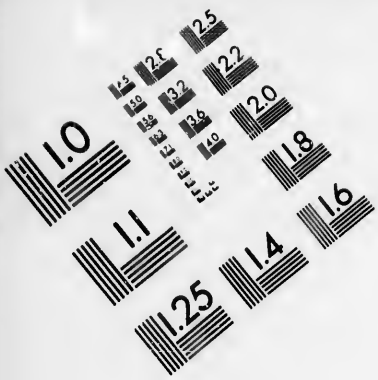

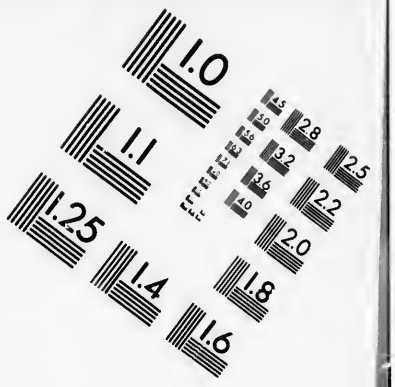

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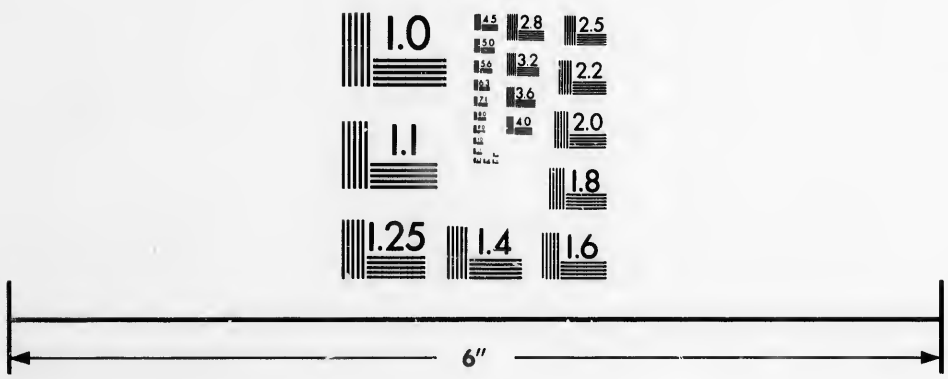

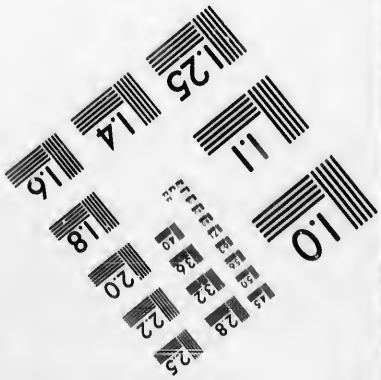

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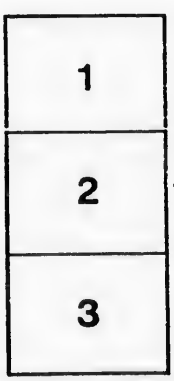

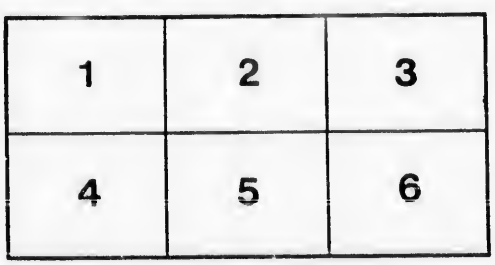

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REMARKS

ON THE

IMPROVEMENT OF LIVE STOCK.

———" *Si quid novisti rectius istis,*
" *Candidus imperti ; si non, his utere mecum.*"

———" If a better system's thine,
" Impart it frankly ; or make use of mine."

SAINT JOHN, N. B.
PRINTED BY HENRY CHUBB,
MARKET-SQUARE.

1825.

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REMARKS,

&c.

THE practical experience and success which have sprung from the valuable labours of intelligent and enterprising Agriculturists in Great-Britain, for many years, have enabled them to hand down to posterity a system of rural economy of the most beautiful order; the progress of which, has drawn the art of husbandry from the unmerited state of degradation to which it had been reduced, and elevated it to its proper station in the ranks of science.

Upon the foundation of that experience, from my own observation, and such practical knowledge as my situation in life has enabled me to acquire, the following remarks have arisen, to which publicity is now given, in the hope of introducing a system of breeding and managing stock, but little understood, or at all events, attended to, in this part of the world, where no regular method seems to have yet been adopted in this very important branch of country business.

Although impressed with a conviction of the soundness of the principles herein offered to the Agricultural community, and acting upon them myself, have disinterestedly pursued such means as came within my power, (limited, I regret to think, of necessity, they have been,) to improve our stock; I add this with the utmost diffidence, but I trust, its humble character will protect it from fastidious criticism, and the intentions of the author procure for it some regard; it aspires to nothing beyond the hope of being useful, especially to a very numerous class in the country, to whom, a more scientific work would not be so, and I ask for it, no further consideration, than what the importance of the subject may justly claim.

I do not vainly indulge the thought, that, my opinions will be implicitly received or that they will pass unopposed: nor ought it to be otherwise; much, however, as they may be at variance with those entertained and governing the practice here, I rely solely for their establishment on the test of a candid examination and unprejudiced trial.

Such are, however, the effects of time and use upon the minds of men that we are frequently bound, with, almost, affectionate ties, to practices which our reason cannot approve, and which render alienation from them a very difficult and delicate task to any one who may attempt it; for at no period are those affections called forth with greater force, than when we apprehend being about to be deprived of their object, nor our pride more alarmed, than, from a mistaken idea that by relinquishing our positions, we compromise our judgment, and allow it to be arraigned at the bar of an incompetent tribunal, incompetent probably, only, because differing in opinion with ourselves. Should the cause of these effects be the promulgation of any new system, it is, however unknown, decried as an untried and dangerous innovation, and as such, condemned. "New opinions are always suspected and usually opposed, without any "other reason but because they are new. Truth scarce ever yet car-"ried it by vote at its first appearance. It is trial and examination that "must give it price."

The system here proposed, is not an untried innovation, the success of years has stamped its value; and however new it may be to many amongst us, the continued and universal practice of the mother country claims for it consideration, and, (as the circumstances of this Province admit its use,) should prove a strong recommendation for its adoption here.

It is very obvious to every one acquainted with the different species of stock, that ours are at a very low ebb, and I do not apprehend much contradiction, when I assert, that, a most potent cause of this discreditable inferiority arises from the, too generally, careless and injudicious manner in which they are bred, reared and kept.

To remedy an existing evil, as far as comes within our power, is a duty which devolves upon every individual in a community, and which if successful, and attended with ultimate advantage to our country, must afford to the benevolent mind, the most gratifying reflections. How far the present undertaking will tend to produce the much desired effects the author has in view, and facilitate the course of improvement, must be determined by the experience of time—but should a spirit of inquiry on the subject be excited, and the abilities of others more capable of doing it justice, drawn forth, no small portion of them will be accomplished. To the Legislature we owe much, for the very great support it has given to our Provincial Agriculture, and also to the Members of those very laudable and patriotic associations established for its improve-

ment; nor can I omit this opportunity of expressing in common, with my fellow subjects, with respect and gratitude, the acknowledgements due to His Excellency the Lieutenant Governor, who, from his arrival in the Province, has so ardently and beneficially devoted his time and superior talents in promoting its welfare, and by whose liberal and enlightened measures to advance its most solid interests, so many excellent institutions have been founded.

It is devoutly to be hoped, that those auspices under which they have arisen may long continue to direct and cherish them.

To attain any degree of improvement in Breeding Stock, the object which first claims the serious consideration of those desirous of effectually and permanently succeeding is, to procure the best specimens, in their power, of the various species they intend to rear, and having done so, to be careful, not allow an admixture of their inferior cross breeds with the pure Stock they possess, for although they will undoubtedly improve their inferior by an *immediate* cross with their best, and by due care and judgment in selecting the offspring of these for breeding, and adhering to the pure parent Stock, procure a good race; but, if they permit their progeny to mix *promiscuously* with others of inferior kinds, they will find the produce, almost invariably, an animal of very little value, possessing the worst qualities of the species. Simply procuring the best Males and Females, is not, therefore, the only requisite to insure success in breeding; selection of the proper animals for such a purpose is a *sine qua non*—THE JUDGMENT OF THE BREEDER IN MAKING THIS SELECTION CONSTITUTES THE GREAT ART OF IMPROVING; his abilities to discern the good and bad qualities of the animal, and to cross judiciously with others possessed of different properties in such a manner as to eradicate the bad, requires much attention and experience, but when once acquired and followed up, seldom fails of producing the desired effect. Breeding IN and IN* from the most perfect animal, *however closely allied*, will be found far more advantageous, than changing and crossing animals remote from each other in the peculiar characters of breed, which too frequently produces stock scarcely worth rearing.

Cattle are so distinct in the possession of peculiar properties, that great care should be taken not to force a breed between those of too opposite characters: for instance; it has been found an unsuccessful experiment to cross a quick feeding stock with great milkers; the special properties of both being deteriorated by the union. The Durhams or improved short horns unite the quality of very early feeders and respec-

* "Long experience has proved the old notion of the necessity of crossing, or in changing the species of animals in order to prevent degeneration to be totally groundless. You may breed *in* and *in*, and from the *nearest affinity of blood* with the utmost success, provided you select with judgment the best shaped individuals.—*General Treatise.*

table milkers, in probably a greater degree than any other breed in Great-Britain; cross these with the Ayrshire, or other great milkers and their progeny neither fatten so well as the former. nor yield so great a supply of milk as the latter; the one losing their milking powers in a greater proportion than they benefit in fattening, and with the other, the loss of their inclination to obesity overbalances their gain in milking; hence the reason, that such attention is paid to purity of Breed for either milking or feeding cattle throughout the districts in Britain celebrated for stalls or dairies.

The following are the established breeds of Neat Cattle, viz:—

The Devons. From these we have the origin of the Herefords and others. The Northern Short Horns, or Teeswater, Lincoln and Holderness or Yorkshire Short Horns.

The Kentish Homebreds.

The Welch Mountain and Lowland Cattle—Isle of Anglesea.—The Lancashire, or North-Western a[illegible]d County Long Horns. The Shropshire Wide Horns. Nort[illegible]ong Horns. The Polled. The Norfolk Homebreds—Suffo[illegible]e Scotch Island, Mountain and Lowland Cattle.

The Wild Cattle of England, and,

Irish Cattle.

These different breeds are each, for some peculiarity, more or less distinguished, and different modes are adopted in feeding, managing, &c. for either stall or dairy purposes; but in all cases a regular and sufficient supply of food is necessary, with cleanliness and a study of the comfort of the animal. These are indispensible, and although amidst the variety of opinions entertained and promulgated respecting the general management of stock by those interested in such matters, it may be difficult to decide on the best line of action, (as all trades have their secrets,) still we may safely adhere to those, which have been proved by the experience of time to be productive of the greatest advantage to the Agriculturist and Breeder, and they, will generally be found most consonant with the principles of nature.

The object of the Farmer being to secure the greatest possible quantity of food for the use of man, in the shortest given time, from the smallest quantity of food and labour bestowed on the animal producing it; it must evidently be the interest of those prosecuting the same object, to select a breed possessed of the qualities necessary for such a purpose. With us, our native supply being so much below the quantity of our consumption, this selection is a matter of the very first importance and can-

not be too strongly impressed upon those, to whom the public money is entrusted for the importation of cattle.

Conceiving a variety of breeds of little consequence but for the sake of experiment, and having, before us the results of such experiments as have brought the breeders of the old country to satisfactory conclusions, I shall discard all disquisition respecting the greater part of the before enumerated breeds and confine myself to one possessing, in an eminent degree, the qualities we require, and which, with due deference to the opinions of others, I conceive most admirably adapted for the use of this Province—I allude to the

DURHAM
OR
Improved Short Horns.

The purest stock of this breed is to be found in the county from which they take their name, in common with York and Nottinghamshire: they are, by many—confounded with the Teeswater,* but from which they are however distinct, although they are found on both sides the Tees in the highest perfection.

The principal feature in the character of these cattle for which they are so celebrated, is their very early attainment of proof, as it is called, or disposition to make fat at an earlier age, than any other breed whatever; this, no doubt, is aided by their placid and docile tempers, which also renders them steady and willing draught cattle; bulls, even, having been by kind and gentle treatment, learned to perform regular tasks, for miles without a driver. With care, they will feed to great weight, after having performed much labour, and when their beef is salted down, is said, to retain its juices longer than any other; in consequence of which, it has long been preferred to pack for India, and other countries where retention of goodness of quality for a great length of time is an object. They are also very good milkers, considering their great inclination to fatten.

The following authenticated examples will best prove to what weight they attain, and will serve as a strong confirmation of the assertion, how very far beneath other cattle, our present race is. A gentleman in

* A very indifferent breed was imported many years ago from Holland by some incompetent judge who went thither for them, although previous to that time, an excellent stock had been procured from the same quarter, but these latter prejudiciously affected the district of Teeswater, and part of Lincolnshire, but are now fortunately extinct.

Yorkshire, some time ago, killed an ox, five years old—the weight was as follows, viz:—

	Stone.	*lbs.*
*2 Fore Quarters,	74	8½
2 Hind do. -	75	10
Total of Carcase,	150	4½
Tallow, -	16	0
Hide, - -	10	11
Total, -	177	1½—2479½*lbs.* or 22*cwt.* 0 15½*lbs.* at

14*lbs.* to the Stone. A Cow of the same breed gave

	Stone.	*lbs.*
†2 Fore Quarters,	65	4
2 Hind do.	62	7
	127	11
Tallow, -	15	12
Hide, -	6	8
	150	3—2103*lbs.* or 18*cwt.* 3 3 at 14*lbs.*

to the Stone.

Mr. Champion a very celebrated and successful breeder in Nottinghamshire, had a young Bull, in ordinary store condition, that weighed at *twenty months* old, upwards of seventy stone or 980*lbs.*

The difference in *proof* between these and our cattle will appear from the average weight of those killed at Saint John, during the present season, which has been one of the best for beef known in that market, owing to the supplies received from Nova Scotia, where the neat cattle are superior to ours; some of which have weighed about 1140*lbs.*—but the average is the following, as appears from the books of several of the butchers.

Weight of Carcase,	672*lbs.*——	6*cwt.* 0 0
Tallow, - -	50	
Hide, - -	90	
	812*lbs.*——	7*cwt.* 1 0.

I have lately understood that a gentleman in the neighborhood of Fredericton, killed some choice aged oxen weighing as much as nine hun-

* Culley. † Ibid.

dred weight, but allowing this to be the general weight of cattle, and we know it to be the maximum, and very rarely to be seen, and deducting a fair allowance to bring the foregoing examples to a general average, still the balance in favor of the Durhams will be very great, for Mr. Champion's beast at *twenty months* old, which was nothing more than a fair sample of his stock, will be found equal to the *aged* oxen above mentioned. This great difference in weight, I am inclined to attribute, in a very great degree, to the bad care taken of cattle generrally in the Province, from the badness of their forms, and from the total want of due selection for breeding. Imperfect formed animals have a strong propensity to take on flesh in invaluable parts and are very difficult to fatten—hence the reason why Breeders and Graziers pay so much attention to symmetry in the breeding stock.

The best description of an animal of the Short Horns has been given by Mr. Culley,* and notwithstanding how frequently it has been quoted, I beg leave to add it to this, as being the safest guide a man can carry with him when selecting cattle.

" The head of the Bull should be rather long, and muzzle fine; his " eyes lively and prominent; his ears long and thin, his neck rising with " a gentle curve from the shoulders and small and thin where it joins " the head; his shoulders moderately broad at the top, joining full to " his chine and neck backwards, and to the neck vein forwards; his " bosom open and projecting well before his legs; his arms and fore " thighs muscular and tapering to his knee; his legs straight, clean, " and very fine boned; his chine and chest so full as to leave no hollows " behind the shoulders; his plates strong to keep his belly from sinking " below the level of his heart; his back or loin broad, straight and " flat; his ribs rising one above another in such a manner that the last " rib shall be rather the highest, leaving only a small space to the hips " or hocks, the whole forming a round or barrel like carcase; his hips " should be wide placed, round or globular, and a little higher than the " back; quarters (from the thigh to the rump) long, and instead of be- " ing square, as recommended by some, they should taper gradually " from the hips backward to the truls or pot bones, not in the least " protuberant, rumbs close to the tail; the tail broad and well haired, " and set on so high as to be in the same horizontal line with the back."

* Mr. Culley was a very eminent and successful breeder in his day, to whom the country is much indebted for his valuable labours in the improvement of cattle, and in conjunction with Baillie for their reports of different countries. Culley is a received authority and spoken of in high and affectionate terms by the respectable Agricultural characters in Britain. I find this description also quoted by a Mr. Donaldson in a work on Agriculture in the Library at Saint John, published some thirty years ago; it seems written with the judgment of an intelligent practical man: but many opinions then entertained are now rejected, others fully established.

Such is the description given many years ago of a perfect animal of the Short Horns, by one qualified for the the task, and so well does that account mark out the points invariably the property of beasts of the best quality, that to this day it is the test book of every judicious breeder, and the goal at which they strive to attain.

That the introduction and increase of a breed so valuable as the Durhams have proved themselves to be, would be a general benefit here, I believe will not be questioned; it should therefore become an object of solicitude with the Agricultural Societies and Farmers to procure them as soon as possible, and no period can be more favorable than the present; for, if ever a people were blessed with a kind and generous government, striving to promote the general and individual interest of a country, we, at this moment, are under that benevolent and parental administration. It is now generally understood throughout the Province, and the recollection should be handed down to our children and their posterity with every feeling of loyal gratitude, that, to foster and encourage Agricultural exertion and improvement, Government has declared its intention, and authorised His Excellency, the Lieutenant Governor (and no one can be more happy to carry such measures into effect,) to distribute according to his own judgment and knowledge of the circumstances, *from His Majesty's Revenue, an amount more than equal to the* sums raised by *Agricultural Societies in the Province for the promotion of their laudable objects.* If such generosity does not call upon every individual to rouse himself in seconding these disinterested and beneficent designs of the parent state, and stimulate us to strenuous exertions to serve a cause so peculiarly interesting to our country and to ourselves, we must be insensible indeed to every feeling of duty to that country—inimical to our posterity and to ourselves.

The Provincial Legislature has, it is true, with great liberality, taken the most effectual steps to insure the introduction of good stock, by affording pecuniary means for that purpose; but, either from injudicious or inactive application of the sums granted, or from some unfortunate, and probably unavoidable, causes, we have not witnessed, its benevolent intentions carried to the effect we had reason to hope for. Few people here are aware of the high prices of approved stock in England, which may well deter individuals from embarking in the hazardous speculation of importing them—but this should not prevent the Legislature from doing so; and there is probably no application of its means, more absolutely necessary, or more loudly called for, than to introduce a supply of neat cattle and sheep into the Province—a more beneficial appropriation cannot be made.

A gentleman residing here, has kindly furnished me with a copy of a letter from a friend in Nottinghamshire, a very eminent breeder of the Short Horns, wherein he mentions having sold (at unreserved

public auction) twenty-five of his *young stock*, but not best specimens, averaging about two years old, for nearly £1,200 Sterling. He was lately in possession of a Cow in her first calf,—which my informant saw—and for which the sum of Two Hundred and Ten Pounds was paid. I shall merely notice the prices obtained by Mr. Fowler, of Rolwright, which may serve the cause of emulation in our limited way, and is certainly a matter of curiosity.

PRICES OF BULLS.

Garrick,	5 years old,	£250	
Sultan,	2 " "	230	
Washington,	2 " "	215	
A. by Garrick,	1 year old,	157	
Young Sultan,	1 " "	210	
E. by Garrick,	1 " "	152	
	Forward,	£1214	£1214

PRICES OF COWS.

Brinded Beauty, by Shakspeare,	£273	
Sister to Garrick, - -	120	
Nell by ditto. - -	136	
Young Nell by brother of ditto.	126	
Black Heifer, - -	141	
Dam of Washington, -	194	
		£ 990
53 head of cattle produced -		4289
Total,		£6,493

By these quotations it plainly appears that if we desire to have really a good breed of cattle in the country, a corresponding price must be paid for it; but however exorbitant that price may appear, it has been proved beyond question, that, they are the cheapest cattle a Farmer can possess, for they are the most profitable, and great as the sum certainly is for an animal, he is only exchanging value for value.

The partiality of individuals for the cattle of their own immediate country or district, led many to give them the preference over the Short Horns, and such, is the excellence of many of them that any prejudice that might exist may well be excused: The Alderney—Holderness and others are celebrated for their milking powers—the Devons stand deservedly high, and the fine cattle of Hereford, have carried away, probably, more prizes from Smithfield than any other; but for a combination of the most valuable properties, it is now generally allowed that the Improved Short Horns excel. Not only in England is the demand for them great, but both Scotland and Ireland purchase vast numbers, where, they are highly thought of and eagerly sought after.

Before the character of the Durhams was so well known or appreciated as it now is, Mr. Mason, (a celebrated breeder and cotemporary of Collins, by whom the excellence of them was first brought into notice,) offered, at a Meeting of the Durham Agricultural Society—That, if any person was of opinion that, the Short Horns were not worthy the estimation he and other improvers allowed them to be, to bet, that, the produce at three years old, of five of these Cows, then in his possession, should be superior in every quality to those of any five Cows of any other breed whatever in Britain, for One Hundred Guineas, upon each Cow! At this day, no such bets are necessary, their merit being fully established.

The Scotch Galloway cattle seem to approximate more closely to the Durhams in their qualities, than any other breed, but do not carry them to the same extent; they fatten quicker and better than the Ayrshire, but are not so bountiful milkers; what they give, however, is said to be richer, and consequently better suited to the butter dairy. The Ayrshire and Galloway cattle form a distinct race, the former being a fine milker, yields not so great a quantity of beef as the latter, who possesses that point in a high degree, and consequently not so great a milker, in short, they seem a different species of the same animal.

The disposition of the cow for intercourse with the male, is periodical, and at indifferent seasons, a favourable circumstance for the breeder, as it enables him to fix with a degree of certainty, the time when he may look for the produce, the period of gestation being, generally, forty one weeks with a Bull Calf, and about a week earlier with a Heifer. He should, therefore, so manage the acquaintance of the sexes, that the Calf may appear at an early part of the warm season, by which means, it is nurtured with young sweet food, and in a genial atmosphere during the most tender part of its life, and becomes strong enough to bear the vicissitudes of the season, before the cold gets too severe.

Different modes of treatment are pursued with calves, regulated in a great degree according to the constitution and value of the animal, and more or less successful, as the quantity and quality of food is judiciously administered, and comfortable lodgings allowed to them. Suckling is the most nutritious, and may be followed with profit, as one cow is quite sufficient to suckle two calves—they may either be allowed to attend her into the field, or kept confined and the cow turned into them when feeding is required, which should be about three times a day. Skimmed milk and meal are excellent food for weanlings, but on no account whatever, should they be fed upon slops or any such nauseous unnatural food.

The calf house should be warm, and divided into small stalls, according to the size of the calves; they ought to be kept apart from each other, as accidents frequently occur by the stronger goring, butting and otherwise injuring the younger and weak—the greatest cleanliness must be

preserved. Harsh treatment by all means avoided, and the gentlest usage given to both bulls and heifers, the consequences will be, the latter will turn out a quiet milker, the former a docile and willing beast for draught. Handling them thus gently at an early age, has other advantages; they are broken to work with very little trouble, and led to look upon man, with an, almost, incredible degree of regard.

A well conducted dairy forms a very important object in the Farmer's business, and a most useful and comfortable appendage to private families. Viewed in every light, it is probably the most profitable department of a farm.

The Cheshire establishments are the best conducted in England, and there, the conduct of the dairy-man offers a fine example to the country. Throughout this county specimens of almost every breed of England, Wales, Scotland, and Ireland may be found, but the dairy-men give the preference "on experience to the Broad Horns, by which I suppose "they mean the Half Long Horns, or the produce of the Lancashire "Long and Yorkshire Short Horns, forming a union of quantity and "quality of milk; these for their rich pastures; for their poor soils, "they have a short legged breed, hardy, and of inferior size, resulting "from a Welch cross. They prefer their Home-breds for the dairy, "experiencing that purchased cows do not reach their full milking until the second year, if they come from poor land."

"They hold cows to be in their prime from four to ten years old, and "keep them as long as they milk well, indeed until they are fit for no-"thing else. I mean to make the exception of capital milking, which "I should be tempted to keep to even twenty years of age, but I yet "think, generally, cows are not at their best until five years, and on "the decline at eight, when, I apprehend, it must be the interest of the "dairy-man to sell, or put them to keep. I think few can suffer such "an exhaustion as constant milking to the eighth year, without deterio-"ration."

"If the quantity holds, the quality becomes poor, and the appetite of "the animal increases. Three such will eat considerably more than "four fattening beasts. They find here, as elsewhere, that great milk-"ing and great proof in beef are incompatible. Cheshire cows fatten "to seven score pounds per quarter upon an average. I am inclined to "doubt the utility of so much crossing as is practised in this district, "and prefer the established varieties."

"Great care is taken to keep the cattle in good condition during the "winter, for the following good reason:—The Cheshire men wisely con-"sider it, a great object to turn their cows to grass in good condition, "as they say, "*to start them fair*," alledging, that if otherwise and "their juices dried up with straw feeding and the severity of winter's

" cold, the animals are long before they recover their milking powers, " if ever, they do recover them under such circumstances."—(Circumstances which call loudly upon us, in this most severe climate, to afford our cattle every comfort in our power, and thus happily, at the same time, serve both the cause of humanity and self-interest.)

" The personal attendance both of masters and servants seems to be " most exemplary on all occasions—Racks and Mangers are cleared " and kept constantly clean, and a marked attention paid to the indi- " vidual appetites of the beasts—before retiring to rest, the master goes " round from stall to stall, adding or diminishing the quantity of fodder."*

In all cases we must make food the principal concern to our cows, both as to quantity and quality, for it is most unreasonable to think that an animal upon whom, we make such requisitions for the produce of her substance, can supply us, if we do not allow the proper nutriment to create the article we demand—however solid the food, it is converted, by the operations of nature, into a more valuable article for our purpose. If properly kept, a cow will never close her account with a balance against her. It is recorded of an *economical* Farmer, some years since, who kept eighteen cows on an unenclosed Common, where little nourishment could be found by them—and no better fare being allowed, he was obliged often to purchase butter for his family uses. Upon the recommendation of a friend, he enclosed and improved the Common, and better fed his stock, the consequence was, his family, was not only plentifully supplied with butter, but that which could not be effected by his whole starved Eighteen, was now amply done by Four!!!

It is not so much the quantity of food given to cattle that constitutes the great point in feeding with advantage, but its being regularly and judiciously supplied. Let the Farmer duly attend to this, and he will find the consumption of the provender required, decreased, with increased produce from his stock; and if, those, in the habit of keeping their cow, in town, will only be generous and humane enough to afford the animal wholesome natural food, and comfortable lodgings, instead of supplying them, as is too frequently the case, with greasy slops from their sculleries, or suffering them to stroll about the streets, picking up a filthy subsistence, from amongst the dirt and dung in them, during all seasons—they will find the returns of one year, not only repay them for purchase of better food—but also to clear off the first cost of the animal. Facts are more powerful than arguments, the following well authenticated occurrence, will, therefore, I hope, sufficiently confirm my assertions on the subject.

A Mr. Cramp, in Sussex, gave due attention to regularity in the feeding of his cow—the only one he kept, and of a breed, by no means highly thought of for milkers. In summer she had grass, clover, and

* General Treatise.

carrots. In winter, hay, bran, and grains properly mixed and regularly given. The manger was kept clean, and no sour grain or other mouldy vegetables allowed to be given, never suffered to overcharge the stomach, but to be full fed, and yet kept with a healthy appetite. Her yearly produce was as follows :—

From 6th to 20th April—Milk, 8 quarts per day—Butter, 6*lbs.* per week.
From 21st April to 1st June—Milk, 22 quarts per day—Butter, 18*lbs.* per week.
From 2nd June to 5th October—Milk, 20 quarts per day—Butter, 16*lbs.* per week.
From 6th October to 30th November—Milk, 15 quarts per day—Butter, 13*lbs.* per week
From 1st December to 8th February—Milk, 13 quarts per day—Butter, 11*lbs.* per week.
From 9th February to 14th March—Milk, 10 quarts per day—Butter, 8*lbs.* per week.
From 15th March to 4th April—Milk, 7 quarts per day—Butter, 5*lbs.* per week.
Then let go dry for Calving.

SALE OF PRODUCE AND EXPENSES.

Sale of Calf 14 days old—Butter 1*s.* 4*d.* per *lb.* Skimmed Milk 1*d.* per quart. Dung, value 60*s.* in all,	£76	7	3
Total Expences, including £1 5 0 for 10 Sacks, Malt-combs, and a Farrier's Bill, 12*s.* 6*d.*	24	14	2
Net yearly profit on the single Cow,	£51	13	1

The same quantity of milk sold here, at the average price throughout the year, allowing twenty pounds for keep and expences, would leave the greatest nett profit on a single cow, probably ever received in any country, exclusive of the value of calf and dung. Well fed cattle, not only produce the greatest quantity of milk, but what is of the utmost consequence they always throw the finest stock, whilst those animals which are starved in the belly of the Dam, are generally slow in proof, and bad in quality. Every thing, therefore, that tends to secure valuable properties, claims, and must receive the greatest attention. Milking cows, nearly to the day of calving, is attended with many bad effects. The advantages attending the humane practice of England hold forth very strong reason for us to abandon a course so pernicious. No artificial nutriment can keep the animal in that state of health and strength which she ought to have during the latter stages of her pregnancy, when the system undergoes so much exertion, without the cruel exhaustion she must suffer from unremitted milking. A relaxation proves both beneficial to the cow and calf, by allowing the latter a full quantity of natural nourishment when in the belly of the dam, whilst the organs of the former being left to act according to the order of nature, enable her to perform the functions of parturition with greater ease. The period allowed for cows to go dry, varies according to circumstances, from eight, ten, and sometimes even to seventeen weeks.

THE durability and quality of Cattle are said to depend greatly upon this circumstance; if so, it must consequently affect them in a material

point for our purpose, viz. the DRAUGHT; and in this country, where so much labour may be performed most advantageously with oxen, it is a matter in which the interest of the countryman is involved in a very great degree, and claims especial notice; for, it is much to be apprehended, that the predilection for Horses, so strongly rooted amongst them, has been, and still may prove detrimental to the improvement of their Neat Stock.

IT is truly desirable to procure and encourage the best breed of Horses for the various purposes to which they may be applied; but their greatest admirers will hardly be disposed to wish, that they should be brought into use to the total exclusion of Oxen from our teems and ploughs.

IN Great-Britain, much discussion has from time to time taken place amongst practical men, whether the Ox will not perform as much Farm labour as the Horse will? The matter, however, rests much in the same undecided state as when the subject was first brought forward; and they are to this day indifferently used, as the circumstances, situation and opinions of the parties dictate.

THE rough uncultivated state of the mass of our soil, and the nature of the labour required thereon, hold forth powerful arguments for their application to this portion of country work, and also for their improvement, as most useful auxiliaries to, and valuable supporters of the human race.

To the husbandman they will prove a certain and profitable branch of business, so long as our native produce, is so very far below the quantity required, the deficiency of which is supplied by strangers, and supplied too, with advantage to themselves. The value of horses is comparatively less here than in most other places, there being little demand and no regular market for them. Breeding them, therefore, is a hazardous and uncertain employment. In their *keep*, they are expensive, and are, at all ages, liable to many vexatious and dangerous casualties, and when assailed by age, are reduced to uselessness, but still sustained at much cost, which they have no ability to repay; and although, through our recollections of their former services, and attachment to a noble animal, we suffer their prolonged and enfeebled existence, they are, at last, food only for Dogs! The Ox, on the other hand, performs his work until matured by time, he is turned to the stall, and after having paid for his food and original cost, by the labour he has performed, is then prepared for the shambles, and thus becomes both an additional source of profit to his owner, and a means of sustenance for Man! This latter is a point in favor of the Ox, to which the Horse, however excellent his breed and quality, can never be brought into competition with him, and which, as an agricultural as-

sistant, gives him, in my humble estimation, a decided preference. Beside this, on other grounds, breeding Horses, beyond the number required for home service, will generally prove an unprofitable speculation. An article of profitable exportation they will not be, so long as the United States and South America can supply the West India market, at a cheaper rate than we can, which, from very many evident causes, they are likely long to do. My maxim, therefore, as an individual, wholly disinterested, (save so far as the welfare of my countrymen is connected,) is to seize every opportunity of improving the breed of our Horses, but not to burden ourselves with an increased number of animals which cannot be applied to the sustenance of human life, nor advantageously disposed of, beyond the limited demand of the country.

If in these preliminary remarks to the examples I am about to give of Horse and Ox labour, I have advanced too much in favor of the latter, I have done so, from a conscientious feeling of duty to a class of men, whose prejudices and passions, I have, too frequently, witnessed drawing them into a most ruinous species of dissipation, and which, in their order of society, is unhappily, almost inseparable from an extensive connection with the former. So powerfully do they minister to the pleasures of the unreflecting, that they will often abandon their interest to gratify their inclination.

To the Editor of the Farmer's Magazine, the patriotic and eminent agriculturalist, Lord Somerville, made the following communication.

"The use of oxen, even under many impediments, has been perse-
"vered in for ages past, and will continue in every country, where a breed
"is found active in themselves and of a form and size well adapted to
"labour, bnt now that oxen for grazing are hardly to be found this
"becomes every day a question of greater importance, the supply of our
"Navy particularly considered. We must not conceal from ourselves
"that half grown and therefore half fat animals will not take salt well,
"nor should we forget, that our seamen must have salt beef, and good in
"quality too, as well as salt pork, and on this account alone, labour,
"even to the amount of what these animals consume, is valuable, be-
"cause experienced men know, that the growth of a working ox is great-
"er the last year of his work, namely from five to six in cattle of moderate
"size and from six to seven in larger ones, than in any other period of
"their existence. We must take into consideration also that they are
"subject to few casualties, and that they consume little, if any corn at all;
"which circumstance by the way, puts almost out of the question any
"fair competition between them and horses, even if the size and condition
"of flesh were nearly the same. On these grounds it is necessary that
"your readers should be undeceived as to the comparative power of the
"Horse and Ox; the difference even under circumstances adverse to the
"latter, will be less than they will readily conjecture. Two instances of

" the kind have occurred within two months past, my authority for the " first I give, of the second I was an eye witness. At the last meeting of " the Dublin Society, there were many ploughs entered for the prizes " given, and to the surprise of every one the oxen beat the horses in " speed. They were worked in pairs only. These were not oxen se- " lected from the best breeds for labour, but oxen of that country. " Many of the ploughmen who contended for these prizes were from " the Lothians and Tweed side. This I learned from Mr. Rennell, " whose knowledge and accuracy in matters of this sort, those who know " him will vouch for.

" At a meeting held the end of May last at Burnham Wyck, in " Essex, for three prizes given, more than twenty ploughs started, three " of which were worked by pairs of oxen each without drivers. The " oxen were bred on the estate and of a sort by no means well adapted " to labour. The horse ploughs were picked teams. The difference of " time in finishing the work allotted was, to the best of my remem- " brance twelve or fourteen minutes, (other accounts say five minutes) " between the average of the horse and ox teams; so that suppose them " to be an hour and a half longer in their day's work, the difference of " the time of rest will be, if any thing, in favor of the oxen; because " animals which perspire by the tongue, need not that dressing and " care, which those demand whose perspiration escapes by the skin. " As a question of national supply, it is most material to consider that " our labour can be done and well done by animals, which having at- " tained their full growth, we eat, rather than by those, which after the " same period become daily of less value and eat us.

" If you are desirous to know what our rate of labour is, I will in a " few words state it. We break our oxen to labour at three years old; " the first half year's work is easy. We sell them to graziers at six " years old and in eight months they come to Smithfield good beef. " In the intervening period my work is done at the rate of about 80 " acres of tillage to four oxen, and my twelve oxen not including my " three years old, will work thirty acres of land per week, when not em- " ployed in the carriage of lime or manure, which is ten acres a week for " each four oxen, or five acres for each pair; that is two acres a day " for five days in the week for each team of four, leaving them two rest- " ing days; their day's work is done in seven hours and a half, which " gives them sixteen hours for rest. If corn was allowed them they " would probably do more; if they did less I would not use them at all. " I allow one horse to every hundred acres, for extra work and no " more."

Among the number of those opposed to the advocates for Ox labour, an able and judicious Farmer appeared, under the signature of M. in that excellent work for useful Agricultural information the Edinburgh Farmer's Magazine. The following are the writer's own words.

" I mean not to enter into any reasoning on this subject, but to shew, " not merely what can be, or ought to be done by a pair of horses, but " what has actually been performed on my own farm and under my own " eye in the course of last year, by a pair of Horses. To come to par- " ticulars. In the first place, my horses ploughed one hundred and " eight Scotch* acres of strong clay soil, with all the harrowings and roll- " ings: they carted about a thousand carts (single horse carts, the way " they are always worked) of earth, from one side of an eight-acre field " to the other, they brought earth from a distance of two miles, to fill " about half way up, three hundred yards of drain, three feet deep, the " same width at the top and a spade wide at the bottom: led out eighty " carts of dung to the adjoining field, brought home, thrashed out, and " carried to market, the produce of twenty-nine acres, a heavy crop: " were a week employed carting stones for making up fences; besides " bringing home the family coals, I suppose equal to another week; and " doing all the other smaller jobs about a farm, not easily enumerated, " but are well known to be many. All these ploughings, harrowings, " rollings and cartings (except filling the earth and dung into the carts) " were performed by one man.

" As I have mentioned the work my horses performed, it may be pro- " per to say how they were treated. They are always fully nine hours " in the yoke, when the season is far enough advanced to admit of it— " five in the morning and four in the afternoon, when they get three " feeds of oats, or what I have found far preferable, oats morning and " mid-day, and raw potatoes at night, hay for fodder. During the short " days, they have but one yoking of six hours; when they get two feeds " of oats with straw for fodder."

" In summer they have cut grass in the house, during the day, and " are put in good pasture during the night. I believe being out all night " makes them more hardy and is of benefit to their health; but before " turning them out they are allowed to cool in the stable and to be quite " filled with cut grass. I have always found that two good horses well " fed, and their work properly timed, will perform as much work as " any man is able for, and more than most of them will do."

Here, having brought the statement of this intelligent and judicious writer to as close a parallel with that of the authority before quoted, as justice requires; I must beg leave to impress upon my readers, this consideration, that, however much influence this account may, and ought to have in other countries, in this, it cannot bear the same weight, so different is our situation from the farmers in Great-Britain, yet, even there, and having all those circumstances in favor of horse labour which the character of the country affords, we find the subject creating the greatest difference of opinion, and on a recent occasion to have received

* The Scotch Acre is one fifth more than the English.

the following in favor of the Ox from the pen of an experienced and able writer—himself a practical and extensive farmer.

" A pair of well bred sound oxen, driven by a steady experienced " man, will, barring accidents, continue annually, as great a quantity of " labour as a pair of horses, during three years, or from four, or five, to " eight, or twelve years of age; have in the interim a sufficient respite " from labour, and quit it at the conclusion in good and saleable con- " dition."

It is this last quality, which renders the animal so peculiarly valuable to us in the present condition of the Province. When, therefore, selection of cows is made and public encouragement offered for their introduction; it will be our wisdom not to neglect the importation of such stock as will generate a race of good cattle for the stall and draught as well as for the dairy.

The Alderney breed, so famed for the quality of their milk, is one, among the few, that would not prove beneficial to us; they are too delicate for our rigorous climate, and even in Great-Britain, they are seldom found, but in the stores and parks of the noble and opulent. It has been found that they do not graze well after milking, and produce flesh of a bad quality and flavour. For whatever purpose we require our cattle, it is adviseable to select those, whose native climate assimilates most nearly to that into which they are to be carried.

Having resided many years in the Province, and having given considerable attention to this subject, I have been led to look upon the Holderness and Ayrshires best adapted for our dairy purposes, the Galloways and *pure* Short Horns for general ones. How far my conclusions are just, will be best proved by an acquaintance with the animals and a fair trial of their qualities: but if we hope to arrive at any degree of perfection in either, we will do well to follow the example of the British breeders, and keep our different species of stock, for whatever purpose they are required, pure and distinct. In Nova-Scotia it is said that the Ayrshires have not turned out so well as was anticipated, but from the success of experiments made in this Province, we are induced to attribute some other cause for the failure, rather than to the cattle; and hope the disappointment only arises from the limited nature of the experiment, which has brought individuals to form conclusions too precipitately. Indeed from their own accounts in the western Counties, they have only had a cross from the Ayrshire Bull with the Nova-Scotia Cows. How far this, will authorise them to pronounce judgment against the pure breed, we leave for themselves to decide.

Much inconvenience is said to exist, and some certainly does, in keeping cattle in condition, from the climate, the length and inclemency of

winter and quality of winter food; yet admitting this as far as is necessary, still, more is claimed by these desponding *climatists*, than they are entitled to. If we have inconveniences, we have counterbalancing advantages. Nature has bountifully supplied us, (with but little aid from man,) with excellent Hay; Potatoes can be every where raised in abundance, and so might Turnips, and throughout this flourishing and extensive country, we have many districts admirably adapted for Grain. Whence then the causes of this inferiority of our Stock? Many are disposed to think, the radical ones are, an unpardonable inattention to their comfort, irregularity of system in the various departments connected with them, together with a want of proper information on the most essential parts of the business. From the manner they are allowed to breed, we cannot look for well formed and valuable animals, and it is unreasonable to suppose, that those whose natural properties are crampt by starvation in infancy and little better provided for through life, will ever attain any degree of superiority themselves, or yield any but a miserable imperfect progeny.

Intimately connected with our subject, the Barn Yard forms a very important branch of rural economy, from which the greatest advantages may be derived, if duly attended to; but it is to be regretted that, here it is woefully neglected, thereby militating against the interest of husbandmen to a very great extent.

Profit, the true estimate of the value of any system, has proved, that the Yard arrangements constitute a great point of successful farming. By it, a quantity of manure is deposited in one place, whence it can be removed with little labour to any part of the farm—the quantity will also be increased by the confinement of the cattle and the additions that will consequently arise from feeding there. The fodder being given in Yard Racks is less liable to waste, than when given loose in the field, and the cattle being regularly fed in such a place fatten quicker than when abroad, the exertion necessary to procure their food being less. Another favourable circumstance is, that, by thus confining the cattle together, the farmer is better able to judge of the respective qualities of his stock, by the comparisons he is frequently led to make, as they feed in the yard by each other, and thereby discover many properties which he cannot when they are apart, the knowledge of which will enable him to select the good from the inferior, and thus, not only maintain the quality of his stock, but lay the surest foundation for their further improvement. Some intelligent men in the country, instead of yarding, prefer feeding altogether in the stall, during winter, turning the beasts out only for water and exercise. This system may be pursued with advantage; much food being saved, by feeding in the house, and a great quantity of manure made, if straw be had in sufficient quantities to litter well.

Various plans have been at different times given, for Farm Yards, the generality of which differ only in the allotment of their parts for the sundry purposes they are intended, but all agreeing, at least so far as I have been able to inform myself and seen, in the general outline, and executed as the circumstances of the individuals permitted. These will necessarily affect the operations of every one, and in a young Country, the designs of an older and richer, however excellent, cannot be always adopted: but, however limited the means may be, all have it in their power, upon the commencement of an undertaking, to form such a plan as will enable them to enlarge it with advantage as their ability increases, without great expence, and with convenience, uniformity, and compactness; requisites, for which few of our Farm Steddings, at the present day, are very conspicuous, but which are closely connected with the various parts of Stock management, with success, to neglect any one of which, renders the others ineffectual in promoting the course of improvement.

The encouragement for this branch of Husbandry is surely great, if we consider the vast quantity of Provisions annually imported. Last year nearly twelve thousand barrels of Beef and Pork were entered, exclusive of what supplies were received from Nova-Scotia, both dead and alive, as also from the United States, legally and illegally. What may be supplied from our own native stores, it is not easy to ascertain, but we know that a considerable quantity is furnished by them. Amongst the deficiencies of the statistical information of the Province, that relating to the numbers and value of our Live Stock, is to be regretted; it is, however, a deficiency, which will, no doubt, under the present active administration soon be rectified. Our Live Stock is a portion of our internal wealth, with which we ought to be well acquainted, for it is one of those few portions, upon which foreigners and strangers have no claim, and upon which, we may, at a future day have solely to depend.

Viewing this subject in all the various lights in which our interests are so deeply involved with it, we are forcibly struck with the justice of the remarks made by the Lieutenant-Governor, in his first opening Speech to the Legislature—viz.

"That vast sums of money are sent from the Province for the pur-
"chase of foreign Agricultural produce. The enormous burden, ope-
"rating in fact, as a tax raised by foreign industry on our food, con-
"tributes to raise high above the rates in surrounding Countries, the
"wages of labour here, and to lay the Province under corresponding
"difficulty and disability in every branch of its industry.

"It comes home to us, grievously, in various forms, in every opera-
"tion of our domestic and political economy; and I appeal to your

" wisdom and patriotism, to the real interests and public spirit of the " Country, for zealous co-operation in the measures and exertions " necessary to relieve the Province from this most serious difficulty."

All that is necessary to insure attention to this interesting subject, is to be found in the above brief appeal; an appeal, dictated by the most sound and enlightened zeal for a people's welfare, and which, we are happy to observe, has already, in a great degree, been met by a most laudable spirit of emulation and exertion in the Farmers throughout many districts of the Country.

This spirit of improvement—now dawning with so bright a promise in the various departments of husbandry, must, if steadily and judiciously pursued, bear to every individual in the community, directly or indirectly, interests of a permanent and extensive nature, and stamp a value on the yet hidden and dormant resources of the Country, beyond any calculation we would venture to make, at the present hour upon the subject, but for the full realization of which, we have the fairest grounds to hope.

Whilst through the agency of such a general and praiseworthy emulation, the progress of information is gradually and silently dissipating from the minds of the Husbandmen the mists of prejudice with which they have been enveloped, and our fields, by the adoption of improved systems of tillage, yielding a more generous return for our labours; its effects will more immediately display themselves in the improved condition and increased value of our Cattle, the state of the native supply for our markets, and the decreased consumption of foreign food.

The course of this improving system carries with it, therefore, as a natural consequence, amelioration in the condition of the

SHEEP,

than which, no animal is of greater importance to the Country, more worthy the attention of those Societies having Agricultural advancement for their object, or claiming in a more particular degree the attention of the farmer.

The just importance attached to so valuable a branch of her national industry as Sheep-husbandry, has long induced Great-Britain to encourage its improvement by every possible means. Foreign breeds of the most improved character were introduced,* and dis-

* It is rather a singular fact, and not generally noticed, that Spain, to whom Britain has been indebted for her improving stores, should have been at an early period under a similar obligation to England. In a league entered into, in 1483, between Edward the Fourth, Henry of Castile and John of Arragon, it was stipulated, that *certain Cotswold Sheep*, should be transported into Spain. The circumstance was considered at the time prejudicial to the interests of England.

posed of in such a manner as enabled breeders to become possessed of them on moderate terms, and to establish them in such districts of the Country as presented the most favorable prospects of success; whilst public premiums were universally offered to stimulate shepherds to improve their native flocks. The effects of this liberality were soon very evident, a general spirit of enquiry on a matter of so interesting a nature, was excited, from which systems in breeding and management of the most improved character have been established.

The circumstances of the Country during the protracted war in which she was engaged, tended to accelerate the cause of improvement, and *Profit*, that mighty spur of human action, held forth to the Farmer the most powerful inducement to cultivate, with assiduity, a business so advantageous.

The enumerated varieties of Sheep to be found in Great-Britain, are the following:—the Teeswater, Lincoln, New Leicester or Dishley, Cotswold, Romney Marsh, Dartmoor or Bampton, Exmore, Heath, Ryeland, Morf, Dorsets, Wilts, Berks, Southdown, Norfolk, Herdwick, Cheviot, Dun Faced, Shetland, Spanish and Spanish Cross.*

Distinct qualities mark the character of these breeds; and according as the interests of the farmers dictate, and their localities admit, the selection of either is made. However valuable the possession of this great variety may be in an old and manufacturing country, here, the greater part would be comparatively little worth, under our present circumstances. It, therefore, becomes our interest to apply ourselves to a diligent enquiry into their respective characters, and as we find their qualities most applicable to purposes of general utility, and suitable to the situation into which they are to be carried, there to make our selection. It would however, swell these Remarks far beyond the limits prescribed for them, was a detailed account of all the above breeds entered into; it is sufficient for our present purpose, and likely to prove most beneficial to the country, to give our conside-

* General Treatise and Culley.

In addition to the above, naturalists have classed those of Foreign Countries into three varieties.

1st. Those of Iceland, Muscovy, and the coldest parts of the North; the great difference consists in the number of their horns, having from 4, 6 to 8, in different parts of the forehead, the wool long and heavy—dark brown—some very fine.

2d. The broad-tailed breeds of Tartary, Persia, Syria and Egypt. The tails of these are considered a very great delicacy, and therefore receive no small degree of care; they weigh from 20lb *a* 30lb.

3d. The Guinea Sheep, are found in Africa and India, are of a larger, stronger, and swifter race than the common; bright hairy skin, with pendulous ears and short horns, and a sort of dew lap under the chin; are said to be best adapted for precarious forest life, but like all other animals of such a nature, depend upon man for protection.

ration to a breed whose reputation as an improving cross has been long and fully established, and, which, as such, has received the general approbation of breeders, and may therefore be, with confidence recommended for introduction into this country. The selection will, I am disposed to think, readily be made from the

DISHLEY
OR
Improved Leicester Breed.

This celebrated race derived their name from the farm in Leicestershire where Bakewell, the great improver of Sheep husbandry resided, by whose name they are likewise known, in common with the above. To him Great-Britain is indebted for much valuable information and the best examples in general cattle-breeding, and he has also the credit of having broken down the barriers of prejudice which had so long fettered the cause of improvement, by establishing the beneficial practise of breeding *in* and *in*, since, so much distinguished and adopted.

Considering Sheep, as an animal designed as food for man, Bakewell attached the greatest importance to the production of so valuable an article, and zealously applied himself to perfect those points in the animal which indicate a disposition to make fat at an early age, establishing, from long and sedulous observation, his fundamental principles upon the ground, that "Like produces like, thin pelts and the barrel "shape, are soonest and most productive of fat, at the least expence of "food." Subsequent improvers have clothed the bodies of these Sheep with a finer wool, than they had in Bakewell's time.

The points, therefore, which the improving farmer will ever strive to secure, I take to be, *early attainment of proof or weight of carcase from a given quantity of food, together with a corresponding return in quantity and quality of Fleece.*

The modes of improving, are either, by Breeding In and In,—Crossing different families of the same race,—and Crossing from different races.

The first was the practise of Bakewell, in following which he gave the greatest consideration to the constitution and figures of the animals he selected for his improving stores, the males of which, as the channel by which the improved blood could be most extensively circulated throughout the Country, received the utmost attention.

In the year 1760, the first sale of his *in* and *in* bred Dishley's took place, under all the disadvantages attending an experiment looked upon

with an unfavorable eye by the Country; notwithstanding which, the superiority of his Stock was acknowledged and success attended his enterprise. Before his death, which occurred in 1795, his breed had become so celebrated that he received the greatest sums ever known for the mere service of his Tups, affording the most unquestionable testimony of the estimation in which his breed and system were held by that Country, which had at first opposed him.

It is almost incredible, yet nevertheless true, that the services of one Tup, for one year only, brought the immense sum of Twelve Hundred Guineas!

Crossing different families of the same Race, may have its advantages, as the different situations in which they are placed and the food they receive may affect their constitutions either favorably or the reverse; if the latter, a *dash* from the original Stock may recover them—if the former, the advantages are evident.

Crossing from different Races, we, must of necessity, resort to under our present circumstances, until distinct and pure breeds are established in the Province, when I apprehend, either of the former modes will best serve the interest of the farmer, impressed, as I am, with the opinion that forcing unions between breeds too remote from each other in their native properties is not attended with the advantages too frequently looked for. Nature has given us distinct species of the same animals and may permit their improvement by intermixing to a certain degree, but annihilation of these distinctions would be the consequence of unrestrained promiscuous crossing, and so far from improvement being the result, deterioration would inevitably follow.

"This measure (crossing from different races) can only be recommended, when neither of the former methods will answer the purpose of giving properties which we wish to acquire, or free us of defects which it is desirable to remove."*

The general reputation of the Bakewell or Dishley breed induced me, when I had an opportunity, to visit stores in Great-Britain where they were kept in the highest purity, and to acquire such information respecting them as would enable me to judge fairly of their character when opposed to other breeds. The result is, a conviction, that they possess in the highest degree those qualities, which we are in want of to improve our degenerate breed.

In addition to the oral information I thus received and the personal observations I was enabled to make, I have carefully examined various

* General Report.

writers on the subject and find the excellence of this breed as an improving race generally acknowledged and recommended.

For the following account of them I am indebted to old George Culley's well known "Observations."

"They are peculiarly distinguished from other long-woolled breeds, "by their fine lively eyes, clean heads, straight, broad, flat backs, round "barrel like bodies, very fine small bone,* thin pelts and inclination to "make fat at an early age; this last property is most probably owing to "the before specified qualities, and which from long experience there "is reason to believe, extends through every species of domestic uni-"mals.

"The Dishley breed is not only peculiar for its mutton being fat, but "also for the fineness of the grain and superior flavour above all other "large long-woolled Sheep, so as to fetch nearly as good a price in "many markets as the Mutton of the small Highland and short-wool-"led breeds.

"The general weight is,

"Ewes 3 to 4 years old, from 18lbs. to 26lbs. per quarter.

"Wethers 2 „ „ 20 „ 30 „ ditto.

"The wool upon an average 6 to 8lbs. per fleece, the length 6 to 14 "Inches.

"This improved breed is making its way very rapidly into all parts "of the Kingdom by the practice of hiring Tups, the price of which, for "one season only is astonishing, and to those who do not know with "what eagerness this breed is sought after (by all who have tried them,) "may seem incredible; yet it is a fact, that Mr. Bakewell, has let tups "for one season only, for Four Hundred Guineas each, and taken in "Ewes to be tupped at Ten Guineas each; one hundred and twenty in "one year makes the sum of TWELVE HUNDRED Guineas, for "one season only: besides those, he let several every year, at Two and "Three Hundred Guineas each."

"Our mode of management of this breed is as follows. The Ewes ge-"nerally lamb in March, when we give them a few Turnips to increase "their milk; the latter end of June or beginning of July, the lambs are "weaned, and sent to middling pastures, the Ewes are milked two or

* A two shear wether, killed some years ago by a Mr. Moneyhill, of Waterden, Norfolk, weighed ninety-four pounds. The weight of whose bone was only four pounds—being in the proportion of nearly twenty to one.

" three times to ease their udders, and such as are not meant to be " continued for breeding are culled out and put to clover, when this " fails they get turnips, and are sold about Christmas, very fat to the " butchers."

" The Lambs after being weaned take the name of hogs" (in some districts hogrils) " they are generally put to turnips in the beginning of " November and continue at them till the middle of April or beginning " of May, when the winter hogs are put upon good pasture or second " year's clover. The second winter they have turnips, till the clover " is sufficiently grown to receive them, which is generally about the " middle of April. They are clipped about the middle of May, and ge- " nerally all sold by the middle of June.

" We generally reckon one third of the Ewes to have two Lambs " each ;* that is, every sixty Ewes have eighty Lambs. They are put " to Tup so as to have Lambs at two years old, and kept for breeding " until three or four years old, excepting such as are of particularly good " forms, or have other valuable properties, these we keep as long as " ever they will breed. Such as are defective in shape, suspected of be- " ing slow feeders, or other unprofitable qualities we never put to the " tup, or allow others to breed from them."

It was with this breed that Bakewell proved to the world, that, without crossing, an animal might be brought to the highest state of perfection by SELECTION—attention being always paid to the peculiar properties of the individual. Sir J. B. Sebright is the only writer I have met with who does not subscribe to Bakewell's opinions of breeding *in* and *in*, and instances failures in his own practice, with different domestic animals, but fully agrees with him respecting selection, and declares, " The " alteration which may be made in any breed of animals, by selection " can hardly be conceived, by those who have not paid some attention " to this subject, they attribute every improvement to a cross, when it is " merely the effect of judicious selections."

To this important point it behoves us to give every attention, as it is with difficulty we can procure specimens of the most approved breeds from England, the importation being attended with so much risk and expense, that few individuals feel patriotic enough to hazard the experiment.

" As like produces like;" and " we can but breed from the best;" when

*They have frequently three ; and I have been informed that this fecundity is rather against them. It certainly weakens the Ewe and she is unable to rear so many Lambs well. Frequent accidents occur about the time of parturition, when the utmost vigilance of the Shepherd is necessary.

we have an opportunity of using an animal of superior quality, we must not only avail ourselves of his services, but strive to retain and improve the excellent properties which he will engender in our flocks.

I have witnessed with no small degree of regret, the best means put within the reach of individuals to carry their stores to a high state of improvement, only received in a partial limited degree and rendered ultimately of no avail, through the fastidious and absurd prejudice relating to copulation amongst animals of the same family. We have seen the Sheep of a neighbouring Country tupped with a fine South-down and Dishley breed, and yielding a produce offering the fairest prospects of success, but owing to the aversion existing against the above system, intercourse between the half-breeds and pure stock was prohibited; the consequence is, instead of the progressive improvement which would have attended the farther union, deterioration of blood immediately commenced among the descendants of the half-breeds, and will go on until they scarcely retain a *dash* of their improved progenitors.

There are many, no doubt, who do not follow the practice of breeding *in* and *in* from conscientious scruples, but we do not think their objections are founded on any reasonable ground, for we are of opinion that such intercourse must have been permitted by nature, otherwise, the various distinctions in the different species of created animals could never have been kept up. The apprehension of a degenerate race being the consequence, is equally groundless, for not only have we the improved condition of animals thus bred, daily before our eyes, but we have ample testimony that ages will not affect them. On the domain of a Nobleman in England, a race of wild cattle has been preserved distinct from all other breeds for centuries: from former descriptions and their present appearance, they are said to be as fine a breed of animals as they were in the days of old, when they formed the noble sport of the feudal Barons five hundred years ago, and have bred *in and in and from the closest affinities* without degenerating.

It is not, however, sufficient for our purpose to show that animals do not degenerate by being bred in this manner, it is necessary to satisfy our readers that they improve.

When Bakewell commenced this system he met with very general opposition, and we do not wonder that a people so refined as the English should oppose a practice, which many considered as verging on immorality by warranting a sexual intercourse in the nearest affinities of blood even in the brute creation. Although impressed with these adverse sentiments, a candid inquiry on the subject was instituted amongst these enlightened opponents, the result of which carried conviction to their minds that, their prejudice was not supported by any sufficient reason,

and it therefore gave place to more liberal sentiments, and now the long period of seventy-five years, has witnessed the progressive adoption of a course of breeding, which has tended more than any other to ameliorate the condition of Live Stock.

The ratio of improvement given by one of the ablest practical men in England after long experience and successful practice, shows that Stock thus bred not only improves but improves most rapidly. He thus puts the matter in the clearest point of view.

"Supposing the Ram, whose qualities we wish to incorporate in our flocks, to be designated. No. 1. The common Ewe to be coupled with him will be denoted O.

The qualities of the produce of the *first generation* will be denoted 1 more than O or $\frac{1}{2}$.

The Ram in the *second generation* being No. 1. the Ewe which is to be crossed with him, having received a degree of amelioration, will (as just noticed) be marked $\frac{1}{2}$. The Lamb that will proceed from such union, will participate in the qualities of its sire in proportion of $\frac{3}{4}$.

The Ram of the *third generation* being still No. 1. the Ewe crossed with him will be $\frac{3}{4}$ths, and the progeny of such cross, will possess of the qualities of its sire $\frac{7}{8}$ths.

The sire for the *fourth generation* being No. 1. and the Ewe to be put to him $\frac{7}{8}$ths. The Lamb from such coupling will possess the sires qualities 15-16ths.

Finally, the Ram for the *fifth generation* being invariably No. 1. and the Ewe of the fourth generation to be crossed by him being 15-16ths. Their joint offspring will partake of its sires qualities in the proportion of 35-36ths and consequently will be, in character, nearly equal to its sire."

In proportion to the degree of perfection existing in the Tups, destined to serve our flocks, the more quickly will improvement be accelerated; and in breeding with a view to improvement it is absolutely necessary, that the Tup which you subsequently put to your Sheep, be of the same quality as the one first used, otherwise you will totally impede or, at least, materially retard the progress of the object you are desirous of attaining.

Could we at all times command the use of Tups of the first quality to cross with our improving stores, without applying to those so closely allied, I might be inclined to exclude my Ewes from intercourse with

their relations—then only, however, in case the strangers were fully equal, in every point, to my own ; but as these thorough-bred animals are not always to be procured, and as so much benefit has been found to follow the union of those most closely connected, it is not saying too much, that, we are reprehensible if we do not avail ourselves of the means which nature has put in our power to improve our flocks and thereby render essential service to the human race, by pursuing a practice against which there exists no religious or moral barrier, but which on the contrary we have reason to believe is sanctioned in the works of creation itself; ample and unequivocal evidence of which is afforded in the marked distinctions and unmixed character maintained in all animals in a wild state.

By whatever mode of breeding we choose to proceed to improve our flocks, there are standing points which are indispensibly necessary in the individuals we intend to breed from, viz. *width of chest*—depth of carcase—breadth of loin—produce in quantity and quality of fleece.* "The merits of the Dishley as an improving cross, their grand point "of utility, being undeniably great"† to them we may confidently look to produce most effectually the change so necessary and disirable in the character of our Sheep.

Having succeeded in attaining our first object, viz. *increased the weight of our Sheep*, another point opens for the experiments of the rural philosopher,—*to cover those enlarged carcases with a more valuable quality of Fleece.*

In considering this part of our subject, it is necessary, not merely to regard the present condition of the country, but to extend our views to its future state of improvement, and so, now, to lay a judicious and solid foundation for advancing its progress, that when the period arrives, for a portion of its inhabitants to direct their attention to the manufacture of, at least a part of, their own woollens, they may not have to reproach us, with neglecting to pave the way for a successful prosecution of so important a branch of domestic industry.

Some may make it a question, whether the present period is not too early for commencing such an undertaking, with such views?—but if doubts should exist on the subject—it is hoped, those entertaining them, will reflect, on the length of time required to bring a neglected branch of industry into a state of tolerable perfection ; and that, in the present advanced and improved state of the mechanical arts, we can easily possess ourselves of the necessary means to manufacture the finest wools,

* It was the opinion of the late Dr. Jenner, that no narrow chested animal would fatten well.

† Lawrence.

but ere we can avail ourselves of these means, we must have the proper staple to work upon.

I do not advance these remarks under the vague idea, that we are soon to become our own manufacturers, nor would I hazard the supposition of our being so at any definite period; but I do maintain, that, if nothing further is done or looked for, beyond supplying our countrymen with a greater quantity, and better quality of material from which they may manufacture their Homespuns and other articles of domestic utility, it is the wisdom of the improving shepherd to pursue those means, which will put them in possession of such material.

The attempts already made to make the coarser narrow cloths, have been attended with a very respectable degree of success.

In the improvement of Wool, Great-Britain has been so eminently successful, that although little more than twenty years have elapsed since the introduction of the foreign improving stores—she is able, and has lately sent some of her fine woolled Sheep, back to improve those of the country from which they originally came.

In the promotion of that great national object, the influence and talent of the most exalted characters of the Country were engaged, and first in patriotic zeal as in station, stood, our late revered and lamented Sovereign, who took the best means of introducing the Merinos into the Country and with personal anxiety marked their progress. Those bred from the Royal flocks at Windsor were disposed of to such enterprising individuals in the Country as were desirous of procuring these valuable acquisitions to their flocks.

A late noble President of the Board of Agriculture—Lord SOMERVILLE—repaired to the continent with the laudable intent of selecting them himself, which he, most successfuly did, from the celebrated *travelling flocks* of Spain, these he, with equal and merited success, crossed with the English Southdowns. The establishment of shows and Sheep-shearings, by the patriotic Duke of Bedford, had the happiest effects, while the talents of Lord SHEFFIELD, Mr. COKE. Dr. PARRY and many other highly distinguished individuals, were most advantageously employed in the same laudable cause.

The results of the labours of such intelligent men being communicated to the Board of Agriculture, and published in its Reports, have given to the Country the most extensive and valuable information on this, as on many other subjects connected with Agriculture. In the libraries of Agricultural Societies, these Annals, would form an inestimable standard work.

Until the sales of the Windsor Merinos took place, little progress had been made in extending the breed, owing to the difficulty attending the attempts of the enterprising Wool-growers to get possession of it, whilst others were apprehensive that the climate of Britain might have a prejudicial effect upon the imported stores, and produce an indifferent progeny. The process of time, however, shewed their fears were groundless, and the evidence of the eminent character who then had charge of the Royal flocks, Sir JOSEPH BANKS, set at rest the question and proved that, the anglo-merinos were losing nothing of their original excellence, but, that on the contrary in some points they were improving, although their keep was not better than that usually given to sheep. Not only have these animals retained their qualities in the southern districts of the Island, but they have been found to be an improving stock even as far north as the Orknies, whither they were first sent by Mr. LAING, the Scotch Historian.

The forms of the Spanish Sheep are, according to the British ideas of figure, defective; but the judicious system of breeding and selection pursued with the anglo-merinos, has brought them to a very high degree of excellence. In the improvement of fleece, the introduction of the Southdowns, (and also Ryelands, with both of which Lord SOMERVILLE crossed the Spaniards, and thought them equally good,) might be attended with favourable consequences. They are the best of the British short woolled Sheep—their mutton is also of a very fine grain and excellent flavour, although not so large as the Dishley; the average wether—weight at two years old, being about 18lbs. per quarter, but specimens have been fed to enormous weight. Mr. COKE, of Holkham, Norfolk, having produced at one of Lord Somerville's Shows, a two shear wether, that weighed 40lbs. per quarter.

"There are few situations in which they will not thrive, they are "hardy and will bear the greatest cold, if unaccompanied with mois- "ture—are quiet and healthy, quick and easy feeders, with good fleece "and produce good weight."*

The Dorsets are a beautiful and excellent Sheep, at least those which have escaped deterioration from injudicious crossing. A striking characteristic of this breed is, the uncommon fecundity of the Ewes, which exceeds any other race; they have a peculiarity of constitution which admits very early intercourse with the male, after lambing. CULLEY doubted their great powers of increase, but, afterwards, upon sufficient evidence renounced his former opinions, and other and subsequent writers confirm their reputation in this way.

* General Treatise.

I find in the work of a Mr. HOUSEMAN—a Journal of a Commercial and Agricultural Tour through England—the following extraordinary account of their generative powers, as appeared in the Dorset flocks of Mr. DUCKET, a very eminent and highly distinguished farmer in Surry. He thus writes, "Mr. DUCKET is equally attentive to the management of "his Sheep: they are the Dorsetshire breed, with long horns, white "faces and legs, fine wool, and have lambs at all times of the year; "which last remarkable property is the reason why he prefers them to "any other sorts.

"His vicinity to London enables him to sell his winter Lambs to the "greatest advantage. The fecundity of these Ewes is very surprising; "it is very common for one of them to yean five or six Lambs a year; "and Mr. DUCKET tells me, he had one Ewe which yeaned ten Lambs "in less than eighteen months: the first time she had four, the second "three, and the third three; all of which were fatted and went to mar-"ket.

"He always keeps his Lambs in a house for the purpose, and brings "his Ewes to suckle them there, at regular intervals, both day and "night, after which they are turned out into the pasture again. The "Lambs suck the Ewes promiscuously. This judicious farmer has "been honored with repeated visits from their Majesties, in order to "view his highly cultivated farm."

The Cheviot Sheep, have the character of being excellent for the flavour of their mutton, a quality which seems to characterise all mountain sheep, to which class the principle part of the Cheviots belong. Those of the vales around the Borders have received a cross of the Dishley. The pure Cheviots are defective in the fore quarters, a point which militates against them as a cross. They produce but a light fleece and that not of a very fine quality. Their weight when fed from 12 to 18lb. per quarter.

Travelling northward, we have the Heath Sheep and a mixed breed of Cheviot and Heath, and in the western districts the Dun-faced, a very small breed with delicious mutton and fine wool. They are supposed to have been established there from the stock on board the Spanish Armada, which suffered so severely on those coasts.—Their weight only 6 to 7 lb. per quarter.

On the opposite side of the country, in Aberdeenshire, the well-known Blackfaced sheep are met with in great plenty; in the highlands of this county the Shetland breed was originally bred, the wool of which is valued so highly. LAWRENCE says. "it is of the softest texture, fit for "the finest manufacture and in some instances rivalling even Spanish "wool, than which it is somewhat longer in the staple and not so elas-

" tic. According to the Bath Society Papers, stockings have been made " of this wool, which were sold for five or six guineas a pair: and such " is its softness and lustre, that the skin with the fleece on, makes a fur " of great value, specimens of which have been sent to the China mar- " ket."

These sheep, whose colour is various, pure white being the most valuable, but as fur the silver grey is most esteemed, are now only to be found in the Orkney and Shetland Islands—in the latter, they are in the purest state.

Hitherto the prohibiting policy of Great-Britain has interfered with those who were desirous of transporting Sheep into the Colonies, but the more liberal measures of the present administration have removed this obstacle to improvement, and we are now at liberty to avail ourselves of the means thus put within our power.

To produce improvement in the fleece, has called forth the talents of many well informed men. By one, whose abilities stand in the highest order, the following judicious remarks, are laid down:

" The wool grower is counselled to place no dependance upon accidental and external circumstances, for the production of good fleeces, but to rely entirely and with confidence upon the properties with which nature has endowed his Sheep. The perpetuity of animal properties, being scarcely any where more strikingly exhibited, than in the certainty and regularity with which the parent Sheep convey to their offspring, their own distinguishing characteristics. Breed is of the utmost consequence. It is the basis upon which all improvements of the flock are founded, the only source of hope that attempts to produce fine wool will be followed with success.

" The Shepherd ought not unnecessarily to expose his flock to extremes of heat and cold, nor to any capricious changes. The bad effects of water upon the pile, while growing, may be owing to the readiness with which it mixes with the yolk, and carries off a quantity of that animal soap, which is so necessary to the good quality and even existence of the fleece, for if care be taken to prevent this, by the skilful application of tar mingled with butter, which act as repellents to the water, the lower part of the staple, which grew after the mixture was applied, contains a sufficient quantity of rich and sufficient yolk, and is of a much superior sort of wool to those points of the pile, which have been exposed, without protection, to the dripping wetness of the winter season.

Perfect whiteness is eminently desirable in all kinds of wool, and all varieties of colour in breeding are to be avoided, and particular

all artificial tinges with ruddle or ochres, or any such substance, which is injurious to the pile for the Dyer's purpose.

Well formed Tups, bearing the kind of fleece required, and sufficient ample keeping throughout the year, are the means of attaining the objects.

Mr. BAKEWELL strongly recommends the practice of salving or greasing, as the best preservative, using only no greater quantity of tar than to give the mixture tenacity. This he warrants will be equally beneficial to the wool, promoting both its increase and good quality, as defensive to the body of the animal.

The application *twice* a year, he is of opinion, will be well repaid by its beneficial effects on both carcase and fleece.

It, alike preserves the Sheep from feeling too severely the transition from the heat of summer or inclemency of winter.

Additional and very powerful inducements to adopt the practice, are—the ointment destroys the sheep tick, and has a tendency to prevent cutaneous distempers, and to preserve Sheep from the stroke of the fly. Farther, a considerable quantity of wool will be saved, which is torn off by the Sheep when rubbing themselves, in order to allay the irritation of the skin, which is occasioned by those causes."

BAKEWELL also ingenuously and rationally conjectures, that the ointment, by keeping the skin in a soft state, is favourable to the production of finer wool, from the opening of pores or vessels for the extrusion of wool, which had been closed and ceased to act, on the too great exposure of the skin to the air and soil, and that thus the pile grows closer and a larger fleece is produced—the Sheep seem likewise to be rendered more comfortable when grazing, by a comparison with those who are ungreased.

The preparation is generally; from 16 lb. to 20 lb. butter are placed over the fire and melted, a gallon of tar is then added, and stirred until amalgamated into a tenacious ointment. Great care must be taken in the application. If merely rubbed *on* the wool,* it attracts and mixes with the soil and proves most injurious to the fleece—this should be properly divided and the ointment applied to the skin, whence it is diffused throughout the whole fleece. To *average size* Sheep, one gallon of tar and twenty pounds of butter will be sufficient for forty or fifty. Greased fleeces sell more readily than ungreased, and do not

*In the "Modern Agriculture," before mentioned, the author says, "the salve is rubbed *over* the fleeces"—a more pernicious practice cannot be followed.

waste so much in scouring. To preserve the best qualities of Sheep, it is necessary, according to the same authority, to attend to the three following points:

The first in importance is—the PURITY of the BREED—*the next, That the Fleece be covered by nature with a copious Yolk, or being deficient, that it be supplied by* ART. *Lastly,* That the Sheep be kept dry, sheltered from the extremes of heat and cold, and their quantity of nourishment regulated.*

Much wool is lost, almost unavoidably, in a country so overrun with trees and brushes, as this is, but a great portion of this loss might be prevented, by applying the salve, above mentioned, as it tends to attach the roots of the fleece more firmly to the skin and consequently renders it less liable to be torn off, or so subject to voluntary separation.

After shearing, the woods afford the best possible shelter for Sheep, in their then naked state, and it generally takes place at a season when the pastures to be found amongst them are young and sweet, affording excellent and agreeable food.

The practice of greasing has lately been introduced, I understand, into the Sheep-Husbandry of Sussex Vale, by an experienced Farmer from Great-Britain, and from the benefit witnessed in his flocks by its use, others have wisely adopted the same system.

The life of man is in general of too short duration to witness the introduction of an improving system, and also see it brought to any high state of perfection. But such a reflection ought not to deter us from making a beginning, but to stimulate us, to do it with all diligence, Yet, however zealous we may be, we must so lay the foundation of our work, that the fabric may remain permanent and substantial. The selection of our stock will form the basis of that work, and we must select it, with the well known remark before us, that, That breed is the best that *brings the most profit in fleece and carcase jointly from the same ground in equal times.*

Amongst the General Rules for managing Sheep, it is said, That they require DRINK when at straw, or dry meat of any kind, if it be grass dried up by the dog day heats. They should not be turned into pasture in the autumn or winter, until the heavy dews or hoar frost be exhaled, which frequently does not happen till late in the day, and sometimes not at all. In this way Sheep are immensely injured, and great mortality ensues; the great quantities of chilling and un-

* General Treatise.

wholesome water, which the animals take into their stomachs, wet the grass, induce flatent cholic, diarrhœa, or scouring, and intermittents, ending in a general waste or consumption. The only palliative remedy, where no means exist of supporting Sheep, but by this exposure, is to allow them hay in the morning or to fill them with straw.

Sheep are good Straw-Yard Stock, but unless the straw be bruised for them, it is apt by its harshness to damage their mouths, on which account the straw from a thrashing machine suits Sheep. It is a very old rule to drive the flock over the dewy field in every part previous to suffering them to feed, in order to brush off as much as possible of the moisture from the top of the grass.

The shorter and finer the grass, the fitter for Sheep; yet there is no pasture so good or so fine, but with continued use Sheep will weary of it, except the Shepherd remedy this fault by giving them salt, the use of which is still in estimation in feeding Stock. Hard stocking with Sheep will render the coarser grasses fine—a most useful memento in many situations—it has, however, concomitant disadvantages, by impregnating the soil with the rank manure and urine of the flock, which causes them to lothe it, and even affects the young grass produced by the superabundant manure. Before the bad effects take place, the pasture should be changed both on account of the Sheep and soil.

Grass which springs up suddenly in swampy soils, also corn which shoots up after harvest, among the stubbles, particularly barley, is said to be dangerous to Sheep. Wet unsound fallows, and lands which have been flooded, rot Sheep; it is said, in some places, that the lime-stone land has the same effect, and that you may make any land rot Sheep. We find it recommended in the Bath papers, to fold Sheep before the dew falls in places subject to rot, and keep them in until it exhales, spring and summer.

No Ewe ever rots whilst she has a Lamb by her side; place Sheep that have the rot, where they can get at bark and young shoots of elder.

Heavy rains, especially if attended with hail, or a moist, foggy, sultry and stagnant state of the atmosphere in summer, sometimes produce a very sudden putrescence of humours in Sheep, which is then denominated the *swift rot.* Should necessity subject the farmer to keep his flocks in such situations as above—the preventives which suggest themselves, are, not to allow the sheep to rest, far less to remain on such dangerous layers, but to pick as much grass as may be necessary and expedient and then driven to high and dry grounds, or folds where they may receive a sufficiency of dry food—hay or straw—

which by its absorbent property may counteract the ill effects of the washy herbage on which they have been previously fed.

Such precautions have been found to prevent the mischief to which they are subject when occasionally fed in houses, and are of great use in summer rains, however good the soil or pasture.

The facilities in adopting such measures for the preservation of our flocks throughout this Province are very great and must have presented themselves to every one who has travelled in it, on viewing the excellent sheep-walks on the high lands which bound our extensive and luxuriant intervals and marshes. Few countries are better calculated for an extensive and successful prosecution of sheep-husbandry. After leaving the immediate neighbourhood of the sea in whichever direction you travel, a fine field for such a purpose presents itself, but from some unfortunate causes, it is left without cultivation, or at all events without such cultivation as it merits and demands. A sad obstruction to improvement in the various departments of husbandry, exists with but few exceptions, in the prejudices of our countrymen in favor of their own imperfect systems, and apprehensions that the adoption of others would prove unsuccessful from the nature of our climate.

The existence of feelings operating in a manner so prejudicial to their own interests is the more to be regretted, as the inhabitants of this Province, are as liberal in their habits of thinking as any people similarly situated can be, but such a paralysing impression have these ideas made upon the minds of a great proportion of them, that the attempts made to remove them, and to introduce in their stead more sound principles of reasoning and action, have been attended with very limited success. Nothing but the evidence arising from witnessing the superiority of other systems will effectually banish those injurious sentiments from amongst them, and which we so constantly find displayed whenever agricultural improvement is the subject. Were our climate still more unpropitious, than it really is, the only lesson it should teach us, is, to convince us, how necessary it therefore must be to resort to such means as will tend most materially to counteract the unfortunate effects which spring from such a cause, and that will be best accomplished by the adoption of better systems of management in our stock departments, a perseverance in which, will afford the most convincing testimony, that, nature *here*, as every where else, is more the friend of man than he is willing to allow.

The effect of a change of climate upon the first importation of stock, I do not look upon, even if it is unfavorable, a matter sufficient to deter us from a prosecution of our improving designs. If a loss is sustained amongst individuals of the original importations from such a cause, it is attended with some favorable circumstances, as none but the

weak and those of unsound constitutions will be affected by it, and with such we can part with satisfaction. Sheep seem adapted for all climates, and wherever a material change takes place in the progeny of a particular breed we may almost invariably attribute it to inattention in preserving them from mixing with breeds foreign to their original character; and not to the effect of climate.

Those entertaining the opinion that imported stock of all kinds degenerates in this climate, bring forward in support of their positions, the little improvement which has attended any importations yet made, and it is readily admitted, that little indeed has taken place, but this seems attributable solely to the very limited extent to which the introduction of any breed of neat cattle or sheep has yet been carried and the neglect which has attended breeding from it. It is therefore, to be hoped, that such trials will soon be made by extensive and general importations throughout the Province and a steady system of breeding pursued, so that, a short time will open the eyes of those interested in such matters to the true sense of the advantage of possessing good stock and a good mode of managing it.

To establish any pure and distinct breed, the aliens must be kept rigidly apart from our native stores, and as we desire to succeed in improving these latters we will find the most expeditious and certain method, that of breeding *in* and *in;* and by pursuing such a course and attending to the feeding and comfort of our stock, we need entertain no apprehension of any bad effects arising to them from the influence of either soil or climate.

Turnip, hay, straw, potatoes, oats, and oil cake, are usually given to sheep, when fattening, the quantity of which is regulated entirely by the character of the breed. Turnips or Potatoes should be given cut—and salt occasionally, is alike a panacea with sheep as neat cattle. Cutting hay or straw in feeding will be found a most economical mode, fully repaying any additional labour necessary. From the abundance of hay in this country little straw is used and where a large stock is kept it is probably as profitably applied in being used only as litter, the quantity of manure being much increased thereby.

Little attention has been paid here to the culture of Turnip, and it is to be regretted that it has been so much neglected, few crops yield a greater return, and their nutritious qualities render them a most valuable article on the stock-farm. It is more properly the province of a work solely devoted to tillage to treat of such subjects as the one before us, but it is not straying far from our own sphere, to beg the attention of our readers to a more extensive cultivation of this most useful crop.

Amongst the variety of this root, those most in estimation are the

Ruta Baga, (Swedish or Lapland,) and the Aberdeenshire yellow Turnip. Other kinds yield weightier crops, but none retain their nutritious properties so long, or bear the effect of frost so well. The Aberdeenshire Yellow has been raised with success for some years past in Westmorland, where they are in great repute. In their native soil they are exposed to the vicissitudes of the season for a length of time, without injury.

The *white globe* turnips will be found to yield the heaviest crop,* but they do not bear the frost and are only fit for early winter food, whilst the Swedish is found in a state of good preservation until spring is far advanced. In Westmorland, some gentlemen have successfully preserved the Aberdeen Yellow in pits during winter and found them when required in spring in very excellent order for use.

The peculiar natural advantages possessed by that county render it a fine field for the successful advancement of husbandry, and admirably adapt it for stock and dairy farms. To its inhabitants therefore, and to the country generally, the cultivation of Turnip is a matter of the utmost importance. They are, in conjunction with Clover, justly said to be, *the main pillars of the best courses of husbandry—they have contributed more to preserve and augment the fertility of soil for producing grain—to* ENLARGE *and* IMPROVE *our breeds of Cattle and Sheep—and to afford a regular supply of butcher's meat all the year, than any other crops.*

In introducing Stock into this Country, it may be found expedient to select a portion of it from the northern parts of the Mother Country, where, from the attention now paid to breeding it, by many of the Scotch proprietors† and farmers, we may receive specimens of the best character.

The nature of this part of our subject has led me to notice a greater variety of breeds of Sheep, than I at first intended, although I have done so as briefly as possible. But to proceed:

* A good crop of white globe turnips usually weighs from twenty-five to thirty tons per acre, the Yellow and Swedish commonly a few tons less.—*Farmers' Mag.*

† In the number of those conspicuous for their Agricultural improvements in Scotland, Captain BARCLAY ALLARDICE, of Ury, stands in the first rank. The celebrity of this Gentleman as a Pedestrian, is only surpassed by his success and eminence as an Agriculturist; of which character, as well as the former, he is the hereditary possessor. The benefits arising from a diligent and enlightened prosecution of husbandry, is no where more exemplified than in the progressive increase of the value of the property of this distinguished family. The rental of the estate of Ury was raised by his father, from three hundred to several thousands, and "Captain BARCLAY, by pursuing the "plan adopted by his immediate predecessor, has greatly augmented the value of his "property, which is still encreasing, and in a few years will produce ten thousand "pounds annually."

The species of Stock which next claims our attention is one upon which most people look with disgust, but however much the native filthy habits of the animal may warrant such a feeling, we must allow, that in the catalogue of domestic animals we have not a more substantial and productive source of human food, from means the most economical, than what arises from the possession of a good store of

SWINE.

Of this Stock it has been said, and with much justice, that it yields the greatest return for the capital invested in it, of any other Live Stock whatever; and when we consider the great demand for its produce, both in its fresh and cured state, and the early age at which it can be used, we are not surprised that it should be so reputed.

Considerable apprehension was entertained by the Agricultural interest, that the political changes which are about to take place in the Commercial world, would prejudicially affect them, by the admission of Beef and Pork, from Foreign Countries, but the promulgation of those regulations has not only set at rest their fears, but also shewn, how well the Parent State watches over the general interest of her children. It remains for us, therefore, to benefit by the advantages we enjoy, not by an apathatic confidence that we are always to have the produce of our farm yards thus protected, and that other parts of the community must receive it at our prices, but by availing ourselves of the present exclusion of strangers from competition with us, so to improve our Live Stock that, should it be thought expedient at a future day to open the Colonial seaports for the introduction of those interdicted articles, we may be able not merely to rival, but to exclude them, by the excellence and abundance of our native supplies, which from the natural connection existing between the communities of town and country, will meet with a readier sale, as both benefit by the interchange of their respective commodities, and it is where reciprocal benefits spring from the domestic employments and labours of mankind without the assistance of foreign agricultural supplies, that the true and solid riches of a country are found.

As therefore the capital, in whatever manner invested, of the City purchases the produce of the Country, and the abundance of the Country draws from the City a portion of its wealth, it is evidently the interest of the farmer to cultivate with assiduity such produce as will yield him the greatest supply of necessary and useful articles from the citizen.

The subject now before us has long been accounted a very essential means of adding to the farmer's capital. It is difficult to account, why, under circumstances so favorable for the importation of this Stock from England, so bad a race should be found amongst us, devoid of every

requisite that constitutes a good or valuable animal, and generally so modelled, as to yield no adequate return for the quantity of victuals they devour. An improvement and more extensive breeding of this Stock are matters, not only of private interest but of public importance. The demand for Pork is regular and great, and the price such as will pay well for feeding and curing. To make up the deficiency of our supply, the merchant imports large quantities through the fair and regular channels of his business, whilst many, too many, discarding all considerations of the legality of their actions and at all hazards of property and character resort to the basest means for supplying themselves. It therefore is surely a matter of the deepest consequence, that some measures should be adopted to remedy, if possible, such an evil, an evil, not only active in the violation of the laws of our country, but subversive of all principles of probity, and most prejudicial to the farmer and fair trader; and it is because of such consequences, as well as in consideration of its advantages, that the attention of our readers to the improvement of Live Stock is so earnestly claimed.

The varieties of Swine, necessary for our purpose, are very limited, and may be classed, in the larger breeds for the supply of our Navigation, Lumbermen, and other Commercial purposes, and the smaller breeds as *porking* stores for family use.

For the former purpose, the breeds of Berks and Hampshire, will be found admirably calculated; their character, throughout England, is in great repute. There are larger breeds to be found there than either, but none possessing better qualities—in their forms, they have great depth of carcase, breadth of chest and loin, and proportionate length, with good gammons and fine legs, have large pendulous ears, are *quickly fed and brought to proof.* So little difference is there made between the Hants and Berkshire Hogs, that dealers at Smithfield are indifferent which to choose.

Of the smaller breeds for Pork for the family supply, the Chinese are in the greatest estimation, and also their cross with the Oxford Dairies, for delicacy of meat, fineness of bone, and quickness of proof, and being easily fed, they stand unrivalled.

I understand some specimens of pure Chinese, half bred and Berks Pigs have been imported, and it is to be hoped more will soon follow. Scarcely a vessel arrives in the ports of the Province, without having some Stock of this kind on board, which could be procured on very easy terms, and by repeating the importations and preserving them for breeding, we should soon find our slow feeding gaunt incumbrances removed. We need not be apprehensive of getting a bad breed of Pigs from on board a ship from England, for throughout that Country the best are to be found, and so generally is this admitted, that it is said,

the man who is desirous of improving his breed of Swine, need never leave his own county in quest of others, for in every one excellent stock is to be found. Reverse the observation and it becomes too truly applicable to the condition of ours. Until of late I have not given much attention to this species of stock, but every day has brought additional proofs before me of their importance to a country, I shall, therefore, I trust, be excused if I here insert the remarks of one of the most extensive and intelligent breeders in Great-Britain respecting it. He says,

"The *in-pig* sow should be in full strength and heart, but not too fat. The grand article of provision is Pollard, (are generally known here as Cannaile,) which in cold raw weather is very comfortable to the animal to receive scalled or boiled. Pollard may be amended with Oat, Barley, Pea, or Buck-meal, or any of these may be substituted. Skimmed milk, house wash, grains, &c. are in course. It is in vain to think of dispensing with corn in pig breeding or rearing, until the pigs be full three months old. Some of the teats are frequently obstructed, it is therefore deemed advisable in such cases to suffer a numerous first litter to suck the sow which may render them productive. It is beneficial to feed a growing store three times a day, unless they have too much food to pick up. Young stores should be kept dry and comfortably lodged; at three months old they become saleable, and thence forward are more hardy and better able to shift.

Winter store-keep—Roots of all kinds, if boiled the better, excepting carrots, parsnip, and ruta baga which agree well in a raw state, cabbage, beans and other corn with the use of the Barn-Yard and wash.

During summer and autumn (where circumstances permit) it is preferable to have green meat cut for them, instead of turning them abroad, when house wash may be added to counteract the effects of the grasses, which from their loosening properties are apt to affect young stores unfavourably.

Pigs are fattened with the greatest advantage for pork at six to nine months, at which latter age, the meat is thought most nutritious. Milk and meal are superior food for Pork, and Pollard with the articles before stated for Bacon. It is a mistaken notion to overload the stomachs of Pigs; they are apt to gorge themselves and before they can be recovered from the effects will lose many pounds of Pork.

In fattening, it is therefore advisable to keep their appetites keen and regularly supplied. To feed with profit, it is recommended "to begin with inferior food, if any difference is proposed in that respect," to feed moderately during the first fortnight, or longer, if the animal be weak or low in condition, and never throughout the whole period to overburden their stomachs, but rather to keep the appetites keen and

troughs constantly empty, excepting at meal times, which should be three times a day instead of twice which is generally the practice.

In breeding where there is a certain demand for stock, the Farmer will be well repaid for purchasing food ; but there are many so situated, that they have a full supply from their own establishments, dairies—mills—breweries, &c. and to these, Pigs will always be an advantageous stock.

Breeding is much more profitable than purchasing stores, and those who intend to breed for sale should always endeavour to procure a well shaped breed, which will always command a preference. The Sow is capable of procreating at seven months, but the male is of little or no use until twelve, but his best stock will be found from his being two to five years old. The Sow brings forth a few days after four months.

Of stock that are prone to fattening it is recommended to allow the Sow the company of the male as early as possible, which lessons the risk of parturition in such cases, and by frequent repetition keeps her in a good breeding state. January and July are the best pigging months, as *sucklings* in the *former* they are not so liable to catch cold as if weaned, and those dropped in July are strong before the season gets too severe.

The advantages of this species of live stock is by no means confined to the good quality of their flesh ; taking their distinct merits into consideration, it is extremely probable, that they are, to the individual feeder and the country at large, the most profitable of all domestic animals. The sow produces more young than any other quadruped, and pork can be fattened more speedily than any other flesh we eat; Pigs may be made excellent pork in six weeks. The sow will bring properly and without injury two litters within the year ; and if we add to this, the early maturity of the young females, it will easily appear, how soon a vast and multitudinous stock of pigs may be raised ; and it is well known to observers of the times how materially instrumental this species of stock is in restraining exorbitance of price in other articles of the flesh market. Swine have ever been accounted the gleaners of all refuse and waste of a farm and the only animal capable of converting into nourishment the produce of the forest ; hence it has been too generally supposed that it is not profitable to extend their province, or to increase the number to the degree of rendering it necessary to grow provisions expressly for their support—a very erroneous opinion and very injurious to the public interest, since under judicious management, none of our own animals will pay a better price for what they consume. Any farming situation may be rendered suitable for Pigs, and in many it would be very advantageous if they constituted the chief stock—the dung of fattening or well fed hogs is of great importance to the improvement of land."

Having stated that the Berkeshire breed is the best adapted for yielding pork for commercial purposes, I shall add an example of the weight to which they may be brought, at no very advanced age.

A hog was fed and killed some years ago in Cheshire, that measured nine feet eight inches from the nose to the end of his tail, and in height four feet five and a half inches, when alive, he weighed 12 cwt. 2 qrs. 10 lbs. when killed and dressed 10 cwt. 3 qrs. 11lbs. or 86 stone 11lbs. averdupois. LAWRENCE is of opinion, that individuals may be fattened to the weight of more than one hundred and twenty to one hundred and thirty stone. The largest breed in Britain is supposed to be found on the borders of Sussex and Surry, where they feed to an almost incredible size at an early age.

It is highly necessary for the safety of young Stock, to seperate the *in-pig* Sow from all others during the latter days of gestation, and to give careful attention during the time of parturition, as some mothers are apt to neglect and even to destroy their offspring. No animal differs more in disposition than Swine. Individuals of the same family have been known, the one to yield large litters and nurse them with the greatest tenderness, whilst another only produced half the number, and generally lost great part of that half from inattention, or I may say cruelty of disposition.

Having as fully as the nature of the present work would admit, referred to the different species of stock, the possesssion of which, it is thought, would prove advantageous to the Province; it will be expedient to advert to such means as may most effectually and permanently establish them in the country; the difficulty however of doing so in a satisfactory manner is deeply felt, the suggestions therefore now offered, are made with the greatest deference to the opinions of others, but as they spring from long and serious consideration of the importance of the subject, so are they honestly given, and whenever they are found at varionce with sentiments of others, the author, will carefully attend to the objections they may bring forward: well aware that, it is only by the conviction which arises from candid discussion, that the prejudices of mankind can be vanquished and truth thoroughly established.

The most eligible and efficient means, then, which first present themselves for our adoption, I take to be through the liberality of the Legislature and the patriotic exertion of the different Agricultural Societies established in the Province, by a simultaneous importation from Great-Britain of specimens of the different stock desired, and that upon as extensive a scale as the bounty of the former and the funds of the latter will allow; and although, we find some celebrated lots bringing enormous prices in Britain, we may procure in various districts of that country most excellent specimens, upon moderate terms, if we adopt a judicious course in making our application.

An extensive and general importation is recommended in consideration of the vast extent of the Province and the character of the improving stores now required. Unless some individuals are permanently fixed in every county we will not be sensible of any material improvement by importation, as the necessary absence of the animal, (for if there be but one or two and these public property, it would be injustice to the general interest of the farmers to keep them stationary in one district, when all so urgently demand their services) will throw the breed out of the regular channel of improvement and thereby render our attempts to meliorate their condition abortive or extremely limited. To counteract such effects as far as circumstances permit, will no doubt claim the attention of the able conductors of our public institutions, but it will not it is hoped be deemed presumptuous in offering these observations, when we look around and behold the very trifling benefits that have yet been received from public bounty.

It is a matter of difference amongst some in the Province, whether application should be made to Great-Britain or to the United States for a supply of improving live stock, but that difference, we are disposed to think would cease, were the parties fully aware of the superiority of that of the former country, a superiority readily allowed by the better informed farmers of the latter. In the United States, Agricultural improvement is persued in all its branches with the most praise-worthy anxiety and activity, and so sensible are the agriculturalists of that country of the vast advantage derived from the possession of British stock, that they spare neither trouble or expence to procure them. A gentleman acquainted with some of those in England, who are in the habit of supplying others in the States, has furnished the author of these Remarks, with a letter, wherein his friend states having received, from a gentleman near Philadelphia, a sum equal to one hundred pounds currency, for a Bull of his Short Horn breed, one year and nine months old. That men thus interested and engaged in the cause of improving stock will part with the best produce, (and we should accept none but the best) of their imported stores is not to be expected; if, therefore, we will apply to them for our improving stock, we can look only for the least valuable individuals that are produced from their importations, whilst on the other hand, if we apply directly to England, the pure fountain to which they resort, we will secure to ourselves a *genuine* breed of the species we require, and equal in every point to those sent to the United States. The preference here given to the cattle of Great-Britain does not arise from any contracted principle, it is the offspring of observation of the cattle of both countries and the evident superiority of the British. If, as individuals, we choose to make up a stock from either country, the means of doing so are within our power and we may exert them, as prejudice or partiality may direct, but the public purse is public property and when once it is opened to forward and promote a patriotic purpose, those entrusted with the application of its

contents, ought to lay aside all private or selfish motives, for they have a sacred responsibility to discharge to the country of which they are members.

One of the most efficient and speedy means of disseminating a knowledge of husbandry in Great-Britain was the establishment of Experimental Farms, and to the present day, we find her example followed by the greater part of continental Europe. To this Country such an institution, however limited its extent, could not fail but be of infinite advantage, as well in the general branches of Agriculture, as in the Stock and Dairy departments. The expence attending the establishment would not be great; the sale of the produce and stock, would meet a great part of it, whilst the instruction afforded to the rising generation of Farmers, (many of whom are likely soon to be extensive and opulent proprietors,) would over-balance any trifling sum which might be required to keep the establishment on the footing it should be, and render it a well organized and regulated Provincial School of Agriculture.

The variety of Soil, the difference of situation and other peculiar circumstances possessed by this young and flourishing country render it a most promising field for such an experiment, the more especially so, as we can confidently rely on the zeal, wisdom and ability, of the present Executive in directing such an institution to the lasting advantage of the Province and its inhabitants; and as the beauty and durability of an edifice consist in its design, material and workmanship, and its fitness for the purposes intended, and usefulness to a community are displayed in the effects of its internal arrangements and government, so we have the firmest grounds to believe, that, in such an institution, under these auspices, such regulations would be adopted and acted upon, as would be productive of the most beneficial consequences, and it is only by the inculcation of a thorough knowledge of rural economy in all its branches, and a practical application of that knowledge* to the various departments of husbandry, that individual interest can be forwarded, or any real wealth accumulate and permanently remain in an Agricultural community.

As the object of these Remarks has been to convey the best information which is furnished from the intelligence and experience of the practical men of that country where Husbandry has been carried to an unrivalled state of excellence, I need, I trust, offer no apology for having applied to such for their opinions on our subject, when it is considered that those opinions are the received authorities in

* The works of the Agricola of Nova-Scotia, have been of infinite service in rousing a spirit of inquiry and disseminating much useful information in the country.

It is almost unnecessary to mention those of that eminent Agriculturist and Secretary to the British Board of Agriculture, Arthur Young.

the Mother Country, and may be acted upon in this Province with the greatest advantage. Having, therefore, witnessed their effects and become sensible of their value, I have taken the liberty of laying them before the Husbandmen of New-Brunswick, in the very sincere and anxious hope, that my humble labours will not have been applied in vain; yet fully aware of the limited extent of the abilities with which they have been prosecuted, the author has only to hope, that this attempt to excite the attention of the country towards a subject so important, will be seconded by others better able to do it justice, and that the united efforts of those so engaged, may, *like drops of rain, falling separately into a river, mix themselves in the stream and strengthen the general course* of prosperity in the Province.