

ART. VIII.—*A little-known Late Mediaeval Industry,
Part I.* The making of potash for soap in Lake-
land.* By M. DAVIES-SHIEL, B.Sc.

Read at Cockermouth, July 14th, 1972.

IN 1959 I was asked to help in the detailed mapping of the land surface of Westmorland for the New Land Use Survey of England and Wales. By 1964 I had completed the whole of Westmorland and large parts of High Furness and the Cumberland Fells. The results were put on to 6-inch Ordnance Survey maps and included data about farmland, industry, housing, transport and moorlands. The last-named proved to be the most interesting, not least because certain anomalous patterns emerged as the maps were completed. One such in particular was that for *bracken*, a plant known to most farmers as "the worst of weeds". The significance of this statement escaped me at the time, but has much to do with the subject in hand. After the survey was finished and several maps and articles had been published, Miss Sheila MacPherson, the Westmorland Archivist-in-charge asked me to turn my attention to the study of water-mills. That study yielded much, yet each of the sites has been so clearly marked and so well catalogued in the trade directories that there has never been much doubt about the functions of any remains which survive.

Because of this it was pleasant to switch my efforts into the study of early iron-smelting, partly because of the challenge to find something of an industry of which Alfred Fell said there were no records and no

* Part II will be concerned with the users of soap in Lakeland and the distribution of the pits.

tradition, but mostly because the hunt led me to peaceful wanderings in wooded areas, there to discover earlier doings at leisure and learn by looking and thinking.

The result of the hunt for bloomeries, furnaces and the like belongs to another story, but has some bearing here in that our team had always hoped to find a complete bloomery,¹ and so it was inevitable that I turned to the accounts by W. G. Collingwood and Alfred Fell. In his *Lake District History*,² Collingwood referred to the remains of "a little furnace" at Nappingtree, on the western shores of Coniston Water. In a private notebook³ he stated that it was "a kiln or furnace that *must* be a bloomery furnace, because it contains slag in the base". His field companion, Mr Fell, disagreed. In his later book *The early Iron Industry of Furness & District*⁴, Fell put his argument thus:

Hearths with enclosing walls are found in the district, usually, but not always, with slag near them. The great width of these hearths at the bottom *precludes all possibility* of their having being used for making iron; probably they were either charcoal burnings, or kilns for the calcination of ore, and possibly "EALING HEARTHS" similar to those mentioned in a preceding chapter. A well-preserved example of these hearths or pits may be seen in the wood, on the opposite side of the beck, at Cunsey Forge.

It appears that their arguments were so violent that they parted company and, thereafter, Collingwood's notes and maps mark these objects as "bloomery-furnaces", whereas in all his later publications, Fell refers continuously to "ealing-hearths".⁵ Fell spent some twenty-five years in personal search before writing *his* books — ample time to observe carefully. Collingwood had seen only the back wall of a pit and, whilst scraping amongst the leaves in its base, had found some bloomery slag.⁶ This is not surprising, since a large triple-bloomery lay on the shore only

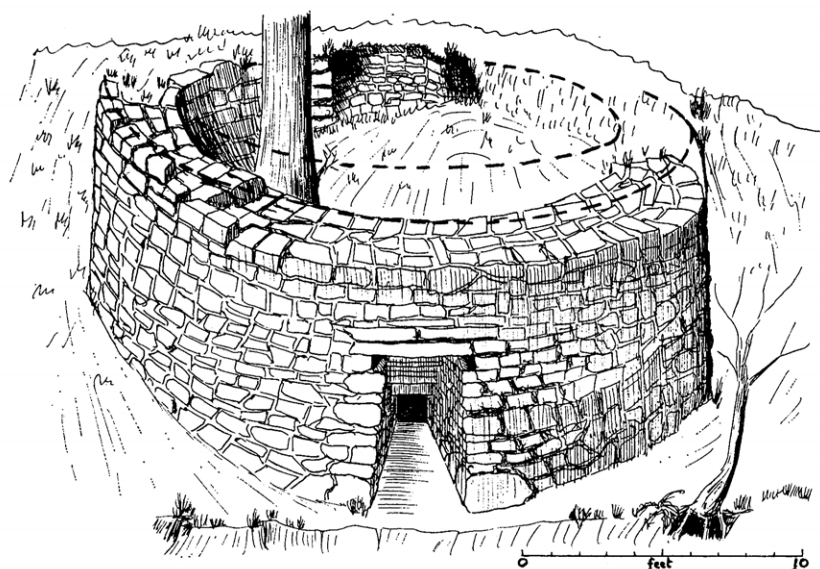


FIG. 1, a.—Elfhow Pit, Staveley.

Note "chimney" at rear.

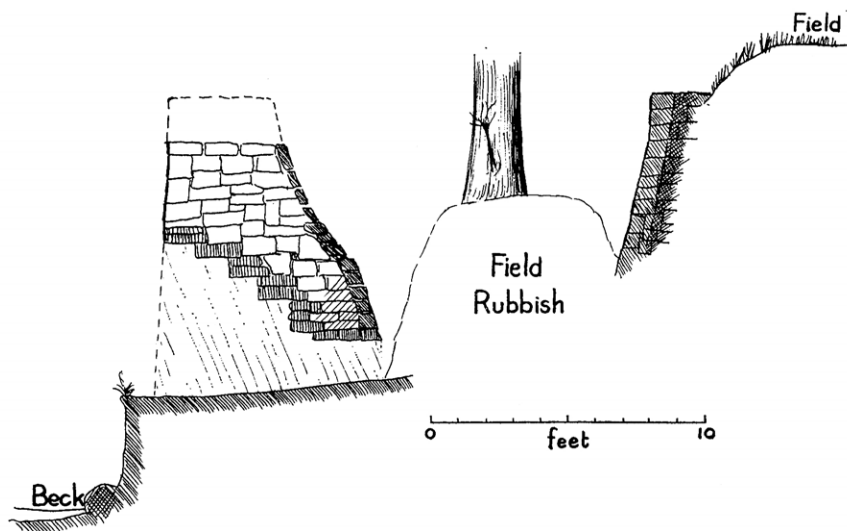


FIG. 1, b.—Elfhow Pit, Staveley.

Cross-section, front to rear.

some dozen yards south of the pit. However, he did not see amongst the loose stones scattered at the front a fire trench, that slotted through the front wall. Twenty minutes of hand rooting, when finally I did find it, disclosed clearly the front tunnel and a mass of soil, roots and leaves that lies at least two feet deep inside the pit.

Field discoveries.

In the meantime, before visiting Nappingtree, my wife and a friend almost fell into a peculiar stone-walled pit whilst picnicking. It lay in oak woodland, on a bank densely covered with bracken — a pudding-bowl-shaped pit, eleven feet across at the top and nearly eight feet deep (Fig. 2). It was nearly eight feet wide at the base, the floor being of packed earth, lightly covered with leafmould. A small, low tunnel penetrated the bowl from the downslope side of the pit. The lip was flush with the fellside at the rear of the rim, making a real hazard for any unwary walker.

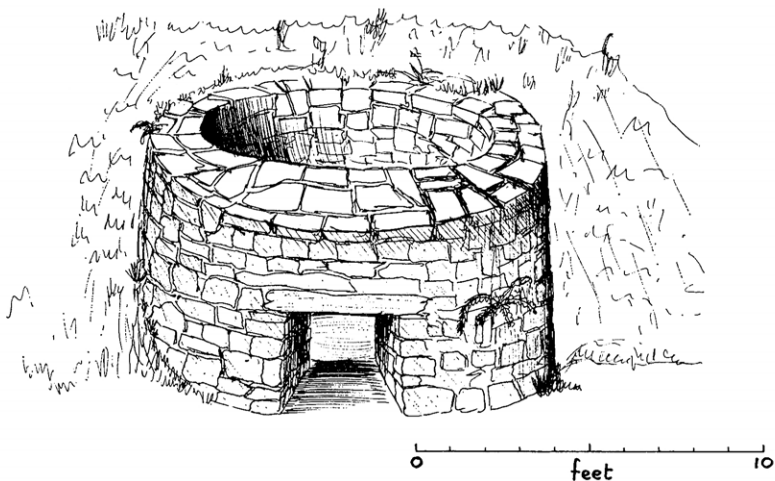


FIG. 2.—Typical small pit.

The walls were circular inside but oval outside, since the front of the pit had four-foot thick walls at the rim yet the sides were less than two feet at the rim. The whole of the lower two-thirds of the internal walls of the bowl were burnt a deep cherry-red that flaked off at a mere touch, indicating that there had been intense heat at one time. Someone had recently rebuilt part of the frontal wall. There was nothing to show what it had been used for, except that it was just by an old cart trail that cut through the wood. The name of the wood is Copy Hagg, half a mile west of the Swan Inn, Newby Bridge.

In the next few week-ends my field companion Mr W. Norris and I discovered a whole series of these pits in the Rusland valley in the woods just north of the Rusland Beeches. All told, there were seven more pits between Copy Hagg and Rusland hamlet and others were then found in Dunnerdale, Little Langdale, Patterdale, Coniston, Ambleside, Staveley-in-Kendal and the Winster valley. At that time, we still had no knowledge whatever of their function. Nor could any local person say more than that pits like these were seen in the woods in various places from time to time.

Documentary evidence.

It was obviously time to do some research into books on early technology. These indicated that the pits might be alum or potash pits, but there was insufficient evidence and the latter pits in particular were very poorly defined. After a visit to the alum works on the Yorkshire coast near Whitby, I was able to rule out that possibility. It then occurred to me that one might find references in *Transactions*. Two in particular were of value. In the 1940s, Thomas Hay had completed some very careful fieldwork in the Patterdale valley. His accounts' and an invaluable

photograph are luckily still with us, as the pit and the boathouse used to fix its position have both been removed by the National Trust in order to tidy the foreshore at Glencoin. Only the bare outline of the pit remains to one side of a tiny stream. His pit is reproduced (Fig. 3) to show how similar it is to the Elfhow pit (Fig. 1). He said of it, "I do not believe that this is a charcoal-burner's pit at all, but that it is a small limekiln. It consists of a good stone-built fireplace with a flue leading under and into a saucer-shaped hollow lined with rough stones". He thought that "... the limestone would be brought by water from the Pooley Bridge end of the lake (Ullswater) where there is a plentiful supply of limestone in Heugh Scar Hill".

The second article was written in 1925 by Miss M. C. Fair⁸ who wrote, "Porterthwaite Wood in Mitredale is full of pitsteads (charcoal) and there are also the remains of kilns used for burning bracken roots for soap-making". Unfortunately Miss Fair did not mention her source of information, although Miss Tillotson of Whitehaven was able to assure me that the structures were like those that we had found. By now I had visited Nappingtree, seen the similarities to our "own" pits, and took more care in re-reading Fell's account upon Ealing Hearths.

Further documentary evidence now came to hand: In 1700 Charles Leigh⁹ referred to "Pot-Ashes or the Ashes of Ferns; also to Sope-Boylers Ashes and Soap Makers' Ashes" in titles for his book.

John Lucas¹⁰ was far more explicit: "Brackens are by some accounted very proper for the burning of lime to which use they are frequently put in Sussex, and Dr Moreton calls them a very good sort of firing for the Bakers. *Being mown green and burnt*, their ashes yield double the Quantity of Salt that any other Vegetable will do, and in several of these Northern

parts the Tallow Chandlers make up the Salts of these Ashes with a proper mixture of Lime and Tallow into *excellent Ball Soap*."

Another source was found in the *History of Technology*¹¹ thus:

- a. "Wood ashes contain potassium carbonate — a main source of ancient and medieval alkali." (N.B.—the name potassium is derived from the English Pot-Ash which itself suggests a long-founded and almost native industry.)
- b. Of c. 1748, concerning potash-making, "... and it is for this reason, that most people, who make Pot-ash, burn this Wood in Kilns or Pits dug in the ground, although the Swedes burn it in the open air."
- c. "Wood ashes to which water has been added, yielded LYE. This was used for cleansing purposes and also fulling wherever fuller's earth and natron were not available. To make soap, lime was added to wood-ash and water was allowed to percolate through the mixture; the potassium carbonate was thus converted to caustic potash. This latter solution was then boiled with oil or fat."
- d. "In England, soft soap is the chief agent for fulling and for the scouring and cleansing of woollen stuffs."

Potash making was described in the *Penny Magazine* in 1843:¹²

The method was to build a stone cistern with fire trench at its lower front leading to a chimney to the rear or sides so that heat would be drawn around the large cauldron placed within the cistern. The cauldron was of rivetted copper strips on a bronze or iron base and it was wedged into the cistern with stone or lime or mortar (around the rim). Twigs of Birch — the ashes of which are rich in potash — were roasted in the cauldron.

This leaves very little doubt as to what our structures are.

In 1838, about the time that the working of this method was ceasing, some excellent accounts were written, presumably for the sake of posterity. Andrew Ure's *Dictionary of Agriculture* added more information:¹³

Potashes. The ashes are put into wooden cisterns, having

a plug at the bottom of one of the sides under a false bottom; a moderate amount of water is then poured in on to the mass, and some quicklime stirred in. After standing for a few hours, so as to take up the soluble matter, the clear liquid is drawn off, evaporated to dryness in iron pots, and finally fused at a red heat into compact masses which are gray on the outside, and pink coloured within. The best pink Canadian potashes, imported in casks of 5 cwts., contains fairly uniformly 60% of absolute caustic potassa.

The recent high price of potash and the lower price of well-improved qualities of crude sodas have caused the cease of the use of the former in soap works, and the use instead of the latter.

I was fortunate in finding an actual reference in the *Westmorland Gazette* for that "recent high price" of potash (for which see the end of this article). Every issue of the *Westmorland Advertiser* of the period 1811 to 1827 also quoted the lists of shipping and their cargoes entering the port of Liverpool. Every vessel without exception brought potash.¹⁴ It would seem most likely that the use of the Lakeland pits ceased somewhere about the turn of the 18th and 19th centuries, due to the economic pressures formed by that importing of high-quality ashes from North America.

One last piece of written evidence makes for pleasant reading, although domestic maids may well have thought otherwise!

They were recipes found in an undated 17th-century Domestic Manual.²⁸ I give them as quoted to me:

To Make Lye Soap place your ashes in troughs, moisten, cover with unslaked lime and leave. Then mix, pour water over and run it off when you can float an egg on it. Reboil the mixture and let it curd. Add oil if it is bitter, alkali if it is sweet. Add salt at the end.

To Make Domestic Soap mix two parts of potash to one part of quicklime. To eight potsful of Lye add one potful of strained suet. Heat to seething in a lead-lined chamber. Leave it for a week, stirred from time to time until it has formed a pulse. Add water of Musk-rose finally.

The types of pit.

By now, it seemed almost conclusive that the pits were built to make *potash*. We began to call them *potash pits*, and in speaking with the farming fraternity when searching their land, the term appeared to be not unfamiliar to them, although belonging to the dim past.

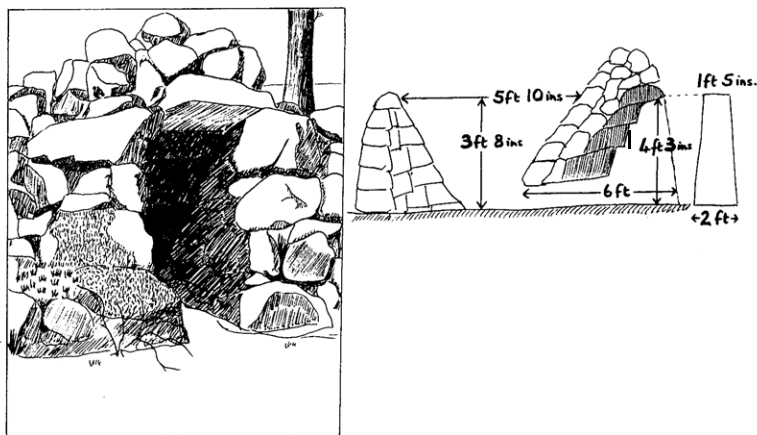


FIG. 3.—The Glencoin Pit, Ullswater.
Photographed by Thomas Hay in 1940.

From field evidence, we appeared to have two different sorts of pit. Figs. 1 and 3 show a type of pit that was usually very large and appeared to be very old. Early documents consistently referred to *wood* as the source of the potash. Later documents, particularly those post-1700, referred to the burning of *bracken*, and in iron or copper pots. Figs 2a and 2b show the smaller type of pit. They are very uniform in size, never more than eleven feet diameter internally, which suggests that all were stone pits made to measure for a manufactured internal pot. Fig. 4 shows a beautifully-constructed pit at Rannerdale,¹⁵ that clearly displays a ledge upon which a pot would rest

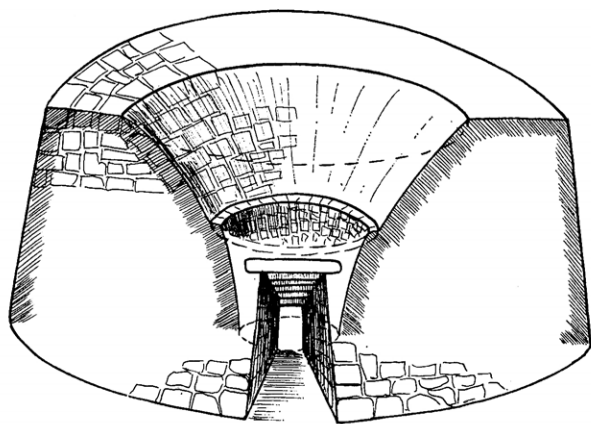


FIG. 4.—The Rannerdale Pit, Buttermere.
Cut-away section showing rimmed pot.

(ref. the *Penny Magazine* description). Fig. 5 is a tracing of an enormous iron pot, referred to as a *kettle* and used in Louisiana, U.S.A., in 1795, to boil sugar there for the first time, i.e. it was not originally made for that purpose. It is common knowledge that the Backbarrow Iron Furnace and Leighton Furnace near Arnside cast large quantities of ironware for sale from the furnaces direct. Fell gives details of these in his book on Backbarrow¹⁶ and mentions two very large *kettles* totalling 205 gallons. This means that they

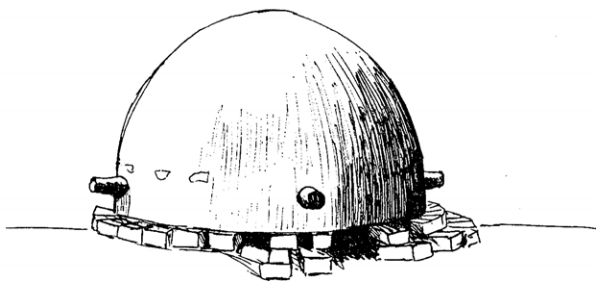


FIG. 5.—Cast Iron Sugar Kettle, Louisiana.

were over 17 cubic feet apiece and would have a diameter of about three feet. The Louisiana kettle is of cast iron about two inches thick and about four feet across. Somewhat similar pots can be found on some farms today, and are used for heating stock food.

It appears likely that the larger pits must have been used for burning wood. The method of extraction of the ash must also have been rather crude, nevertheless these older pits are always found near 16th- or 17th-century habitation and it is probable that the smaller iron-potted pits could not have been made until the bloomsmithies¹⁷ had arrived in Lakeland after c. 1603. There are a few instances where bracken seems to have been burnt in earlier years, but until some accurate accounts of those days are found, the matter, a technical one at best, must remain in doubt.

Readers will have noted that the internal details for Fig. 1b do not correspond exactly with those in my note in CW2 lxxi 290. The alteration is the result of discovery by clearance. Last year we had not cleared the interior of any of the older pits. Later on, two landowners asked us to clear and spruce up two separate pits and we then discovered that the batter on the insides increased with depth to ensure a long draught-tunnel. It also caused the bowl to have a lopsided appearance. Neither excavation is complete even now, proper clearance taking more time than one would think, nevertheless, Fig. 1b now approximates very nearly to the actual structure. There could, of course, be variations from one pit to another, but early industrialists were very cautious and, once a method proved sound, there was little change over a long period of time.

Trade names.

Were there any specific trade names for this industry and do they still exist today? We wondered whether

trade names might give us clues to further pits, or the location of pits indicate where — within parish registers — we might look for trade names. Some answers are already forthcoming but the complete distribution pattern depends upon much more field and register work. The names that arose from this work are clear, however. They are *Kilner*, *Soper* and *Ashburner*. Today's telephone directory yields no Soapers of any spelling, only four Kilners and two Killens, but there is one Asburne and there are fifteen Ashburners. The first Lakeland Kilner for certain, appears in the Witherslack area in 1576, although Kilners are known in Lancashire (location unspecified) from 1292.¹⁸ They are concentrated along the southern area and may well have been Lime Kilners rather than Potash Kilners.

The first English Ashburner appears to have emanated from Lancashire again, *c.* 1278, but in the form "William le Askebrenner". By 1332 Askbrinners are in Cumberland.¹⁸ Ascheburners arrive in Yorkshire by 1532, are in Ayrshire by 1595, and found generally across Lakeland thereafter. We are fortunate to have a detailed analysis of the spread of the name Ashburner in Lancashire, as given in the parish registers.¹⁹ Mr Bosdin Leech mapped the frequency of occurrence. The name was not known south of Garstang, was rare inland from the coast around Lancaster, but was exceptionally common throughout the whole of Furness.

Other pits in Lakeland.

Having proceeded so far it was essential to ensure that we were clear about the uses of all other similar pits which are found in Lakeland. These include limekilns, pounds, goose bields, sheep-pens, bark-peelers' huts, krae pits, fox traps, cockpits, cock-pens, charcoal pitsteads, breadkilns, cornkilns, bloomeries, calcining pits, slime pits and grime pits.

Other pits include coke ovens, pottery clay pits, tan pits and salt pans. All but the limekilns, breadkilns, cornkilns and calcining pits can be ruled out since they do not entail intense burning. The bloomeries have already been considered above. There are no facilities for access or shelving for breadkilns, nor are there ever any perforated tiled floors as are required in cornkilns. Pictures of most of these structures can be seen in the book *Lake District at Work*.²⁰ Both the coke ovens and the calcining hearths can be ruled out, as Mr G. R. Morton tells me neither method was introduced into Lakeland before c. 1800. *Limekilns* remain as the only pits likely to cause difficulty.

Limekilns.

The second edition of the 6-inch maps of the Ordnance Survey is more useful than the first edition since much detail is added, usually of a historic nature. Across the whole of Lakeland there occur, quite sporadically, the words "Old Limekiln". Most lime has been burnt for agricultural use, but it was little used for this purpose before 1800 although there is reference to its use at Rydal in 1631.²⁰ (It is known to have been burnt near Coniston and carried to Rydal and also to have been carried first and then burnt near Ambleside. But this was expensive and only wealthy landowners could use their money in this way.) Limestone is a heavy commodity and the pattern of recognisable limekilns relates very closely indeed to the outcrops of either the Coniston limestone or the Carboniferous limestone in Lakeland. Such kilns are very rarely found more than a mile from the rock outcrop. However, the particular point that enabled us to differentiate between limekilns and potash pits is clear and instantly recognisable in the field. Lime is, of course, a major constituent of the iron-smelting process. Its purpose is to liquify the iron ore and

facilitate the removal of the unwanted silica in the form of slag. Since silica is present in almost every Lakeland rock, any kiln that had lime burnt in it would soon acquire an internal coating of slagged rock. We have found that the sequence of work in early limekilns was to work them until the inside facing (usually about two feet thick) began to choke with slaggy accumulations, then throw out the lining and put in a new one. Even when a kiln has been demolished, there is always plenty of slagged rock in view.

Of 147 potash pits found to date, none have any slagged surface. We have found five slagged-lining pits. One was a very early limekiln at Stockdale, Longsleddale, where the Coniston Limestone outcrops. Two are at Barber Green, north of Grange-over-Sands, at the northernmost local outcrop of the limestone, one is at Crook near Kendal, again not far from the limestone, and one only is isolated. It lies in the Rusland valley less than two hundred yards from a tannery. It is common knowledge that burnt lime was needed for tanneries and also for the soap-making process. There is a total of three tanneries and twenty-one potash pits located so far within two miles of the Rusland kiln.

Lye-kilns.

Another aspect of the name *limekiln* is that it is often appended to a structure that we have found to be a potash pit. Why should this be? When hunting for the potash pit at Ealing Hearth in the Rusland valley, we were advised to see Mr H. E. Barker. He told us that in the 1930s, he had shown Copy Hagg and two other pits to members of the Newcomen Society visiting Backbarrow and district. One of the members later presented a paper²¹ to that Society on "ealing-hearths".

In that paper, H. W. Dickinson briefly described

the Copy Hagg pit, mentioned the early references to ealing-hearths within the parish of Hawkshead and tried to define the name ealing hearth. He quotes Wright's *English Dialect Dictionary* as giving a meaning "shelter, leanto or shed". Also, "the meaning of of the word ealing or eling is obscure".

In hunting early documentary clues we have found the following terms:

1538. "... using the art called elying of asshes."

1576. "... to build an Ass House to ly Ashes Inn."

1565. "... houses called Easinge Harthes, with the brusinge woode and the Ealinge Asshes ther to be made."

17th century. "... To Make Lye Soap."

Ditto "... To Make Domestic Soap . . . to eight potsful of lye add. . . ."

I believe that when the first Ordnance Survey cartographer heard the term "Lye-kiln" for one of these constructions, he would presume that the rustic from whom he was enquiring knew no better and should have said "Limekiln".

Field-names.

The results of identification of potash pits from field-names that are specifically labelled "Limekiln Close", etc., reasonably proves this theory. In areas where there is no limestone, but the fields are named Limekiln Close, we have identified 27 potash pits. Seven structures specifically labelled "old Limekiln" were also potash pits. The source for our field-names are the *Tithe Maps*.

I listed all the fields that were named with words such as *Kiln*, *Pit*, *Pot*, *Kettle*, *Oven*, *Lime*, *Lye*, *Ealinghearth*, *Ellengarth*, *Kill*, *Kin* or *Ken*. But it is one thing to list names. It is quite another to find the pits. Often, the term relates to a dip in the ground,

or a swallow-hole if on a limestone outcrop, or the shape of a stream bed. Even if the pit exists, it is often almost unrecognisable. It is dangerous to wandering stock if left open and so is often filled in with farm rubbish. Or the massive walls have been removed to make new field walls. In such cases the deep cherry-red burnt colour of the stone is a useful guide, although great care has to be taken as so much Lakeland stone is discoloured by iron stains. Of the fields labelled Kiln Close, etc., 39 have so far yielded a potash pit. Apart from the pit in Buttermere, all the better remains are in the south, from Dunnerdale eastwards to Longsleddale.

The most complete pit found to date is near Elfhow, north of Staveley (see Figs. 1a and b). This was marked on the map as "Old Limekiln". Its neighbouring field-names have much significance, as will be shown in a later paper.

Best documented site.

So far all the field evidence is circumstantial. But there is one pit, at Graythwaite, west of Windermere, that is exceptionally well-documented. Again, it is marked on the map as "Old Limekiln" but is a long way from any limestone or even any present-day road. The owner, Major Sandys, had never seen it but gave us permission to look. The potash pit that we found was huge. Internally, the bowl was an oval, being 13 feet from side to side and eleven feet six inches from front to back. The rear wall against the bank is seven feet thick and the front wall is eight feet thick at the rim and ten feet thick at ground level. The walls have been ten feet high and are built of massive stones. The air tunnel is six feet high, ten feet long and the stepped roof reduces down in that length to an inner opening only eighteen inches wide and six inches high. The pit lies in old larch woodland that is to be felled

shortly. A very old pack trail winds past it, touching at two minute rectangular foundations nearby. Major Sandys has promised its preservation and it may be partially restored on its upper rim.

No other potash pits have been found within the Graythwaite estate. This is the pit to which the following documents refer :

An indenture, 12 May 36 Henry VIII (1545), granted to "Miles Sawrey of Greythwaite in Fornesfells, yeoman, Licence to make a little house, and hearth called the Ealing Hearth upon a convenient place in the tenement of Graythwayte late in tenure of William Dyxson & now in tenure of said Miles & to use such broken wood and sticks there and also on any farmhold in Graythwayte in the tenure of John Sawrey for the term of 20 years paying 10s a year.'²²

Further similar deeds repeat the above statement in its essentials for 1547, 1548, 1550 and 1586, except that the rent was increased to forty shillings a year (a considerable amount of money at that time) and the area from which wood could be culled was increased to include the *whole* of Furness fells ! It was obviously a major business.

Had the business been in operation in monastic times and on monastic property ? Again, the evidence is mainly circumstantial. The industry is known to have been introduced from Italy and Germany into France in the 13th century. It was then brought to England, most probably by the various monastic orders, especially the Cistercians. I am certain that it is no accident that the greatest central sheep grange for the Yorkshire Fountains Abbey was situated around a small place called *Kilnsey*.²³ The implication of that name is not yet generally recognised.

Two early references suggest that Furness Abbey

ran the business. One is an amercement of 1538, only one year after Dissolution, at a court held in Colton, "Thomas Rawlinson of Haverthwaite, for cutting the woods without licence and using the art called *elying of asshes*." The second is noticeable for its absence, in that well-known list of sources of woodland profit, listed by the monks of Furness Abbey: "Grenehewe, Bastyng, Blecking, bynding, making of sadeltrees, cartwheles, cuppes, dishes and many other things wrought by Cowpers and Turners, with making of Coles and pannage of Hoggs." Collingwood²⁴ gives the word "blecking" as "*bleaching or drying of bark*". On what authority he gives the part that is italicized, I cannot discover. The word bleck is undoubtedly from the Middle English word, to bleach. When allied to wood, it seems more logical to assume it meant the "paling to ash" than the drying of bark.

However, we have a much better authority upon which our case rests. It is from the *Boke of Record of the Burgh of Kirkby Kendal*, of 1575:

To this order and Constitucon also is added by the Aldermen and Burgesses aforesayd all maner of peces off Clothe offered vtteryd or sold within this Boroughe not being well trulye and sufficientlye made in all placs alyke and all pts thereof of lyke stuff as it ought to be or whiche *shall not be cleane wasshed and clear without bleck left in it* vpon the lyke payne of 2s. 6d. by the maker to be fforfeyte. . . .

Since the word bleck is derived from "bleach" it is hardly likely that it could refer here to "stain". It reads with greatest sense if we use it to mean "soap", i.e. bleck is their word *for* soap. In that case, "Blecking" in the Furness Records must mean "to make ash for soap".

The use of bracken for ash.

Apart from the reference given to us by John Lucas (q.v.), we have a group of interesting statements

concerning the use of *bracken*, for the Manor of Kirkby Ireleth, and especially for the hamlets of Heathwaite and Woodland which today are insignificant settlements within the bracken-infested wilderness to the north-east of Broughton-in-Furness.

Fell (*A Furness manor : Pennington and its church*) gives (p. 150) some interesting details of the business transacted at the Court of William Pennington, held for the manor of Pennington on 27 July 1544. "The jurors then ordered that none of the tenants do hereafter cut any bracken upon the moor yearly before the Feast of St Michael and then everyone of them to have daily one mower or four reapers under pain for every forfeiture 12d". That is to say, if any bracken is cut before 29 September it is an offence, but if tenants do not cut it after that date they will be fined. This order could, of course, apply to the cutting of bracken for thatch or bedding, except that the fine is harsh and, in any case, if everyone cut bracken, what would they do with it all?

A point of botanical interest here is that bracken is a "two-part" plant. The main part of the body is a thick root-like rhizome that usually lies two feet or more underground. The frond is merely a factory, using chlorophyll and sunlight to convert gases and water into food against the coming winter. By 29 September the fronds have done their work, and although they are still green, the plant will not die because it has lost its "factory". Farmers today thwart the plant by cutting early, thereby ensuring that it expends precious food in growing a second and emergency set of fronds. Repeated cutting in mid-summer will kill the plant within two years.

Forty-five years after the first decree was passed, another order was made for the two above-mentioned hamlets:²⁴

And everie tenannte in the Hamletts of Hewthett and Woodland shall sheare brackens and lead them one day yerelie for the lorde as heretofore they have bene accustomed to doe and ev'ie hole farmhoule to geve three dayes shearinge called lawe bownes. . . .

Fell reads the latter phrase as "love boons". In the light of the following sentences, I believe that it makes more sense if one alters only one letter instead of two and reads it as "lave boon". That would mean it referred to washing. The tithe maps for Woodland are exceptionally interesting. The fieldwork has corroborated the names (Fig. 6). Woodland Hall turns out to be an exceptionally wealthy block of houses for any area, let alone this secluded spot. The fields that lie to the south of it are called Mill Haw (twice), High and Low Kiln Sike, and *Old Kiln*. To the north are Near Ellen Bank, Carling Pot, Kiln Close and Tenters. On the 1845 map, Old Kiln was specifically marked, by a dot, and had its own encircling retaining wall. Since then, some of the field walls and most of the Old Kiln have been demolished, but a large D-shaped platform still remains. It has a seven-foot high steep down-slope side. The platform is some forty feet across. There is no trace of slagged rock in any of the nearby walls. On the other hand, all the land to both the west and east of the Hall grounds is covered by continuous dense stands of bracken. If one calculates the amount of bracken that could be sheared by the "whole farmhold" in three days, it comes to a very large total.

Another reference to the cutting of bracken for potash is to be found in the Diaries of the Millom Hudlestons. A typical entry reads:

4 January 1705. This day agreed with Myles Postlethwaite of Booth (near Rusland) in Lancashire for all the Brackens in Millom Park for four years to come, for which the said Myles Postlethwaite is to give the sum of eighteen pounds, that is to say, five pounds each year for the two first years and four

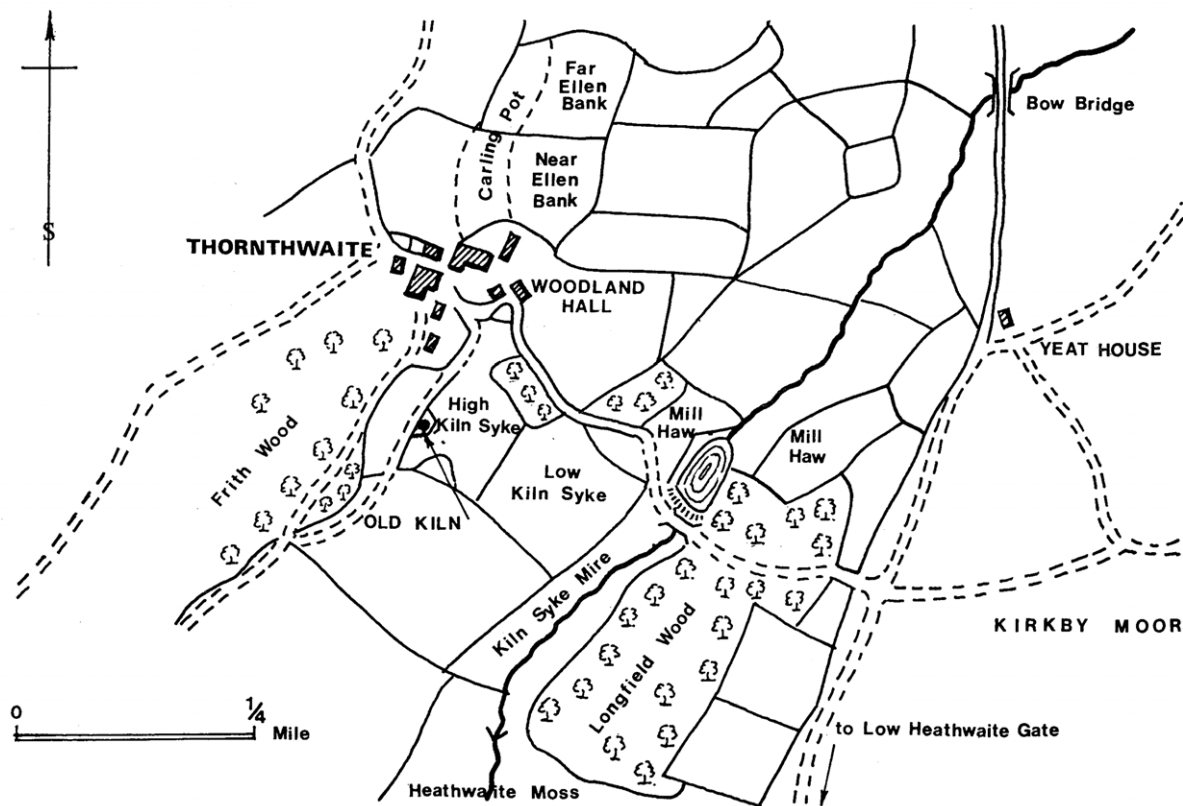


FIG. 6.

pounds each year for the two last years, to be paid yearly before the ashes of the said Brackens be taken away, the said Mrs Hudleston being obliged to find houseroom for the ashes and a horse to lead them into the House or otherwise to give them grass for a horse of their owne, dureing the time of their burning the Brackens.

In 1706 they were to give the Hudlestons "four bushell, Millom measure, of their best ashes" besides the rent.

The Kendal Wool Trade.

Where did all the ashes go? We find a strong clue in a very early document, from the Register of St Bees²⁵ — the ashes noted here could, of course, mean ash trees, but it is most unlikely in the circumstances considering that there are several potash pits known there —

"I, Nicholl off Stanelaw, hase sewld all the underwod and esshys fra Aystwhayt bek to Byrker bek to William de Kendale."

This was in 1432 on 10 February, at a time when Kendal was engaged extensively in the business of finishing woollen goods for export to the rest of Britain and on to the Continent.²⁶ Finishing included washing, dyeing, fulling, tentering, cropping and cutting the cloth. At least two washes are entailed and soft soap *must* be used for at least one of them.

At the time that the Eskdale reference was discovered, we had not found a single potash pit near Kendal. The New Land Use Survey though, had recorded acres of bracken on all the fells to the north and east of Kendal, in spite of improvement schemes made with farming subsidies. Indeed, Arthur Young, secretary to the Board of Agriculture, had, *c.* 1770, reported that all but three miles of the land between Kendal and Shap was waste, yet with enough good soil to be able to support excellent crops. Could it be that,

unbeknownst to him, these acres were bracken crops for Kendal's wool trade? We searched the Tithe Maps again and I spent over two weeks looking in the Kendal area, with pleasing results:

Firstly, the *limestone* districts around the south and east of Kendal contain many limekilns and all indicative field-names have yielded only limekilns, about forty all told.

Secondly, there are *still* thirty-two likely sites to be visited.

Thirdly, the potash pits discovered were as follows:

Four in the Lune valley between Sedbergh and Kirkby Lonsdale.

Three in the Fawcett Forest area.

Six sites found between Grayrigg and Skelsmergh.

Six more around New and Old Hutton.

Four pits in Longsleddale.

Fourteen in the Kentmere to Staveley valley (not including Elfhow).

Thirteen in the brackenny area between Kendal, Crook, Winster and Bowness.

That is, in all, 51 potash pits known to date within nine miles of Kendal.

Urban soap manufacture.

From the above results and also from the comments on the importing of potash from North America, it would appear that in later days, before the potash-based soaps were exchanged for the soda-based soaps, the focal point for manufacture was shifted from dozens of individual rural places to the larger regional towns and especially to the woollen-trade towns or ports. In Ulverston, for instance, there was a Soap-Boilers Lane, where, from at least 1768 to 1782, William Fell was the soap-boiler.²⁷ In other towns, Soapery Lane was quite a common name.

If potash were imported, then it would be an easy matter for soap manufacturers to set up even larger businesses somewhere near the dock-sides. That this was the case in Ulverston is quite clear, for we are very fortunate to have an excellent document of the time which shows this.

It is one of John Soulby's famous printings. His sale-bills are well known for their accuracy and beauty. This one was a list of charges for bulk freight being exported from Ulverston to Liverpool in 1823. The list throws much light on the products of the hinterland back of Ulverston, that could find a willing market in Liverpool, or via that port to the new lands of North America.

Of over 100 commodities there are first of all the typical goods that one can expect to find in any sailing community: cordage, cork, paint, tar, treacle, rice, ale, etc. Other random goods included salt, paper, flax, hemp, linen, cheese and slates.

Then there were all the *woodland* products: bark coppice, bark stock, birch and alder poles, baskets, brooms, brush stocks (heads), bobbins by the hogshead, clogs, hoops, lathwood, wheelspokes, hazel nuts, staves for barrels and hogsheads, barrels of all sizes from hogsheads to $\frac{1}{2}$ -lb., also *potashes per cwt.*

The *tanneries* were also doing good business: hides per ton, dried hides, bales of leather, boot soles, and tallow.

The *metal-workers* made iron by pigs, bars and rods (i.e. cast and wrought iron), iron boilers per ton, spades and shovels, lead per ton, copper per cwt., copper pans.

But the most interesting item is the list of *soaps*. There were *five* items out of the one hundred listed, for freight charges for soap alone. It was freighted by the box, chest, hundredweight, firkin and half-firkin (a firkin was a 9-gallon barrel).

End of the Trade.

It remains but to comment on the factors that led to the closure of the local potash pits. In 1781 large numbers of settlers moved into Canada from the newly-formed United States of America. Their plight was desperate and for many, practically the only source of ready money was that from the sale of potash and the purer pearl-ash made as they cleared lands, burnt the trees and began farming.²⁹

By 1820, some fifteen hundred ships — practically the entire number of ships calling to Canada — were engaged in the business, and, by 1831, Canada was exporting 35,000 tons of potash and pearl-ash annually to Britain (over three-quarters of the total required here).

In Lakeland, the opening of the Kendal Canal in 1819 had allowed ingress of good cheap Canadian potashes imported via Liverpool. This latter statement is not guesswork, for we have to hand *that item* of news from the *Westmorland Gazette*, which states:

There have been sinkings of Quebec shipping where 12,000 barrels of potash foundered, which will cause great scarcity and inconvenience in our (Kendal) neighbourhood (1827).

So the Ashburners forsook their pits as their purpose in the order of things became uneconomic, the pits were forgotten and only field-names survived within the memories of the local people.

Acknowledgements.

I wish to thank especially Mr A. W. Norris for all his help, patience and time in searching these pits. Also Miss Clare Fell, Mr H. E. Barker, Dr Arthur Raistrick and Professor G. P. Jones for their expert advice, Mr W. Grant, Resident Chief Forester at Grizedale, also Major M. E. M. Sandys, of Graythwaite, for permission to seek where we might upon their

respective Estates, and finally those who specifically located pits for us and helped in other ways: Messrs R. C. Archibald, J. Anstee, J. C. Braithwaite, W. J. M. Chaplin, P. Fishwick, Miss S. Hayton, the International Orienteering Club, Mr B. C. Jones, Mr H. Kellett, Dr J. D. Marshall, Mr R. G. Plint, Mr Barry Pywell, Mr J. Taylor-Page, Miss E. Tillotson, Miss G. Woodend, Mr R. Yuen and Mr G. R. Morton.

NOTE. It is hoped that the second part of this paper will be published at a later date. It will consist of two sections: a series of maps of the various concentrations of pits found in Lakeland, together with details of pits which are still in good condition; and further original work on the link between the distribution patterns that have arisen and the early woollen industry of Lakeland.

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