Skene of Hallyard's Manuscript Of Husbandrie

By ALEXANDER FENTON

SCOTLAND is very much England's poor relation as regards pre-eighteenth-century writings on agrarian matters. England has its sixteenth-century writers such as Fitzherbert, Tusser, and Googe, and its seventeenth-century writers such as Markham, Blith, and Hartlib. To match this influential series of authors, Scotland can supply only two, and that at the very end of the period. The first is James Donaldson, whose *Husbandry Anatomiz'd* (Edinburgh, 1697) seems to show that Scottish agriculture was little more advanced in 1697 than English agriculture in the time of Fitzherbert in 1539. Donaldson, however, was an Edinburgh printer, and though he says he spent his early years on the land, it seems clear that a good number of his ideas are borrowed from earlier English sources, notably "Merkem" (Markham), himself a borrower from German as well as English writers. This must be borne in mind when trying to assess the state of contemporary Scottish agriculture, as it may well be that Donaldson introduces a false element of archaism into some parts of his book.

Two years later, a treatise of under fifty pages appeared, *The Countrey-Man's Rudiments: or, An Advice to the Farmers in East Lothian how to Labour and Improve their Ground*, by A.B.C. (Edinburgh, 1699). A.B.C. is thought to have been John Hamilton, the second Lord Belhaven. It was written to help "ordinar Farmers," and one might regret that his wish for "a particular Treatise for a particular Shire or Bounds of Land," such as East Lothian had in this one, did not come true till nearly a century later. The tendency of writers to project into the past conditions generalized by them from the Statistical Accounts and Agricultural Surveys of the eighteenth century might then have been avoided and an effort might have been made to seek some of the roots of the eighteenth-century "agricultural revolution" in the seventeenth century or earlier. There is in fact no lack of sources for early Scottish agrarian history, as Gordon Donaldson recently showed.[1] Some of these have been explored—e.g. T. Bedford Franklin used a number of monastic records in his *History of Scottish Farming* (Nelson, 1952), as also did J. A. Symon in *Scottish Farming Past and Present* (Edinburgh, 1959), but

[1] 'Sources of Scottish Agrarian History before the Eighteenth Century', in *A.H.R.* VIII, 1960, pp. 82–90.

the seventeenth century remains very much a blank, though as Donaldson makes clear, systematic study of testamentary records, court books, estate papers, and state records, could certainly alter this state of affairs. An accessible edition of *Husbandry Anatomiz'd* and *The Countrey-Man's Rudiments*, which are both quite short and could well be re-published together, is also to be desired, as the texts are, at the moment, practically unknown.

One of the earliest documents to deal specifically with seventeenth-century agriculture in Scotland, now here published for the first time, is on folio 64 of the Skene Papers in the National Library of Scotland,[1] and dates from *ante* 1666. The writer was John Skene of Hallyards, in the parish of Kirkliston, Midlothian, who succeeded to the estate in 1644, and died in 1669.[2] Hallyards Castle in which he lived is now a ruin.

GLOSSARY AND TEXT[3]

BEIR. Four-eared barley.
BEST SHEAPE=best chepe, i.e. cheapest.
BOLL. A dry measure, varying according to locality and the goods measured. A boll of meal, as still sold by Scottish millers, weighs 140 lb. avoirdupois.
BROWDDEN. Extremely fond, insistent.
CHALDER. A measure of capacity, containing 16 bolls of grain.
CRAFT LAND. Land of superior quality because frequently manured, infield.
FALDED. Of outfield land: having animals enclosed on it to manure it.
FORROW. Of a cow: having missed a pregnancy and not in calf, but giving milk the second year after calving.
FURLET. A measure of capacity for grain, equal to the fourth part of a boll, and varying as for the boll.
GAINE. To suffice.
GANGINGE. Going.
GREIVE. The overseer of a farm.
HALD OF. To keep from.
KEAN. A payment in kind made by a tenant. From Gaelic *càn*.
KY. Cows.
LAMBES. Lammas.
LIE. Lea.
MARK. A unit of account, worth 13s. 4d. Scots (=13⅓ pence sterling).
MUCKITT. Dunged.
NOLT. Cattle.
NUCLE. Of a cow; newly-calved; previously calved and about to calve again.
OVER WATT. Too wet.
OWLK. Week.
PAIPE. Pap, teat.
PROOF-CASTING. Determining the amount of grain in a stack. (See p. 78 below.)
QUAY. A young cow or heifer, 2 years old.
ROWKITT. Put into ricks or stacks (in the field).
SETT. Of rent in kind: to commute for money.
SHAMLOH. A cow that has not calved for two years. Gaelic *siomloch*, a cow that gives milk without the calf.
SILVER. Here=money.
SOWMME. The allowance of animals that may be grazed on a piece of land; a unit of grazing. Now generally called a *souming*.
SPEANED. Weaned.
STAPP. To stuff.

[1] Skene Papers, MS. 29.2.10.
[2] W. F. Skene, *Memorials of the Family of Skene of Skene*, New Spalding Club, 1887, pp. 117–22.
[3] The abbreviations have been normalized, and punctuation added.

STIRK. A bullock or heifer between one and two years old. (Note: a bullock, when three years old, and fit to be yoked in the plough, was called a *stot.*)
STRAIKINGE. In measuring grain; the amount that is "straiked" or stroked off the top of the measure.
TARNETIE MONDAY. Trinity Monday.
TEADIE. Of a cow; in calf (tidy).
TEALL. To till.
THREAVE. A measure of 24 sheaves, usually equal to two stooks.
YEILD. Of a cow; barren, dry of milk.
YOW. Ewe.
YSSEN. To desire the bull; *yssen'd* here= served.

SKENE OF HALLYARD'S MANUSCRIPT

Of Husbandrie. The first Sheat.

All grounds that ar laboured ar either Craft Land, that is infield or muckit land, or outfield land. Craft land is devided into four pairts; the first pairt is sowen with Beir, the second with oates, the third on of the pairtes by itself is sowne the first yeir with Beir, the second yeir with oates, the thrid yeir with wheat, and the fourth yeir with Peiss, and then begins with Beir again.

The owtfeild land is land that is never muckitt for the most pairt. It lyis lie two yeiris and is falded the thrid yeir and then sowne for thrie yeirs together, and it is sowne with no other grain than with oates. Ther be some owtfeild better than other. Some lyis lie but some two yeires, being falded the second yeir, som four yeires, being falded the fourth yeir. Vhen land lyis lie yett is it profitabl for pasturage of horse, sheepe, and nolt.

Concerninge the sowinge of the seed the Vheit is sowne in November and December, the Peiss in Marche and oates in Aprile, the Beir in May.

Concerninge lyming they lyme befor the Peiss but not befor the wheit.

Concerninge the muckinge and teallinge of the land, when they sow peiss and oates the land is not muckitt, but when they sowe wheit and Beir the land is muckitt, but the Beir getts mor mucke. Vhen they sowe the wheit the land is muckitt, then anes tealled, then sowen, then harrowed. Vhen they sowe the Peiss and Oates then the land is not muckitt, but anes tealled sown and harrowed. But when they sowe the Beir the land is thrice tealled, first when they have sowne their wheit seede, the second tyme when they have sowne ther oate seede, and after the teallinge harrows it and then mucks it verie weill, the third tyme they teall it then after the seed is sown they harrow it.

Concerning the stacking they must not gather in the corn into the barne yaird till it die, that is drie and light and fitt to be stackitt. The beir, wheit, and oates will die within ten or twelf dayis after the shearinge if they be clean of weids and herbes, if the weather be fair. But the peiss is langest a dying, for ten or twelf days after they be shorne they must be rowkitt four or fyve dayes, before they be stackitt in the barne yairde.

Ther be four pecks in a furlett, four furlets in a boll, sixten bolls in a chalder.

The Peiss sows farder than anie grain, the Beir and the wheit alik, but the oates least of all. For example, fourten pecks of Peiss, of Beir and Wheit a boll, and fyve furlets of oates, will sowe an aker. As concerninge how many threaves goes to the boll of everie grain, that is as the stowks be in greatnes, som mor, some les, somtymes two threave, somtymes thrie stowkis, somtymes thrie threave to the boll, yett for the generall ther goes fewest sheaves to the boll of wheit and maniest sheaves to the Boll of oates.

As concerning the making of the meale, the Beir and the Peiss gives mor to the boll, for a boll of Beir and a Boll of Peiss, and [if] they be gud, will everie on give six or seven furlets again. A boll of oates, and they be gud, will give a boll of meal, and a boll of wheat, and they be gud, will give a boll of flowr, half a boll of straikinge, and a furlet or the thrie pecks of branne.

Peiss and Beir wold be sowne immediatlie efter the land be tealed, but Vheit neids not be sowne immediatlie after the tealinge of the land, but wait upoan seasonabill weather for the sowing of the seid. [In margin: Wheit wold never be nin nights out of the earth.] As concerning oates, infeild oates wold be sown about twentie dayis after the tealing of the land, but owtfeild they teill it when they teill the wheit land. Beir, Peiss, and Oates wold be sowne in drie weather, but wheat wold be sown in watt weather, but not over watt wather.

As concerning the casting of the prooff, the Greive must not cast the prooff, but an other man must doe it. The twentie fyft sheiff is the prooff, beginning at one again. And everie peck a prooff gives six furlets in the stacke.

Of buying oxen and sheipe.

At Dumblane upown Whitsunday monday is best to buy oxen to grass them, for they will gett them best sheape then, and sell them abowt Martimes when they will gett dowbill price for them again. At Carnwath at Midsummer on the 24 day of Iun is gud to buy lambes, and at Peibles upown St. Peters day the eleventh of Iune. At Edenbrughe on Tarnetie monday, being the monday efter Whitsonday, is gud to buy milk kye. Magdalen day in Lithgoue, whilk is Nin dayes before Lambes, is good to buy ather oxen, ky, or Quayis, or stirks or yong stotts or horse.

A nuckle kowe is a kow that is new calv'd and gives milk, a forrow kowe is a kow that gives milk, but it is long since shoe calv'd, swa that shoe has a stirk a yeir old following her. A Teadie kowe is [The sentence breaks off here].

A horse and [if] he be one year old he is two sowmme. An oxe of ane year old is the thrid pairt of a sowmme, but when he is thrie year old he is a sowmme. A kow is iven sik lik, the reasone is becawse a horse eates farr mor

nor ather ox or kow. He eates both day and night except on howr in the night that he sleips, and suppose he were sicke that he wold not stand on his feet, he will be shewing the grasse that is abowt him ever whill [until] he die. Ten sheip is a sowmme, twentie lambes make a sowmme. They tak for the sowmme in sommer fyve marks, and for the wholl yeir ten marks. Fowr scor and fowr goates maks a sowmme.

A nuckle kow or a Teadie kowe is a kowe that is yssen'd or gives milk everie year. A forrow kow is a kow that is yssen'd or gives milk anes in the two year. A yeild or Shamloh kow is a kow that gives no milk at all. The best way to mak a kow to yssen is that shoe be weill wintered and not hungered. A nucle kow will give mor milk in the day nor a forrow kow will doe. The mor milk a kow gives shoe is ever the leaner in the flesh. So a nucle kow is leaner nor a forrow kow, or a forrow kow is leaner nor a yeild or Shamloh kow. When shoe becomes yeild then shoe becomes fatt and fitt to be sold to the fleshers, and when she is fatt shoe will give als gud a price as if shoe had a calf ganginge at her foot. A kow goes thrie quarters of a year with calf. A mar goes eleventh moneths with foll. A yow goes eighteen owlks with lambe. Commonlie they lett not the calf sowcke longer than fowrtie dayis because if they sowck longer they become so browdden that they cannot be halden of the paipe.

Some tymis ky payis a full kean to their maister, sometymes half a kean as they be nucle or forrow. The first kean they pay at midsummer, the second at Lambes. Ky payis butter, yowes payis cheiss. A full kean of butter is six quarters, that is.

Yowis pays alwayis the full kean. Everie fyve paips in the yeir payis a stane of cheiss, and everie yow hes two paips. When they sett the kys milk for silver, they pay for a kowis milk in the year, fvye punds, whilk is onlie for the milk, for the Quayis the kye brings furth pertains onlie to the maister.

Ther be some ky that will not lett downe ther milk vnless they sie the calf standing besid them, sa if the calf die they will give no milk at all. Some, to beguil the kow, they will stapp the calfs skinne with strawe and lay it besid her and shoe thinking it to be the calf will lett down her milk. They will milk the kow although the calf be not speaned. And [if] shoe be a good kow they will mak two paips to gaine the calf, and milk the other two. A kow has four paips and som littill small paips. They will know a good milk kow by a milk vaine that comes from her oodder athort the rimme of her bellie.

Kys milk is best for butter, and yows milk best for cheiss, for kys milk will give both mor butter and better butter than yows milk, and yowis milk will give both mor cheiss and better cheis than kys milk. They use in Cuninghame to make cheiss of kys milk, but it is not good. When they sett the yowis milk

for silver, they pay for the milk of everie yowe in the year a mark; when they sett the yowis milk, they doe sett it wt. this condition that they milk the yowis no longer then michaelmes, whilk is the ridinge tyme. [In margin: for Michaelmes and Hallowmes is the tyme that yowis be ridden. Michaelmes is six owlkis before Mertimes, Hallowmes is nin dayis befor Martimes and then they lambe abowt March or April. The first lambe and the last lambe are not good for keipinge.]

DISCUSSION

The following notes make no attempt to be exhaustive. Their aim is partly to clarify the text and partly to draw together a number of scattered sources that throw light on features of seventeenth-century Scottish farming raised by Skene.

ARABLE LAND

The arrangement of infield and outfield here described was the characteristic Scottish one. The infield had all the manure available from the middens, and was constantly under crop, whilst the outfield was cropped on the part manured by the droppings of animals folded on it.[1]

Within this basic universal system, however, a good deal of variation was to be found, resulting from soil and other conditions, particularly in the crops of the infield and the proportion of infield to outfield. These variants are to some extent summed up for the eighteenth century in J. E. Handley *Scottish Farming in the Eighteenth Century* (London, 1953), pp. 38 *et seq.*, to which the reader is referred. For the seventeenth century in South-Eastern Scotland, we have the evidence of Skene for just after the turn of the century, and of James Donaldson and Lord Belhaven for the end of the period. According to Skene, the infield was in four parts, of which one was sown with bere, another with oats, and a third (presumably the part that gets all the dung) with bere the first year, well dunged, oats the second year, wheat the third, again dunged, but not as heavily as for bere, and pease the fourth, the ground being limed this time. He did not say what was happening in the fourth part of the infield. Presumably it was sown with pease.

On the hypothetical 60-acre "tack" or holding that James Donaldson described, the croft or infield constituted a third of the total area, and was divided into three parts, growing in rotation barley (dunged), oats, and

[1] As a result of this practice, the word 'fold' came to have, by the mid-fifteenth century, not only its primary meaning of an enclosure for animals, but also the developed one of a piece of enclosed ground used for cultivation. It survives in numerous place-names with this apparent sense, e.g. the common name Bruntfold, a fold in which peaty ground has been made fertile by being burned.

pease, then barley again. On his hypothetical improved 90-acre holding, he recommended, besides 2 acres for a garden and orchard, 22 acres of croft land in five parts, with a rotation of barley, wheat, pease or oats, oats or pease, and grass. At the same time he recommended annual fallowing of part of the outfield, and even spoke of the benefit of sowing clover and grass seed. His advice, if taken, could have helped to precipitate the 'agricultural revolution' in Scotland, but a glance at Handley shows how tenacious the old-established system was.

Lord Belhaven, addressing himself to ordinary farmers, described the East Lothian infield as having four divisions or 'breaks', rotating in the order pease, wheat, barley, and oats. If wheat was not grown, the rotation was pease, barley, and oats, but since in East Lothian practically all rent was paid in victual, and especially barley, tenants were often hard put to it to produce enough barley unless they sowed it after oats as well as after pease. Belhaven's solution was to have a fourfold division, growing pease, barley, and oats with 'fauch'[1] after oats, adducing figures to show that the advantage to the ground would amply repay the apparent initial loss, and would satisfy tenant and landlord alike. His advice on 'fauching' or fallowing was based on contemporary English practice. For example, in Leicestershire, Northamptonshire, and Worcestershire, he had seen as much as a third of the infield lying fauch "by which Method they did sow both their wheat and barley after fauch; then their Oats after their Barley, and Pease after wheat." Ideally he favoured a five-fold division of the infield with two 'Pease-breaks', one of wheat, one of barley, and one of oats, by which wheat and barley might both follow pease, and in conjunction with this regular fauching or fallowing of part of the pease-breaks.

Some seventeenth-century evidence is available for other parts of Scotland, but before discussing this, it will be of interest to see what the situation in the Lothians was a hundred years later, as noted by George Robertson, one of the best of the authors of the late eighteenth-century series of Agricultural Surveys. Instead of dismissing with scorn the "old system" of—in his description—a four-course rotation of wheat (dunged), beans and pease, barley, and oats, he gave it a balanced appraisal in the following terms.—

[1] 'Fauch' was normally regarded as part of the outfield, ploughed and left fallow alternately for 4–5 years at a time. It differed from the other division of the outfield, the folds, in not being deliberately manured in any way. Neither Skene nor Donaldson mentioned fauching in East Lothian (though the latter recommends fallowing part of the outfield) and, as Handley points out, on eighteenth-century evidence, the only county in which the division of the outfield into folds and fauchs is found is Aberdeenshire. Lord Belhaven does in fact use the term, but as a straight equivalent for 'fallow', applying it both to infield and outfield, and using it of East Lothian and England alike.

"It may be remarked that, in the above circumstances (neither clover nor other green crops being known,) this rotation is perhaps as profitable on the whole, as any that could have been devised. The dung *forced* the crop of wheat, and this succeeded by the *black crop*, which seldom failed to prosper, left the land in a fine *heart* for barley, to which three ploughings being given, was far from being a bad preparative to the succeeding crop of oats, and these, of course, thriving tolerably well, left the land, although exhausted, pretty clean for the wheat, which the dung, as before, could carry through."[1]

Even as late as 1795 Robertson was writing that a "regular rotation is not to be looked for," and he pointed out that the general principle was to alternate white and green crops. The reader of these present notes must bear in mind that though the term 'rotation' is frequently used in reference to seventeenth-century agriculture, it is merely for convenience, and does not have its modern sense of a scientifically organized succession of crops growing, in their due turn, over the whole of the arable. The term here indicates simply the order of crops on a piece of ground that was never rested, the crops themselves varying from time to time according to such factors as the demands of a landlord for rent in kind, and quite frequently, the need for the improvement of the ground after too long a succession of the same kind of crop. The chief differences by Robertson's time were the use of turnips and potatoes as field crops, summer fallowing, and the planting of clover-seed. Beans had come to be grown too, along with pease, since the seventeenth century, and we know from the Old and New Statistical Accounts and the various Agricultural Surveys that enclosing and underground draining were making good progress. Rotations were beginning to be adapted to local soil-conditions, and Robertson gave variants for rich loamy soils, rich heavy lands, hilly districts, and dry soils. The rotation for dry soils, for example, common near Edinburgh, was a four-course one of potatoes, well-dunged, wheat, clover, and oats. It is evident how the distinction between outfield and infield gradually disappeared as these innovations brought ground, hitherto impoverished after only two or three crops, into continuously better heart, until the difference lay, as it does at present, between grass and arable.

In attempting to find out how agriculture in the Lothians differed from agriculture elsewhere in the second half of the seventeenth century, we can consult two contemporary sources of information. The first is Alexander Garden of Troup's letter of 1683,[2] relating specifically to his district of Banffshire, but applicable also to the neighbouring parts of Aberdeenshire.

[1] *General View of the Agriculture of the County of Mid-Lothian*, Edinburgh, 1795, p. 89.

[2] 'An Account of the North Side of the Coast of Buchan, 1683', in *Collections for a History of the Shires of Aberdeen and Banff*, Spalding Club, 1843, p. 105.

Here, we have the outfield, partly folded, and partly fauched (ploughed after 4–5 years grass, left to lie a summer, ploughed again, and sown the following spring), and the 'intown', as he called it, constantly under corn and bere, and having one-third dunged every three years.

This sort of rotation, or rather alternation, of bere and oats was no doubt common throughout much of Scotland, though better favoured areas, such as the Lothians, had, as we have seen, a wider system incorporating wheat and pease. The evidence summed up by Handley for the eighteenth century shows that the growing of bere and oats alone had become, in general, confined to the more northerly counties of Scotland. As late as 1811 G. S. Keith wrote that most Aberdeenshire farmers grew only bere and oats, without wheat, pease, or beans, except in the Buchan area where the growing of beans in drills had become established.[1] Further, fallowing was not much practised, and indeed, he thought it not very suitable for the arable lands of Aberdeenshire, since "the thin loose soil of our outfields, and lands of inferior quality, has too little tenacity to bear the frequent ploughings of a summer fallow; and even the greatest part of our old croft land is adapted for the raising of turnips rather than lying in fallow,"[2] adding that "Great Britain is not all Norfolk, nor is it all the soil of East Lothian, any more than of Aberdeenshire." Keith was, of course, speaking of the general run of farms and not of large estates such as that of Sir Archibald Grant at Monymusk in Aberdeenshire, where fallowing was a well-established part of the farming routine before 1750.[3] The difference between estates and farms with or without improving landlords or farmers must continually be borne in mind in any consideration of agrarian history, since it is potentially very great. Grant showed that fallowing was a practical proposition, in spite of Keith's comments quoted above, but since it was not in general practice in 1811 in the north-east, we can be fairly certain that it was not in use in the seventeenth century except in so far as the fauching of the outfield was a form of fallowing, although its virtues were becoming known in East Lothian a good century and a quarter earlier.

The second source of information on the seventeenth century to which reference may be made is Andrew Symson, *A Large Description of Galloway, 1684* (Edinburgh, 1823), compiled in answer to a questionnaire circulated by Sir Robert Sibbald in 1682. This is a book which deserves to be better known.

[1] *A General View of the Agriculture of Aberdeenshire*, Aberdeen, 1811, p. 161.

[2] Keith, *op. cit.*, p. 229.

[3] H. Hamilton, ed., *Life and Labour on an Aberdeenshire Estate, 1735–1750*, Third Spalding Club, 1946, and *Monymusk Papers, 1713–55*, Scottish History Society, Third Series, 1945.

Symson's description of the arable land in Galloway is as follows.—

"They divide their arable land into eight parts at least, which they call *crofts*, four whereof they till yearly. Their first croft they call their *lay*, and this is that on which the bestial and sheep were folded the summer and harvest before, and teathed (dunged) by their laying there. The second croft they call their *awell*, and this is that which was the *lay* croft the year before. The third, which was their *awell* the former year, they call only the third croft. The fourth, is that which was their third croft the foregoing year; however good husbands till but little of this; and then these crofts or parts remain four years at least untill'd after this, so that the one halfe of their arable land is only till'd yearly, the other halfe bearing only grass, and, as they terme it, lying *lee*."[1]

This description clearly refers to the outfield, which is here called oatland. The crop grown in the oatland was, as the name suggests, oats, and by this system, each of the eight divisions was cropped successively for the maximum of four years (*lay*=corn after lea, *awell*=second year's corn, and so on), and was manured by the folding of animals on it once every eight years. Neither the oats nor the grass would have been good, and indeed Symson says the oats "are commonly very bad . . . having long beards or awns; and although their measure be heaped, and the weakest and worst of their oates, which they reserve for their horses or seed, be winnow'd and drawn out, yet three bolls of corne will not yield much more than one boll of good and sufficient meal straked measure." This contrasts strikingly with Skene's oats, which, if good, gave boll for boll when ground into meal, and so showed the superior productivity of the Lothians.

The other kind of arable on a Galloway farm was the 'beirland', the treatment of which is again best illustrated by quotation.—

"They begin to till their beir-land about the latter end of March, or the beginning of April, and after the same hath been till'd about twenty days, and the weeds begin to *plant*, as their phrase is, they sow it, tilling the same but once, which is something peculiar to this countrey; yea, and they sow their beir in the same place every year, and without intermission, which is also peculiar, in a peece of ground lying neerest to their house, and this peece of ground they call their Beir-fay, on which they lay their dung before tilling; but their dung will not suffice to cover the same yearly; yea, they think it sufficient if, in three years' space, the whole be dunged, and this I suppose, is also peculiar to this countrey."[2]

This 'beirland' or 'beir-fay'[3] was the Galloway equivalent of the infield,

[1] Symson, *op. cit.*, p. 74. [2] *Ibid.*, pp. 98–9.

[3] The name 'fey' has survived till the present day in field-names in Galloway.

and evinced a number of peculiarities—its local name, the fact that it grew nothing but bere, and that one ploughing only was given (three was normal elsewhere). The dunging of only one-third of the area each year, however, was less peculiar to Galloway than Symson supposed.

Apart from oats and bere, there was only a very little wheat, a very little rye (grown usually by the moor-men only), and very few pease.

Although the state of agriculture here is evidently nothing like on a par with East Lothian, it must be remembered that Galloway was more "plentifull in bestiall than cornes," and had good markets in England for the sale of cattle, in Edinburgh for sheep, in Wigtown for horses and woollen cloth, and in Ayr, Glasgow, Stirling, Edinburgh, etc. for wool.[1] In other words, the economy of the south-west was balanced differently from that of the south-east, as it still is today, and this is another sort of factor which needs to be borne in mind when trying to assess the state of agriculture in seventeenth-century Scotland. Neither then, nor at any time, is it possible to generalize, as this discussion of the farming system of three regions will have made clear.

LIMING

Skene spoke of liming before pease. It has to be remembered that by this time liming was widely used and well understood. Symon gives some of the references to its use,[2] but as early as 1627 it could be written of Sir James Dundas's lands of Arniston in the parish of Borthwick, Midlothian: "And as to the casualitie of coill [coal]. The endurance thairof is knawne be all coilmaisters to be moist uncertane; without the quhilk, the benefite of lyme stane could serve to no use in this case, yea the manuring with lyme (except the same be used with great discretioune) may importe no lytle harme, and be tyme make the land to becum altogither barren and yield no incres, quhairof a gritt many in divers pairtes of this kingdome doe alreddie find the duilfull experience, and the said Sir James as ane throwe this occasioun is forced to lett a pairt that was wont to be his best oatland ly lie."[3] The voice of bitter experience speaking here in 1627 suggests that the history of liming must go back into the sixteenth century.

Skene's liming of pease on the infield seems to be unusual. According to Lord Belhaven, it was the outfield that normally got lime in East Lothian. Lime should go on the folded ground with the first crop, when the soil was at its best; on unfolded ground, lime should be laid on the lea ground, before

[1] Symson, *op. cit.*, p. 72. [2] J. A. Symon, *op. cit.*, pp. 113–14.

[3] [A. Macdonald, ed.], *Reports on the State of Certain Parishes in Scotland*, Maitland Club, Edinburgh, 1835. There are numerous references to liming and other features of agrarian history throughout these reports.

ploughing. As he put it, "Lime therefore your Clay land in the summer, fallow it at Lambas, Harrow it well after the first Frost, Seadfur and Sow it some time in *February* and through GOD'S Blessing, you may expect a good Cropt of Oats that same year."[1] After liming, no more than seven to eight crops should be taken on the best ground, five to six in poorer ground, and three to four in the worst ground, without resting. However, if liming were done on the infield, one might go on cropping it as long as desired, provided it was dunged at 3–4-yearly intervals. Generally speaking, however, Belhaven preferred resting to liming the infield. This account suggests that at least a little progress had been made in the principles of liming during the twenty years and more since Skene was writing.

MEASURES

The great difficulty about measures is that they vary at different places, at different times, and for different kinds of victuals, so that great caution is necessary in basing statistical deductions on early documents. It is probably safe to assume that Skene's peck, firlot, boll, and chalder conform to the Linlithgow standard, which had six bushels to the boll. This was the standard laid down as a result of a Commission of Enquiry in 1618 as a basis for the payment of tithes,[2] but it was far from being in general use. There were, for example, great differences in the south-west of Scotland, and the following quotation from Symson in 1684 will suggest to the student of crops and yields something of what he must keep constantly in mind.—

"The measure, by which they sell their beir, malt, and oates, is their halfe peck, eight whereof make their boll, four their furlet, two their peck. This measure should be burnt and seal'd by the Magistrats of Wigton, and is call'd, in bargains and writen transactions, Met and Measure of Wigton. The quantity of this measure is not exactly knowne, at least it is not allways exactly the same; for it is hard in this countrey to get two measures exactly alike, the sides thereof being not made of hoops and staves, as the Linlithgow measures are, but of one intire thin piece of ash, bended and nailed together, like the rim of a wool-wheel, and so is apt to cling, and sometimes to alter and change its exact circular frame. . . They sell their beir, malt, and oates by heap, and the vessell is so broad, that the heap will be more than one-third part of the whole. The halfe of this vessell they call an auchlet, qu. an eightlet, or little eight part; for it is the halfe of that measure, eight whereof make their boll; so that their boll containes sixteen auchlets; the furlet eight auch-

[1] Lord Belhaven, *op. cit.*, pp. 17–19.
[2] R. W. Cochran-Patrick, *Mediaeval Scotland*, Glasgow, 1892, p. 165.

lets; the peck four auchlets; and the halfe peck two auchlets. By this auchlet they sell meale, salt, and pease, all straked measure."[1]

The last sentence here puts the further difficulty that measures could be heaped or straked, i.e. smoothed down with a flat or cylindrical piece of wood called a 'strake'.[2] The two types of strake are illustrated in H. Stephens, *The Book of the Farm* (Edinburgh and London, 1844), II, p. 280, and oaken 'strakes' are still to be found along with Winchester bushel measures on many farms in Scotland. The method of using a strake was interestingly described by J. Anderson as follows.—

"A loft floor is always chosen by every buyer to measure the grain he is to receive, and in it he generally takes care to have several persons walking about during the whole time of the operation. The seller may look on, but he is not allowed to touch his own grain during the operation, which is always measured by the buyer or his servant. The grain is usually thrown into the firlot by shovelfuls from a considerable height, so as to make it fall with force. The measure is heaped till it runs over for the most part all round. A large roller is then produced, which is never under four, sometimes near six inches diameter. The roller is laid upon the grain, at the estimated distance of one third of the diameter of the firlot from one of its edges, and then *pressed* forcibly down till it comes *near* to the wood of the measure. They never make it touch the wood. The avowed thickness which ought to be above the wood is *one pickle* [grain] thick, but as this is indefinite, it is often three times that thickness above the wood. The roller is then *rolled*, not straiked *backwards*, towards the nearest edge, thus pressing over the edges *some part* of the superfluous grain. It is then lifted back to where it was first placed, and instead of being pushed forward and drawn sideways at the same time as in other places, and the direction of the side motion altered so as to make what is called *three sheeres*, the roller is *lifted* up till it be nearly as high as the top of the heap, and pushed forward a little at the same time—it is then *pressed* down, still continuing the forward direction a little, and again lifted up and pressed down, and so a third time before it reaches the edge of the firlot, where the superfluous grain is pushed off. . . This is the established practice of measuring barley."[3] Clearly, the atmosphere in a loft when straking was going on must have been one of high drama. The half boll of "straikinge" mentioned by Skene was, presumably, the loose flour swept from the top of the measure by the strake. Generally speaking, the lighter types of victuals were heaped

[1] Symson, *op. cit.*, pp. 98–9.

[2] These are mostly plain cylinders on the mainland of Scotland, but in Orkney a form with rounded, knobbed ends, resembling a rolling-pin, was popular.

[3] *General View of the Agriculture of the County of Aberdeen*, Edinburgh, 1794, pp. 42–3.

and the heavier types straiked, so that though there was a difference in bulk, the actual weights were more equal.

The thrave is a measure of 24 sheaves, the usual number contained in two stooks. Depending on the kind of grain, the number of sheaves to the boll varied between 48 and 72. Fewest sheaves would naturally go to the boll of wheat since wheat is heavier than barley or oats. According to Stephens, the proportions were 37 bushels of wheat, 40 of barley, and 60 of oats to the ton.[1]

The method of determining the amount of grain in a stack was known as proof-casting. In transactions between buyers and sellers, a neutral 'proof-man' was mutually appointed and Skene of Hallyards was also careful to engage a disinterested proof-man. Lord Belhaven thought that "the Farmer himself should also cart all his stacks to the proofs and see it is well dighted [cleaned]; and for that end he should learn to Wreat [write] and know the common Rules of Arithmetick." The sense seems to be that as each thrave of 24 sheaves was counted in a stack, one sheaf was laid aside—the proof sheaf. For every three proof-sheaves (amounting to a peck, if the equation of 48 sheaves to the boll is being taken) it can be reckoned that there were 6 firlots in the stack (i.e. 72 sheaves). Using the equation of 72 sheaves to the boll, i.e. for oats rather than wheat, then $4\frac{1}{2}$ sheaves would go to the peck and 108 to the 6 firlots. Skene, unfortunately gave no indication of what he might expect a stack to contain *in toto*. W. Leslie gave a clear description of proof-casting in the north-east of Scotland in the late eighteenth century, as follows. "The quantity of grain in the stack is ascertained by the *proof-man*, a professional character in the country, chosen mutually by the seller and buyer. He begins by throwing down 20 sheaves which are called the 'stock', he then turns up three sheaves which he considers, choosing that one of them which he accounts of the same bulk, or most nearly equal in value, to the 20 of the stock. In this way he goes on till the whole stack is thrown down, which if consisting of one hundred stooks, will give 60 sheaves of proof, which is begun to be thrashed by one man for the buyer and one for the seller, who labour to have done nearly as soon as the proof-man. It is his duty to winnow, clean, and measure the corn threshed from the proof sheaves; which if it produces three bushels, that quantity being multiplied by 20, ascertains the stack to be 7 quarters and 4 bushels, which is the quantity to be paid for, the proof being always given to the buyer, as belonging to his bargain. From this it appears that the value of the straw depends on the value of the grain at the time when it can be brought to market."[2]

[1] H. Stephens, *op. cit.*, II, p. 279.

[2] *General View of the Agriculture in the Counties of Nairn and Moray* (London 1811), pp. 180–1.

LIVESTOCK

Oxen, cows, and sheep were the animals Skene favoured. The rapacious horse, chewing grass at the point of death, was no friend of his—a clear indication of the value set on grass, and on the need for its conservation. To this end the *soum* or number of animals a piece of pasture was considered fit to bear was carefully worked out. By converting Skene's figures for animal equivalents we get a one-year old horse (reckoned as "two soumme")=6 oxen or 6 cows under three years old or 2 oxen or 2 cows over three years old =20 sheep=40 lambs=176 goats.

These equivalents were and remained fairly general, although variations would naturally occur according to the quality of the local grazing. For example, in the eighteenth century, in the parish of Saddel, Argyllshire, ten sheep or one cow made one soum, and a horse made two soums, as here. The parish of Monkton in Ayrshire had only 5 sheep to the soum.[1] The number of goats Skene mentioned seems excessive, but his figure is probably accurate, since Burt remarked that a soum was enough grass to maintain 4 sheep, and that 8 sheep=1½ cows, or 40 goats. "The reason of this Disproportion between the Goats and the Sheep," he said, "is, that after the Sheep have eat the Pasture bare, the Herbs, as Thyme, &c. that are left behind, are of little or no Value, except for the Browzing of Goats."[2]

Donaldson's 60-acre farm had a recommended stock of 2 horses, 4 oxen, 8–10 milk cows, and a bull. Six calves—three of each sex—should be brought up each year. The full stock in any one year, admittedly somewhat idealized, was six cattle of one year old and six of two years old, totalling 8 soums; 2 horses, totalling 4 soums; a cow or ox, totalling one soum ("according," as Donaldson put it, "to the vulgar way of reckoning"). This made 27 soums in all, and he estimated that the 48 acres of grass would keep, in addition, 40–50 sheep. The figures for young cattle were different from Skene's whose estimate of the numbers per soum was half that of Donaldson. In the modern system of souming in the Highlands, one horse is regarded as the equivalent of eight sheep, and one cow of five sheep. A certain number of sheep is allowed per pound of rent paid. Following Adam Collier's figures,[3] if the carrying capacity of a farm or croft is 1,500 sheep, and the rent is £250, the allotted souming would be six sheep per pound.

[1] *Old Statistical Account*, XII, 1795, p. 477 note; p. 396.
[2] E. Burt, *Letters from a Gentleman in the North of Scotland*, London, 1759, II, p. 155.
[3] *The Crofting Problem*, Cambridge, 1953, p. 33.

SALES AND PRODUCE

The policy of quick returns suggested by Skene's buying of oxen cheap at Dunblane on Whit Monday, and the selling of them at double price at the November term after a summer's grazing, is suggestive more of a money than a subsistence economy. On a place with a souming as given above, Donaldson allowed for the disposal of three oxen and three cows annually, four at Hallowday, two in February or March.

There was evidently little or no trade in calves, and cows, whether calved or about to calve, whether they had missed or were barren, were all regarded with equal reverence, for a 'yield cow', not being under the strain of producing milk, would grow fat and could be sold to the flesher for as much as a cow with a calf. As Handley pointed out,[1] cows were usually in such low condition that they calved only every second year, and indeed A. Pennicuik, writing of a particular use for the plant scabious in the parishes of Calder in Midlothian, not far from Hallyards, says: "The County People call this *Plant Eastning Wort*, which they affirm makes their Cowes come to a Bulling, when they get of it amongst their other Meat."[2] "Eastning wort" is, of course, the plant that makes cows "yssen" or "eisen"—the word has various spellings. The poor condition of the cows was to a great extent the result of poor pasture. As Lord Belhaven put it: "For Grass I know it is a very great rarity in East Lothian amongst the Husbandmen, neither can they well have it . . . unless they turn some part of their infield Land to Grass, and lime als much of their outfield Land as correspondes thereto, and really I do not know whether that method might not prove in time the best Husbandrie of all the infield Land."[3]

There was no distinction between suckling cows and milking cows. The practice was to let the calf suck for a maximum of forty days, but some were in the habit of taking half the cow's milk away from the calf before the end of this period. The ties between mother and calf were evidently far closer than they are at the present day, and Skene's description of beguiling a cow into giving milk after the death of its calf is paralleled by Symson, who gave an account of current calf-rearing theory in Galloway.[4]—

"The people of this countrey do very seldome, or rather not at all, kill or sell their calves, as they do in other places; so that it is a rare thing to see veale, except sometimes, and at some few gentlemen's tables. They give two reasons for this; one is, because, as they say, the cow will not give down her

[1] James E. Handley, *Scottish Farming in the Eighteenth Century*, London, 1953, p. 71.
[2] A. Pennecuik, *Description of Tweeddale*, 1715, p. 15.
[3] Lord Belhaven, *op cit.*, p. 22. [4] A. Symson, *op. cit.*, p. 98.

milk without her calfe . . . and so, should they kill or sell the calfe, they should want the use of the cow; but this, I suppose, might be helped, would they but traine up the cow otherwise at her first calving. The other reason is of more weight, viz. Since a great part of their wealth consists in the produce of their cattel, they think it very ill husbandry to sell that for a shilling, which, in three years time, will yeeld more than twenty."

As regards dairy produce, the practice was to use cows' milk for making butter, and ewes' milk for making cheese. On Donaldson's figures, 8–10 milk cows would produce 16–20 stone of butter a year, which sold at a "Dollar" or "2 *lib*: 18 shill." per stone, i.e., 4s. 10d. sterling.

Current butter-making practice is in part described by Donaldson.[1] The milk of ane "mail" [the amount obtained at one milking] was strained, put in a churn, and left to stand in a cool place for twenty-four hours or so. If another mail was required to fill the churn, it was to be added only when churning was about to begin, because hot milk poured on cold might cause 'sheering', or curdling. Evidently butter was made with the full milk, as it is to the present day in, for example, Foula in Shetland, rather than with the cream alone.

Though Skene says that cheese is normally made of ewes' milk, and that the cows' milk cheese of Cunningham in Ayrshire is "not good," Donaldson takes cows' milk for granted as the ordinary medium for cheese. He denounces the common custom of taking the cream off the milk before cheese is made, and urges that the milk should be strained, the vessels kept clean, and the 'yearning' or rennet kept fresh and good.

Eighteenth-century sources refer to both butter and cheese being made from the milk of both cows and ewes, but ewes' milk butter seems to have been, as a rule, mixed with tar and used for smearing wool—the earlier, and distinctly messier, form of dipping.

ACKNOWLEDGEMENTS

Thanks for help of various kinds are due to Mr A. J. Aitken, Editor of the *Dictionary of the Older Scottish Tongue*, who brought this MS. to my notice, Dr W. Park, Keeper of the Manuscripts in the National Library of Scotland, Mr D. Murison, editor of the *Scottish National Dictionary*, Dr M. J. Nash, Lecturer in Agriculture at Edinburgh University, and my colleagues in the National Museum.

[1] J. Donaldson, *op. cit.*, pp. 86–8.