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## THE FIRST FIFTY YEARS OF AGRICULTURE IN NEW SOUTH WALES.

By

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### 12. "THE FINDING OF A STAPLE"—THE EARLY DEVELOPMENT AND LATER PROBLEMS OF THE GRAZING AND FINE WOOL INDUSTRY (CIRCA 1803-1842).

**GENERAL: DEVELOPMENTS 1788-1820: THE RISE OF THE GRAZING  
COMPLEX: JOHN MACARTHUR: OTHER EARLY WOOL-GROWERS:  
CONTROVERSIES RE THE MERINO v. SOUTHDOWN: THE DELI-  
CACY OF THE MERINO: DUTIES, SHIPPING COSTS, OVERHEAD  
EXPENSES: THE OPENING UP OF THE ENGLISH MARKET: SPANISH  
AND GERMAN WOOLS: SURVEY 1821-1842: IMPORTATIONS 1826-  
1829: COMPARISON WITH LATER IMPORTATIONS, 1839 ON-  
WARDS: QUANTITY VERSUS QUALITY: THE PROBLEM OF THE  
CROSSBRED FLOCK: CATTLE RAISING: CONCLUSIONS: RELA-  
TIONS BETWEEN AGRICULTURE AND GRAZING.**

#### Introductory.

A convenient starting point for taking an appraisal of the sheep and wool industry in the early Colony and of grazing and stock breeding in general, is 1820, and the investigation into the affairs of the settlement by Commissioner Bigge. It has been seen that in the years before, the settlers had turned this way and that way in the search for some undertaking or staple, whether in trade, or manufacture or agriculture in its broadest sense, which would ensure a profitable export trade and enable the settlement to adjust its unfavourable overseas trade balance, besides "lessening the expense of the Mother Country" in its upkeep.

Two conflicting theories concerning development had been in circulation during the Macquarie administration; on the one hand, that of the Governor with its notions of emancipist farming settlement and denial of free settler development, or "exploitation," as Macquarie thought more likely to occur; on the other, the visions of a small minority of the colonists looking to grazing as the most suitable means by which the new country's growth and wealth could be ensured. This conflict cannot be said to have been finally resolved by 1820, even though, with the failure of small farming settlement, the writing was on the wall for all to see. Macarthur had large flocks, it is true, but his Merino sheep, the pure-breds, really the only ones that counted, did not number more than a small flock of 300 sheep<sup>(1)</sup>. There were no Government flocks, except a few sheep grazing in the grounds of the residences of the Governor at Parramatta and Sydney. Sheep were not on the ration, and thus mutton did not figure to any appreciable extent in Commissariat purchases. A few thousand sheep were grazing at

Bathurst, all told about 10,000 or 11,000<sup>(2)</sup>. Of these, William Cox controlled 5,000, William Lawson\* 1,000, Dr. Redfern 2,000, Hassall 1,500 and Messrs. Pentory, Lewes, Arkell and Cheshire between them about 2,000-2,500. Gregory Blaxland complained bitterly to Bigge that he had been prevented from "sending (his) cattle to lands unlocated generally," although approval had been given to these others to do so, and 1,400 cattle were over the mountains at Bathurst grazed by these men, in addition to all their sheep<sup>(3)</sup>. Development of grazing would seem on the whole to have been frowned on by Macquarie, and for this and other reasons the actual degree of achievement was a paltry one, considering that by then the Colony had been established for thirty years, and the passage over the mountains known for seven. The free settlers and monied men were, however, but a sprinkling in a predominantly convict and emancipist population, in proportion appreciably less than one-fifth of the total, with less than one-eighth of the whole population engaged in affairs of agriculture<sup>(4)</sup>. Even in actual stock numbers, there were more sheep in Van Diemen's Land than in New South Wales—relative numbers being about 180,000 as compared with 120,000<sup>(5)</sup>. The sheep, moreover, in both colonies were of the poorest types, nondescript crossbreds, sometimes riddled with the scab, with which even MacArthur had trouble<sup>(6)</sup>.

All this is the setting for the Bigge inquiry, destined to finally decide the road along which the British Government would steer its colonial possession, now seen for the first time as being somewhat of an asset, rather than wholly an exhausting liability. From 1821 onwards, sheep and grazing take over the platform of colonial development, leaving a peasant agriculture far behind. Capital, free enterprise, free settlers and immigrant pauper labour were, in successive stages, injected into the fabric of the Colony, until by 1843, stock numbers had increased to about 8,000,000 sheep and approximately 1,000,000 cattle, and the value of wool exports alone, to more than £500,000, exceeding in value all other exports put together<sup>(7)</sup>.

Although some reference has been made in previous essays to certain of the Commissioner's findings, it is important to quote from one other of his important observations and conclusions, since it bears directly upon the subject of the present sketch. This is by way of being a summary of his findings concerning the sheep and wool position as it was in 1820, and might develop into later: "By the 59. Geo. III. Chap. 52, legislation, the present duty of 1d. per lb. on wool imported direct from any British Colony into Great Britain is to be raised to 3d. after the 5th January, 1823, and to 6d. after the 5th January, 1826. The expenses of freight of wool by the direct voyage from New South Wales to Great Britain have been reduced from 4½d. to 3d. per lb., and with the expense of carriage from the interior of New South Wales to the port of embarkation, and those of sorting and packing, together

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\* Lieutenant William Lawson, born at Fincheley, near London, in 1774, came to Sydney in 1800 with a detachment of the New South Wales Corps. With Blaxland and Wentworth he made the historic crossing of the Blue Mountains in 1813. For his services in this discovery he received a grant of 1,000 acres of land at Campbell's River, near Bathurst, and Governor Macquarie appointed him Commandant of the embryo settlement there established. In 1821-2 he opened up the district of Mudgee and found a track through to the Goulburn River. Governor Brisbane wrote of Lawson as "one of the most extensive land and stock owners in the Colony." He died on his estate at Prospect, N.S.W., on 16th June, 1850.

with the expense of insurance and customs-house charges, commission and brokerage in the port of London, are estimated to amount to  $6\frac{1}{2}$ d. per lb., forming a total charge of  $9\frac{1}{2}$ d. per lb. on wool brought from the Colony to the London market. The quantity of wool imported from New South Wales into England in the year 1819 amounted to 71,299 lbs.; in 1820, to 112,616 lbs.; and in the year 1821 to 175,433 lbs. From the public sales that took place of the wool imported in the last year, and the beginning of the present, it appears that one bale containing the best wool of Mr. Macarthur's flocks, sold as high as 10s. 4d. per lb., and two others at 5s. 6d. per lb., but that out of 326 bales that were imported at the same time, 223 sold at prices varying from 1s.  $2\frac{1}{2}$ d. per lb. to 2s. inclusive; 84 bales sold at from 2s. to 3s. per lb., and nineteen bales sold at from 3s. to 4s. per lb. At the last sale of 217 bales of wool imported from Van Diemen's Land and New South Wales, 108 bales sold at from 7d. to 1s. per lb., 101 bales at from 1s. to 2s., six at 2s. 1d., and two at 2s. 2d. . . . From the present state of the flocks in New South Wales and of those in Van Diemen's Land, from the want of capital and intelligence that prevails amongst the greatest number of the proprietors of sheep, and the general disposition that I have observed amongst them, to devote themselves to pursuits that promise a limited but quick return, rather than to those that require time and perseverance, the number of fine-woolled sheep in the Colony cannot be expected to increase with rapidity; so that if the duty of 3d. per lb. should meet the importations of next year . . . future progress will be checked<sup>(\*)</sup>."

This quotation from the report of the Commissioner is one of the key references to any study of the sheep and wool industry in New South Wales and to the fundamental problems of its early development. It is self-evident from the figures quoted that in 1821 most of the wool raised in the Colony was the coarse hair-like covering of the Bengal-Cape breed, and that there was very little of the Merino. The comparative values of the two show an extraordinary difference in prices, ranging from 10s. 4d. per lb. for the selected fine wool grown by Macarthur, to the lower limit of 7d. per lb. for the worst of the Tasmanian hair fleeces. The Merino breed constituted at that time no more than a sprinkling scattered through some of the coarser bred flocks, and the main issue which faced the Colony was how to improve the breed of its sheep, and thus develop the wool industry, whilst at the same time retaining stock numbers. Other questions attaching to this main problem were whether to rely upon the Merino or the South-down or alternative new English breeds, how to combine wool growth with mutton production. It can be easily seen that production and marketing costs were also of considerable moment. In the first place, there was the uncertainty attaching to the levying of British import duties and to what extent the tariff would be used to bolster up a languishing British sheep industry, or encourage on some basis of reciprocity Continental imports of wool, possibly at the expense of the Colonial product. In the second place, there were the considerable costs involved in shipping wool to England, at one time  $4\frac{1}{2}$ d. per lb., and since lowered to 3d. per lb. To these had to be added charges attaching to insurance, brokerage and storage. Moreover, there were the items of actual production costs in the Colony and of the not inconsiderable expenses involved in merely transporting the wool from the interior to the port of shipping. Bigge's conclusions that having in

view all these latter costs, the final profit, if any, would depend upon British import duties, can then be accepted as a sound surmise, for it obviously followed that wool valued at 7d. to 1s., or about this low figure, was worthless for overseas trade. Such being the case, profit depended upon quality off-setting whatever production and marketing costs might be involved—a finding, which if it was true then, is just as obviously true now.

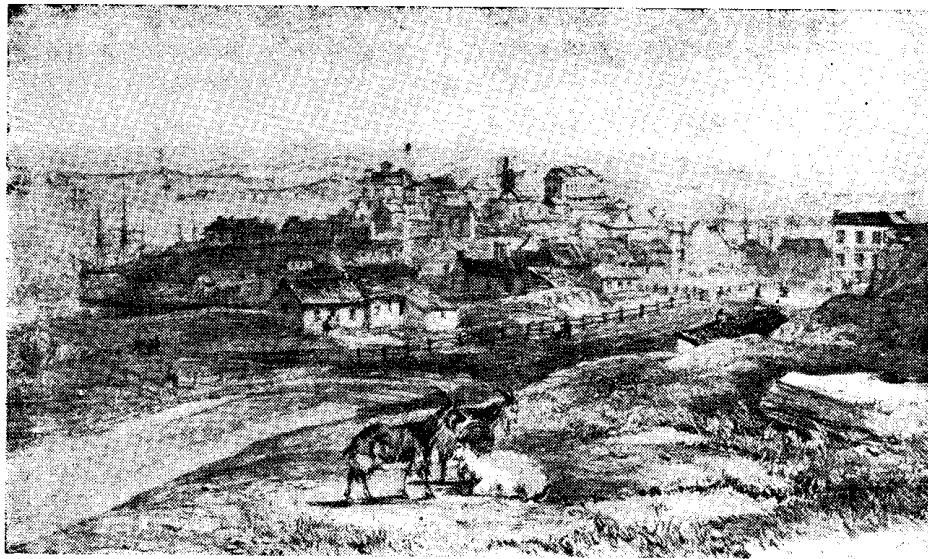
The plain issue, then, that faced the colonists in 1821, or at least faced those who could see it, was the fundamental necessity for improvement of quality in the wool, since upon this depended the price to be paid. Only by relating this with overhead expenses could a market in England be built up and the anticipations of the Commissioner be realised that “the future condition of the Colony may fairly be presumed to be that of pasture rather than tillage, and that the purchase of land will be made with a view to the maintenance of large flocks of fine-woolled sheep; the richer lands, which will be generally found on the banks of the rivers, being devoted to the production of corn, maize and vegetables. . . . Such appear(ing) to me to be the natural and most beneficial course for the agricultural industry in New South Wales and Van Diemen’s Land(°).”

The extraordinary phenomenon of early colonization is that these anticipations were so quickly realised and that even so early as a mere twenty years from Bigge’s visit to New South Wales, fine wool growing and grazing were large-scale industries. Almost overnight, it seems, as this development is surveyed in retrospect, the fabric, the entire economic make-up of the Colony was changed. Slowly at first, with a few test bales, and then like a river rising in flood, Australian wool began to be sent overseas, finally swamping all other competitors out of the market and ousting the German wool export trade from all participation in the parallel advancement of the English textile industries. A considerable amount has been written on this romance of the sheep and wool industry in Australia, some, but not all, of it of factual import. It is not intended, however, to fully go over this ground, for such would be outside the scope of this study. Rather should a sketch be now given of the main trends and problems attaching to this phenomenal growth insofar as they relate to the general context of this argument, primarily concerned with agriculture and its affairs and the problems of agricultural land settlement in the first fifty years of New South Wales history. Two other aspects of this growth will, however, also have to be looked at; the first, concerning foundations and the gradual growth of the grazing complex; the second, the reasons why a market for Australian wool, just at this psychological period, was opened up to the Colony. It will be sufficient if a broad picture is given, for it would be only too easy to clutter up the narrative with an overwhelming mass of detail.

### **Sheep and Wool Developments, 1788-1820.**

The period up to the Bigge investigations largely belongs to John Macarthur, notwithstanding that in those years he had enforced absences from the Colony—1801 to 1805 and 1809 to 1817—for quite considerable periods of time. With some sense of historical appreciation his wife, Elizabeth Macarthur, is now regarded as one of the great women of the early days of colonization in Australia, for it was she who largely managed affairs during the protracted exiles of her husband. This

appreciation, however, was not possible until 1914, and the publication by Miss S. M. Onslow of the "Early Records of the Macarthurs of Camden," which still remains one of the main sources of information concerning the early work of this virtual founder of the Australian sheep and wool industry. In this present sketch, nevertheless, considerations of proportion require that little mention can be made of these records, which should be consulted in the original in order to provide a supplementary background to this necessarily abbreviated study.



MILLER'S POINT, SYDNEY, 1842.

*"On the heights above the water frontage at Miller's Point there used to stand an old mill and several good residences, including a large three-storied house known as the 'Pack of Cards' (the windmill can be distinguished in the upper background, dead centre, and to the right the 'Pack of Cards' residence) . . . Cuthbert's ship-building yard has gone, also Tommy and Billy Langford's boat-building shed . . . The Gas Company's premises were small in those days when Mr. Ben Boyd's steamers, the 'June' and 'Cornubia' lay off the wharf. Watermen's boats took passengers from Luke or Keleck's wharf next door . . . The first conveyance by water up the Parramatta River, carrying passengers to Kissing Point, was a paddle-boat propelled by horses. A very distinguished politician, a Minister for Lands, used to tell how he rode the 'horse on the tread-wheel and kept the animal going by coaxing and whipping.'*

*"Before the Circular Quay was built, the big ships lay moored to rocks, and substantial stages, extending from the primitive wharves, connected the ship with the shore. Loading was a very slow business . . . Several bales were put on the press, reduced to the required size, rolled up the stages to the ship and then handled by stevedores. It was quite an event when the loading of a ship was completed, hatches closed down and everything ready to unship the ponderous gangways or stage . . . The old Queen's Wharf (near the Commissariat Stores) was mainly used by watermen and the Government boatmen up to the time that the present wharves on the west side of the Cove were built . . . Between Darve's and Miller's Points, alongside Walker, Bolt, Lamb and Parbury's Wharves, the picturesque China Tea Clippers used to moor.*

*"On the occasion of an election contest between Wentworth, Bland and others, for the Legislative Council, Johnny Jones, an identity of those days, is said to have assisted in the contest by taking up to the crowd at the polling booth a number of sailors armed with harpoons and staves, causing lively incidents, and resulting in some of the mixed and boisterous mob being driven over the rocks on Flagstaff Hill to Argyle Street."*

(cf. Journ. and Proc. R.A.H.S., June 25th, 1918, Vol. V, pp. 1-37—*Reminiscences of Sir James Fairfax.*)

The conditions up to 1821 have to be broadly pictured as a time of extremely primitive agricultural and grazing development. The property of Macarthur at Camden was quite the most considerable freehold in the Colony, and Bigge thought that Macarthur had had a consequential advantage over everybody else in having such a property <sup>(10)</sup>. Two flocks were there maintained, one a small nucleus of pure bred Merinos, the other of mixed types and breeds, which Macarthur was in process of grading up to Merino standard. Elsewhere, however, the quality of the sheep was inferior, the fat tailed, coarse woolled, Bengal type sheep prevailing. Macarthur, almost from the first, had come to the conclusion that the Merino type sheep produced the best wool and were the best fitted for the Australian environment. It has to be realised, nevertheless, that this idea was not generally accepted. By some, the Merino was thought to be delicate, and so ill-fitted for general use; secondly, livestock being so small in numbers, greater emphasis was placed on mutton qualities, the Bengal sheep and Cape breed producing, by comparison with the Merino, more meat; largely, also, the usefulness of sheep, in the view of the majority of the settlers, was thought to rest on their value for "folding" over agricultural land, rather than for any other purpose; whilst finally, it was by no means certain what influences were exerted by the "climate" and the "soil" on even the inferior hairy fleeces of the Bengal-Cape breeds. Surprising as it may now seem, in the minds of the more backward of the smaller settlers, ideas were current that, of themselves, factors of "soil" and "climate" would in time lead to a satisfactory and adequate "fining" of the hair fleeces<sup>(11)</sup>. The Merino to most of them was just another name, perhaps a new-fangled notion, like rotations.

The significance of John Macarthur is that at a period of confused ideas on breeding, he was the first to formulate a policy of wool improvement by selection and "in-and-line-breeding," and the first to create a vision and preach a gospel of the sheep and wool industry as it later became. He it was who provided the nucleus for all later developments. It should not be said that he was the "*Primus Inter Pares*" but rather should it be made clear that he was the "*Great Originator*" of scientific stock breeding in the Colony. This fact was recognised even by his contemporaries, and a proposal to erect a memorial to him may be noted, just three years after his death. (*S.H.* 29.7.1837). Perhaps the position is sufficiently well summed up by J. R. Graham in a work published on the Australian Merino in 1870: "The Camden or Macarthur sheep—and their patriotic breeder—constitute a chapter in the history of Australia . . . . From a worthless class of sheep, Macarthur with consummate skill and judgment succeeded in producing sheep of the greatest value to commerce. Without the acute perception, judgment and skill which Macarthur brought to the task, no merely natural advantages could have availed . . . . When Macarthur succeeded in obtaining his English Merinos from the Royal flock of George III, there was not perhaps in the Australias another gentleman of social position so distinguished that he could have accomplished the task"<sup>(12A)</sup>.

Perhaps the simplest account of his work—for he published nothing—still rests in the actual record which he gave to Commissioner Bigge in evidence. A precis of this account taken from the Transcripts of Evidence shows the main events:

"It is more than twenty-six years since I first paid attention to sheep. In 1794, I purchased from an officer sixty Bengal ewes and lambs imported from Calcutta and soon after, some from the Captain of a transport from Ireland—two Irish ewes and a ram. The Indian sheep produced coarse hair, and the wool of the Irish sheep was then valued at 9d. per lb. By crossing the two breeds I had the satisfaction to see the lambs of the Indian ewes bear a mingled fleece of hair and wool . . . . This event originated the idea of producing fine wool in New South Wales . . . . In the year 1796 (I think), the two sloops of war at this station were sent to the Cape and as their commanders were friends of mine, I desired them to inquire if there were any wool-bearing sheep at the Cape. There was a flock of Merino sheep for sale on their arrival, from which about twenty were purchased. Of these valuable animals, I was favoured with four ewes and two rams . . . . The remainder were distributed amongst different individuals who did not take the necessary precautions to keep the breed fine and they soon disappeared—mine were carefully guarded against an impure mixture and increased in number and improved in fineness of wool. In a year or two after I had an opportunity of augmenting my flock by the purchase from Colonel Foveaux of 1,200 Cape bred sheep.

"In 1801 I took to England specimens of the pure Merino wool and of the cross-bred and submitted them to the inspection of a Committee of Manufacturers. They reported that the Merino wool was equal to any Spanish wool and the cross-bred of considerable value. Thus encouraged, I purchased nine rams and one ewe from the Royal flock at Kew and returned to New South Wales determined to devote my attention to the improvement of the wool of my flocks. I only landed here five rams and one ewe, of those purchased from the Royal flock . . . . It is from these sources that my present stock has been reared.

"I have now 6,800 sheep of which 300 are pure Merinos—the Merino seldom rears more than one lamb.

"Q. What have been the best prices that you have ever obtained for your wool in England?—A consignment of my wool by the ship '*Ocean*' was sold by auction in London in February, 1819, and the finest bales sold at 5s. 6d. per lb . . . .

"We wash the wool as clean as we can on the sheep's back, and we suffer the sheep to remain a few days unshorn so that the yolk may rise in sufficient quantity to preserve the staple of the wool during the long voyage . . . . The wool is not damaged, and the condition in which it arrives has been much approved.

"Q. Do you find it necessary for the improvement of the wool to drive your Merino sheep from place to place or to change their pastures?—No. Until last year my Merino sheep were fed since their first introduction upon the same estate and the whole extent of their pastures did not exceed 300 acres . . . . In the



breeding flocks I generally keep an average of 330 ewes. The lambing season is from April to July, the former the better, I think . . . . During the lambing time I give turnips and rape to the Merino flock and sometimes feed them upon rank wheat. If I had sufficient men to convert a proper quantity of land into tillage, I would feed all my breeding flocks in a similar manner . . . . If the droughts are long continued, the grasses suffer exceedingly, but the flocks are not often materially damaged. Sheep bear dry weather with scanty food better than wet with abundance . . . . Land varies very much in quality, but I think it is unsafe to stock the best land with more than a sheep to the acre . . . . The carcase of the Merino flocks of mixed breeds averages 50-60 lbs. . . . The average weight of the wool is 2 lb. 7 ozs. . . . I am convinced the wool of the Merino flocks is improving . . . . I have sold all the rams that I did not require for my own flocks (*a pure bred Merino ram has never been castrated*) . . . . At a sale some years ago, the rams sold as high as £28, at a late sale the average price was £14 . . . . Whilst I was in England I offered Merino rams to Government, but they were not accepted . . . . This year Merino rams have been purchased" (<sup>12</sup>).

Concerning the pure bred flock there is this description by a grazier of what they were like (<sup>13</sup>): "I first saw these sheep in 1826. They were much smaller than the Australian Merino of the present day . . . . Although small, they were extremely compact, low set, short legged, bodies close to the ground and as much alike as the grain in a handful of duck shot. Their wool was exceedingly fine, but not dense. The country they were feeding on was inferior and heavily timbered with gum, peppermint, etc., excepting a few paddocks which had been cleared . . . . At the time I refer to and for many years afterwards, these sheep were undoubtedly the best in the Australian colonies, and could Macarthur have produced three times the number of rams he did produce, they would have met with a ready sale . . . . When Mr. Riley of Raby about 1828-9 imported the Raby sheep and commenced breeding, he would occasionally point out to his visitors the necessity of denseness as well as fineness . . . . The object aimed at by Macarthur was fineness, all other considerations being secondary only, whereas the Raby sheep, although still very fine, were bred with a view to density and length of staple . . . . In point of carcase, length of staple and density . . . . present day sheep are much superior, though not in fineness . . . . Macarthur had a sorry lot to start off with." Macarthur then would appear to have planned for and bred to one particular quality in his sheep. It is not to his discredit that later developments showed other qualities as well as fineness to be necessary in Merino wool—he was the innovator of the original idea.

Macarthur was an exceptional man in his time and place. Nowhere does this stand out so clearly as in the care with which he safeguarded his line of pure bred Merinos, where other men with much the same opportunities neglected such an elementary precaution. Of the Merino sheep that were brought back from the Cape, in 1797, by Captain Kent,

R.N., distribution was between the naval officer, himself, Rev. S. Marsden, of Parramatta,\* William Cox and Macarthur. Graham (1870), states that nothing was then known of what eventually happened to Kent's sheep (<sup>14</sup>).

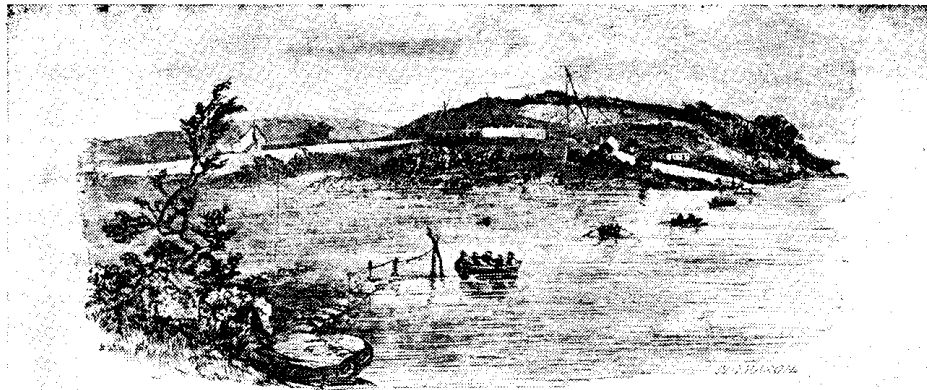
All that the records do tell is a simple notice in the *Gazette* of 15th July, 1815: "Sale of 300 sheep and sixty head of horned cattle, the property of the late Captain Kent of the Royal Navy." The same authority (Graham) states that "Mr. Marsden's sheep were sent to his farm near Liverpool and their progeny became ultimately the property of Mr. Betts and were many years subsequently sent up to the Bathurst district . . . . Mr. Marsden was never eminent as the breeder or possessor of fine woolled sheep." It was thought that Cox's sheep eventually went up to his property at Mudgee, Macarthur being apparently the only one to retain his nuclear Merino flock pure. There seems little doubt that even so late as 1821 he was the only man in the Colony with an uncontaminated strain of Merino blood.

There were, however, other men with grazing flocks in the early Colony—Cox, Marsden, Riley and others. Some of these flocks had been sent over the mountains with the Governor's permission, comparatively soon after the crossing of the Blue Mountains was made in 1813, and a road into the interior surveyed. William Cox, in 1817, sent home some wool of his own breeding, and it fetched 3s. 1¼d. per lb. (<sup>15</sup>). Of this, "some was fine and some was coarse, not worth more than 2s." He had paid 4½d. per lb. freight to England, reduced by 1820 to 3d., and he estimated the cost of land carriage from the Bathurst Plains to Sydney at 2d. more, although, as he said, "I think you may state 3d. as expenses rather than 2d." He told Bigge that "I find that our wool has improved annually ever since we have paid attention to it, and I think it will still improve."

Cox had been one of those, as we have seen, who, in 1797, had brought some of the original Merino sheep from the Cape. In the years which immediately followed, in addition to Macarthur's imports from the Royal Stud at Kew, John Palmer—one time purser of H.M.S. "Sirius" in the first fleet and later for years head of the Commissariat at Sydney—brought out, in 1801, a Southdown ram which was said to have

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\* Rev. Samuel Marsden was born at Farsley, near Leeds, Yorkshire, England, on 28th July, 1764, the son of a tradesman. Educated at the Free Grammar School of Hull, he was apprenticed to the blacksmithing trade. Through an early recognition of his ability he was adopted by the Elland Society, of which William Wilberforce was a prominent member, and sent to Magdalene College, Cambridge to be educated for the ministry. Appointed an assistant chaplain in the Colony, he arrived at Sydney on 10th March, 1794 and took up residence at Parramatta where he held services until 1796 in a carpenter's shop fitted up for the purpose. In December, 1796, Marsden took over the duties of military chaplain, and in 1800 was temporarily given charge of the services at Sydney, Parramatta and neighbouring districts. He exerted a powerful influence in the early Colony. Of phenomenal energy, he was a pioneer sheep-breeder, and was commended by Governor King as the "Best practical Farmer in the Colony." By 1806 he had acquired by grant or purchase 2,908 acres, carrying 1,416 sheep. The Apostle of New Zealand, he made seven voyages to this country between 1811 and 1837 and exercised great influence with the Maori chiefs. Marsden died at the parsonage, Windsor, on 12th May, 1838 and was buried at Parramatta. The Australian Encyclopaedia records that "Marsden left behind him a reputation for somewhat biassed and misdirected zeal in his New South Wales career, but for excellent good sense and apostolic enthusiasm displayed in all his work in New Zealand."



GLEBE ISLAND, PORT JACKSON.



PICNIC PARTY ON GARDEN ISLAND, PORT JACKSON.



BATHING MACHINE, SYDNEY, NEW SOUTH WALES.

SYDNEY AND ITS ACTIVITIES—PRINTS FROM EARLY UNDATED NEWSPAPERS.

The prints here reproduced illustrate two of the pleasure-resorts of early Sydney. Glebe Island was, until comparatively recent years, the site of Sydney's metropolitan abattoir, but is now no longer a reserve. An extract from the log book of H.M.S. "Sirius," 1782, sixteen days after the arrival of the first fleet, shows that the captain "sent an officer and party of men to Garden Island to clear it for a garden for the ship's company." It remained as a garden and apparently a picnic place until the Navy took it over and made use of it as a dockyard in

1875. To-day, though it is at Sydney's front door, it is almost unexplored territory for the civilian. It is now no longer strictly an island, for the building of a modern graving dock has connected Garden Island to the mainland at Pott's Point.

The lowermost print suggests a meeting or garden party of the Horticultural and Agricultural Society in the Botanic Gardens, Sydney, the development of which may be directly traced back for 161 years. The site of the present Gardens was selected when in 1788 a large variety of plants and fruit trees brought from Rio and the Cape for Governor Phillip's garden were replanted on the east side of Sydney Cove near a creek. Next to it were planted twenty acres of wheat and other grain, hence the name Farm Cove. In 1813, Mrs. Macquarie's Road was commenced through these Gardens. Mrs. Macquarie's Chair is the foundation stone of the Gardens, and the date of the inscription is June 13th, 1816.

An Agricultural Society was formed in the Colony in 1822, and the first president elected was Sir John Jamison. However, at the inaugural dinner when by-laws were being framed, he made way for Judge Field of the Supreme Court. After Field left New South Wales in 1824, Jamison became president, and in that year also, he erected an imposing freestone mansion on his "Regentville" estate in the Hawkesbury district. Jamison appears to have remained at the head of the "Horticultural and Agricultural Society of N.S.W." until this organisation was allowed to lapse about 1834-36. A Floral and Horticultural Society was organised in 1838, in that year staging its first show. Subsequently a Cumberland Agricultural Society was founded in 1843, its meeting being held at Parramatta whilst later still, a reconstructed Agricultural and Horticultural Society was also organised. In 1857 a second Cumberland Agricultural Society was formed, with which the Agricultural and Horticultural Society offered to amalgamate. This offer was, however, declined. In due course the name of the Cumberland Agricultural Society was changed to that of "Royal Agricultural Society of New South Wales."

The name of "Sir" John Jamison appears often in the early records in connection with agricultural affairs. Son of the surgeon, Thomas Jamison, he was born in England in 1776. Entering the Navy in 1807, he saw service in the Baltic, where he was instrumental in successfully controlling an outbreak of cholera in the Swedish Army. For these services he was given a knighthood of the order of Gustavus Vasa by Charles XIV of Sweden. On the death of his father in 1811, Jamison inherited certain properties in the Colony and very soon he became a leading "gentleman" and a prominent pastoralist in the Nepean district. He became a Government contractor for meat supplies for the settlement, and in 1819, one of the first trustees of the N.S.W. Savings Bank. The plan adopted by Jamison for clearing timber from around the homestead at "Regentville"—removing the stumps by burning off, as detailed by him in his presidential address to the Horticultural and Agricultural Society in 1829—procured for him two years later the gold medal of the London Society for the Encouragement of Arts and Manufactures. (Logs were rolled against the stumps and fired.) About the year 1835 Jamison was making experiments in irrigation, importing expensive machinery for this purpose. He was a large shareholder in the Bank of Australia which failed in the depression of 1840-42, and brought down with it many of the old and wealthy families. Owing to the failure of the bank, Jamison lost heavily, leaving behind him on his death in 1844, little else than "a good name, a reputation for hospitality and a recognised desire to benefit his adopted country."

(cf. Journ. and Proc. R.A.H.S., Vol. 18, 1932, p. 252: Newspaper Cuttings, Vol. 32, p. 71; Journ. & Proc. R.A.H.S., Vol. 14, 1929, et altera. (Mitchell Library).)

"greatly improved the breed of sheep and the wool" (<sup>16</sup>). In 1808, John Blaxland imported some of the same breed of Southdowns, and in 1810, Samuel Marsden, also arranged further imports on his own account (<sup>17</sup>). In 1812, the *Gazette* had this to say: "The flattering accounts of the quality of samples of wool sent from hence to the Mother Country has induced several opulent persons who had bestowed considerable attention to the improvement of their flocks, now more seriously to apply themselves to that object, which time may possibly render an object of the very first importance to the Colony." (S.G. 29.9.1812.) Later, in the same year, "Ten rams of the Merino breed lately sold by auction from the flocks of John Macarthur produced upwards of 200 guineas—

the lowest selling not under fifteen guineas and the highest, twenty-eight guineas." (S.G. 21.11.1812.) In 1815, there is this account of a private shipment: "We are happy to state that the shipment of this article on the 'Minstrel' will stimulate the sheepholder to improve the quality of his wool by every means in his power. A few bales consigned to London by Mr. Riley, being part of his shearing of 1811 and 1812, which had been very badly washed and indifferently sorted, netted an average of 2s. 6d. sterling per lb., the best samples selling as high as 5s. 9d. per lb., notwithstanding that at the periods abovementioned there was only a trifling dip of Spanish blood in his flocks. The advantages open to the Colony in the certainty of so valuable an export will prove equally of moment to the interests of the merchant as to the finances of the settlers." (S.G. 4.2.1815.) This Mr. Riley was one of those who had suffered considerably from attacks by dingos on his flocks, there appearing in the *Gazette* in 1813 this brief mention: "It is necessary to exterminate the breed of native dogs which a few days since broke into a flock of fine-woolled ewes belonging to Mr. Riley and destroyed fifty-three." (S.G. 1.5.1813.) On the Nepean, these dingos cause widespread destruction and in 1814 there are accounts of their poisoning with arsenic. (S.G. 26.11.1814; S.G. 3.12.1814.)

The ultimate development, however, in 1820, was that there was only one pure-bred flock of Merinos in the Colony. The other flocks were composed of mixed cross-breds, some with Southdown, some with Merino additions to a basically Cape and Bengal strain. The wool was a variable of poor quality, the flocks from time to time scab-ridden; there were no clear ideas of improvement; mixed theories in breeding; the wool was badly prepared, with Macarthur alone adhering to the Merino. In the preceding formative years, ideas of development had, nevertheless, been brooding in the minds of a few far-seeing men, possibly confidants of the great man of Camden. This is clear from a few references in the *Sydney Gazette*, but a definite position was not taken up until finally it came to be trenchantly stated by Wentworth in 1819, and by Bigge in his authoritative reports of 1822 and 1823.

One further point for appraisal is 1812, and the inquiries of the Committee on Transportation in London<sup>(18)</sup>. It is quite obvious that no vision of the Colony as a pastoral enterprise had yet entered into the considerations of the British Government. The witnesses examined included the former Governors, Hunter and Bligh, the explorer Matthew Flinders, Colonel Johnston, the ex-convict Maurice Margarot and several others who had personal knowledge of the Colony. The Committee missed the important prospects of the wool trade, although at the time Macarthur was busy with his plans. Its report contained the one sentence that "the stock of sheep is not yet sufficiently large to make wool an article of large exportation." It had not condescended to seek evidence from Macarthur, possibly because of the reputation which he was at that time enjoying as the "Governor breaker," even though he had been readily available for consultation in London (during the period the Committee was sitting) at the time.

Yet even in the same year, 1812, a reference can be noted in the *Sydney Gazette* concerning the prospects of the wool export trade. Consider this excerpt dealing with the English trade position. (S.G. 15.2.1812): "At an Annual Meeting of the woolgrowers and staplers held at Lewes in Sussex, in July, August, 1811, an address was given

by Lord Sheffield upon the general financial and commercial situation of the country . . . . The demand for woollens for the home market has not diminished, but probably much increased, and the export of them is much increased also . . . . it is not the decay of the manufacture, or the want of demand for it, but difficulties respecting money and the great stock of wool on hand that occasions the debasement in price . . . . speculation on foreign wools and the extravagant variations in price have deranged the trade and manufacture of that article; but those wools being now reduced to their former price and the manufacture of them being principally for the home market, there is little doubt of its being restored to its former state . . . . the staplers of fine English wools are greatly distressed . . . . the sale of pure English wools is greatly prejudiced by our immense importation of Spanish wools, and by the distressed state of the Staplers . . . . The scarcity of gold is not to be attributed merely to the war, to the particular conduct of the enemy, nor to the hostile and unfriendly conduct of the American states, but in a great degree from inferior management . . . . the country has paid during the last fifteen years considerably more than £10,000,000 sterling yearly for grain and wool which have been raised in the United Kingdom . . . . the great import of grain in 1796 occasioned a drain of gold much more than foreign subsidy, and in a great degree brought on the Bank restriction in 1797, and the value of grain imported in the years 1800 and 1801 amounted to £19,000,000 sterling . . . . The restoration of confidence is more wanted than any other circumstance to promote the woollen manufacture."

This is a confused quotation, confused even in the original, but it is sufficient to note the distress in the England of the times and its deranged markets and the apparent importance attached to it by the Editor of the *Gazette*. The war was on, the Colony was yet circumscribed by the Blue Mountains, but, perhaps even so early, some thoughts on sheep raising in the Colony for wool purposes may have arisen. In three years' time, the war was a memory, the Blue Mountains had been crossed and the view had broadened. In the *Gazette* of issue 21st December, 1816, appears this important letter from "An Inhabitant," which, because of the light it shows on the times, deserves a generous quotation:

"The advantages accompanying the measures recommended (for breeding sheep for wool) are so manifest, so self-evident that it is a species of madness not to embrace them—with little care the fleece of every sheep in the Territory might be rendered worth 5s. sterling annually free of all expenses and thus the owner of 400 sheep of this description would get an income of £100 per annum—a continuing return. I say 5s., but I could name holders who would refuse 10s. per fleece for all the improved sheep they shear this season. A few years well directed and united attention with the means now available would enable us to raise wool to the amount of from £20 to £30 thousand annually in this part of the Territory alone. I do not know any source by which the colonists of New South Wales would so soon incur the notice and the encouragement of the Legislature of Great Britain. The pursuit requires no extraordinary abilities, no additional labour and little additional funds. A few years ago there was the excuse of the

limited number of Merino sheep available, but that is not now the case. Full bred Merinos may now be obtained at moderate prices or if preferred, cross-breds. Sir Joseph Banks says the first cross of a new breed gives to the lamb one-half of the ram's blood or 50 per cent.; the second cross 75 per cent.; the third cross 87 per cent.; the fourth cross 94 per cent.—at which period there is scarcely any difference in the breed.

"An unfounded report has obtained general credit that pure woolled sheep are more subject to disease than coarse woolled sheep, but this is not the case—others say if they improve their wool the size of the carcase diminished. This is in some measure true, but in so small a proportion if due care is taken in selecting the animals bred from, that the chance loss of meat bears no proportion to the certain gain in fleece. When mutton was worth 1s. 6d. to 2s. per lb., this reasoning might be sound. The prudent calculator will look to the day when meat will not bear its present price. It is known that the largest sheep-holder in the Colony began his improvement when meat was actually more than the above prices, yet there are no sheep brought to market superior either in weight or quality of meat which are purchased with more avidity or from which a larger return is made by the butcher, and I believe that independent of the profits accruing on the sales of upwards of 1,000 sheep annually, the wool of this flock may be computed to be worth £1,500 sterling this present season.

"Much injury has been done to the credit of our wool in London by some shipments having been improvidently made of inferior fleeces, badly washed and worse sorted. This must, in future, be avoided and I hope that some holder will assist my recommendation . . . .

"It (fine wool breeding) is a pursuit of all others in this Colony the most desirable to be encouraged—the success of our neighbour will contribute to our own. There can be no clashing of interests, no jarrings of contention for the market, the value of our fleeces will rise in proportion as the fame and value of the advances of our fellow labourers. All we want is quantity—an annual amount of fine wool sufficient to interest the British stapler and to render it necessary that a line of the London price current should be appropriated to circulating the price of N.S.W. wool: then will the prosperity of the sheep owner be enviable. If only the sheep now in the Colony (60,000) bore good wool, a vessel might be so far laden as to warrant her direct return to Europe and to enable the merchants of Sydney to expend £10,000 annually among the settlers in the purchase of their fleeces. A favourite author says, 'Ye Britons venerate the Plough,' but I shall for the present conclude with advising my countrymen to 'venerate the fleece.'"

If the writer of this article, in 1816, was a man of vision, it is equally remarkable how Wentworth was able, in 1820, to put his finger so clearly on the several matters affecting the Colony of his time—the uncertainty of the markets and prices as affecting agriculture; the questionable legality of government by King and not by Parliament, with the claim for some share in self-government; and finally, fine wool growing as a means of future wealth to the Colony. These brief references may be closed by Wentworth's description of the prospects of fine wool growing in 1819-1820<sup>(29)</sup>.

"It may be safely asserted that of all the various openings which the world at this moment affords for the profitable investment of money, there is not one equally inviting as this single channel of enterprise offered by this Colony (growth of fine wool) . . . . The last importations of the best quality have not yet been disposed of in consequence of the very depressed state of the market which from the present general embarrassment of all classes and the consequent stagnation of commerce is from 30 per cent. to 50 per cent. below its ordinary level. The gentleman, however, who has the disposal of this wool entertains no doubt of being enabled to obtain shortly 4s. per lb. in the fleece for the whole of it; as he has already refused 5s. 6d. for some few of the best samples . . . . I do not consider the present state of the market affords any fair criterion by which to judge of the probable prices that wool grown in the Colony is likely hereafter to average.

" . . . . It is confidently hoped that these calculations are sufficiently encouraging to convince the most incredulous that any person who has the means of embarking in either of these speculations could not fail with common attention to realise a large fortune in a few years. His chances of doing so would be still greater if he should happen to be acquainted with the management of sheep. This is, however, by no means an indispensable qualification—for such is the fineness of the climate in the settlement that all those precautions which are necessary to be observed in this country in order to shelter them from the inclemency of the seasons are there quite superfluous . . . .

"The extent to which capital might be invested is boundless, since if the breeder did not possess as much land as would feed the number of sheep that he might wish to keep, he would only have to send his flocks beyond the limits of colonisation and retire with them as the tide of population approached. His hurdles and the rude huts and tents of his shepherds might always be removed with very little difficulty and expense . . . . There is and will be for ages to come, whatever may be the extent of emigration, more land than can possibly be acquired. The speculation of growing wool therefore can meet with no checks from the want of pasturage in the Colony and it is equally improbable that it can be impeded by the want of a market in this country. It is well known that the Saxon wool cannot be grown under the present prices without loss to the growers. The severity of the climate of Saxony renders it indispensable for the sheep-holders to take a variety of precautions which are not only useless in this Colony—but would prove even highly detrimental to the constitution of the sheep. In the former country the flocks are kept almost invariably in sheds of a very costly construction, both by day and by night, and are fed principally upon hay. The mildness of the seasons therefore spares the colonists two sources of expense and will without doubt in the end enable them to undersell and ruin the Saxon woolgrowers; since the only point of superiority these latter can pretend to is their greater contiguity to the market and this, in consequence of the extreme value of the commodity, is of too trifling importance to demand consideration. The freight of wool from the Colony has already been reduced to 3d. per lb.,



which it would appear is considerably less than is paid for the transport of wool from Saxony; and all the other expenses, with the exception of insurance, brokerage, storeroom housing, etc., are precisely the same . . . .

"It has been stated in evidence before the Committee of the House of Commons, by a gentleman well conversant with the subject, 'that the freight and carriage of Spanish wool from Seville is estimated at about 3/10d. for every 25 lb., which amounts to about 2d. per lb.; Saxon wool, including the land and water carriage to Hamburg and freight from Hamburg to this country, is estimated at the least from 5d. to 6d. per lb., and in addition to that a duty of £3 per cent. has been recently charged upon it, for permission to pass through the Prussian States.' Since the first edition of this work was published (1819), a duty also of 6d. per lb. has been imposed by the English Legislature on all foreign wools—from which wools imported from this and our other colonies are exempt until 5th January, 1823. This exemption will operate as a bounty on the growth of wool in this Colony, and will be particularly favourable to such of the sheepholders as have not yet made much improvement in the fleeces of their flocks. Had this duty been imposed on wool from New South Wales . . . it would have prevented the export of the coarser wool altogether and would have consequently been a death blow to this *the staple export of the Colony.*"

If we ignore some of Wentworth's errors—his over-simplification, his estimation of 10,000 pure bred sheep in the Colony in 1820, his attempt to put an arithmetical calculation upon agriculture and stock-raising—his summary of the position was in fact sound, particularly in regard to the advantages which sheep-raising in the Colony would have over Continental production, provided only that there were present an equal degree of quality in the fleeces. One thing only had to be guaranteed and that a sufficiently profitable market. It was after that, up to the colonial sheep-holders to improve the breeding of their sheep. Both these were in due time realised, and it is perhaps convenient at this stage to examine the development of the English market which alone in its offerings made possible the later expansion from 1821-1842 and thereafter.

### **The Decline of English Fine Wools: Spanish and German Wools: The Introduction of New South Wales Wool.**

"One of the most disquieting features of the bad years after the Napoleonic peace," states Roberts, "was the chronic decline of one of England's staples—that wool trade which had been a mainstay of the country's industry since the guilds of the Middle Ages"<sup>(20)</sup>. An indication of one of the reasons for this decline has been referred to in an earlier essay, as following changes in the breeding and feeding of sheep and concentration upon mutton qualities, rather than wool covering, in the wake of Bakewell's original work. This was already obvious by 1817, even in the Colony, for there is a letter to the *Sydney Gazette* in an issue of that year, published under the name of "Civis," in which the deterioration of English wool is put down to feeding in the winter on corn, and in the summer on rich pasture, this leading to the wool losing its fineness. (S.G. 4/1/1817.) The causes, however, were in

tact far more complex than this simple issue alone—feeding and breeding, in themselves, not necessarily meaning a resultant coarseness in wool.

The deterioration in the English fine wool fleece had first come to be noticed directly after 1815 when prices began to fall, and when following the lifting of the artificial protection that had been imposed during the Continental War, English growers were left to face the competition in open market of both Spain and Silesia <sup>(21)</sup>. Matters went rapidly from bad to worse. The 'twenties deepened in despair, until at last, after 1824, the English home-grown wool became absolutely unsaleable. So obvious had the catastrophe become by 1828 that in that year the House of Lords appointed a Select Committee (July, 1828) to investigate the causes of the decline, with especial reference to the means of combating the cheap German wools <sup>(22)</sup>. The report of the committee, following an exhaustive analysis, was that the industry had collapsed and was of no further usefulness to English manufacturers. "It was," continues Roberts, "a tale of ruin brought on by the inherent defects of the system of home-production and by the opening of new sources of supply" <sup>(23)</sup>. The decline was shown to be all-embracing. All the English short wools were ousted from the market, this including the Southdown sheep, once the "pride of England, with their close, fine curled wool." So paramount was the position of this breed and so unquestioned was its supremacy that the decline of such a stock "accentuated the general rout." Southdown wool fell from 2s. 5d. per lb. in 1815—its average price throughout the war years—to 1s. 6d. in 1820, and was less than 9d. in 1827. Wool had become practically worthless, the best samples selling for 9d., with ordinary Southdown wools unsaleable at any price. The story was much the same with the Lincoln, Leicester and cross-bred wool.

The taste for English wool had commenced to decline in earnest in 1819 when two factors had combined. In the first place, there was the circumstance that the Germans, who had been crossing their animals with Spanish merinos since about 1800 and pandering to the desire for extreme fineness and softness, could sell as much wool as could be absorbed in England for about a shilling a pound. This development would seem to have commenced, following the conversion of their lands from tillage to pasture, when the English Corn Laws put a stop to duty-free importations of grain from Continental sources <sup>(24)</sup>. In despair, the Peel Cabinet had raised the duty on foreign wools from a penny to sixpence a pound in 1819, but the effect had been scarcely noticeable—"The Germans more than counteract(ing) this by the fillip given to their home-production, especially in the field of cheap, coarse wools" <sup>(25)</sup>. The upshot was that the same German wool which had been sold for 1s. 4d. per lb. when the duty had been 1d. could be obtained for as little as 1s. 1d. when the duty had gone up to 6d. The duty had been lifted in September, 1824, and the effect had been further to swamp and choke the English-produced article <sup>(26)</sup>. Of greater significance, however, was the factor involved in the change which had taken place in the demands of the manufacturers. German competition of itself would have ruined local industry, but this last factor made the position irrevocable, irrespective of such issues as protection and duties. The demand had come for newer cloths and better materials. Fashions had changed and with them machines also, and this demand the English wools were incapable of meeting. Moreover, following

the boom and crisis year of 1825 in England, manufacturers were themselves exposed to a strong internal competition and a market which had necessarily to be catered for, if profits were to be made in the new economy. This question of the quality, length and type of fleece wool involved far more than mere estimations of the extent to which locally produced wool had changed in its general make-up, following the newly placed emphasis on mutton characteristics in breeds. Thus, "whilst the English farmers emphatically insisted that their wool retained its old quality, the manufacturers quite dispassionately contradicted them—the mutton was larger, the farmer was going in for size, the wool was getting longer and stronger, and the old short-staple, particularly with the Southdowns and Cheviots, could no longer be obtained" <sup>(27)</sup>. The plain facts were that there had been not only a revolution in breeding and feeding, but a revolution also in manufacturing and in fashion, and the contemporaneous developments in England were, by 1828, poles apart. British fine wool whether of the old or later types, could not be compared with the new silky-like fleeces that were coming out of Saxony. This same preference applied also to British coarse wools which were passed over in preference for foreign ones, even at a similar price, because the latter were cleaner, this one further factor being involved in the table of comparisons <sup>(28)</sup>. The position of the manufacturers was quite clear at the time of the inquiry of 1828. They could make cloth of English wool up to 1814 and still compete, so they said; they could even hold on until 1824, if their methods were conservative, and if they mixed English wool with the softer German varieties; but after that year, no firm could hope to survive if it used any English wool at all <sup>(29)</sup>.

It can be thus seen how "the position and prospects of English wool became metamorphosed within a single generation." "The average Englishman," writes Roberts, "no longer wore clothes made of Southdown and other short wools; no English wool could compete with the middling and cheapest foreign products; broadcloths, and even seconds, were now made from German wool; combing wool suffered less, but still considerably; and in the fine-wool section, nothing could compete with the newly improved Cliphausen flocks of Saxony. Sixpence a pound was nonchalantly offered for Southdown wool by staplers who had their eyes on the newer products of Germany, and the lesser English breeds declined in proportion. Lincoln wool fell from a normal value of 1s. 2¼d. to 11½d. in 1827; English merino halved itself to 1s. 9d. and remained unsaleable for three years; while the Cheviot consignments from Scotland and the border-country were at 5½d. in 1827 and no buyers. Every clip intensified the weakness of the position, and the sheep industry seemed doomed. The short clips fought to the last, but even the Southdowns went under, and sheep-growing became a ruinous luxury for other than meat purposes. Meanwhile, the staplers of Leeds and Manchester turned eagerly to Germany and, though much less confidently, to the new colonies of the south" <sup>(30)</sup>.

Spanish wool had had its hey-day before Australian production was worth anything. In 1800 three-fourths of England's overseas wool had come from Spain, the rest from Germany. This position had been reversed after the war era <sup>(31)</sup>. It had not been until the French occupied Spain and exported the exclusive merino flocks in large numbers that a German sheep industry had been made possible, the

"diffusion of merino blood prov(ing) not the least of the Bonapartist benefits to Europe; however, the Spaniards suffered in the process, for it completely transformed the methods of sheep-breeding over most of the German states" <sup>(32)</sup>. With beginnings in the war years, the German industry had increased in a way that can only be compared with the later Australian achievement. The desire for fineness, and still more fineness, became an obsession. The German sheep became, especially in Silesia—the most important province, where these tendencies were carried to extremes—an animal with an unbelievably fine fleece, but, for the rest, almost useless, "overbred for one particular, it was a physical weakling, deficient in wool, meat and vigour" <sup>(33)</sup>. From just before 1830, however, the objectives in breeding changed. To compensate for a considerable fall in price, breeders attempted to make the fleece larger, and sought quantity as well as quality, forgetting the earlier prime consideration of fineness at any cost and achieving in the process a good wool of medium quality <sup>(34)</sup>. Some of these modified Saxon sheep were those which in the 'twenties and early 'thirties were introduced into Australia. But whilst there were endless plains in the new Colony, expansion of the pastoral industry had not been similarly possible in Germany, where also a revolution was taking place in land usage. Saxony, after a short lived supremacy in Germany, was a spent force by 1830, because of mismanagement and the pressure of population upon the Commons <sup>(35)</sup>. Silesia, which took its place, at its peak in the 1830's, was towards the end of this decade in much the same position. No pasture land was left, the Commons had been divided, and the old right of depasturing stock on peasants' land existed no longer <sup>(36)</sup>. The issue of Australian ascendancy was a foregone conclusion in 1840, and by 1845 Australian wool was even coming to be sold on the German market itself.

It can be thus seen that the Australian wool and pastoral development, as sketched in this and later chapters, was not alone the results of efforts by Australian pastoralists, as it is all too easy to assume. Some of the men who in the years 1821-1842 found the wool industry profitable were little different from those who could not make agriculture pay. The growth was the result of a combination of factors. In the first place must be put the simple fact that at a time when pastoral development was about to take place, increase in population overseas, a new taste in clothes and a new textile industry combined to create a demand for ever-increasing quantities of a serviceable, satisfactory and reasonably cheap raw material for manufacturing requirements. This raw material was wool, grown by sheep requiring for each few pounds of its produce at least an acre of grazing land for subsistence. It just so happened that nowhere else in the '30's and '40's of the nineteenth century and later still, but in Australia, was it possible for the merino breed of sheep, from which came the finest and best wool, to roam at will on tens of thousands of acres of untapped country, in a mild climate and on a pasture which this particular breed of sheep preferred. It was then inevitable that, there being this demand, prices to render such an industry profitable would take care of the rest, notwithstanding a few fluctuations and depressions incidental to the world trade cycle as a whole. This is largely where the industry still stands, dependent for its prosperity upon an adequate and sufficiently profitable market overseas. Should anything happen to that market, should new and better textiles be

invented at a cheaper than wool production minimum price, it would be a matter of time before the Australian wool industry would itself collapse, in just the same way as the Australian clip, one hundred years ago, finally ousted the German production, created upon an artificial and fundamentally unsound foundation.

### **Sheep and Wool Development and Problems, 1821-1842.**

It cannot be said that, excepting the work of a few individuals, even as late as 1835, there was in the Colony any general scientific breeding of sheep for wool, as we accept the position to-day. Of considerable interest in this regard are the conclusions reached by a Committee of the Agricultural Society of Western Australia in 1837 inquiring into the best policies to be pursued for the establishment of the sheep industry in that State (<sup>87</sup>). It is extraordinary to note the emphasis placed on "climate" alone, and the recommendations to import the hairy fleece sheep of the Indian and Cape breed to give numbers, upon which to improve by crossing with merino rams:

"All the publications on the Australian colonies which embrace the topics of agriculture and general statistics, have noticed the ameliorating influences of the *climate* on the fleeces of the native and imported sheep, independently of the improvement effected by the system of crossing, generally adopted, of late years by the flock holders.

"It was, in fact, this peculiarity of the *climate or pasturage*, or probably the influence of both combined, which as early as the year 1797, attracted the attention of the late Captain J. Macarthur and induced him to commence a series of experiments for the further refinement of the fleece, by the introduction of a few Spanish sheep. The rapid improvement which followed in the course of three or four years was no less gratifying than surprising; and, convinced by these successful experiments he pursued this object until a late period of his life with increasing perseverance, and with results at once beneficial to himself and to his adopted country.

"In the statement presented by Captain Macarthur to Lord Hobart in 1803, he adverts in strong terms to this point: that his flock, then consisting of 4,000 sheep, was derived from thirty Indian sheep purchased in 1793 from a ship which arrived at Sydney from Calcutta, to which he had added about ten of the Spanish and Irish breeds, and subsequently, the flock belonging to another officer, originating from the same number and from the same vessel.

"The rapid improvement of the fleece in Australia *by the influence of climate alone* is further confirmed by the evidence of several witnesses, wool staplers, and others, examined before the 'Select Committee of the House of Lords . . . .' in 1828. Mr. Harry Hughes, an eminent Blackwell-Hall factor, gave his evidence in the following terms: 'The quality of the wool was originally very bad, but the *climate* has a most extraordinary effect on the fleece . . . .', and again, 'the fleeces of sheep imported into those colonies have improved in a wonderful degree, which cannot be accounted for by the best judges, except from the *climate* . . . . I have from New South Wales some fleeces shorn off German sheep, after they had been in the Colony about sixteen months, and the improvement was so extraordinary that I have had most of the German merchants now in London to see them; and, if I may use the phrase, they were astonished at the great

improvement the *climate* has made in the fleece.' Mr. S. Donaldson and several other witnesses attest to the same effect . . . . Mr. T. N. Yule arrived from Calcutta in May, 1830, bringing with him twenty ewes of the common coarse woolled breed of that country . . . . and subsequently the survivors were placed in a flock with merino rams. As an article of manufacture it is clear that the original wool of these sheep could only be applied to the coarsest purposes while the wool obtained in the fourth cross with merino is inferior by only one degree to the pure and that it would, if properly sorted and cleaned, bring 2s. 6d. per lb. in the London market.

"Within these remarkable facts the inquiry into the expediency or practicability of importing, on an extensive scale, coarse woolled sheep, for the purpose of improvement by our numerous fine woolled rams, becomes of great interest and cannot fail in being useful whichever way the question may be determined."

This statement is so interesting, as showing an insight into the methods pursued in the early Colony in grading up its predominantly coarse-haired flocks, and of the theories underlying this policy, that further quotation may not be out of place: "The report of Mr. Bigge alludes in several passages (to the fact) that 'Hitherto there have been few individuals who have turned their attention to the improvement of their flocks, by the introduction of the merino race'; and expresses . . . . no doubt that the great success attending the efforts of Mr. Macarthur and a few others, in the improvement of their flocks will direct the attention of other proprietors of land and stock to the adoption of the same means, by which he has succeeded in obtaining such a valuable article of export . . . . This desire to improve the flocks of New South Wales . . . . by the infusion of pure blood upon the original stock which, in the year 1822, prevailed only amongst the great mass of landed proprietors; and in 1828 Governor Darling in his despatch to . . . . Huskisson (10/4/1828) alludes in many passages to their spirited efforts in promoting that important object by numerous importations of stock of the pure merino and Saxon breeds . . . . and regrets that usual productions of the soil by agriculture had been neglected by the general body of the moneyed settlers, and left to the precarious and ineffective labour of the emancipated convict or to the indigent possessors of small farms."

The general position then that has to be understood is that from about 1803, in the virtual infancy of the Colony, to about 1826-1829, no consequential importations of sheep were made (\*). Improvement was a matter of crossing mixed nondescript breeds with pure breeds, or other crossbred rams in which there was some strain of the merino. Just a little wool had been imported into Great Britain in 1814. This had amounted to 32,971 lb. when the number of sheep in the Colony for the preceding year was about 65,000 or, on the average, about a half pound of realisable wool per sheep. As at that time the average weight of fleece was not less than 3 lb., a possible calculation that could be and was, in fact, made, is that about five-sixths of the sheep were then 'unimproved' of Bengal-Cape type (\*). On these same calculations, as there was in 1822, 138,498 lb. weight of wool exported and the number of sheep (1821) was 290,168, the net average was 2 lb. 4 oz. weight for each five fleeces, this showing no significant alteration from the earlier percentage of "unimproved" fleeces. From 1822 onwards, however, the quantity of wool exported as related to sheep

numbers shows a marked alteration, indicating that more of the flocks were becoming "improved." Half-way through the ten-year period, 1830-1840, the position had vastly changed—exports in 1836 amounting to 22,783 bales, or (at 230 lb. per bale) 5,200,000 lb. of wool; sheep numbers being about 2,500,000 and, thus, average cut per sheep 2 lb. (Van Diemen's Land and New South Wales together) (").

The most significant factor in this change can only be put down to the circumstances of natural increase, leading to multiplication of the better type sheep, and, secondly, the importations of improved pure bred stock, commencing with the advent of the Australian Agricultural Company's first operations and followed immediately by succeeding importations by sheep breeders ("). In 1828-1829 there were such importations by Riley, of Raby Park, Walker, of Wallerawang, Bettington, of Bathurst—all of Saxon merinos. These were later followed by importations by the A.A. Company of further Saxon merinos which gave a marked impulse to squatting pursuits. The "sheep and cattle mania" of the period 1826-1828 did something also to spread better breeding stock, whether pure bred or half bred, through the hands of a greater number of pastoralists than had been possible before. All these importations, plus the new acquisition of wealth and the increasing expansion of the 'twenties, prepared the ground for the remarkable succeeding years of development, 1831-1842. It is important to note, as these facts are examined, that these importations of the late 1820's had a very powerful impression upon the merino pure bred stock, which is traced even to the present day in some of the better-known studs. The importations were pure Saxon merinos, individually selected in Germany by some of the breeders themselves: "The imported rams were the best I ever saw. When Riley came to dispose of their progeny he had some proof in the high prices they brought . . . They had no leather necks, no wrinkles on shoulders or hindquarters, in fact, their skins fitted them and they fitted their skins . . . Their fleece could not be surpassed" (42).

As the situation may be pictured, in 1831 there were several stud flocks where before, in 1820, there had been only one. Two influences were at work to improve the Australian clip, a more plentiful supply of pure bred or predominantly merino rams, and "climate," if we accept this latter term to include the Australian environment as a whole. At this particular stage, verging upon the squatting movement with its tremendous thrust into the interior, sheep numbers were commencing to considerably increase, the four bad years of 1828-31 were over, and already a firm foothold on the English market for colonial wool was established. (S.H. 16/6/1834.)

*Imports of Wool into Great Britain.*

	1831 (bales).	1832 (bales).	1833 (bales).
German wool .. ..	60,543	55,300	72,776
Spanish wool .. ..	22,600	13,700	20,714
New South Wales and Van Diemen's Land wool ..	11,600	10,450	14,948
Sundries .. ..	2,500	4,000	12,242
Total .. ..	97,243	83,450	120,680

It is beyond the scope of this brief sketch to enter into any detail in regard to the problems met within this succeeding expansion. Suggestions as to what some of them were, as apart from natural difficulties in pioneering, are referred to by Roberts. Rather, just a few main issues may be singled out and touched upon to be defined rather than discussed.

#### **Pure-breds versus Cross-breds.**

It seems to have been accepted by the 1837 Western Australian Committee that sheep breeding for wool was, after all, just a simple matter of crossing any nondescript flock with the merino and that in a few generations successive infusions of merino blood would produce an animal indistinguishable from the pure-bred (<sup>48</sup>). The conclusions reached were that "notwithstanding the large number of sheep imported at various times from England and Germany since a system of improvement has been extensively adopted by . . . proprietors, no material accession as regards numbers has been made to the general stock . . . . Therefore, the great mass of the flocks now existing in the Colonies has been germinated from the small number of about 300 imported into Sydney previously to 1801; to which must be added a small number introduced from Bengal into Van Diemen's Land in 1806." If then New South Wales had been able to build up an industry by improvement of coarse-bred fat-tailed sheep by crossing with the merino, why could not the position be reversed in Western Australia by importing coarse-bred inferior sheep from India or the Cape, and thus use a nucleus of 1,400-1,600 pure-bred merinos, then held by a few capitalist graziers in the sister Colony? Otherwise, prices would be too high and time too short to quickly establish a Western Australian industry by starting off pure-bred flocks.

This policy which, if pursued, would never have provided a substantial clip of outstanding quality, where uniformity of length and selected merino characteristics were the prime essentials, was debated in the Colony from 1831 onwards, as increasing numbers of pure-bred animals became available. An illustration of an alternative vision can be seen in an article to the *Sydney Herald* (21/5/1832) from an anonymous correspondent, "W," who introduces also a mention of scab that scourge of the early sheep and wool industry in Australia:—

"I regret to say that by every report from the interior, we may apprehend a considerable defalcation in the annual produce of our fleeces in the ensuing season, from the sad havoc of that superficial yet insidious and destructive disease, the scab, which has been scattered over the country and propagated from farm to farm, and from flock to flock, by the careless, if not more mischievous neglect of both masters and shepherds.

"That the quality of our sheep was so long neglected by most of our sheep farmers is to be deplored as a national loss, and now when the success of the few who have foreseen the advantage has impressed all with the important advantages to be derived from this production, I regret that our agriculturists should remain ignorant . . . . It is too generally believed that improvement of wool is rapid and that coarse ewes by breeding with the merino rams will soon place their owner on the list of fine-wool growers . . . . Actually, fine-wool growing is a very slow process . . . . The advantages of fine wool are not observed by those who are



after quantity but not quality . . . . The sixth cross of improvement cannot be obtained, but at the end of the tenth year of diligent pursuit . . . . Here we find the key to those disappointments which have tended greatly to depress the spirit of our sheep farmers, who, after years of eager pursuit of their object, by the purchase of imported merino and Saxon rams at great expense, have found all their hopes blasted in the result of their experimental breeding with coarse ewes. If they would but take the trouble to look into the rise and progress of the most improved flocks in the Colony, they would see that their present advantages in the wool market have been attained by a long and steady plan of the object, for the series of at least thirty years . . . . Had this been sooner attended to the Colony would be now blessed with double her present income in the article of wool alone . . . . ”

There is this emphasis on quality constantly appearing in the newspapers of the “nine bustling years” from 1831-1839, allied with an almost sublime confidence. Thus, for example, two articles in issues of the *Herald* in 1833 may be compared. Under date 7th February, 1833, this extract appears from “Wool Trades, October, 1832,” presumably an English publication: “The rapid improvement which is evidenced in the growth of wools in our Colonies leads to the expectation that before long the manufacturers in the United Kingdom will be almost exclusively supplied from those sources. Public sales this week of 2,200 bales, of which nearly 1,800 bales were from Australia and Van Diemen’s Land, 151 Spanish, remainder German and English . . . . some of the fleeces were of so superior a description that from 2s. 5d. to 2s. 8½d. per lb. was obtained. Lower qualities fetched the full price . . . . English wools offered were short wools, clean washed and picked at 1s. 1½d. per lb. Spanish wools, 150 bales at 1s. 6½d. to 1s. 7½d. per lb. Portuguese wools, 9d. to 1s. per lb. . . . . Total for Colonial wools not far short of £80,000.” But, on the other hand, whilst it was accepted that the Australian fleece was good, why was there no improvement? This is the question asked in the second article. Why should German wool continue to sell at 5s. to 6s. per lb. and the best Australian fetch only 2s. 6d.? (S.H. 18/3/1833.) Improvement in quality was the answer.

Apparently just about this same period the Australian fleece was becoming known in France (S.H. 11/7/1833), and there were possibilities of a trade being established with America (S.H. 8/4/1833). Against these rosy prospects, fears were likewise entertained of competition from other countries, it being up to the local flock-masters so to improve their sheep that this budding competition would be overcome in exactly the same way as it was hoped that competition from German sources on the English market would be also finally broken. The mentions in the newspapers are numerous on all these points, repeating the same arguments again and again. Perhaps as good an illustration as any is to be read into an article appearing in a May, 1834, issue of the *Sydney Herald*. (S.H. 22/5/1834).



TURNING OF THE SOD FOR THE FIRST RAILWAY, NEW SOUTH WALES, 1850.

The print here shown, taken from a contemporary newspaper, gives an illustration of what was a momentous event in the early Colony—the commencement of the first railway. A description of the ceremony of turning the first sod, as appearing in the "Echo," is of some interest:

"The 3rd day of July, 1850, presented an imposing spectacle for the good people of Redfern. A great concourse of carriages rolled up Botany-street, opposite Harris-street, to enter the Cleveland paddocks by an opening in the fence about 200 yards from Parramatta-street. At 10 o'clock the 11th Regiment marched down George-street and took its way to the scene of operations. Shortly after 12 o'clock there was a stir among the 10,000 spectators as the carriages of the Governor, Sir Charles Fitzroy, and his retinue made their appearance. Rain began to pour down steadily, which induced those concerned to finish their work and get under shelter as soon as they could. The spade was a purely Colonial production. The blade consisted of iron from Major Lockyer's Argyle mine. The shaft was of tulip wood, with the figure of a sheep where it joined the blade. The handle was of satin wood, engraved on each side with the figure of an emu and a kangaroo, and bound with a silver circlet, with inscription. The Governor's daughter, Mrs. Keith Staward, turned the first muddy sod and deposited it in a bason of polished cedar, used to convey the turf a few yards. Approval of the project was by no means unanimous. Jack Beaver, a burly Englishman of considerable pugilistic repute, went amongst the crowd, buttonholing anybody who would listen to him (and all did) and gave, as his opinion, 'It ain't nature, that's what I says, it ain't nature.'"

On 12th March, 1851, the tender of a Mr. Wallis for the construction of four and a half miles of line from Rookwood towards Sydney, for the sum of £10,000, was accepted by the company which had been formed to build and operate the railway. The discovery of gold near Bathurst, however, interfered with progress, and Wallis failed to complete this contract. On 9th August, 1852, an offer from a certain Mr. Randle was accepted to perform certain portions of the work between Cleveland Paddocks and Ashfield, but such was the shortage of labour in Sydney, due to the mass migrations to the newly-discovered goldfields, that ultimately the Government decided to import 500 railway labourers from England and pay their passage. They arrived in Sydney in 1853 and were immediately employed by the railway contractor who then took over the whole of the construction between Sydney and Parramatta Junction (Granville). The company met difficulties in the shape of steeply rising costs. The Sydney to Parramatta line estimated in 1853 to cost £218,000 was two years later (1855) estimated at £431,000. Finally, the company could no longer profitably continue because of the continuing drain on its finances and terms were come to with the Government to take over its assets and liabilities.

*The line to Granville and Darling Harbour, composed of wood capped with thin iron plate, was opened on 26th September, 1855. The first train, consisting of eleven carriages, left Sydney at 11.20 a.m. and reached Granville, or Parramatta Junction as it was then called, some forty-five minutes later. The "Sydney Herald" in its issue of the following day proffered comment that "We can hardly expect those who have not been familiar with this species of locomotion to look on with quiet nerves, or to venture with absolute confidence to travel at such speed," and was somewhat surprised to note that "The train got out of the station absolutely without any accident whatever."*

(cf. *Journ. and Proc. R.A.H.S.*, Vol. XVII, 1931, Part IV: *Newspaper Cuttings* by courtesy Mitchell Library.)

"Sheep farming, which a few years back was neglected in the Colonies, has of late become an object of great importance, and is at this moment cultivated with an energy and spirit which will before many years elapse ensure a constant supply of fine wool from British subjects in the Colonies to the manufacturers in Britain. The rapidity with which sheep increase and the constant demand and high prices given for wool, have led to the unexpected application of colonial capital to this branch of rural economy.

"The demand for fine wools in Britain has always been greater than the supply, although the yearly growth of British wool amounts to 168,000,000 lb. Every encouragement and protection which Government could grant has been given in past ages to the subject. But as the finer staples seem to be raised with great difficulty in Great Britain, and at an expense that is not profitable, it has always been found that Britain has been indebted to Foreign States for her fine wools. For many years Spain and Saxony enjoyed a monopoly of fine wools and procured their own prices. When American machinery, however, came into competition with British, and when higher prices were obtained from the rivalry between two manufacturing nations, the question was naturally asked whether wool of equal quality might not be produced in other countries besides Spain and Saxony which from climate and productions were not inferior to these favoured regions. The growth of Spanish wool has been an object of attention in that country for many ages; but that of Saxony has been chiefly promoted by the English Corn Laws, by which corn land was converted into pasture with German states in both cases competing with the agricultural products of England.

"America took the lead in this inquiry and with the characteristic energy of that indefatigable race of people, sheep farming has triumphed over local prejudices; and it is in several of the States certain that in a few years a quantity of fine wool will be reared in America that will assist in supplying the home market. In the British Colonies, on the other hand, it is admitted without dispute that New South Wales . . . took the lead in this branch and has followed it out with the most remarkable diligence and success. It is probable that next season, between two and three million pounds weight of wool will be shipped from this country. We should embrace the opportunity therefore presented by the absence of formidable rivals to strengthen and multiply our resources. For it appears that Canada, the Cape of Good Hope and Swan River are treading fast upon our heels in this career and will speedily pour into the market such quantities of wool as will affect our prices."

To enable this improvement of quality to take place, sources of pure-bred stock were available, if only the flock-masters would buy them and not commence with nondescript mongrels in the vain hope of producing with these materials quality fleece wool, with which alone the overseas market could be assured to the Colonists. One such stud was owned by William Riley, of Raby Park, and it is interesting to note an early advertisement by this breeder in an issue of the *Sydney Herald*, 6/2/1834:—

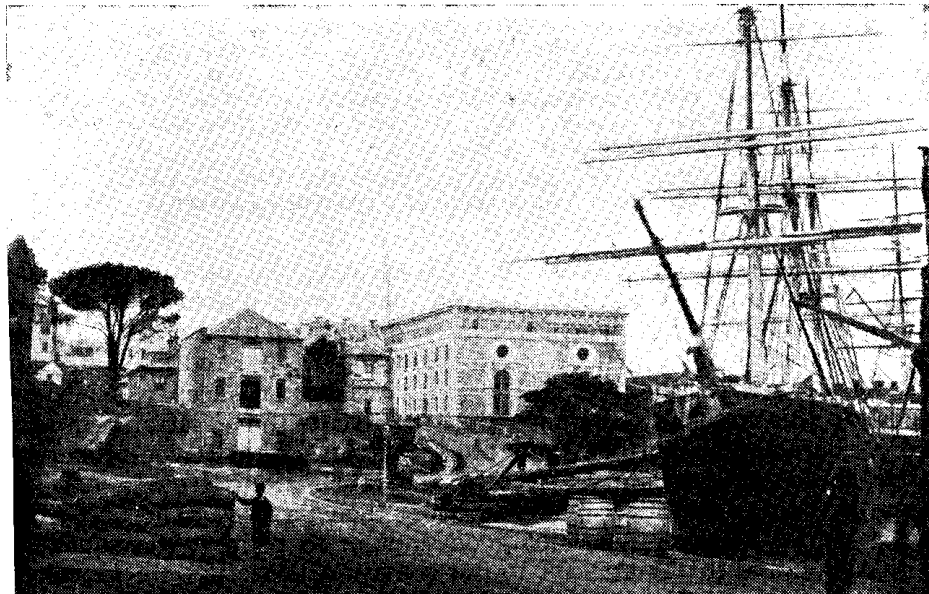
“On the first importation of the pure Saxons, in 1825, it was (and not without apparent reason) apprehended that they would, by crossing on the colonial sheep, tend to diminish the quantity of produce and to weaken their stamina; but eight years’ experience has now determined a contrary view. Every year’s drop, at Raby, has proved that in this climate the animals increase in vigour, in strength and weight of fleece, preserving their peculiar fineness and softness, combined with that strength and elasticity of staple and closeness of pile so much valued by British manufacturers.

“Messrs. J. T. Simes and Co., eminent woolbrokers of London state in their printed circular dated London, 15th July, 1833, on the subject of the sales of Australian wools—‘The flocks, as usual, have varied in quality and state according to the degree of attention paid to their management. Many have evinced great improvement. It must, however, in candour be stated that other flocks are neither so fine or so well managed as heretofore.’ It may fairly be expected that the liberal encouragement afforded by the prices now paid will operate as a stimulus to growers to promote the improvement of their flocks by fresh crosses with pure blood.”

#### **Merino versus Other Breeds—Quantity Considerations as Opposed to Quality.**

William Riley, in his advertisement referred to above, mentions quantity production as influencing some breeders against a predominant merino strain. It is possibly for this reason that from about 1839 onwards increasing attempts were made to combine the fine wool-bearing qualities of the merino with the heavy lustrous wool of the improved Leicester and other English long-wool sheep, on which the greatest efforts at scientific improvement had been expended by Bakewell and others who followed him. One of the earliest attempts at such cross-breeding was by the Australian Agricultural Company: “We have lately learned that the affairs of the A.A. Company, under the able management of Col. Dumaresq, are in a highly prosperous condition at present. It will, we have no doubt, be interesting to such of our readers as are stockholders to learn that the company have lately imported from England two Durham bulls and some Leicester sheep (rams and ewes) of the best description and choicest breeds . . . . We understand also that it is proposed, in deference to the theory of a celebrated Saxon sheep-manager, to try the effect of crossing merino and Saxon sheep with those of the Leicester breed. By this plan it is supposed that the symmetry and bone of the former may be improved, and that length of staple may be obtained without prejudice to the fineness of the wool. On this latter point some doubt exists and it is therefore intended to try the experiment with caution. It appears scarcely possible to improve the quality of New South Wales

wool; but it may be interesting to flock-owners to know that the experiment alluded to is going on. Much more, however, is expected from a plan by the Commissioner, now in progress—that of removing the young ram flocks to the best pastures—than from the result of the proposed cross (2,000 rams are also to be fed upon the best pastures that can be found).” (S.H. 31/8/1837.)



CIRCULAR QUAY, SYDNEY, 1870.

*The photograph here reproduced is of particular interest in showing one of early Sydney's most imposing wool stores, and a waterfront hotel of some renown in the boisterous windjammer days of the Colonial wool trade. The square stone edifice is the wool store of Mort and Company, and immediately to its left in the photograph is the "Belmore Family Hotel," in what appears to be a rather dilapidated condition.*

Thomas Mort came to Australia as a youth in 1838 and soon afterwards commenced business as an auctioneer, establishing a new enterprise in conducting Colonial sales of wool, tallow and hides. Trading as Mort and Brown, Mort continued to thrive, and in the 1850's was closely associated with the first railway (as director of the company), and soon afterwards became one of the founders of the Australian Mutual Provident Society. One of the great works of Mort's life was the establishment of the dock at Balmain which played an important part in the development of the port of Sydney. The dock proper was commenced in 1854, and in 1855 the first vessel entered the dock—the Hunter River Steamship Company's "s.s. Hunter." Together with the dock, Mort built up an engineering company in association with Thomas MacArthur. The concern became known as "Mort's Dock and Engineering Company."

This man of many parts was also financially interested in mining. He floated the Peak Downs Copper Mining Company which prospered, and in 1874 a tin smelting works was erected by Mort and Company at Pyrmont. For good measure he left his mark as pastoralist and agriculturist, being remembered in connection with the Bodalla Estate on the Tuross River—a really model station measuring 8 miles by 5 miles. He imported dairy cattle from the United Kingdom in 1872, and built adjoining bacon and cheese factories. Next to note is Mort's connection with refrigeration. By the association of Mort's capital and enthusiasm, with the inventive genius of a Mr. Nicolle, a small refrigeration plant was set up in the Royal Hotel in George-street (1872). Three years later the New South Wales Fresh Food and Ice Company was formed, Mort holding 100,000 shares. The influence of this extraordinary man was such that by the time of his death in

1878 at Bodalla, at the age of 61, Thomas Mort was even then recognised by his contemporaries as having been an outstanding promoter of the interests of the Colony of his adoption.

*The Mort and Company Wool Store, as shown in this photograph, was built in 1870 and was then the largest in the Colony, holding 1,000 bales of wool. The "Belmore Family Hotel" was erected in 1857 and was first known on the Sydney waterfront, under the ownership of Mr. Palmer, as "The First and Last," it being the first hotel seen on arrival and the last seen on leaving the Circular Quay anchorage. The site of the hotel had once formed a part of the gardens of Government House from Phillip's time to that of Gipps, when, with the incorporation of the City of Sydney in 1842, there was a new delineation of boundaries. In 1868, when Lord Belmore visited the Colony, it was stated that he gave an occasional call to and entertained members of Parliament at this hotel. It "put on style" because of this vice-regal patronage, and was renamed by the owner, a Mr. Ross, "The Belmore Family Hotel," its name at the time this picture was taken. It was not demolished until 1910.*

(cf. Newspaper Cuttings, Vol. 20, p. 13. Journ. and Proc. R.A.H.S., Vol. 24, p. 325. Sydney, Old and New, Vol. 3, plate 285 (Mitchell Library)).

The tendency to experiment, here illustrated, did in later years do much harm, and the Australian merino sheep were successively crossed with long-woolled, lustre and semi-lustre breeds of the Leicester, Cotswold, Teeswater, Oxford Down and Southdown type, and later on with inferior French Rambouillet and degenerated Saxon sheep (""). Ryrie states of this damage: "From about 1829-1840 the Australian wools had a character so uniform and fixed that an English woolbroker or sorter could with certainty select by the touch alone from a bale of others, a Botany Bay fleece, as they were then termed. The best wool in the world, however, was not good enough to content the squatters of that day, and in the attempt to put a merino fleece upon a Leicester carcase they nearly ruined the Colonies and not a few of themselves entirely . . . . Up to 1839 I do not recollect any importation of the Leicester or other English breeds, and I consider that about this time and mainly for this reason the Australian merino attained its highest point of excellence. Time, climate and intelligent management had all been employed in eradicating the legion of bad qualities which characterised the original stock, and the whole of the sheep in the Colony were types of one class, differing only from the operation of local influences, and the degree of intelligent care bestowed upon them by their various owners. Some flocks were better than others, but all had the stamp of the Australian merino impressed upon them; there were no mongrels among them, and although nearly every squatter had been breeding for numbers only, irrespective of quality, yet such was the surprising durability and vigour of the blood that neither cupidity, neglect or total ignorance of the true principles of breeding could destroy the character of the wool.

"From about 1835-1840, a perfect mania for sheep farming had taken possession of military officers, gentlemen of the Mercantile Navy, lawyers, clergymen, merchants and others who had capital to invest or credit to float a set of bills. Sheep and their wool were the all-absorbing topics of this period, and immense numbers of sheep and stations became the property of men who had not the slightest idea of stations, sheep or their management. It is, therefore, not at all surprising that from this time the ruin of the Australian merino commenced. All so far were doing well, but the would-be sheepbreeders thought they could do better if they could only succeed in placing the merino fleece upon the Leicester carcase (they might as well have tried

to grow it upon a bullock) and with this in view Messrs. Icely and Rodd, of Goombing, near Bathurst, imported in 1840, I believe, the first Leicester sheep.

"The arrival of these animals, ewes and rams, created quite a sensation in the district; everyone was eager to see them . . . they were very fine animals but it was a pity they had not been left at home. The importers, however, commenced breeding from them by crossing with some of their best Australian Merino ewes. The first cross did certainly gain something in size and looked well until they became two years old, but the increase of bulk was palpably at the expense of the wool, which had become harsh and loose and on the back had a mushey feel and appearance. Notwithstanding this, there was quite a rush for rams, the progeny of these sheep, and Mr. Rodd succeeded in disposing of them at extreme rates, as fast as he could breed them. But when, after lambing, these mongrel ewes commenced to throw off their wool from their bellies and points, retaining no wool except a little thin stuff on the ribs and back, one would have thought the eyes of the sheep-owners would have been opened to the error they had committed; but no such thing; they had obtained size, and that was enough for them. Every year as the sheep grew older they became worse, until at the expiration of about seven years it was discovered that the cross-breds inherited neither the fattening properties of the Leicester nor the wool-bearing qualities of the Merino; in a word they were pure in one respect only—they were pure mongrels. Meanwhile, before this sad truth was discovered, three-fourths of the sheep in the district were completely ruined. About this time Mr. Denne, of New England, imported some Oxford Down sheep which led to similar results. About 1844, the A.A. Company imported either Lincoln or Leicester sheep . . . but they were not bred from but sold.

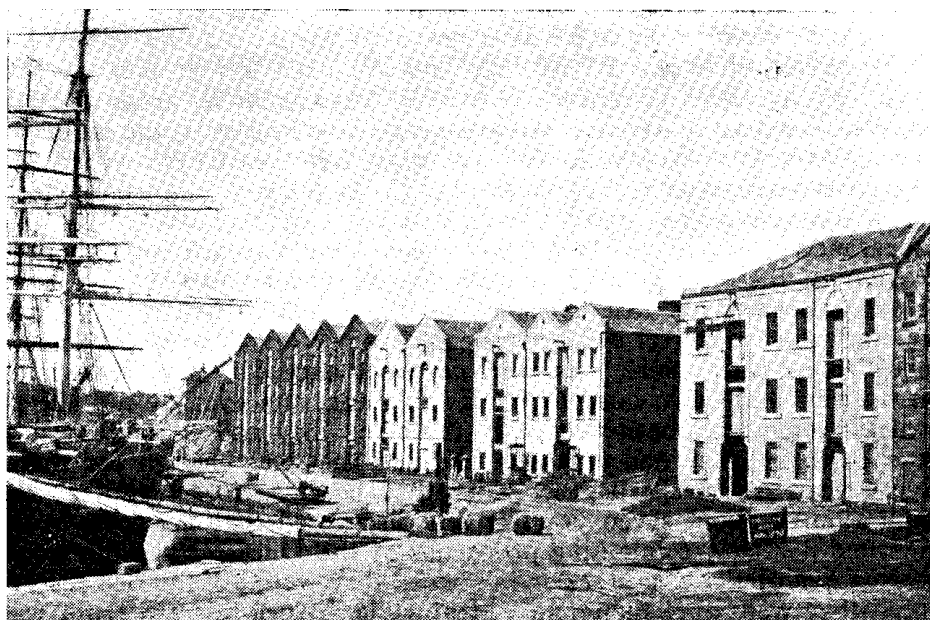
"Yet in spite of all these total failures, and the acknowledged injury the introduction of these wools had inflicted upon the great staple of the Colony, her wool, many perverse and misguided individuals continued largely to import them, but, so far, fortunately for the country, many of the worthless brutes died after the first or second year of colonization.

"I have heard fine wooled sheep objected to—even in Australia—on the score of their delicacy . . . Fine-woolled sheep are sometimes objected to because it is thought that a fine fleece must as a matter of course weigh less than a coarse one; this is an error, a fine-woolled fleece, if dense and long, will weigh more than a coarse one, of course both being Merino . . .

"In effect, I am of opinion that the introduction of the Leicester sheep has done more injury to the entire wool-growing interests of the Colony than scab, catarrh, foot-rot or all the other ills which sheep are heirs to—at least in Australia.

"The Saxon Merinos imported by Messrs. Riley, Walker and Bettington and the A.A. Coy. were not of the thrashy description that has of late years (prior to 1870) been too freely introduced into Melbourne . . . The former were not got up for the occasion but were selected by men who went to Germany and paid a good price for their sheep. These sheep were good when they came to Australia, and remained good, but still they were never so good as some of their increase . . . It is quite true that the best of our present flocks owe at least the origin of their excellence to the Saxon Merinos, but without time, a

climate surpassingly favourable to the growth of wool, skilful management and a profound knowledge of the principles of breeding, the result would have been far different indeed."



CIRCULAR QUAY, EAST SIDE, SYDNEY, 1870.

The buildings in the centre of this photograph are Talbot's Wool Stores, adjacent to Flood's Stores, later occupied by the firm of Winchcombe, Carson & Co., and also known at one time as Blackwater's Stores. At the bottom of the street can be seen Clarke's Wool and Produce Stores. It is of some interest to note that the Hon. Edward Flood, Esq., M.L.C., who established the woolpressing business in Sydney, was born in a house on the present site of the G.P.O., Sydney, in 1805. As a young man he took up pastoral runs on the Lachlan and Murrumbidgee Rivers and later formed stations in Queensland. He then returned to Sydney and went into business as a builder. He was mayor of Sydney in 1848 and was elected to the Legislative Assembly in 1856. Without being favoured by birth or education, Flood made his way by sheer force of character and won a fortune which entitled him to be called a millionaire. Flood had at least two illustrious political friends—W. C. Wentworth and Henry Parkes. Some time after his retirement from the Assembly, Sir Henry Parkes offered to recommend him for appointment to the Upper House, but at that time he declined on account of the pressure of his private occupations. A few years later he accepted a seat at the hands of the same Minister. The name of Flood is wrapped up in the development of the New South Wales wool trade.

(Cf. *Sydney Old and New*, Plates 284, 293: Newspaper Cuttings. (Mitchell Library).)

It was no doubt inevitable that in the course of the squatting movement (c.f. Roberts) some mistakes were made. It is nevertheless staggering, if Graham's version of events is even partially accepted, that Australian wool of such poor quality, as it has been seen it was in 1820, should have in about ten years from then, become so modified to the Merino type and had reached such a uniformly stable character. This, even more than the movement itself, seems the most extraordinary phenomenon of the crucial years of development, 1825-1840. No attempt at a close research has been made of this particular transition period, which in itself would take a considerable study. It is sufficient here to merely note the development, and some of the difficulties attaching to it.



Finally, and as marking the position reached at the closure of the period which is here being considered, it would be as well to take note of a newspaper article written in 1840 and summarising the outlook as then reached<sup>(45)</sup> :—

“With due attention on the part of our flock-masters to the improvement of breeds, the selection of pasturage and the preparation of the fleeces when shorn, for the English market, this country cannot fail to acquire unrivalled pre-eminence in the production of that precious staple . . . less than twenty years ago, its contributions to the manufactures of Great Britain were but as a drop in the bucket, and its very name, as a wool country, had scarcely been heard of beyond the counting houses of its half-a-dozen mercantile correspondents in London. And now, it annually sends from its shores a goodly fleet, scarcely less numerous, and bearing a scarcely less costly freight than that which crossed the most palmy days of West India commerce. Hardly is there an Account Sales or price current circulated on change at London or Liverpool or Manchester, in which the quotations of Australian bales do not occupy a conspicuous place. And in the calculations of the broker, the merchant and the manufacturer, touching the present and prospective state of the wool market, the actual or expected supplies from that Ultima Thule of British colonies, New South Wales, now constitute an essential ingredient.

“It should be the earnest wish of every right-minded colonist that this respectable position . . . should not only be maintained but advanced—that the flocks should not only multiply in a geometrical ratio, spreading beyond the uttermost limits of present location, but undergo progressive improvement in breed—and that the fleeces should not only give an annual augmentation of bales and cargoes but realise a steady rise in the character of the fabric.

“The flock-masters who direct our especial attention to this important element in the prosperity of Australia deserve all the honours which their fellow colonists can bestow. Nor have they hitherto had cause to complain. The late John Macarthur, the *Extant* Richard Jones, and other spirited importers of superior breeds of sheep, have not been disappointed of adequate rewards: witness their ample fortunes and the reputation which encircles their names.

“We heard of the importation by Mr. Montefiore of several rams of a breed to which Lord Western has lately been calling the attention of the public in England, being a cross from the Dashley, or Bakewell’s improved Leicester ram and Merino ewe . . . Dr. Wilson, however, introduced the breed some years ago . . . We are informed that those who may be curious to examine a specimen of this valuable wool may gratify their curiosity by calling at the store of Gore and Company where there is a fleece from one of these cross-bred sheep which weighs 4 lb. 15 oz., clean washed, and having a staple of seven inches. To persons who are aware that, in the ordinary average, a fleece of three pounds would be considered a very large produce, this will appear a most splendid instance of success in the several objects sought by the art of wool-growing.

“Does not the fact to which our attention is thus called suggest to the intelligent reader how much it is to be lamented that there is in the Colony no public institution to which such enterprising men such as

Dr. Wilson might communicate the details and results of their pastoral experiments? We regard the absence of Agricultural Societies as a deplorable deficiency in the social constitution of our country, and as a reproach, a standing and humiliating reproach to the leading members of our agricultural and pastoral community."

### **Cattle Raising.**

It should not be overlooked that cattle also figured in the tremendous grazing developments of the years which followed Macquarie's departure, their numbers totalling about one million in 1843. In 1820, the position rested much as the sheep situation then was. There were a few thousand head over the mountains, but the bulk of the cattle were in districts nearer located to Sydney. There were Government herds at Bathurst, Rooty Hill and the Cow Pastures, some being "horned cattle," others "wild cattle."

The "wild cattle" were the descendants of those that had been lost by Phillip, numbering 60 head when found by Hunter in 1795 ("). By 1820 they had increased to about 2,500, but were practically valueless, although from time to time some had been slaughtered in preceding years to bolster up the meat supplies of the settlement. Largely, however, they had proved a supplementary fresh meat ration for any of those, settlers or convicts alike, who braved the strict injunctions of the Governor and illegally slaughtered them. Oxley's opinion, in 1820, was that "I think there are not more than 2,500 head on the Cow Pastures. From the depredations formerly committed on them by run-away convicts and servants of settlers on the Nepean who made a regular practice by trade of killing them and selling their meat in the years 1815-1816 . . . I do not think the wild cattle can be reclaimed or that they will ever repay the expense of the undertaking . . . They are of a mixed breed and therefore no good . . . No one would have them . . . There are certainly many useful among them but the settlers all prefer the improved English breed" (").

In the early years, these cattle had been handed from Governor to Governor as a sacred trust, and the Cow Pastures had been reserved for them. No one might enter the precincts of this favoured area without the Governor's permission. King had been furious when forced to give John Macarthur a grant there for his sheep, but, by 1814, Macquarie was himself disillusioned with the wild cattle. They had brought the State no particular benefit. The drought by then had receded and with it the need for the Governor to keep any emergency ration in reserve. Other people were benefiting. The herd had become the mainstay of runaway convicts and enabled them to live in the bush, while the settlers on the Hawkesbury were also not disinclined on occasions to help themselves to free beef. Even Macarthur's servants were suspected of an occasional kill. It infuriated Macquarie to think that bad characters were being sustained in their wrong doings by his beneficent jurisdiction. In vain did he publish the death penalty for cattle-stealing. Several thieves were taken and executed, but more escaped detection. Macquarie sent constables to the Cow Pastures to guard the cattle, but to no effect. The three years drought, 1813-1815, greatly reduced the herd, and also, without care and selection, the breed degenerated. Macquarie, attempting to make some use of the cattle, at one time, had tried to tame the wild cattle and add them to the controlled herd. To this

end he sent some decoy cattle across the Nepean and incurred considerable expense building stockades. The results were, however, poor, and further attempts abandoned. The Colonial Office, in a happy thought, suggested to him on another occasion that he should collect the herd and drive it over the Blue Mountains to the unlimited pastures beyond, where the cattle could be left to roam at will <sup>(48)</sup>. But not even Macquarie, meticulous as he was in other details, attempted such an impossible task. Macquarie, finally, came to the point of advising that the cattle should be killed and Government make what profit it could from their hides and salted carcasses. The end was, in the event, inglorious. Those that could not be handled were slaughtered and their grazing lands opened for settlement, so closing rather a romantic chapter in early stock-raising in the Colony <sup>(49)</sup>.

The tame herds of "horned cattle," as it has been previously seen, were an important part of the Macquarie economy. They were issued, on a loan basis, to stock up new settlers commencing cultivation; and nearly as importantly used as an integral part of the Commissariat reserve, to be slaughtered as a curb upon a rising market for meat supplies. Their condition varied in inverse ratio to the seasons, practically starving in the winter and in times of drought, fattening in good seasons.

By the 'twenties, however, numbers were increasing. There had been about 21,000 in 1813, but these had grown to 68,000 odd in 1821<sup>(50)</sup>. The breeds were derived from the Bengal buffalo variety with smooth skins, short snail horns and humpy shoulders, and with an infusion from imported English cattle. The Marsden herd, one of the best in the Colony of the early 'twenties, were largely of English polled Suffolk type with smooth glossy skins. The Macarthur cattle were red Devons and Lancashires, with long spreading horns. Throsby, at Bong Bong, had probably the biggest cattle and at one time was able to kill bullocks, raised on natural pasture alone, weighing up to 1,400 lb. Sir John Jamison was also the owner of another fine herd. Numbers multiplying, it had been but a question of time before the Government Herds would cease to have any value, as apart from the difficulty of controlling a natural increase on strictly limited Crown reserves. These, amounting to "immense herds" were finally sold in 1827 and 1828, precipitating, so it was thought in later years, a depression in stock values which still remained in 1843 <sup>(51)</sup>.

In 1826, there were at least some who thought that the pure English breeds, especially of the larger sort, were too good for the Colony in its then state <sup>(52)</sup>. This was because they could not be supported and brought to perfection upon the natural grasses, except in selected situations where they might have a wide tract of country to range over. In consequence, the smaller breeds of British cattle, such as the North Devon, South Wales and Galloway stock, producing more beef and more milk, were considered preferable to the Hereford, Sussex and Large Yorkshires. The native breed were, however, of poor type, the majority of which could only be described as possessing "long fore-quarters and deficient hind-quarters and of very bad milking strain" <sup>(53)</sup>. Progress and improvement might come if these Zebu-like cattle could be crossed judiciously with certain of the English pure breeds, thus developing a colonial breed of cattle with its own peculiar characteristics and fitting into local requirements—"With lighter hind-quarters,

more meat upon the best joints, better adapted for the dairy, at the same time not too tender, or requiring better keep than the country in its natural state would be able to supply" (<sup>54</sup>).

Such development did in fact take place, the breed of cattle in after years being bred more and more to the English type. Increasing with much the same speed as sheep, herds commenced to roll into the interior in association with the Merino and mongrel bred flocks, and by 1843 numbered more than a million head.

### Conclusions.

A preceding essay in this survey has been entitled "The Search for a Staple." This sketch may be called "The Finding of a Staple," for it was in grazing and "flocks and herds" that the Colony prospered after 1821. The step from agriculture to the pastoral was an inevitable transition that was but a matter of time after the Blue Mountains were crossed and the interior laid open. Macquarie may be said to have been the last Governor to have effectually delayed the change, for, after him, it was encouraged up to 1829, held up for a time by Darling, with his declaration of the "Nineteen counties" in the Wakefield tradition, only for the flocks and herds to break these bonds and traverse in time the furthestmost plains of the continent.

It must be noted, however, that agriculture played no part in this expansion, for its development could only be along entirely distinct lines. The differential separating the two was, of course, in the produce returned, farming requiring close proximity to markets and the fixing of a producer to the soil, whereby in the yearly cycles of the seasons the land could be made to give its returns; grazing, on the other hand, requiring considerable areas of pasture to subsist the stock and meaning that of itself a momentum towards ever increasing expansion must develop as the sheep and cattle multiplied every year and the pastures became eaten out. In the Wakefield theory, the two were opposites—Civilization in contrast to Nomadism; Concentration of Settlement and Order as compared with Expansion and Disorder. This theory, however, was meaningless in a country as large as Australia, and so strangely situated that the sheep thrived under dry conditions where agriculture failed. The Macarthur observation that "sheep bear dry weather with scanty food better than wet with abundance," could not be denied, and the herds and flocks rolled on in every increasing numbers.

But above all else with grazing, room was necessary to expand. In the Macquarie period the strain of restricted areas had been noticeable. In the winter there was a nutritional drought, whereas in the further western areas the winter was the most prolific season of all with its green trefoil and clover; at times of drought the stock died by their dried-up waterholes in the Cumberland area; even in the best of times the stock were seldom fat, and when the markets for meat supplies failed and the cattle could not be slaughtered, the larger stock changed from sleek to poor, so that in Cunningham's picturesque phrase, they became "transparent." If, on even the Macarthur property at Camden, one sheep required a whole acre to itself for grazing, large stock required eight to ten acres, and land in such sufficiency was not available on the confined areas of the Macquarie restrictive period. It was but a step to 1829 and the later restrictions of Darling, with again the inexorable pressure of increasing numbers causing those who kept stock to move

further afield to find more room for their animals, yearly increasing in numbers, and requiring larger areas over which to range. Much of the country was poor, some heavily timbered. This had to be avoided, the flocks and herds moving ever onwards in the process of selection, in accordance with the simple laws of nature and survival, water supplies primarily conditioning this movement, at a time when surface water tanks, bores and drains were yet not thought of.

Since stock doubled their numbers so quickly and by and large the sheep and cattle died only from old age or starvation, the development of grazing, as it comes to be noted from 1821 onwards, was forced to proceed at an ever increasing momentum, which must explain why, as apart from all other considerations, it was rising towards its peak at the end of the period of this survey. The life cycle was short, geometrical progression the law, according to which the sheep and cattle increased and multiplied.

Moreover, this expansion was possible with sheep where it was not possible with agriculture, and very difficult with cattle, once a certain optimum development had been reached. This followed from the nature of the produce of the sheep—wool, a non-perishable. A man could drive his flock into the interior and not need to be brought into contact with civilisation again for a year, provided only that he had sufficient household necessities to see him through. He could await the growth of his clip on the backs of his sheep for a whole twelve months, meanwhile protecting them from the depredations of wild dogs and thieves, move his rough hurdles from place to place, wash, shear and then market the wool. It was a yearly cycle, as was farming, with the major differences that the stock were moveable, the crops were not; the wool would keep, the grain would not. Then again, the agriculture of the early times was a closed economy. No markets were available for the grain, the vegetables and the fruit outside the limited confines of the paltry settlement, and even within this field, competition promoted constant jarring and conflict between opposing interests and individual settlers, all attempting to take out their portion from the largesse of government purchases and the limited wants of the townsfolk. With wool, however, the producer was independent of his fellows; there was no rush to market, no need to attempt to forestall. He was independent of the Commissariat, for the market which alone affected his interests was twelve thousand miles away on the other side of the world.

Cattle raising, after a certain stage, had been reached, was, however, beset with the same difficulties in the matter of markets as was the agriculture of the early Colony. It was confined in its scope, forced to depend upon a local restricted market, unable to export. Then, too, its produce was perishable. It was not sufficient to grow fat cattle some hundreds of miles from the point of a market. The meat had to be sold, and that could only be done "on the hoof." The problems of cattle raising then became difficult, for the dilemma would arise, how to keep them in flesh, as they travelled by road, over the days and even months necessary before they arrived at a point of settlement where they could be slaughtered and sold for meat. Markets and prices, where they had been so important in the Macquarie period, in the years of development later, exercised the same last and final influence over what man would endeavour to do. The sheep did win, for they alone supplied

the answer to considerations of prices and markets, and the encouragements which led men to risk their capital and brave the hardships of the interior, in the mirage of certain wealth there to be had for the picking.

From all these considerations, it was inevitable that the man who farmed and the man who selected grazing as his means of livelihood, were two distinct and entirely different classes of persons. The farmer was the settler tied to his land; the grazier, a nomad forced in an irresistible current to seek lands further and further distant from the points of settlement. Men could not combine the two, unless it were those who in the early 1820's were able to gain possession of large grants on the Hunter, only a short distance from Sydney by road and with communication open, also, by sea. Stock-raising, moreover, required capital, where farming was the simpler pursuit. It necessitated a considerable capital expenditure in stock, in labour, in equipment such as hurdles, lorries and drays, in horses and oxen to haul them, and in numberless other items as well; whereas to the settler, his primary implements were his axe, his hoe and his seed, costing but a fraction of what was necessary for grazing.

There was no balance in this early disjunction of farming and stock-raising, no mixture of the two. The staple, for which the colonists had sought so long, was denied to the farmer confined to his paltry few acres. He could not share in the benefits proffered to the minority of those men possessed of capital. In later years, and when the population was 150,000, only 6,000 men were able to accept the credit which the banks offered for stock-raising investment, and included in this small proportion were traders and shopkeepers as well <sup>(55)</sup>. The disjunction was one of the prime factors behind the impoverishment of the Colony's agriculture, because without stock, so the theory was, the land could not be manured, and without manure it ceased to produce. Where the two cannot be combined together in our present day, there are artificial fertilisers to take the place of animal fertiliser, but this possibility was denied to these earlier generations of cultivators. But, by and large, the farmers of the present day do attempt to raise stock in association with their cultivation, to mix their farming, to ensure against their risks, to provide a supplementary source of income, to utilise their stubble, to improve their fallows, to maintain the quality of their lands. In a measure, to the extent that this combination is applied, depends the present day economic stability of their position.

This introduction to the solution of the economic difficulties of the early settlement—"this finding of a staple"—is to be considered as the portent of the years which followed 1821 and in particular of the extraordinary developments which ensued in the decade which immediately succeeded the 'twenties. The consequent economic expansion now remains to be sketched in later essays of this survey.

**"The Finding of a Staple—Grazing and Fine Wool."**

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- (<sup>1</sup>) Bigge—Transcripts of Evidence—Examination of J. Macarthur.
- (<sup>2</sup>) Ibid—Evidence by William Cox.
- (<sup>3</sup>) Ibid—Evidence by Gregory Blaxland.
- (<sup>4</sup>) For these calculations cf. Marion Phillips: *A Colonial Autocracy*, p. 105; John Oxley's Evidence in the Bigge Transcripts.
- (<sup>5</sup>) Report of the Committee of the Agricultural Society of Western Australia (1837) (Mitchell Library)—See Appendices for actual stock numbers.
- (<sup>6</sup>) Bigge Transcripts—Evidence by J. Macarthur.
- (<sup>7</sup>) These figures are drawn from the *New South Wales Magazine*, January, June, July, October, 1843 (Mitchell Library—see Appendices).
- (<sup>8</sup>) Bigge—Report upon the Colony of N.S.W., p. 162.
- (<sup>9</sup>) Bigge—Report upon Agriculture and Trade, p. 92.
- (<sup>10</sup>) See supra: The Development of the Colony to 1821, Article 4 in this series.
- (<sup>11</sup>) Early Records of the Macarthurs of Camden—General survey of opinions in regard to this question of fineness of wool.
- (<sup>11A</sup>) John Ryrie Graham—*A Treatise on the Australian Merino* (Melbourne, 1870)—Mitchell Library.
- (<sup>12</sup>) Bigge—Transcripts of Evidence—Examination of John Macarthur.
- (<sup>13</sup>) Graham op. cit. p. 86 et seq.
- (<sup>14</sup>) Ibid.
- (<sup>15</sup>) Bigge—Transcripts of Evidence—Examination of William Cox.
- (<sup>16</sup>) Fitzpatrick—*British Imperialism and Australia*, p. 81; Evidence of Wm. Cox in Transcripts.
- (<sup>17</sup>) Bigge—Transcripts of Evidence—Examination of Wm. Cox.
- (<sup>18</sup>) C.H.B.E. Vol. 7, p. 108.
- (<sup>19</sup>) Wentworth "A Statistical, Historical and Political Description of the Colony of N.S.W."
- (<sup>20</sup>) Roberts—*Squatting Age in Australia*, p. 44.
- (<sup>21</sup>) Ibid, p. 45.
- (<sup>22</sup>) Ibid.
- (<sup>23</sup>) Ibid.
- (<sup>24</sup>) *Sydney Herald*, 29th April, 1833—Long article on wool and the development of the Spanish and German wool industries.
- (<sup>25</sup>) Roberts op. cit. p. 47.
- (<sup>26</sup>) Ibid.
- (<sup>27</sup>) Ibid, p. 48.
- (<sup>28</sup>) Ibid.
- (<sup>29</sup>) Ibid, p. 50.
- (<sup>30</sup>) Ibid.
- (<sup>31</sup>) Ibid, p. 51.
- (<sup>32</sup>) Ibid, p. 55.
- (<sup>33</sup>) Cf. T. Southey: *The Rise, Progress and Present State of Colonial Wools* (2nd Edition, 1851) cit. Roberts op. cit. pp. 30 et seq.
- (<sup>34</sup>) J. R. Graham op cit. pp. 11-21 and referring to importations by Riley and others.
- (<sup>35</sup>) Roberts op cit. p. 56.
- (<sup>36</sup>) Ibid, p. 58.
- (<sup>37</sup>) Reports of W.A. Committee op. cit.

- (38) Graham op. cit. pp. 11-21.
  - (43) Report of W.A. Committee op. cit.
  - (40) Ibid.
  - (41) Graham op. cit. pp. 11-21.
  - (42) Ibid.
  - (43) Report of W.A. Committee op. cit.
  - (44) Graham op. cit.
  - (45) Sydney Herald, 2nd March, 1840.
  - (46) Barnard—Macquarie's World, pp. 63-64.
  - (47) Bigge—Transcripts of Evidence.
  - (48) Barnard op. cit. pp. 63-64.
  - (49) Ibid.
  - (50) Cunningham—Two Years in New South Wales.
  - (51) Sydney Herald, 21st May, 1832.
  - (52) Atkinson op. cit. pp. 64 et seq.
  - (53) Ibid.
  - (54) Ibid.
  - (55) N.S.W. Magazine, June, 1843, p. 246.
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