

Having premiſed theſe general obſervations, it may now be proper to conſider what particular breeds of ſheep ſeem to be the beſt entitled to the attention of this Society.

In the firſt place, it is certainly neceſſary that we ſhould endeavour to bring the native ſheep

* In Naiſmith's obſervations on the Induſtry of Scotland, this idea is very ably enforced.

of

of the country to the greateſt perfection of which they are ſuſceptible. By attention, and by breeding from the beſt of each ſpecies, that point may eaſily be obtained. Scotland poſſeſſes within itſelf many excellent ſorts, which can eaſily be multiplied. In Tiviotdale, in the pariſh of Mochrum, and in other parts of North Britain, the clothing wool, though ſtill capable of much improvement, is at preſent of great value. The ſmall white faced native Scotch ſheep yields a ſpecies of wool that might anſwer many valuable purpoſes *. With reſpect to combing wool,

* A friend of mine, who reſides in the north of England, in the courſe of our correſpondence upon ſheep and wool, mentions a very curious circumſtance. About fifty years ago, a veſſel was ſtranded on the coaſt of Cumberland, that accidentally had on board ſome of the native ſheep of Scotland, which were put aſhore, and were purchaſed by the farmers who lived at Waſdalehead, in the neighbourhood of Keſwick. It was ſoon diſcovered that they poſſeſſed an inſtinct of foreſeeing an approaching ſtorm; that they faced the coming blaſt; and taking the moſt expoſed ſide of the mountain, were never liable to be covered by the ſnow. The inhabitants of Waſdalehead thought this breed ſuch an acquiſition, that they wiſhed to preſerve it entirely to themſelves, and came under an obligation to each other, that none of them ſhould ever ſell a ram, and never above five female lambs in a ſeaſon. Means, however, were found, by ſmuggling and otherwiſe, to get the better of this ſhameful ſtipulation; ſo that they are now very common

wool, the Shetland ſheep produces that article in almoſt unequalled perfection. I need not deſcant on this point, when I have the honour of laying before you ſo many ſpecimens of its peculiar beauty and excellence. So valuable, indeed, is the Shetland wool, that our manufacturers could afford to give from 7*s.* 6*d.* to 10*s.* 6*d.* per pound for the beſt ſort of it, when properly prepared.

In the next place, it is neceſſary that we ſhould propagate in this country thoſe Engliſh breeds which are diſtinguiſhed by the excellence of their fleeces, and which are likely to thrive in North Britain; confining our attention, however, principally to the carding breeds, without excluding, at the ſame time, combing wool, where it ought to be cultivated. Of theſe the moſt remarkable are, the breed of Herefordſhire, and of the South Downs in Suſſex. Of the firſt, a fair experiment will be tried, in conſequence of a very liberal offer from a gentleman in England to procure us a ſmall flock of the very beſt that

mon in all the mountainous diſtricts of Cumberland and Weſtmorland, They are known under the name of the Hardwick breed; and, though in a great meaſure extirpated in Scotland, may be found in very great perfection in the northern parts of England.

Herefordſhire

Herefordſhire produces. They are rather of a tender and delicate nature, but may be familiariſed to this country and climate, and have been already tried in the moſt northern county of Scotland with ſucceſs *. They are houſed, however, at night, when the weather is unfavourable. It is thought that the wool of the South Down breed reſembles, more than any other in England, that of the Spaniſh. By the aſſiſtance of Lord Sheffield, whoſe public ſpirit on this occaſion cannot be too much commended, we have already ſome of that breed in our poſſeſſion.

But, beſides the breeds of England, it would be proper for this Society to try what would be the effect of introducing into this iſland the ſheep of foreign countries, for the purpoſe of aſcertaining the poſſibility of their thriving in this kingdom, or of meliorating our breed †.

If

* It is now above four years ſince the author tried ſome Herefordſhire ſheep in Caithneſs, where they have thriven beyond expectation.

† The foreign breed, from which I entertain the higheſt expectations, are thoſe which are to be found in the neighbourhood of Mount Atlas in Africa, which there is reaſon to believe, are, in every reſpect, greatly ſuperior to the Spaniſh, and to a mixture with which the Spaniſh breed itſelf,

If Arabia is to be ranſacked, for the improvement of our race of horſes, why may not ſimilar means be uſed for improving our breed of ſheep? Many animals, in different parts of the world, produce various kinds of fine wool or fur, which, in conſequence of the extended commerce and navigation of Great Britain, might be procured with little difficulty. Theſe animals would probably thrive here, and would furniſh materials of the utmoſt conſequence to our moſt valuable manufactures.

To conclude this branch of the ſubject, I have no doubt, that, by purſuing a regular ſyſtem of experiments, it will ſoon be in our power to aſcertain what kinds of ſheep are the beſt calculated for the ſoil, the paſture, and the climate, of this country, and the moſt likely to prove profitable to individuals and uſeful to the ſtate.

itſelf, in a great meaſure, owes its excellence. That gallant veteran, Sir Robert Boyd, previouſly to his departure, a few months ago, to take poſſeſſion of the government of Gibraltar, was ſo obliging as to promiſe his beſt endeavours to procure ſome of that breed for the uſe of the Society.

II. MANAGEMENT.

It is unneceſſary for me to trouble you with many obſervations reſpecting the proper management of ſheep. One of the firſt ſteps which the Society will naturally take, will be, to offer premiums to perſons who furniſh it with the beſt information concerning ſheep in general,—the different breeds of that uſeful animal,—the manner in which they ought to be managed,—the food beſt calculated for them,—the beſt mode of preventing or curing the diſtempers to which they are ſubject,—and, above all, the beſt means of meliorating their wool;—together with any other fact or obſervation that may be judged material. By means of ſuch works, drawn up in a plain and diſtinct manner, and publiſhed under the ſanction of this Society, the neceſſary knowledge concerning this great branch of rural œconomy may be ſoon brought to perfection, and rapidly diffuſed over every part of the kingdom.

There are ſome points, however, to which I beg leave to call your peculiar attention.

In the proper management of ſheep, the firſt thing to be conſidered is to procure the *food* beſt calculated for them. The nature of the food has a great influence upon the ſize and health of the animal, and conſequently upon the wool. Where the paſture is rich, either from the natural fertility of the ſoil, or by the art and induſtry of man, and where the turnip huſbandry or artificial graſſes prevail, long and coarſe wool is almoſt the neceſſary conſequence *. Whereas in the words of an elegant poet, who has celebrated the glory of the fleece,

On ſpacious airy downs, and gentle hills,
With graſs and thyme o'erſpread, and clover wild,
Where ſmiling Phœbus tempers ev'ry breeze,
The faireſt flocks rejoice! Wide airy downs
Are health's gay walks to ſhepherd and to ſheep †.

In regard to paſture calculated for ſheep, there are few hilly diſtricts in Scotland, where it may not be found in great perfection and abundance, or may not be improved either by means of lime, or by a judicious ſyſtem of watering.

* From the experiments of Mr. Ellman, it appears that rich food does not always injure the fleece, if the breed is properly attended to.

† See Dyer's Fleece, Book 1. Virgil alſo, in his Georgics, lib. 3. l. 384, tells us,
" Si tibi lanicium curæ, fuge pabula læta."

In

In Summer and Autumn no ſcarcity of food is to be apprehended. It muſt be acknowledged, at the ſame time, that, during ſpring and winter, a conſiderable degree of foreſight and exertion is requiſite to provide a ſufficient quantity of wholeſome food for a numerous flock; but the late improvements in huſbandry furniſh an active and intelligent farmer with ample means for that purpoſe.

Shelter from the inclemency of the ſeaſons is, I am perſuaded, an object entitled to the ſhepherd's peculiar attention, and without which fine wool cannot be expected in great abundance or perfection. The natural ſhelter of wood has been often recommended againſt too violent heat, and ſtill more againſt cold and piercing winds. The ſeverity of the weather, particularly when ſheep are expoſed to it both night and day, certainly affects the wool, makes it coarſe, and fills it with hair. To obviate this inconvenience, the Herefordſhire and Coteſwold farmers have long ranges of buildings with low cielings, each three or four ſtory high, with a ſlope at one end of each floor, reaching to the next, by which the ſheep aſcend to the upper ſtory*. Having ſuch houſes built in hilly countries would be of great ſervice in the im-

* Coteswold, according to Camden, is derived from the *cots* or houſes in which the ſheep were kept, and the *wolds*, or open hilly grounds in which they were paſtured.

provement of wool; and, when properly uſed, would prevent the rot, ſo ruinous to the ſhepherd *. The Romans, as has been already obſerved, kept their fineſt ſheep in houſes, and even clothed them. The manner in which they were treated is thus deſcribed by Columella. " Of all the " wool-bearing kind, the Grecian or Tarentinian " is the moſt tender and delicate. They can " neither endure exceſſive heat nor cold. They " are ſeldom fed without doors, but for the moſt " part in the houſe, and are exceeding greedy of " food. The fields in which they are fed muſt " be free of all manner of buſhes, ſprigs or briars, " leſt both their wool and their covering be " pulled off them, and even at home they muſt be " frequently uncovered, refreſhed, and cooled †." Inquiries are making, on the part of this Society, whether there are ſtill any remnants of this breed, or any veſtige of this mode of treatment in Sicily or Calabria. It would be deſirable to know what is the reſult of ſuch a ſyſtem of

* See Marſhall's Rural Economy of Glouceſterſhire, &c. vol. 2. p. 235. where there are many important obſervations on the utility of houſing or cotting ſheep.

† Columella, book 7. chap. 5. The only recent account I have met with of this breed of ſheep, is in Swinburne's Travels. This practice was borrowed from the Greeks. See Diog. Laert. lib. 6. ſegm. 41. p. 335. Ælian. Var. Hiſt. l. 12, p. 56. In Megara, it was alleged that they took more care of their ſheep than of their children.

of management, if it ſtill exiſts in other countries. The effects of houſing the ſheep in Herefordſhire ought alſo to be aſcertained. If by clothing ſheep*, or keeping them in houſes, fine wool could be obtained ſufficient for the conſumption of theſe kingdoms, would it not be better to employ the poor in the operations neceſſary for this purpoſe, than to ſupport them without exacting any great return of labour for their maintenance?

The effects of ſalt upon ſheep is a point which merits particular attention, and has never yet been fully inveſtigated. We know that it is given in conſiderable quantities to the flocks in Spain; and we ſee that fine wool is produced in the Shetland Iſlands, the paſture of which being peculiarly expoſed to the ſea ſpray, is neceſſarily impregnated with a conſiderable quantity of ſaline particles. It is certain that ſalt contributes much to the preſervation of the health of granivorous animals; and it is well known that

* To clothe the whole ſheep would certainly be expenſive: but I am told, that if the back were covered with a piece of coarſe Oſnaburgh, the expence would not coſt above 3*d.* a piece, and if tarred it would laſt ſeveral years. In ſome parts of the country, tender or ſickly lambs are thus treated, and it is found to anſwer well. The covering is fixed to the fleece, and cannot then be eaſily removed.

the

the moſt valuable wool can only be produced by ſheep in a ſtate of perfect health. Salt may poſſibly ſupply the ſtimulus neceſſary to preſerve their health in almoſt any ſituation. It may certainly enable them to digeſt the great quantity of coarſe fare, which they are often under the neceſſity of taking in rough paſtures for want of better ſuſtenance.

Another circumſtance deſerving notice is, that if we propoſe to have fine wool in this country, it may be neceſſary to preſerve our ſheep much longer than we commonly now do; for the wool grows finer in proportion to the age of the animal*. It was formerly not unuſual to keep healthy weathers to ſix, eight, nay ten years of age, for the ſake of the fleece: But now they can hardly be met with even five years old. This is certainly one great cauſe of our wool's degenerating.

Many other points might be mentioned connected with the proper management of ſheep. I ſhall however at preſent only advert to the practice, very prevalent in the Northern part of the iſland, of *ſmearing* or *ſalving*, as it is called, the

* This point is diſputed, and muſt be aſcertained by experiment.

ſheep with a mixture of oil or butter, and tar, which is ſuppoſed to be abſolutely neceſſary for the ſafety and preſervation of the animal in the hilly diſtricts of that part of the kingdom.

The origin of this practice is unknown *, and the effects of it are ſtill doubtful. There is reaſon, however, to believe, that an alteration in the ſyſtem of ſmearing may be attended with the moſt importent conſequences. It is now done about the commencement of winter, with a view of protecting the animal from the hardſhips of the approaching ſeaſon, and of deſtroying the vermin with which it is infeſted. Smearing, however, ought rather to take place immediately after the ſheep are ſhorn. This is an antient practice, recommended by Columella. It was accide ntally tried in Scotland ſome years ago, and proved in the higheſt degree ſucceſsful. Anointing the ſheep immediately after they are ſhorn, muſt be attended with much leſs difficulty, trouble, and expence. The vermin with which ſheep are infeſted muſt then be deſtroyed

* Even in antient times, tar was conſidered as a remedy for diſeaſed ſheep; but its uſe as a preventative is probably a modern practice.

in the ſtate of nitts, and are not allowed three or four months to gain ſtrength, which is the conſequence of the preſent practice. It is affirmed by Celſus, that if a proper ointment is thus uſed, the wool becomes ſofter and longer; and that no ſheep will be troubled, for that year, with the common diſeaſes to which they are liable. To have this ſyſtem fairly tried, is, I hope, one of the firſt objects to which this Society will direct its attention; and this may be done by giving premiums to the ſhepherds, who, in different parts of the country, are the moſt aſſiduous and ſucceſsful in carrying it into effect *.

Such are ſome of the means by which the wool of theſe kingdoms might be greatly im-

* The medicament recommended by Columella and Celſus, is the juice of thoroughly boiled lupins, the dregs of old wine, and the dregs of oil, an equal quantity of each to be mixed together: The ſheep to be thoroughly ſoaked with this liquor after it is ſhorn; and, three days afterwards, to be waſhed with ſea water, or with boiled rain water mixed with ſalt. But, it is believed that butter would anſwer fully as well as oil for encouraging the growth of the wool; and and that a ſlight decoction of tobacco juice would deſtroy the vermin as well as any other liquor. If by theſe means a good fleece of wool were produced, there would be no occaſion for any tar to ſhelter the animal from the inclemency of the ſeaſon.

proved.

proved. And, ſince fine wool is of eſſential conſequence to the manufactures of this country, why ſhould we not endeavour to raiſe, within our own territories, what we require? Why ſhould we ſuffer our ſupply of it to depend on the caprice of a foreign power, who might reſolve to injure himſelf *much*, in order to injure us *more*; and who, therefore, might be tempted to prohibit the exportation of wool entirely, or to load with exorbitant duties an article, without which a number of our moſt induſtrious ſubjects would at once be deprived of their uſual means of employment and ſubſiſtence?

But, as the Society may wiſh to have ſome information reſpecting the value and amount of the fine wool imported into this country from Spain, I ſhall now proceed to give an authentic account of it for nineteen years, ending in 1789.

Spaniſh Wool imported

	Pounds weight.
Anno 1771	1,829,772 9
2	1,536,685 6
3	1,477,284 5
4	2,133,496 12
5	2,031,973 10
6	2,062,628 11
7	2,853,065 16
8	489,869 2
9	519,664 3
1780	323,618 1
1	2,478,332 13
2	991,510 4
3	2,629,692 14
4	1,602,674 8
5	3,135,252 17
6	1,554,637 7
7	4,188,252 19
8	4,173,584 18
9	2,693,889 15
Total	38,705,876

The average of the whole importation is 2,037,151 pounds weight each year, which, at 3 s. per pound, amounts to £305,572 : 13 : 0. But, if we take only the average of the laſt ten years, it is 2,377,144, which, at 3 s. per pound, is equal to £356,571 : 12 : 0. As Spaniſh wool is imported in a ſtate not perfectly prepared for uſe, it loſes conſiderable weight in ſcouring; ſo that the wool, in fact, when adapted to the purpoſes of manufacture, coſts us from about 3s. 6d. to 4s. a pound. The value of the labour neceſſary for manufacturing that quantity of wool is eſtimated, by Mr. Anſtie, at £400,000 ſterling.

One important circumſtance appears from the preceding account, that, though in time of peace, the importation of Spaniſh wool exceeds even four millions of pounds weight, yet, in time of war, it fell off to 3, 4, and 500,000. This tends to prove, what I am perſuaded is the caſe, that the importation of Spaniſh wool is not eſſential, and that, by proper attention and encouragement, we might ſupply our own looms with that important material. Nothing, however, can be more diſcouraging to the grower than to have the exportation of his wool prohibited, while foreign wools are admitted duty

free. Perhaps a ſmall duty upon foreign wool, to be laid out in encouraging the growth of fine wool at home, would be the beſt plan that could be adopted for the general intereſts of the country *.

It may be proper to take notice of another circumſtance. If the average importation for 19 years is 2,037,151 pounds weight, at the rate of three pounds to each fleece, it would require 679,050 ſheep to produce it; and if one acre could maintain five of thoſe ſheep, it would require 135,810 acres to feed the number of fine wooled ſheep adequate to the demands of this country †.

One other calculation I ſhall beg leave to trouble you with. It is ſuppoſed, that about 100,000 head of cattle are ſent every year from Scotland to England; to keep up which ſupply,

* If the tax were only a penny per pound, two millions of pounds weight would produce 8333l. 6s. per annum; which, if properly laid out in judicious premiums, would ſoon render this country independent in the article of fine wool.

† Mr. Marſhall calculates the fleece of the Herefordſhire ſtore ſheep, at only a pound and a half each, and that an acre would only maintain two ſheep for a whole year. At that rate it would require 1,358,100 ſheep, and 679,050 acres, to produce 2,037,151 pounds weight of fine wool.

there

there muſt be at leaſt 300,000 head, young and old, fed in Scotland. The ſame quantity of paſture that ſupports them would maintain 1,200,000 ſheep, which would produce above double the quantity of wool that England imports from Spain, without diminiſhing the quantity of meat raiſed for the ſuſtenance of the people of this Iſland, only converting it from beef to mutton. The cattle ſent from Scotland may fetch about 3*l.* per head, or 300,000*l.* in all; whereas the fleeces of 1,200,000 fine wooled ſheep and lambs would produce at leaſt twice as much money, and we ſhould have the carcaſe into the bargain.

I ſhould be happy to be able to gratify the curioſity which this Society will naturally entertain reſpecting another point of ſtill greater importance, to wit, What is the probable quantity of wool produced in Great Britain, the value of the raw material, and ſtill more of the whole manufacture? But this cannot be given with accuracy. It is better, however, to have ſome information upon the ſubject, than to be totally in the dark.

The wool of England, in the reign of Edward III. is generally ſuppoſed not to have exceeded in quantity 150,000 ſacks, of 360 pound weight

weight each, which is equal to 225,000 packs, of 240 pound, according to the packages of theſe days. In later times, computations have greatly varied. According to Davenant, there were in England alone, at the commencement of the preſent century, about 400,000 packs, worth 5 *l.* each; which, when manufactured, produced eight millions in value. Trowel, in his plan for preventing the clandeſtine running of wool, printed *anno* 1738, ſuppoſes 800,000 in England and Ireland, and about 925,000 packs in the three kingdoms *. Others, about the ſame time, computed the number of packs, at 1,274,000. Mr. Arthur Young calculates the number of ſheep in England alone at nearly 29,000,000, and the value of the whole growth and labour of the wool of Great Britain and Ireland at 17,695,529 *l.*; furniſhing employment to about a million and a half of people. We ſhall ſuppoſe, however, that there are only 28,800,000 ſheep in the whole Iſland of Great Britain, producing, at an average, 5lb. weight of wool each, or 144,000,000 pounds in all, equal to 600,000 packs, and worth at the

* A reſpectable member of this Aſſociation (Mr. Wanſey of Saliſbury) informs me, that, in 1740, an eſtimate of the growth of wool, in England, was given in to the Lords of the Treaſury, when it was ſtated at 738,000 packs. This is probably the ſame with Trowel's.

rate

rate of 8*l.* per pack, 4,800,000*l.* If the value of the raw material is quadrupled by the labour that is beſtowed upon it, the growth and labour will amount to 19,200,000 *l.*; to which, if there is added the value of the wool imported from Spain, and the labour employed in it, *it will make a total of about Twenty Millions**.

Is it then to be wondered at, that this manufacture ſhould be conſidered as, in a ſpecial manner, entitled to the public attention? But, great as it is, I have no heſitation in ſaying, that I wiſh to ſee it ſtill greater in itſelf, and more uſeful to the country. I ſhall, therefore, now proceed to trouble you with ſome obſervations, tending to point out the advantages which the public at large, and the woollen manufacture in particular, may expect to derive from an Aſſociation, whoſe object is to bring the natural ſtaple of theſe kingdoms to the greateſt perfection of which it is ſuſceptible.

There are certainly no means by which the ſituation and circumſtances of any country can

* In the Epitome of the wool bill, the number of packs is alſo ſtated at 600,000, of which it is ſaid, that 200,000 packs conſiſt of combing wool, and produce, when manufactured, ten millions of money. On that idea, the above calculation of twenty millions is certainly within bounds. The Weſt riding of Yorkſhire alone, in 1789, manufactured woollens to the value of 3,721,360*l.*

be ſo eaſily and ſo rapidly improved, as by the union of a number of individuals for the attainment of particular objects, If government engages in any ſcheme of national improvement, the money allotted for the purpoſe is in general improvidently expended; the experiments neceſſary to be made, are either careleſsly tried, or wholly omitted; and when the aſſiſtance of the public is withdrawn, the ſcheme periſhes at once. Single individuals are equally incapable of carrying ſuch plans into effect. Few people can afford the expence which theſe projects require, and there are ſtill fewer who have knowledge, judgment, perſeverance, and health ſufficient to bring them to perfection. Whereas a body of men, united for any particular object, can raiſe ſuch ſums of money as may be neceſſary for the purpoſe, without any injury to their private fortunes; they can mutually aſſiſt each other in procuring all the lights and information that are requiſite for attaining the object in view; they can proſecute the ſcheme, without encroaching on the time which ought to be dedicated to their own perſonal concerns; they can perſevere in any ſyſtem which it is proper to purſue, much longer than would be in the power of any individual; they can procure the aſſiſtance of other reſpectable bodies of men to aid them in their undertaking; and can apply, if neceſ-

neceſſary, with a rational proſpect of ſucceſs, for the ſupport of the public, and the protection of their ſovereign. Theſe are advantages which aſſociations poſſeſs, for the acquiſition of various objects of great public importance; but, above all, they are well calculated for bringing to perfection a production natural to this country, and for which in former times it was deſervedly famous. From various circumſtances already hinted at, this production has unfortunately degenerated. To clear up the doubts reſpecting that degeneracy, which ſome intelligent and patriotic individuals may entertain, and to trace the nature and cauſes of it, would of itſelf be an important object of inquiry.

Many peculiar advantages may alſo be derived from this inſtitution. Through the medium of the friends and connections of the members, who would naturally become intereſted in the ſucceſs of the meaſure, and by the notoriety of their proceedings, a general knowledge on the ſubject of wool, and a ſpirit of enterpriſe and exertion, would be circulated over the whole kingdom. By means of the uſeful books publiſhed by the Society, the mode of managing ſheep to the utmoſt advantage, and the beſt practices, both foreign and

domeſtic, would ſoon become generally known. Under the patronage of ſuch a Society, ſkilful individuals might be eſtabliſhed in different parts of the kingdom, where the practice of ſtapling is unknown, by whoſe directions, the wool we have, might be greatly improved in value, merely by ſorting the fleece according to the various qualities of which it is poſſeſſed. There are many intelligent and enterpriſing farmers, who, were they appointed correſponding members of ſuch a Society, might eaſily be prevailed on to try many uſeful experiments, and to make the reſult of them public; by means of which it might be proved, that fineneſs of wool was by no means incompatible with the other excellencies by which particular breeds of ſheep are diſtinguiſhed. The premiums diſtributed by the Society muſt have the happy effect of rouzing a ſpirit of emulation and rivalſhip among thoſe who may be benefited by them. Nor ought it to be omitted, that when ſuch a Society has ſucceeded in one point, they may gradually extend their views to others of perhaps equal public importance; and that, when once the benefits of induſtry and exertion are clearly exemplified by the ſucceſs of any number of individuals in a particular line, it is

a circumſtance which has a very important influence on the views and on the conduct of the reſt of the community.

On the whole, this is an enterpriſe which cannot be in any reſpect prejudicial; which can have no object in view but public good, and no poſſible conſequence but public benefit; and which, if it be properly ſupported by patriotic individuals, and by reſpectable bodies of men, muſt prove the ſource of ſucceſsful induſtry, and of infinite wealth to ourſelves and to our poſterity.

a very true & juſt obſervation.

APPENDIX.

AS the reader will naturally be deſirous of being made acquainted with the ſteps taken in conſequence of the preceding Diſcourſe, a copy of the proceedings of the Meeting, to which it was addreſſed, is annexed.

At a meeting of ſeveral Noblemen and Gentlemen, to conſider the propriety of eſtabliſhing a Society for the Improvement of BRITISH WOOL, held at Edinburgh on Monday the 31ſt of January 1791,

Sir John Sinclair of Ulbſter, Bart. was called to the chair,—and opened the meeting with a ſpeech of conſiderable length, pointing out the objects of the propoſed inſtitution, the means by which they were the moſt likely to be attained, and the material advantages that would reſult from it.

This is a great Deſideratum

The

The Earl of Hopeton next roſe, and entered very warmly into the national importance of the objects in view. And, after ſeveral other Gentlemen had delivered their ſentiments in favour of the propoſed inſtitution, the Meeting

RESOLVED,

I. That the eſtabliſhment of a Society for the Improvement of Britiſh Wool, is one of the moſt likely means of promoting the commercial intereſts, and permanent proſperity, of theſe kingdoms.

II. That the Meeting here aſſembled, and thoſe for whom they are empowered to act, together with ſuch other perſons, whether in Great Britain and Ireland, or the Colonies, as are willing to co-operate with them, will conſtitute a Society for that ſole purpoſe; either to act ſeparately, or in conjunction with other Societies of a ſimilar nature, as may be thought moſt adviſable.

III. That the important objects of the Inſtitution be reſpectfully laid before his Majeſty by the Chairman, in the name of the Society, in full confidence that a Sovereign, whoſe attention to the

the welfare and happineſs of his ſubjects is ſo well known, will be graciouſly pleaſed to take this Society under his Royal protection.

IV. That application be made to his Royal Highneſs the Prince of Wales, that he will honour this inſtitution, by accepting the office of being Patron of the Society; and that the Chairman be alſo requeſted to make that application to his Royal Highneſs in their name.

V. That the affairs of the Society be conducted by a Board of Directors, conſiſting of a Chairman, Deputy Chairman, and fourteen Directors, to be annually choſen on the laſt Monday of January, (this Anniverſary,) by the ſigned liſts of a majority of the Members preſent at ſuch meetings; any five of the ſaid Directors to be a quorum; with power to elect a Chairman for the time, in abſence of the Chairman, and Deputy Chairman; and that a Treaſurer and Secretary ſhall be annually elected at the ſame time, and in the ſame manner.

VI. That the ſaid Board of Directors ſhall hold four ſtated meetings in each year, viz. on the laſt Monday of January, the laſt Monday of May,

May, the laſt Monday of June, and the laſt Monday of November, with power of adjournment; and that there ſhall be alſo four General Meetings of the whole Society held on the ſame days.

VII. That, upon requiſition made by three Directors to the Chairman, or Deputy Chairman, or, in abſence of both, to the Secretary, Extraordinary Meetings of the Court of Directors ſhall be called; and that Extraordinary General Meetings of the Society ſhall be alſo called, on application as above, by any nine of the Members; eight days previous notice of ſuch Extraordinary Meetings of the Directors, and fourteen days previous notice of ſuch Extraordinary General Meetings of the Society, being always given in the Edinburgh newſpapers.

VIII. That the Directors, and other office-bearers, ſhall, for the enſuing year, conſiſt of the following Noblemen and Gentlemen, viz.

Sir John Sinclair, Bart. Chairman.
Sir Alexander Ramſay, Bart. Deputy Chairman.

DIRECTORS.

His Grace the Duke of Argyle.
Right Hon. the Earl of Dumfries.
Right Hon. the Earl of Hopeton.
Right Hon. Lord Sheffield.
Right Hon. James Montgomery, Lord Chief Baron.
Right Hon. the Lord Provoſt of Edinburgh.
Sir John Edward Swinburne, Bart.
Sir Joſeph Banks, Bart. Preſident of the Royal Society.
Sir James Foulis of Collingtoun, Bart.
John Erſkine, Eſq; of Marr.
Robert Oliphant of Roſſie, Eſq;
Robert Belſches of Greenyards, Eſq;
George Ramſay, Eſq; younger of Barnton.
Gilbert Hamilton, Eſq; of Glaſgow.
Sir William Forbes, Bart. Treaſurer.
James Horne, Writer to the Signet, Secretary.

IX. That the ſubſcription of each Member ſhall be One Guinea *per annum*, or Ten Guineas at admiſſion; the Society being deſirous of having

ing as many perſons as poſſible connected with it, and confiding in the farther ſupport of patriotic individuals, and of public ſpirited bodies of men, in the proſecution of the great national objects they have in view.

X. That the Chairman, Deputy Chairman, and Directors, do betwixt this and the laſt Monday of June next, draw up ſuch Laws and Regulations as may appear proper for the future government of the Society, to be laid before the General Meeting to be then held; and that they be, in the mean time, impowered to take ſuch ſteps as may ſeem proper to them for promoting the views and intereſts of the Society.

XI. That the thanks of the Meeting be given to Sir John Sinclair, for his patriotic aſſiduity in inſtituting this Society; and that he be requeſted to permit the able Speech he has this day delivered to be publiſhed, as tending to excite attention to the great objects in view, by diffuſing a knowledge of their importance and practicability.

XII. That the thanks of the Meeting be alſo given to the Earl of Hopeton, for his warm and patriotic zeal in promoting the ſucceſs of this eſtabliſhment,

eſtabliſhment, and the information his Lordſhip has now communicated on that ſubject.

XIII. That theſe Reſolutions be publiſhed in the London, Edinburgh, and other newſpapers, for the information of all Perſons who may be inclined to become Members of the Society.

Extracted from the Minutes of the Meeting by
JAMES HORNE, Sec.

Subſcriptions are received at Edinburgh, by
Meſſrs Mansfield, Ramſay, and Co.
Sir William Forbes and Co,
Mr. Creech, Bookſeller, Croſs. And by
Mr. Horne, the Secretary.

At London, by
Meſſrs Coutts and Co. Strand.
Sir Robert Herries and Co. St. James's Street.
Sir Herbert Mackworth and Co. No. 68, New Bond Street.
Meſſrs Moffat and Co. No. 20, Lombard Street.
Meſſrs Pybus, Call, and Co. Bond Street.
Meſſrs Ranſom, Morland and Hammerſley, No. 57, Pall-Mall.
And by
Meſſrs Smith, Payne, and Smith, George Street, Manſion Houſe.

To Experimental Farmers.

FROM the preceding paper, it appears, that many important facts, reſpecting the proper management of ſheep, remain to be aſcertained; and the following experiments in particular are recommended to the attention of thoſe who have it in their power to give them a fair trial.

1. It would be particularly deſirable to aſcertain, what *food* is the beſt calculated for the production of fine wool, particularly during the ſpring and winter ſeaſons.—Potatoes, yams, pea and barley ſtraw, are certainly excellent, and not expenſive.

2. The effect of *ſhelter*, houſing and clothing ſheep ſhould alſo be tried. To be ſometimes under ſhelter, and at other times not, is detrimental to the fleece. The more the ſheep are kept in exactly the ſame temperature the better.

3. How far *ſalt* contributes to fineneſs of pile ſhould alſo be aſcertained. If it anſwered,

there can be no doubt, that ſuch indulgence would be given by the legiſlature. as would render that article much leſs expenſive than at preſent.

4. But the experiment which perhaps in the end may prove the moſt important, is that of cutting the fleeces of the long-wooled ſheep twice a year. There is every reaſon to imagine, ſo far as theory can go, that it would anſwer; and that the ſecond fleece (if the ſheep were kept in the houſe for ſome time after the firſt cutting) would be greatly ſuperior, in point of quality, to the firſt; nor would the animal (if it had plenty of wholeſome food) be injured by it. The firſt fleece, it is believed, ſhould be cut in January, the ſecond in June.

Imagination ſhould not be ſuffered to ſtand for Reaſon but only Facts & many Experiments fairly & faithfully conducted

5. The effect of *croſſing* various breeds is well intitled to particular attention. Amongſt other experiments of that nature, Buffon recommends trying the European ram and the Barbary ewe, as the beſt means of obtaining fine wool *. If that great Naturaliſt is well founded in this idea, there would be little difficulty in raiſing

& y^e coarſer & y^e fine Wool will proceed from y^e Ram (not ſo much from y^e Ewe) & y^e only known Method either to promote or debaſe y^e Quality of y^e Wool as Experiments on different Farms in y^e South Downs in Suſſex from Time immemorial abundantly ſhew

* See his Eſſay on the Degeneration of Animals.

raiſing as much fine wool as this country has occaſion for, the exportation of ſheep from the ſtates of Barbary not being prohibited.

Excellent indeed! Let them never lose sight of that Principle

It is only by trying every experiment that is likely to be uſeful, and collecting facts from every quarter, that any ſyſtem, whether it relates to the proper management of ſheep, or to any other point of a ſimilar nature, can be brought to perfection.

[Any obſervations on the preceding Paper, or information reſpecting ſheep or wool, may be ſent to Sir John Sinclair, Bart. M. P. the Chairman; to Mr. Cadell, Bookſeller, Strand, London; or to Mr. Horne, Secretary to the Society, at Edinburgh.]

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