



A practical treatise on sheep breeding and wool growing

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PUBLICATION DATE

01-01-1860

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ON

SHEEP BREEDING

AND

WOOL GROWING;

BY

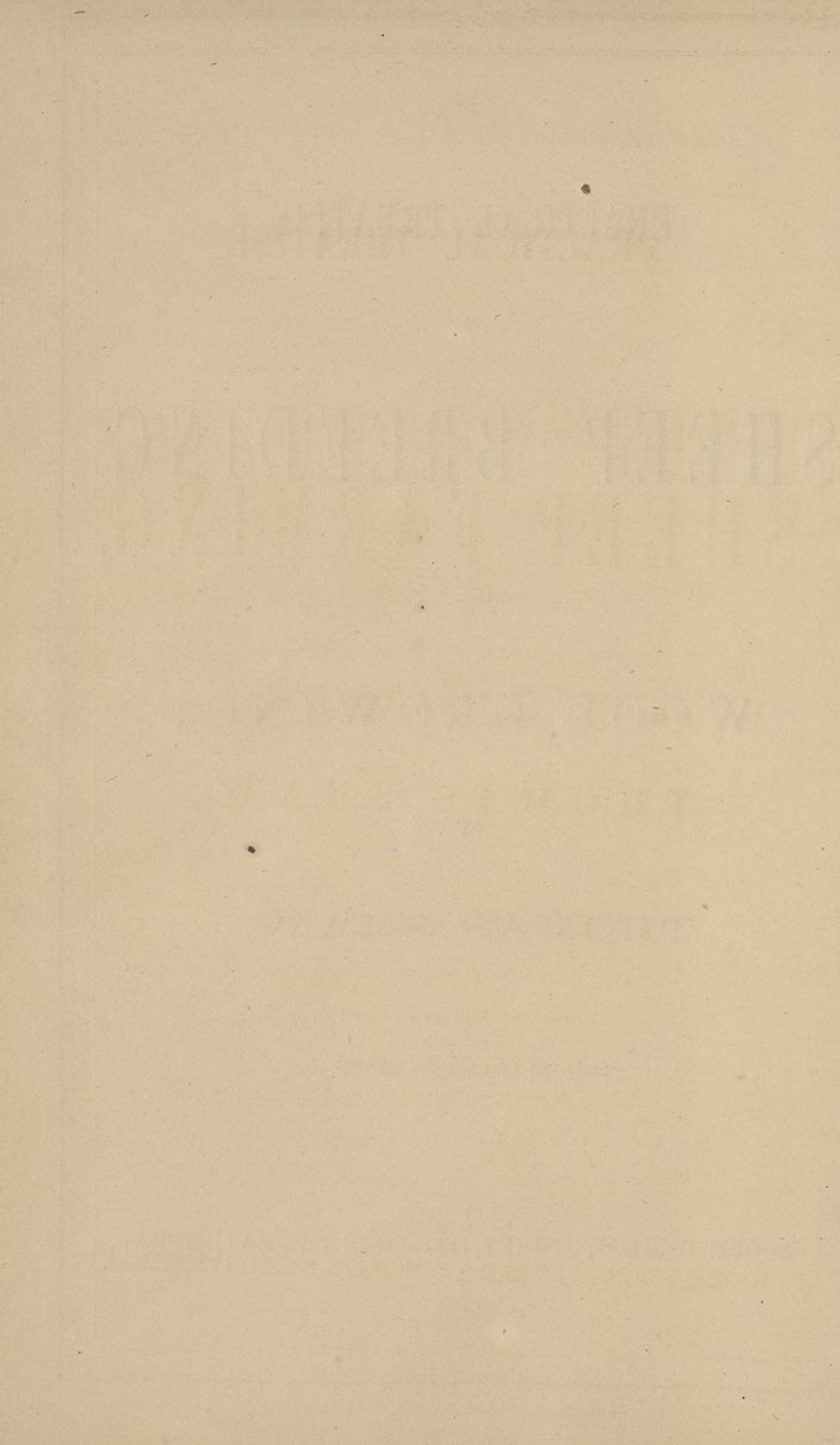
THOMAS SHAW.

PRICE TWO SHILLINGS AND SIXPENCE.

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TO THOSE, WHOSE INTEREST AND PATIENCE MAY LEAD THEM
TO THE PERUSAL OF THESE PAGES, I RESPECTFULLY
DEDICATE THE SAME, AND BEG TO REMAIN

THEIR HUMBLE SERVANT,

THOMAS SHAW.

Darling Downs,
June 1st, 1860.

SHEEP FARMING.

I THINK all people who have paid attention to the rise and progress of the Australian Colonies must acknowledge that Wool has been, from the beginning, and still remains, the most important branch of their commerce, and, to all appearance, must remain so for a long time to come. It is, in fact, their staple trade. Wool first brought them into notice, and gradually established their character as one of the most important of all the English Colonies. This has increased to such an extent, that Australian Wools are now essential to the prosperity of the English woollen manufactory, and are becoming equally so to that of other nations. Yet, strange to say, Sheep-breeding is the most neglected subject in the Colonies. Most other matters connected with the produce of the Colonies have long claimed public attention. Men of science and experience meet, hold discussions, write letters, publish pamphlets, and endeavour by various means to make the science of any subject understood, and render those interested alive to the benefits to be derived by bringing it into practice; but, in Sheep-breeding, we have nothing of the kind. This is much to be regretted. There are few occupations that require more practical knowledge than the breeding of Sheep;—few in which greater mistakes can be made;—few, if any, less generally understood, and none capable of greater improvements. But it requires men of practical experience to take the matter in hand, to endeavour to correct the numerous existing errors, and bring the business into something like a system. It is thought there never was any country in the world where a business was so extensively followed, with so little knowledge of the art. Indeed, there might be no art or science in the matter; but there is no business where more art is required, and which must be practised, to excel. Although there have been great and numerous errors committed in breeding from the commencement up to the present time, still the Wools of these Colonies have risen to great estimation. This speaks volumes for the richness of the climate. If this has been effected under such bad management, it is hard to say what results might not have been attained with scientific breeding. Much has been done; much more might have been done, and still more remains to be done. There may be many men in these Colonies better qualified than I to write on this subject, who are quite ready to come forward, if the ice is once broken. With this view, partly, and to call from their hiding-places men of experience to give us instructions and directions, I write this on a subject of all others, in successful Sheep-breeding, the most necessary to be well acquainted with,

for very important reasons;—yet it is a subject the least of others understood in these Colonies, and in many cases not thought of or cared for;—Climate, and its Effects.

Climate is an all-powerful agent, not to be resisted; it might be opposed, but never beaten; it forms the soil and herbage,—stamps everything brought within its range with its own peculiar character; and in nothing is this more the case than in Sheep. Sheep are animals so constituted as to endure all climes, from the Indus to the Pole; yet, in every country where they are to be found, the climate communicates to the Wool a character peculiar to itself, and distinct from all others. So great is this difference, that it is very easy to distinguish, by examination of the Wool alone, in what part of the world it was grown. It is essential that every Sheep-breeder should know this, and especially the character of the climate in which he breeds, for reasons which shall be shown.

In order to illustrate this fact, let us take four of the leading Wool-growing countries, show the character of each, and in what particular point they vary; viz., England, Spain, Germany, and Australia.

The value of all Wool depends on its manufacturing qualities. These are, Soundness, Denseness, Freeness, Fulness, Softness, a fair length of Staple, and good milling or fulling properties. All Wools with these qualities are valuable; the more so according to their degrees of fineness.

By Soundness is meant the staple sound and strong.

By Denseness, the fibres in the staple very close and compact, not hollow or open.

By Freeness, these fibres, although very dense, not intermingled one with the other, but so that they separate as freely as the threads of a skein of silk.

By Fulness, these sound, dense, free staples closely planted, yet not intermingled or combined one with the other, but separate as freely as the leaves of a book, showing the skin clearly at the bottom, yet small as a pencil line.

Softness needs no explanation, except that it is a very important quality. Wool possessing all the above qualities, without softness, is hard and harsh in the whole process of manufacturing, and, when completed, the goods produced might be firm and substantial, but not rich and smart; on the contrary, rough and hard to the touch, and unpleasant to the eye. Softness also gives pliability, and, added to the above qualities, the Wool works kindly, improving in every process, and, when finished, the goods are rich and ornamental, as well as substantial.

Fulling is a strong propensity to combine in the milling operation, so as to make a firm, compact body of cloth,—not slack or flannelly, but substantial, like finely-dressed leather.

Add to the above qualities a superior degree of fineness, and we have a perfect Wool, the value of which is depreciated according to the extent of any defect in any of these qualities.

In England, the terms clothing and combing are still used, yet very little English Wool is made into cloth; these are old terms, still kept up, although what is called clothing is chiefly used for flannels, druggets, serges, and various coarse goods of this description, and for which this Wool is best adapted of all others. But a large proportion of the English

Wools are used for the coarse and heavy descriptions of stuff or worsted goods, coarse merinos, bombazines, and goods of this description. From the excellent qualities it possesses for this kind of goods, it derives its value and superiority to all other coarse Wools; but the climate of England precludes the perfect growth of fine Wool. For instance, introduce into England the best Merino Sheep, and their Wool will speedily lose its rich quality of fineness: it becomes hard and harsh, and gradually coarse. The first fleece will be affected, and each succeeding fleece more so.

Make no cross, but keep your Sheep pure; without that, the first generation will be coarser, harder, and more open than their parents, and so on with each succeeding generation, till they become a breed without character of either fine or coarse wool, not possessing the qualities of either, and therefore not so valuable. This is no theory: Lord Western devoted a number of years, and expended a large amount of money, and tried every experiment to grow fine Wool, or rear a breed of Sheep superior to the English from pure Merinos, and has made every kind of cross with the various breeds of English Sheep. What is the result?—The production of a bastard breed of Sheep, without character. He has been fighting against climate, and has been beaten.

Spanish Wool is a great deal finer than English; so much so that, formerly, all the fine descriptions of cloths used in England were made from this wool. The demand was such, that I have known this wool sold for ten shillings a pound in England. It was the best clothing wool then known: it milled well; made a firm, substantial, and what was then considered fine cloth; yet it was greatly deficient in softness, consequently not rich and ornamental. When the Spanish Sheep were introduced into Germany, it was found that under the influence of that climate the Wool not only retained its original fineness, but greatly improved in softness. This fact being ascertained, the Germans saw their advantage, and, like wise people, earnestly set to work to profit by it, some of the Princes—I forget which—taking the lead. They called meetings, published works, and even established schools, in order to bring about a scientific system of Sheep-breeding. The result is well known: they produce Wool so far superior to the Spanish, not so much in fineness as in softness, as to supersede it for the purposes of fine-dressed cloth, thus placing Spanish Wool in a middle position,—superior to the English, but far inferior to the German. Under the German climate and management, the Wool also was much improved in length and soundness of staple, and freeness of fibre. This induced the firm of Addison and Roper, of Bradford, Yorkshire, to try if it would stand the process of combing; the experiment succeeded, and a new description of worsted goods was produced, so light, soft, fine, and rich, as to compete with silks and satins for ladies' dresses. This business was soon taken up by other firms,—Messrs. Garnett, Mr. Wood, and so on, until it has become a very extensive one, still on the increase. The Germans wrought with climate, and succeeded. But, notwithstanding all, there is still a great defect in the German climate, which shows itself in the wool; this is the milling quality, of which it is greatly deficient; it never made so firm and substantial a cloth as the Spanish: it is too light, slack, and flannelly, more suited for ornamental purposes, while the Spanish is more adapted for general wear and tear.

The climate of the Australian Colonies is as much superior to that of all others for the growth of fine Wool, possessing every manufacturing quality, as that of England for the production of coarse Wool. It gives the milling quality equal to Spain, and the softness equal to Germany. The Wool grown by sheep properly acclimatized, and which have become truly Australian in character, possesses the good qualities of Wool grown in both those countries, without the defects of either. It makes cloth as substantial and useful as the Spanish, and as rich and ornamental as the Saxon. This is a great advantage, and I believe I am right in asserting that the Australian Combing Wool is the most valuable in the world. Although stuff goods were *first* made from German Wool, Australian Combing Wool has been proved so far superior, that, could a sufficient quantity be obtained to suit the requirements of the trade, not a single pound of German Wool would be used for that purpose. But these combing qualities must be bred for. It has here been shown what influence climate, unaided, has upon some qualities of Wool, and the necessity of producing other qualities by artificial means. It is the nature of the Australian climate to produce fine Wool to great perfection, communicating a superior degree of milling quality and softness; but length and soundness of staple, fulness and freeness of fibre, an essential in combing Wool, we must breed for. If I am wrong in any of the above remarks, I shall be most happy to be corrected; if right, the absurdity of a continual importation of foreign staple is sufficiently apparent. The climate of Australia, as I have before stated, is superior to that of all others. Wool grown by Sheep judiciously bred under its influence possesses all the essential qualities in a far superior degree to all other wools. What good can be obtained from foreign Sheep I cannot conceive; but the evil effect produced is, in my mind, beyond all question. If we introduce German Sheep, we injure the milling quality; if Spanish, we destroy softness; and it will take at least two or three generations to redeem these qualities. If the Sheep imported are English, we destroy all these good qualities at once, and the only redemption is the butcher; it is like engrafting a crab on an apple to improve its flavour. We hear a great deal said about breeding in and in; every defect is attributed to this. I think, without any close investigation, it will be found that the evil lies in breeding out and out. There may have been cases where family blood has not been sufficiently renewed; but the great bulk of the mischief done, and the cause of the numerous defects in flocks, are bad selection, the importation of Sheep not suited to the country, and injudicious crosses.

The rapidly increasing demand for meat, arising from the great influx of population into these Colonies, is creating an alarm in many quarters, that, in a few years, under the present system of breeding Stock, the supply will not meet the extra demand. This suggests the necessity of means being speedily adopted to increase the supply. Some parties have strongly recommended the extensive cultivation of artificial food for fattening purposes, but more especially the introduction from England, although a coarser, still a much larger Sheep, giving, when fat, a greater amount of mutton,—such as the Leicester, South Downs, Teeswater, Lord Western's, and the Cotswold. Some people, completely ignorant of the nature of the climate, quality of the soil, or general circumstances of the

Colonies, twenty years ago, held the same opinions, and recommended the same system for the same purposes,—at that time Wool being one great reason for the introduction of these breeds, as well as carcase. From them and their crosses great expectations were formed, from the amount of *Combing Wool* (although coarser) which was to compensate the grower by the weight exceeding the amount lost per pound in the previous clips, besides giving a larger carcase, with a greater propensity to fatten. These importations were recommended by parties in England; not by legitimate buyers and manufacturers in Wool, but by London Agents, who knew nothing of the subject in question, and as little of the general character of the Colonies. At that time Combing Wools were in great demand in the Home Market. It was inferred, because the Sheep in question produced Combing Wool in England, they *must* do so in Australia. Sheep-breeders in Australia at that time knew little or nothing of the effects caused by intermingling different breeds, but took it for granted that these London agents understood the matter. The manner in which the Stockholders out here went to work, clearly showed their incompetency to judge for themselves. Instead of cautiously making experiments on a small scale, they entered largely into the various breeds of English Sheep. They imported, but never was there such a woeful mistake made or carried to so great an extent in any country, or one so injurious to the character of the flocks themselves, or the interest of the breeders. The Sheep proved much too large for the pasture, and of a character not suited to the climate. These beautiful Sheep, bred for, and so admirably adapted to the cold climate of England, became, on the scanty pasturage and more dry and warmer climate of Australia, mere shadows of their former selves; the qualities both of wool and carcase which made them so profitable in England, were all lost here. The fine large carcase shrank, and had the appearance of a large-framed person in a decline; the bone remained, but the round, full, healthy appearance was gone. The fact was, these Sheep were far too coarse and heavy for the soil and climate of these Colonies. The two were at variance; there was a contest between two opposite natures, and the consequence was, that a change for the worse very soon began to show itself in the Wool. Instead of the long, sound, free, clear, moist, healthy Wool grown in England, there was a weak, entangled, hard, dry kind produced here. This falling off in quality gradually went on until the whole fleece became one irregular mass of hard, dry, entangled fibres, without distinction of parts, and every vestige of English character had disappeared. What was gained? A larger Sheep certainly, much larger in bone and frame, with long coarse legs, flat ribs, long herring back,—a mere skeleton of the English parentage. The early propensity to fatten was gone; so much so, that on many runs the Sheep could not be fattened at all, and it was only on the best runs, and in the best seasons, that they would get into any condition. It was impossible for animals to be so reduced and changed without their constitution being greatly injured.

That this was the case to a very serious extent, we have numerous and lamentable proofs, the baneful effects of which have not only been felt by the importers and breeders of those Sheep, but more or less in all parts of these Colonies. Maneroo and the districts around, including Molong and

Braidwood, being much colder in winter than many other parts, to the breeders there the English Sheep were strongly recommended as more suitable than the smaller and finer breeds, and it was argued that a cross with them would not only increase size, but strengthen constitution. Under these impressions, and without the least consideration as to the extreme difference of the two breeds of Sheep they were about to cross, it was universally tried. Never was there a greater attempt to force nature than this, and the consequence was, as usual in such cases, a failure perfected. Previous to this, all the breeders required was fine Wool. In order to get this without any reference to quality, they had selected for breeding and raising, rams the finest, and in most cases (it followed) the weakest and most delicate sheep in the flocks; and the consequence was, for a series of years, that the Sheep became small and weak; the Wool was fine, but too light and tender. This evil was sought to be remedied by a cross with English Sheep, and thus extremes of nature were brought in contact under the most unfavourable circumstances. The finest woolled Sheep in the world, from the extreme eagerness of the breeders to grow fine Wool, were much reduced in size and strength, crossed as they were with the coarsest and heaviest, in a declining state of health, from the influence of a climate not adapted to its nature, in order to change its character; this was a mistake. The offspring of this cross was what might be expected, irregular, misshapen, huge animals, without any character, except bad, in wool and carcase. Thus, these deservedly famed breeds of Sheep, by being brought into contact in a foreign country, being in a declining state—one from a mistake in breeding, the other from a climate not congenial to its nature—produced a breed entirely without character, destitute of every good quality for which their parents were justly famed; all these disappeared entirely, and nothing remained but their defects. To those who have paid attention to nature, it requires very little consideration to perceive that the animal, so entirely changed in character by the influence of opposite extremes being forced together, must suffer severely in constitution during the operation; so the result proved. Wool is as true an index to the constitution of a sheep, as the tongue of a man is to the state of his stomach. A weakly-constituted sheep invariably produces a weak, sickly Wool; a healthy-constituted one, the reverse. If, at any time, a healthy, sound sheep is attacked with any casual sickness, which frequently happens from cold and severe weather, long drought, lambing, &c., the Wool produced during such time is tender, corresponding to its severity, whilst the other parts of the staple are strong and sound. But the Wool grown on a weakly-constituted sheep is tender in all parts, and from the top to the roots of the staple, there is no soundness met with, and the slightest pull breaks it in any part, as if the Wool was dead and rotten. This was exactly the case with the Wool produced by the above injudicious cross.

Yolk is another true sign of the health of a Sheep; it is a peculiar provision of nature, produced by wool-growing animals alone, and supplied for the sole purpose of nourishing and supporting the Wool during its growth. In sound, healthy sheep, the yolk is abundant, rich, clear, and bright; in less healthy, more scanty, thick, and dull; in a sick sheep there is none at all. This was the case in the above-mentioned Sheep—

no yolk: from their exhausted condition this provision of nature had ceased. This accounted in some measure for the dry, withered, tender nature and growth of the Wool. When the grass was plentiful and the weather mild, the Sheep managed to exist, but it required to be very abundant and rich in quality for them to get anything like fat. If they did so, of course, having a larger frame, they were heavier than the smaller breeds, but there was less mutton in proportion to the weight of bone. When a dry season came, with a scarcity of food (such events being of common occurrence in these Colonies), these animals could not undergo the fatigue caused in trying to procure the quantity of grass necessary for their support. The distance they had to travel was too great, and they became exhausted; in this state they were liable to become infected with disease, weather was quite sufficient to bring it on. I have known whole flocks affected by camping in a valley or on a flat, the night turning suddenly cold or foggy, after a warm close day; thus the groundwork was laid for disease and death. The breeders, after a few years, having experienced heavy losses, were convinced they were wrong; they were disappointed in all their expectations; their anticipated immense profits turned out in many cases a dead loss; they saw no way to remedy it but by breeding back; their discarded fine rams were again brought into use, and more got; thus, as is often the case, one extreme begets another. Not paying the least attention to the rules laid down by all the most experienced and successful breeders, but in defiance of nature, a series of crosses took place, to the entire destruction of all distinction of breeds, and the loss of all character; but these Sheep, bad in every sense—wool, carcase, and constitution, the most unprofitable ever bred in the Colonies, except the original Bengals,—even these, although to me in wool, being half kemps, were stronger in constitution and free from disease. For proofs how completely the constitution of these Sheep was broken up, I have only to refer to the scenes of disease and death which were common throughout the whole of those districts where the cross-breeding took place.

The disease, Catarrh, carried off sheep by thousands; in many instances whole flocks in a few days. This disease is simply inflammation in the glands of the neck and head, extending through the whole frame; a disease most likely to take place of all others by a change from dry and hot to wet and cold weather, in animals so completely reduced as these sheep were by the contention caused by opposite natures being brought into contact. The anxiety of masters to rid themselves of such stock may be easily imagined. The sheep were sold and sent off in every direction, taking with them, not the disease, for that would not travel any great distance, but constitutions prepared for it. Port Phillip being then in its infancy, and Sheep being required for breeding purposes, large droves were sent there, thousands dying on the way, and others after their arrival. Every case of Catarrh in Port Phillip can be traced clearly to the sheep and their offspring from the Sydney Districts. A very large quantity of the flocks in these districts are the produce of these cross-bred sheep; all the worst and most unprofitable are such.

Catarrh has entirely disappeared in Port Phillip; the reason is simply this: for many years now there has been no such crossing, and the sheep

have become more acclimatized—Australian in character, and there has been a gradual improvement in health, as their constitution gradually recovered, and thereby the weight of wool has increased, the Wool has risen in value, the carcase has grown larger, and the propensity to fatten has improved. In fact, the flocks in Port Phillip, within the last few years, have so much improved, that from the least valuable they have become the most valuable in all the Colonies. The universal spread of Scab, and consequent enormous loss of stock, has put a stop for the present to their improvements; but if the breeders pursue the course they have been doing, breeding from Colonial-bred Rams, as the Scab disappears all will be redeemed; but if they import foreign Sheep, and breed from them, all is lost. I am quite convinced that a very great improvement still is to be made in the weight of the carcase of sheep, still keeping up the *quantity* and *quality* of Wool, by proper attention to breeding.

Persons, generally, differ widely in opinion on this subject; for though all appear convinced that something is radically wrong, yet what that something is, they cannot in any way agree. All say that great improvements may be made in Sheep, that the capabilities of runs may be greatly enlarged, and made to produce a very much greater quantity and better quality of mutton and wool. So I think, and have long been convinced on this subject; and by simple means all these desired improvements can be made. But quantity and quality of mutton and wool will never be obtained by a continued importation of foreign Sheep from any part of the world, especially from Great Britain; it can only be obtained by the use of purely Australian Sheep, and no others. What I mean by pure Australian Sheep is this: those that have become thoroughly so in character, being the offspring of sheep that have been bred and reared under the influence of this climate for at least three or four generations, even although they have been originally of the pure Spanish Merino blood, for it takes longer for any other description of sheep, especially British, to become acclimatized. The climate of these Colonies, as I have before mentioned, is as powerful in its operation as that of any other country in the world. We have had, I think, quite sufficient proof that it is just as stubborn when opposed, as it is genial when consulted and humoured. In quality it is far superior for Wool-growing purposes to any other, communicating qualities which combine excellency peculiar to Australian Wools alone, and not to be attained in any other clime. If Australian Wool-growers knew the superiority of their own climate, and of sheep bred carefully under its influence, from suitable descriptions, all fresh importations would cease. In order to establish the most valuable flocks, or make any decided improvement in quantity and quality of wool and mutton, we *must* have sheep sound and healthy in character, size, and general habits, suited to the soil and climate. To accomplish this, in all our operations we must study nature—we must be co-workers with the climate. I have already shown the evils resulting from opposing climate and defying the laws of nature. From past experience we ought to have learnt a great lesson, as it certainly was a costly one. At the beginning of this Treatise, I showed the natural character and superior quality of the Australian climate, the difference and excellence of Wool grown under

its influence, in comparison to all others. This being the case, it requires little consideration or penetration for even the most uninitiated to perceive that to cross Australian flocks with others so dissimilar and inferior in character, the Wool of the offspring must be greatly injured in those qualities for which that produced in these Colonies is so much valued. This is a serious check to its rising fame—a wound inflicted in ignorance by a friendly hand; but this is little compared to the injury done to the health and constitution of the sheep themselves. The most suitable sheep that can be obtained from any foreign part for these Colonies, is so utterly different in character from the Australian, and the change to be effected by the climate so great, that it takes at least three generations of sheep born here to accomplish a change for the better, and the health of the sheep being seriously affected during the progress of the change, it is less prolific. Should the best ewes be selected for the fresh imported rams, the lambs are few in number and without character; some have partially lost the character of the sire, and in equal proportion acquired that of the dam, whilst others will be the reverse. The Wool is short, weakly, sick, and delicate in its growth; the yolk is scanty, dull, and thick: sure signs of defective health. The best Australian sheep are far superior to them in every respect,—in size, health, and constitution. The Wool is longer, sounder, heavier, and richer, and consequently more valuable, far. These sheep have had sufficient time given them (without being disturbed by any foreign cross) to gain the Australian character; it matters not whence their progenitors came, the climate has changed their character, and made them its own; the contention is over and they now agree; the sheep have recovered the debility consequent on the change; the climate is congenial to the growth of both wool and carcase; but cross these sheep with any in the world, however pure or well selected, with the breed not so acclimatized, and the contest is renewed, and all the natural effects follow,—debility both in wool and carcase, and that in accordance with the extent of difference in the character of the sheep so introduced, and in the nature of the climate. The greater the difference the stronger the effects.

These statements may appear strange and rather startling to many of the sheep-farmers here, for it must be quite contrary to all their preconceived ideas and opinions, if we are allowed to judge by their actions; but they are no less facts. It is no novelty to me, and it is just what has been said by all the most experienced and successful breeders. In this one thing all agree, that to arrive at any degree of perfection, the Sheep must agree in size and character, and with that of the pasture and climate; and all experience in these Colonies goes to prove they are right. They inform us that this being accomplished by careful breeding, almost any degree of perfection can be arrived at both in wool and carcase. They all caution us that, having arrived at that perfection, should any fresh sheep be required to renew family blood, or for any other purpose, not to select from a distant or different clime, but near home, and from pasture and climate as similar to their own as possible. [All this is quite consistent with the laws of nature. Dame Nature is very powerful, and never fails to exert her strength either to assist or oppose, but she will not be trifled with with impunity.] Those who do so, must at their own

risk and cost. With very few exceptions, the operations of Sheep-breeding in these Colonies have been a continual game with Nature ; formerly on a large scale, and carried to the greatest extremes, which led to most disastrous results ; latterly on a smaller scale, and consequently lighter evils ensue, but still sufficient to make the Sheep small, weak, and delicate ; the Wool light and defective in many of the most essential qualities ; and the flocks one continued mixture of good, bad, and indifferent. There are some who consider themselves very wise, who spend considerable sums of money, and take considerable pains to keep them in the like condition. All persons who are well acquainted with the character of the various breeds of sheep, and with the climate and soil of Australia, agree that the Merino Sheep are the most suitable for these Colonies. If a cross with these or their offspring before they have gained the Australian character be so injurious, as before stated, what can be expected from a cross with the sheep for many years back so generally imported from Saxony, called pure Saxon Merino ? they may be pure Saxon, but very far from being pure Merino ; they are merely the offspring of the original German sheep, crossed with pure Merino rams for several generations. The long pedigree, if true at all, is from the sire ; that of the dam dare not be mentioned ; it is doubtful if many of them have even so much Merino blood, but are merely the offspring of a half-bred Saxon Merino, both sire and dam, still retaining the name of the original Merino ram for many generations back.

In Germany there are but few pure Merino Sheep, compared to the number of Sheep ; and those of good quality are not to be got there, even, for four times the price that many of the rams imported into this country were sold for on their arrival here, after their expenses had been paid. Previous to the introduction of the Merino, there was the Saxon Sheep, of a very inferior description, and, like all other countries, Saxony had its good and bad breeders. Some, by care and perseverance, so far improved their flocks as to make them assume a regular, true character,—pure Saxon ; but very far inferior to the Merino Sheep, kept pure, and improved under the Saxon climate. Other breeders being less careful and attentive, their Sheep are far inferior to the best improved cross-bred Saxon Merino Sheep. These are the description of sheep imported into these Colonies, a very inferior kind of half-bred Saxon Merino, which any good breeder would at once cull and condemn as unfit for use. They must be very inferior Australian flocks that do not contain in them a larger proportion of far superior sheep in every respect,—carcase, constitution, wool, and blood,—than many of these Saxon Merino imported Sheep. In spite of all this, these sheep are bred from without the slightest hesitation or examination as to size, health, quantity, or quality of wool. The young sheep are all used, if they can but crawl, and the rams are put to the flocks, and the ewes are kept to raise other rams from. If the Australian flocks are injured by the use of unacclimatized Merinos, what can be expected to be the effect of using these very inferior Saxon Sheep ? None but those who have paid the very closest attention can have the least conception of the bad effects the depth or extent of the mischief done. Point out any defect in such flocks, and the answer is,—“ Why, these are got by imported rams ! they will throw back,—they have the

blood. What blood? Certainly not pure Merino; and it will take several years and many generations to bring them back to what they were before. This cross was intended to recover what had been lost on wool, constitution, and carcase, and was what Paddy would call a decided advance backwards. The effect of these crosses is the production of small, weak, delicate sheep, with tender, light, short wool. Point out these, and the almost universal answer is, especially in these parts, "We have been breeding too much in and in,—they want fresh blood." The fact is, they have been breeding so much out and out, that there is little or nothing left to breed upon at all. I should much like to know from many of the breeders here, their opinion respecting the mixtures of the different bloods. I wonder very much how many bloods it is necessary to mix in order to arrive at perfection in breeding. There must be a great many, according to the general ideas in these Colonies. This I do know, that the very worst and most unprofitable sheep here, are those derived from the most numerous mixtures of blood. All these facts are not enough to satisfy some of our Sydney firms, who imagine they know more than, or as much, on this subject as anyone else, though how or where they have picked up their information and practical experience, I know not. These gentlemen, in order to astonish us, imagining that the Saxon Sheep are not good enough as they at present exist, must try and improve them by purchasing in Saxony, and bringing the unfortunate victims to England, to a climate as different from their own as it is possible to conceive. After they have deteriorated in England, and their health and constitution are, to a considerable extent, injured, which must be the case, owing to the sudden change of climate, the offspring is sent out here in the reduced state, to undergo another severe change, and the blighting effects ensuing from it. The climate of this Colony is excessively changeable, and perhaps it is with a view to prepare them for a sudden change from heat to cold that they shift the unfortunate animals about in the way alluded to. These are the sheep that are designed to raise the character of our Australian flocks, and to give quantity and quality both of mutton and wool in a large carcase, strong constitution, and a rich heavy fleece. But in what way inferior sheep are to improve others superior to themselves, or sickness is to give health, or weakness strength, even in the Antipodes, is beyond my comprehension. All wise men have reasons for what they do, and no doubt the concoctors of the Sheep-importing scheme have sufficient reasons to give, how this wonderful thing is to be done; it is another move, and surely ought to be the last in the game with Nature; and, inconsistent as it certainly is, it is only another addition to our Australian breeding system. The grand secret for successful breeding is to suit the breed to the character of the climate and pasture; without this, all our best efforts to excel must be in vain; this accomplished, even careless breeding in other respects will be attended with a certain degree of success. This applies to all domesticated animals, but more especially Sheep: there is no animal so much affected and changed by climate; none that yields so much to outward circumstances; none so amenable to the management of man. Give them a congenial soil and climate, and then, by good selection and care in breeding, almost any perfection can be arrived at. If the Sheep-breeders

in these Colonies could be made sensible of this fact, and of the immense advantages they possess over all other countries, from the rich qualities of soil and climate for the growth of wool;—could a spirit of emulation be created amongst them, and directed in the right course;—could a scientific system of breeding be universally established,—the Wools of these Colonies would speedily attain a purity, perfection, and value far surpassing any other yet arrived at by any other country in the world, and a combination of rich qualities in such perfection, as to make them in continual demand amongst the whole manufacturing people, for the production of the lightest and most valuable of all woollen goods, such as Merinos, Muslin de Laines, Shawls, &c.; indeed, it would soon become essential to their very existence as producers of these goods. Without this wool, they cannot enter the lists to compete with those who have it. As the wool improved in these qualities, the quantity would in many cases be doubled, the sheep would equally improve in size and constitution, and consequently in their propensity to fatten. This is no theory, no visionary delusion; for, notwithstanding all the great and numerous errors committed in breeding, we have had sufficient proof of the ability of these Colonies to accomplish all this, and more. Ignorance of the true character and superior richness of the soil and climate, has created a giant that stands in the way, and with a strong hand and surly visage, opposes in every way these much-desired improvements, and so far destroys the interests of the country. I mean that gentleman called Prejudice, that general barrier to all improvement, however good or desirable. In these Colonies the monster assumes so many different shapes, that it is a hard matter to understand him; but sooner or later he must give way to certain truths and undeniable facts. We have people from various parts of the world engaged here in Sheep-breeding, who have brought with them their own preconceived notions and opinions on the subject, and are all strongly prejudiced in favour of their own ideas, which are as numerous as the places whence they came;—men from various parts of England, Scotland, Highlanders and Lowlanders, Irish, German, &c., who all think that the sheep that do best in their own respective country must be best suited for this, so that the various breeds have each their advocates; and nearly all have been tried, and we have already seen the result,—such a production of stocks, both in wool and carcase, as to disgrace the name of Australia, unworthy of the country in which they were bred. Breeding operations carried on by people holding such a variety of opinions, and having such deeply-rooted prejudices, have been all confusion, and, as a natural consequence, have led to innumerable defects in the flocks, and made this fine country, both the richest and most healthy climate for the purpose, a scene of sickness, disease, and death. Luckily for the good and character of the Colonies, there are a few people in various parts who have avoided these mistakes, and have gone more systematically to work. They selected sheep most suitable to the character of the pasture and climate, and have kept them pure, taking care at the same time to have the family blood sufficiently removed, at the same time not crossing with sheep of a different breed.

To these few the Colonies are greatly indebted, as being those whose flocks have kept up the name and character of our Wools. They have

partially checked and rectified the mischief done. It is to such as these that we have to look for the success of Sheep-breeding in these Colonies, and for the superiority of our Wools over all others, from the richness of their quality. Even these breeders formerly made a great mistake, which was very injurious to the flocks in point of size, of carcase, and weight and value of fleece, for a time greatly injuring the character of the breeder in public estimation. Their error was this: in selecting sheep for stud purposes, they did not pay sufficient attention to those qualities in the wool which denote a sound and healthy constitution, and not culling the most delicate and lightly-woolled ewes; but, because they happened to be pure, they bred from everything promiscuously, no matter how defective, as long as they could crawl. Latterly this subject has been better understood and more attended to, and great improvements have been made in consequence, both in size of carcase, and, as naturally would follow, quantity of wool. All that is now wanted to make these flocks rise to a celebrity never yet attained, is a clear knowledge of the qualities required in the proper selection and culling of sheep generally. In many of these flocks sheep are to be found that already show great perfection. We will examine one of them. Here we have a beautiful and well-proportioned animal—*multum in parvo*. The chest deep and broad; the ribs long and round; the thighs full and plump; the legs short, with fine and clean bone, and well proportioned to the size of the sheep, not too thick, yet not sufficiently small to denote weakness; the face rather small, and covered with a fine silky down (no wool); the eye full, bright, and lively, denoting life and vigour, yet with a kind contented look. Now, we will examine the fleece: it is very regular and even throughout, not deficient in any one part; it covers the cheeks and forehead, but no more of the face; well up, and is thick and full; (sheep in general, excepting when young, which show wool on their faces, and legs, below the knee and hock, are, as a rule, very deceiving as regards the weight of their fleece, which to the eye appears weighty, but put it in the scales, and the reverse, as a rule, is the result); there is no falling off in fineness from the point of the shoulder right up to the neck, which is the case with all inferior sheep. Look down the ridge of the back: it is well covered; there is no indication of shortness of staple or of lightness. Look down the shoulder: the wool is fine grown, right down to the knee. Down the thigh to the hock it grows low; the wool may be a little coarser, almost imperceptibly though, still the growth is equally full and heavy. Now, divide the staples that are not the least entangled, but separate freely, so that the skin may be seen but very slightly; now take out a staple and examine the fibres; they are very dense and large in quantity; separate them, they do so freely, almost of themselves, from each other. Take hold of the top and bottom, give it a strong steady pull; it is sound and not easily broken. Look for the yolk; there it is in abundance, clear and bright,—it sparkles in the sun like so many diamonds. There is no doubt but that this sheep is sound and healthy; one with a weak constitution could not yield such an abundant yolk or grow such a fleece, which, in a sheep such as I have described, ought to be at least three inches long. It is also clear that such a sheep has become thoroughly acclimatized, and is thoroughly Australian in character and habits. The climate has made

it what it is, and is now congenial to its general health, vigour, and growth of carcase and wool. This is the only breed that can be successfully used to redeem the lost character of the flocks in these Colonies. What name are we to give to the above described animal? In blood it is pure Merino. No other breed of sheep will attain so great a perfection in these Colonies. A mixture of any other breed, however slight, injures its purity, and destroys the perfection of some of its valuable qualities. In blood, then, we have pure Spanish Merino, but in character it is entirely changed; both in wool and carcase it is quite a different animal from its original parent in Spain, from care in breeding, and owing to the influence of a superior climate. This sheep is greatly improved both in wool and carcase, much larger in frame, not so much in height as in bulk. It is much more round in the ribs, broader and deeper in the chest, more round and more full in the thigh; the rump is higher and better filled; the propensity to fatten is greatly improved, and its constitution sound, but not more so than that of its progenitor in Spain, so justly famed for sound constitution, and for being able to endure every change of climate. It arrives earlier at maturity in these Colonies than any other breed of sheep. Of this fact we have extensive and undeniable proofs. This change, this great improvement in the wool and carcase of the offspring of pure Spanish Merino Sheep, has arisen from the effects of the rich nature of Australia generally acting upon sheep in conjunction with the climate. The Wool also is completely changed in character, and greatly improved both in quality and quantity. The fleece is made heavier by the staple being much longer and sounder, the fibres more dense, finer, and freer, with a superior degree of softness, elasticity, and pliability; whilst the milling qualities are equal, if not superior, to those of its original parents in Spain. The change is so great and complete, both in carcase and wool, that we can no longer call this animal Spanish Merino. These rich qualities, I repeat, have been communicated to the wool by the influence of the Australian climate, a combination of excellencies not to be attained in any other climate in the world, in Wool-growing. In every sense of the word, it is Australian in character, quite distinct from, and superior to, any other wool. The sheep is pure Merino in blood, but it is equally pure Australian in character. It cannot in justice be any longer called Spanish, and for this word we are bound to substitute Australian, the pure Australian Merino, an entirely distinct and superior breed of sheep, the offspring of pure Spanish Merino, completely changed in character, and greatly improved in quality, by the influence of the distinct and superior richness of the Australian soil and climate. It can be called a new breed of sheep, entirely different in character, and superior in quality to any other in the world; and in size, character, strength of constitution, and natural habits, perfectly adapted to the pasture and climate of these Colonies. It is a new creation.

Forty years back, there was no such animal in existence, excepting in the minds of the English manufacturers. They anticipated then great things from these Colonies, judging from the great improvement in many of the most essential manufacturing qualities in the wool grown here from the various breeds of sheep introduced, and they came to the conclusion that New South Wales (or Botany Bay, by which name it was then

generally known), would as far excel all other countries in the growth of fine Wool as England did in the growth of coarse, and would thus make her, with Colonies in New Holland, quite independent of all foreign nations for a supply of the most valuable Wool, both fine and coarse, to carry on her extensive manufactories. For want of this in former years, in time of war, her resources were seriously crippled, and a large proportion of her population greatly distressed, and many brought to poverty and starvation, from the supplies of wool of the finer description being cut off. At that time she was entirely dependent on foreign nations for them. I was then young, and, being in the wool trade, had my attention very early drawn to Australian Wools; and being in a situation where I had the best opportunities of contrasting their qualities with those of foreign countries, whilst undergoing the process of manufacture, I gradually became greatly interested, and paid the closest attention to them.

The great change which took place in wool grown in the coarser description of sheep, showed clearly that this climate was not adapted for them, that it was not a coarse wool growing country; but it gave evident signs that it was peculiarly adapted for the growth of fine wool. A few years after the fine sheep had been introduced, and had felt the effects of the climate, the wools began to show it, and then any doubts upon the subject vanished. It was then fully believed by those best capable of judging, that Australia was qualified to compete successfully with any fine wool growing country in the world, even Germany itself. England never looked upon Australia as a rival in the growth of wool, but as one to foreign nations, in a description she could not produce herself. Neither did she look on Australia with a jealous eye, as an opponent in the growth of wool, likely to interfere with or injure her own productions, but as a most valuable and important friend, supplying her manufactories with that she herself could not produce; and that, when her wools were brought to maturity, the two countries conjointly would be independent of all other nations for that commodity; and that, whilst England stood unrivalled in coarse wool, Australia would in fine. Although such an opinion was formed amongst the manufacturers in England, and firmly believed, still, for a long time, there was a mystery about the wools of these Colonies which they could not unravel. The constant change in the wool from the various flocks puzzled them. They were not breeders of sheep, but judges of wool; thus they could not comprehend how it was that wool from various flocks that had been gradually gaining the Australian qualities, (and strengthening their own opinions of the character and ability of the country, and confirming their conviction of its ultimate success), should so suddenly lose many of the qualities that it had been years in gaining. This made them somewhat doubtful as to their own judgment regarding the capability of the climate. They thought that they had estimated it too highly. These changes were so various and numerous, and so frequent, that they did not know what to think; they were at a loss to know whether these arose from change of climate, wet or dry seasons, or whether the climate improved the wool only to a certain point, and after that it deteriorated. There was evidently something wrong,—they could not tell what; still there was

always something that tended to confirm their former opinions and encourage their hopes. The Wool was Australian, retaining some of its leading qualities, but it was Australian Wool spoiled. Then, amidst all this puzzling confusion and continual change, there were a few flocks which kept a steady course, and gave evidence of the excellent character of the climate.

Still it was said that Australia must be a very curious and uncertain country, and many wished to see it, and try and solve the problem, myself amongst the number. An opportunity occurred, and I came out in the year 1844, with the fixed determination to get as speedily as possible amongst sheep, and try to investigate, and, if possible, clear up this mystery which so much puzzled us. As soon as I landed, I had an opportunity of going up to a sheep station, which I gladly embraced. From that time up to the present, I have devoted my whole attention to this subject (excepting nine months I was in England), and I have spared neither time nor labour in order to investigate it thoroughly. I have travelled a great deal through the Colonies of New South Wales, Victoria, Moreton Bay, New Zealand, and Tasmania, and have seen, I believe, every cross in sheep-breeding, and the effects arising from each. Now, I affirm that there is no fault in country or climate, and that the opinion long since formed by the English manufacturers respecting both was correct, excepting that they were far below the mark, the richness of this climate being greatly superior to anything they could then possibly conceive. The fault does not lie in the country or climate, that Australian Wool does not at present excel German Wool as much as ever German did Spanish, not so much in fineness as in its richness and perfection of qualities. The fault lies entirely and altogether in the system of breeding. This has been carried on at random, according to the whim, fancy, or prejudice of the various breeders. There has been no system, no acknowledged rules of proceeding which must be adhered to, in order to arrive at any desired perfection. There has not been any combined movement to gain the object desired, but the whole proceedings have been disjointed and at variance. While nearly all profess to be striving to breed the most valuable sheep, they are all going to work in different ways to accomplish it, and all fancy that they will succeed. As in all other parts of the Colonies where proper steps have been taken to remedy these evils, they are in most cases successful. There are many of the present breeders in the Moreton Bay District who are making praiseworthy attempts to redeem the lost character of their flocks, but, it is to be deplored, in many cases with little or no good result; and it never will be accomplished by the use of newly imported sheep, it matters not from what country they may come, or of what description of breed they may be. This breeders find out generally when it is too late, and they then see the necessity of retracing their steps. This is the most difficult and unpleasant part of the business. It was comparatively easy to go wrong, but to get right, or even to arrive at the starting point, is the difficulty. Formerly scores were ruined, completely knocked up, and could never retrieve. Many others, who happily succeeded, found the task so difficult and laborious, that their finances have been nearly exhausted before they accomplished their task. Of course all these deserve a great deal of praise for the ex-

ertion they made to breed good sheep, although but a few only accomplished their purpose, and the rest went astray, more or less; their object was good, and they were much to be commended for their attempt; if they failed, they had done their best. They were ignorant of the character of the various breeds of sheep, and of the soil and climate, and were without any proper guide, no true system of breeding having been laid down suitable for these Colonies. To insure decided improvement in all these flocks so greatly defective in size, constitution, and fattening propensity, in order to increase the quality of the wool and grow the most valuable fleece in richness and perfection, import no more foreign sheep of any description, but breed entirely from the Australian Merino. Until this becomes an universal practice, and a system generally acknowledged and adhered to, and carried out for a series of years, the flocks of this country will never assume a true character. This system, and no other, will eradicate all the existing defects, and fully establish a true character of a new, distinct, and superior breed of sheep, in character, size, and natural habits perfectly suited to the country and climate in which they and their progenitors have for several generations been reared. This system will gradually improve the general health, and fully establish the constitution, and develop and bring to perfection all those fine qualities in the wool peculiar to that grown under the influence of the climate and soil of these Colonies, the full development of which is of the greatest importance to the intrinsic value of wool generally. To enhance their fame, and cause an extensive, almost an unlimited demand, and a corresponding rise in price, these Colonies will never derive the full extent of the value of their superior climate, until their own sheep are exclusively used for the perfecting of their flocks. Every fresh importation not only retards improvement, but in every case more or less destroys important qualities already gained, and is, in every sense of the word, an injury inflicted on the Colonies, by so retarding the full development of the perfection and value of their flocks, both in wool and carcase neither of which can suffer much without the other being seriously affected. I am quite aware how completely the fact, as above stated, differs from the generally received opinion in these Colonies.

We still frequently hear people who have at great expense imported sheep on a large scale, extolled as Patriots. Certainly, all who did so at the commencement of the Colonies for the purpose of establishing Sheep-breeding, might justly be looked upon as such, and deserve all the praise bestowed on them, and deserve it still. This benefit lasted until the quality of the flocks arrived at a certain point, after which it ceased, and gradually became an evil. This point is long since past, and the evil has been too long continued.

There is another class of Sheep-breeders that deserve no praise; indeed they cannot be too strongly censured for their proceedings. Present self-interest governs all their actions, and blinds them to everything else. They want to stock a run for sale; number is what they want; it matters not to them of what kind,—good, bad, or indifferent, large or small, healthy or sickly; if they can get a certain number, and then sell them with the station at so much per head, their point is gained. While they are breeding from any description of sheep they can secure at a low price, it

matters not how old or delicate, they never appear to consider or even care a straw about the evil they are doing, not only to the purchaser of their station, but also to the district and the public generally, by breeding such animals, which they count for sheep, but which in reality are nothing but mere shadows of the thing, both in carcase and wool. They are bred not in, but completely out; both in size, constitution, weight, and quality of wool, all is gone, whatever there might have been originally, to the disgrace of the breeder,—to the injury of all who may have any interest in them,—and a loss to the colony, in quantity and quality of mutton, and in those fine qualities of wool which constitute its value, and so far checking the importance of these Colonies on account of their superior wools. In fact, their whole proceedings as Sheep-breeders have been injurious to the general interest of the colony, in the injury they have done to the character of the flocks. I do not think that there is any part of the Colonies where this injurious carelessness, selfish, and injudicious breeding has been carried on to the same extent as in the Moreton Bay district. In forming stations, the plan pursued has been to collect all the old culls and crawling sheep from the surrounding neighbourhood that can be got at a very low price. This has been one of the chief causes in lowering the character of this fine district in public estimation, as producing small, delicate, and very light fleeces, as in constitution they are incapable of bearing rough usage, and hence the cause of so many casual deaths in wet seasons. That this should be the case from such stock, it is not to be wondered at; indeed it could not be otherwise. The climate, not the breeders, is very unjustly blamed for all this. It is not the climate, of which we have undeniable proofs.

Sheep not being indigenous to these Colonies, of course the first settlers were entirely dependent on foreign countries for a supply, to establish and maintain the breed. When it was ascertained that the climate was so excellent for the growth of wool, it became an important consideration with them, which of the numerous and various breeds was, in character, best adapted to this country. This important fact being once clearly proved, and a sufficient number of Sheep imported to fully establish the breed, Australia had then derived all the benefit in Sheep-breeding it was possible to derive from any foreign country. It is very doubtful whether this frequent importation of foreign Sheep for stud purposes, and consequently, intermixture of foreign blood with the established breeds, would not be very injurious,—provided the country and climate were inferior in quality,—and not contrary to the laws of nature. It is certainly contrary to the opinion of the best judges on this subject, and of the most experienced breeders. But, when this country is so entirely different, and the climate so far superior as to effect such an entire change and improvement in the best sheep that can be found, it requires very little reflection or penetration to perceive that nothing but evil can result by a cross with sheep of any breed, from any part of the world. Had the first settlers been aware of this, and, instead of relying on foreign blood for improvement in wool or carcase, turned their whole attention to effect such improvement as could be made from Colonial-bred Sheep,—the kind that had been proved the best adapted to the country, taking for the standard of excellence those qualities which constitute the Austra-

lian Merino, and carefully avoiding any sheep, it matters not however pure the breed, either ewes or rams, for stud purposes, showing the least defect in any of the Australian qualities,—long before this time these Colonies would have been in greater fame for the superiority of their Sheep than they are at present for the richness of their Gold-mines. Had these qualities been taken as the criterion of judgment from the first, a correct system of breeding would have been established, and grown up with the Colonies; all the advantages of the superior climate would have been secured, and a regular true Australian breed of Sheep established, as superior in character as it would have been distinct from all other sheep. All the evils would have been avoided, arising from irregular, unsound, unnatural, and whimsical breeding, which has been far too generally practised up to the present,—the real cause of all the irregular confusion in the character of Flocks, which vary according to the fancy of the breeders, and the reason of all the mystery that has so long puzzled the people in England interested in such matters, and the difficulty in accounting for the various and frequent changes that were continually occurring; and, in addition, the groundwork of badly-constituted sheep, and, consequently, sickness, disease, and death. Had the true system of breeding been established, in mine own opinion, the disease, Catarrh, would never have appeared in these Colonies. This disease is not natural to this soil and climate; neither did it belong to the constitution of any of the sheep introduced. I believe it was first engendered by injudicious and unnatural crosses of the various foreign breeds, and propagated by continual, indiscriminate, and multifarious mixture of all bloods and breeds. The diseases chiefly affecting Sheep in these Colonies are, Catarrh, Scab, and Footrot. The last named is a local disease, peculiar to certain districts having a particular rich, soft soil; a flock of sheep, however badly affected, will in a short time recover, without any dressing, if removed to a light sandy or dry stony run. The Scab is a very contagious disease, and, when it once appears, if not speedily and properly dealt with, very rapidly spreads through a whole flock, and even a whole district. Although it affects no vital part, but merely the skin, yet it has been a severe scourge at various times in many parts of these Colonies. It has been the cause of great expense, as well as immense loss of stock from death and stoppage of increase. This loss, in most instances, may be attributed, not to the disease so much as to the improper ingredients used for its cure, viz, mineral poisons of various kinds, far more effectual in killing the animals than in curing the disease. The chief of these poisons is arsenic,—a name that has become quite obnoxious to me on account of the most awful havoc it has made in flocks in Victoria. The extensive and almost universal use of this obnoxious and destructive poison has, in fact, been the cause of the most serious loss of stock that has taken place in that Colony in connection with the Scab. Hundreds of thousands of sheep have been killed through arsenic, without the desired cure of the disease being effected. In those that survived, it might have been checked, and apparently, for a time, destroyed; but in time appeared again as bad as ever.

This, a simple disease of the skin,—destructive, indeed, to the growth of wool, but comparatively harmless as to the mortality of the animal,—

has been made a most serious one by the use of poisonous drugs, and, in many instances, the supposed remedy has been a thousand times more fatal than the disease. I speak feelingly on the subject, because, like many more, I laboured hard for several years with anxious zeal and sanguine hopes of curing the Scab with arsenic, and used it in every conceivable way, and sometimes felt confident that I had succeeded; but time proved the contrary; and it was apparent the number of Sheep poisoned, and the injury done to the wool and constitution of the living, but the disease was still there, checked and lying dormant for a time. I have known Sheep dipped in arsenic five times in one season, with the greatest care, and still not cured. I do not mean to say that Scab was never cured by arsenic; but I say, in all my experience through a great part of Victoria during the hottest rage of the Scab, I never knew an effectual cure made by it. I have known many declare that they had done so, and some even wrote in newspapers, to have it published, and to direct others in the way to use it, in order to succeed; and, after all, have been deceived. Happily, experience and numerous experiments have led to a mild, speedy, and most effectual cure of this disease,—one not at all injurious to either Sheep or Wool; indeed, it nourishes and supports the latter in its growth. This is the simple use of Tobacco and Sulphur,—one pound of each to five gallons of boiling water: the sheep to be dipped in the mixture, as hot as they will bear it without scalding them, three times, with an interval of a fortnight between each dipping. I never knew this remedy fail in perfecting a cure, and with no more loss in sheep than may occur during washing, and in nearly as short a time as it would take to kill and burn them, and with no more expense; and with this immense advantage, that as long as the sulphur remains in wool, it acts as anticontagious as regards Scab. If these few remarks prove serviceable in the cause of Sheep-breeding, and they elicit others which will lead to the improvements I anxiously and sanguinely expect, my object will be gained.



A D D E N D A .

Catarrh is constitutional: it is bred into sheep; there is no other remedy except to breed it out. To accomplish this, cease importing, and use for all stud purposes the true Australian merino, and then Catarrh will be speedily talked about as a disease that once was very prevalent,—acting as a severe scourge on all breeders who so unceremoniously, ignorantly, or wilfully set at defiance all the laws of nature, by bringing in contact sheep so dissimilar in character and so unsuited to the climate. In fact, all the numerous faults and defects of the Australian flocks, both in carcase and wool, past and present, (excepting scab and foot-rot), are the evils arising from unnatural and unsound cross-breeding.

All the defects in carcase, from the small, sickly, delicate, up to the long-legged, flat-ribbed, herring-backed, goat-like sheep;—all the defects in wool, from the light, delicate, tender, smushy, fine fleece, down to the coarse, hollow, open, fuzzy, blanketty kind of wool,—the mere shadow, without the substance,—all these, together with various defects of constitution, size, and natural habits, unsuited both to the pasture and climate, have been bred into the sheep, and the only remedy is to breed them out. This will never be done by importing sheep.

Every fresh importation is only another step to prolong the evil; another addition to the already confused mixture of breeds, and the destruction of character. The defects in the offspring of each fresh imported lot assume different forms, according to the character of those imported, but still these are defects, and are far inferior in every respect to the offspring of the true Australian Merino. I suppose all sheep-breeders have a certain object in view, that is, to produce the most valuable description of stock, yielding as large a quantity of the best mutton, growing as valuable a fleece of wool as the pasture will allow. In order to accomplish this, they must have sheep, in character, size, and natural habits, perfectly suited to the soil and climate. They must be sound and healthy, comfortable and content, in order to thrive and fatten. Many people very naturally suppose, and indeed it is too generally believed, that in order to have a great quantity of mutton and a heavy fleece of wool, we must have a large framed sheep. This must be entirely governed by the pasture; extremes either way are to be avoided; of the two evils, sheep too large is the greater. When too large, they are never

satisfied ; they are always uneasy, restless, and discontented ; they never thrive ; there is no hearty or healthy growth of either wool or mutton.

There are no sheep in the world, in character, size, natural habits, or qualities of wool, adapted to the Australian pasture and climate, excepting the true Australian Merino. What I mean by the true or pure Australian, is an animal truly Australian in character, qualities, one thoroughly acclimated, and exhibiting all those superior and distinct qualities peculiar to, and communicated by, the Australian climate alone ; qualities not possessed by any other sheep in the world, and not to be gained in any other climate. It has taken a long time to produce this Australian animal ; its progenitors have been Australian bred, and never been crossed with any foreign sheep for several generations. It would take but a short time to spoil it ; one cross with any foreign sheep, and the character of the offspring is changed, the Australian qualities spoiled, and, if with English sheep, thoroughly destroyed ; and, instead of a gradual establishment of these truly valuable Australian qualities, they are thrown back to what they were five, ten, fifteen, or perhaps twenty years since, the evils varying according to the description of sheep introduced, and the extent to which they are used. It is by the use of the pure Australian, and no other sheep, that these Colonies will ever reap the full advantage of their superior climate, or the flocks generally ever attain that state of purity and perfection of those valuable Australian qualities, that would fully establish their own character and fame, as producing the most perfect and valuable wool in the world, and making, not only England, but all the woollen manufacturing world, even the far-famed wool-growing Germans, entirely dependent on these Colonies for the supply of an article which no other climate can produce, and which they as manufacturers cannot do without, if they intend to compete with those who have it ; the demand would then be unlimited, the competition great, and the value would rise accordingly ; and thus, by the greatly improved value of the wool, the great staple trade of these Colonies. It is impossible to calculate to what extent it would add to their rising fame and general prosperity. We should then have another clear illustration of the establishment of a pure and distinct breed of sheep, by a natural, scientific system of breeding, in character surpassing all other pure breeds, having the advantage of being established under the influence of a superior climate, which has infused qualities entirely its own.

I almost fancy I hear an exclamation from many who are engaged in sheep-breeding in these Colonies, but who evidently have never studied the true system of breeding, the natural qualities of the climate, or the true character of the various breeds of foreign sheep, but have been led away by the foolish idea originally conceived, and too generally entertained, the very root of all evil and want of success—What ! import no more sheep ? What are we to do for fresh blood ?

I would ask all such inquirers in natural, scientific, and successful breeding, what is meant by fresh blood ? It in no way means a cross either with a different description of sheep, or with sheep from a different description of climate. If all breeders were to understand the term in this light, and act upon it, there would very soon be no such thing as any pure breeds in the world ; all the sheep would be something like what the

generality of the Australian are now,—without any true character, a bastard breed, made up of a confused mixture of various different bloods. Fresh blood, and a cross with a different description of sheep, or with foreign blood, are two very different things. Fresh blood, as understood by all successful breeders, is simply an intermixture of blood from two different families of the same kind of sheep, bred as nearly as possible under the same circumstances, as to pasture and climate.

This, with the great care and judgment in selecting both rams and ewes for stud purposes, was the true cause of their great success. It was by closely adhering to this natural and true system that Bakewell was so successful in the improvement of the Leicester sheep. Being dissatisfied with their character as it then stood, especially in the defects of frame and fattening qualities, he determined to try an improvement; he argued, and argued rightly, that no sheep were so likely to improve as those bred on his own farm, or in the neighbourhood. He formed in his mind certain perfections they ought to possess, but which they did not. His first step was to select from his own stock for stud purposes, those sheep showing the best points, according to his opinion, of perfection. This was a decided and permanent improvement. He took advantage of every point gained to obtain another; thus he established the new or pure Leicester breed. He studied and complied with nature's laws, gained his point, benefitted his country, reaped an immense profit, and established a lasting fame, which he never would have accomplished by the use of foreign blood or cross-breeding; his labours would have been like those of many others, entirely in vain. Mr. Ellman, the improver of the South Down sheep, adopted the same system with equal success. These two different breeds of pure sheep were exactly adapted to the pasture and climate on which they were bred; indeed these were the chief agents in establishing their character; Mr. Bakewell and Mr. Ellman were merely their assistants, although they reaped the benefit and honor. At that time, vast improvements were being made in agriculture in England; a larger amount of artificial food, of various kinds, being gradually produced, qualified the same extent of ground to support a larger sheep, and produce more mutton. From the same system of breeding, the sheep improved equally with the pasture; nature formed their character to suit the improved state of the pasture, in size of carcase and fattening propensities. It required the same quantity of as nutritious food to keep them in perfect health, and develop all their superior qualities in carcase and wool, that had been the means, with the care in breeding, of creating them; deprive them of this, remove them to scantier and leaner food, and the vital spring of their perfection is weakened, and they suffer accordingly; these very perfections become an evil; the sheep not being able with their usual ease to obtain a sufficient supply of as nutritious food for the perfection of these qualities, weakness and debility soon follow, attended with all the defects in qualities in wool and carcase arising from ill health and poverty. It would be far more profitable for the owner of such a farm to have sheep of less fame, but in character more suited to his inferior pasture. These two breeds of sheep have been used extensively, with a view of improving various inferior breeds. This cross, in some cases, has proved very successful; in many others quite the reverse, in

cases where the sheep had been neglected while the pasture had been improved and enriched, so as to be capable of supporting a superior animal to formerly.

A cross with one or other of these pure breeds has answered the purpose, but when no such improvement has taken place in the pasture, a cross was a failure—indeed in many cases very injurious; for instance, the great improvements made in quantity and quality of food in many of the pastures in the low lands of Scotland, qualified them to support a superior animal, and a cross with one of these breeds there was a decided improvement, while on the unimproved farms of the Highlands it was as decidedly injurious.

The introduction of fresh blood to flocks that can claim the least pretensions to any degree of excellency, even from the same description of sheep, bred under the same circumstances as to pasture and climate, requires great care and judgment, to see that the sheep about to be introduced are not defective in any quality which the other possess, so that no evil arise from it. If they are superior in any point, an improvement may justly be expected. But, to make a direct cross with sheep of a different character, although bred in the same country, and nearly under the same circumstances as to pasture and climate, is a far more important step. To insure success requires the greatest care and judgment; a thorough knowledge of the true character of both breeds is requisite, so as to form an opinion whether the union of these two distinct breeds is likely to produce an animal superior in some particular quality to themselves; if not, no good is done. If an inferior animal to either is produced, which is often the case, and if generally used in the flocks of either breed, harm is done accordingly. With the best and most experienced breeders, all direct crosses, even with sheep bred under similar circumstances as to pasture and climate, are experiments, and will never be risked by them to any serious extent, until the experiment has been tried on a small scale, and proved beyond doubt that some particular benefit is gained, by the offspring showing some superior quality. To make a direct cross with sheep of a different character from a foreign country, where the pasture and climate are in every respect so dissimilar, is attended with so much uncertainty as to any good result, that no one who has studied the art of successful breeding would ever risk the experiment, if he cared a straw about the character of his flocks, his own success, prosperity, and fame as a breeder. Such a cross is completely at variance with all the laws of Nature, all sound judgment, and the experience and advice of all the best judges and most successful breeders. A knowledge of the various breeds of sheep, their extensive difference in character and habits, the different and distinct qualities of the various climates, and their effects upon the different breeds, and the dissimilarity of the various pastures, only require to be properly understood in order to perceive the fallacy of such a system of breeding. It is unsound in principle, opposed to all the elements of nature in sheep, climate, and pasture, and is, therefore, justly condemned by all experienced judges, except as an experiment, in which there are one hundred chances to one against any good result. Yet, this is the very system nearly universally practised by the Australian breeders; by many it is looked upon as the very highest degree of perfection in breeding;

only get imported sheep, with as long a pedigree as possible, and at a great expense, and the name as a breeder is at once established—the higher the price given, so much greater the fame. Then comes the question, if we don't import for fresh blood, where are we to find the Australian Merino possessing all the qualities peculiar to the Australian climate? That is a question not very easily answered; for, I confess, they are very scarce and very difficult to find, and I know of no question which can so effectually condemn the present system of breeding than this,—after all these years of breeding, and the great expense incurred, it is difficult to find the true Australian; and in twenty years hence the difficulty will be as great, if the same system of unnatural cross-breeding is continued. With all our boasted knowledge and experience in breeding, we are not one step further than when the Colonies commenced with the importation of sheep. For the sake of our own credit as breeders, not to mention the benefit and prosperity to the whole community, it is high time that another step be taken in the right direction. As to finding the Australian Merino, we must get the best we can, and, as Bakewell did in the Leicester, take advantage of every quality gained to obtain another, and there is no doubt of ultimate success; only assist the climate by taking advantage of her creative productions to arrive at still greater perfections, and the flocks will soon begin to assume a true character, developing all the qualities communicated by a superior climate, and place the Australian Colonies in that exalted state in wool-producing countries assigned to her by nature. Happily, for the credit of the Colonies, among all the confusion of breeds, there are some stock that have partly or altogether escaped this everlasting mixture of foreign blood a sufficient time to become partly or altogether true Australian in character, more or less perfect in quality; if not very numerous, yet quite sufficient for every purpose of fresh family blood. Indeed, in almost any Australian flocks, with careful selection, far superior sheep for stud purposes for present use are to be found, to any it is possible to import;—and those that have had a recent mixture of foreign blood, especially from any part of Britain,—these must especially be avoided. Sheep-breeding is still in its infancy in these Colonies, notwithstanding the length of time it has been carried on, the numbers engaged, and the amount of capital employed; and so it must remain, until a true, natural, scientific system is generally established; as this takes place, it will begin to appear that it is to the advantage of farmers of each particular district to look to his nearest neighbour for fresh blood, in preference to applying to a distant neighbour; for even in the same Colony there is great difference of pasture and climate, but this I must leave for science and experience to develope.

