3.5 How Natural Resources Were Exploited

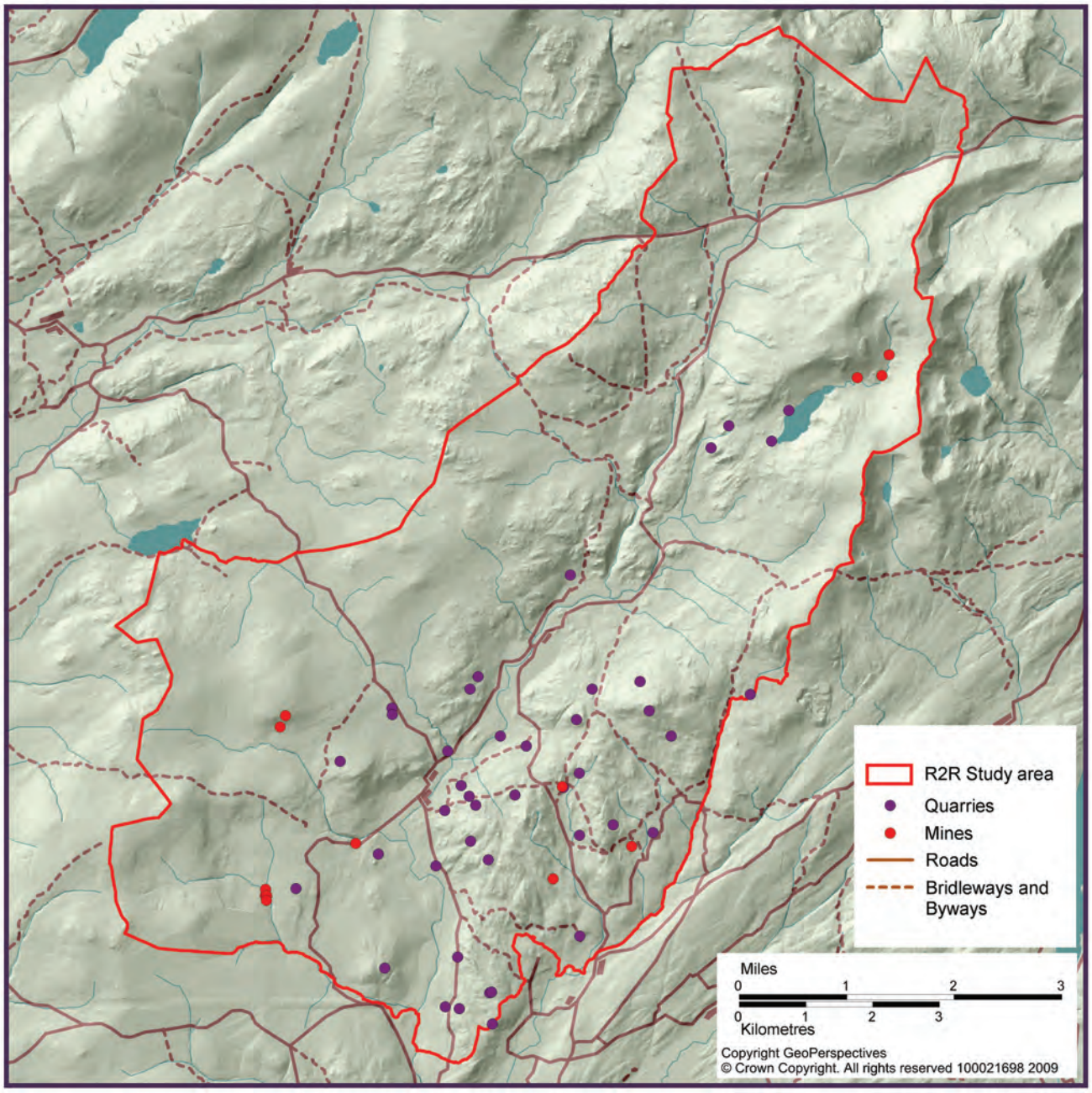
When thy father went a-hunting,
A spear on his shoulder, a club in his hand,
He would call the nimble hounds …
When thy father went to the mountain
He would bring back a roe-buck, a wild boar, a stag,
A speckled grouse from the mountain,
A fish from Derwent waterfall …
Wild boar and lynx and fox …'

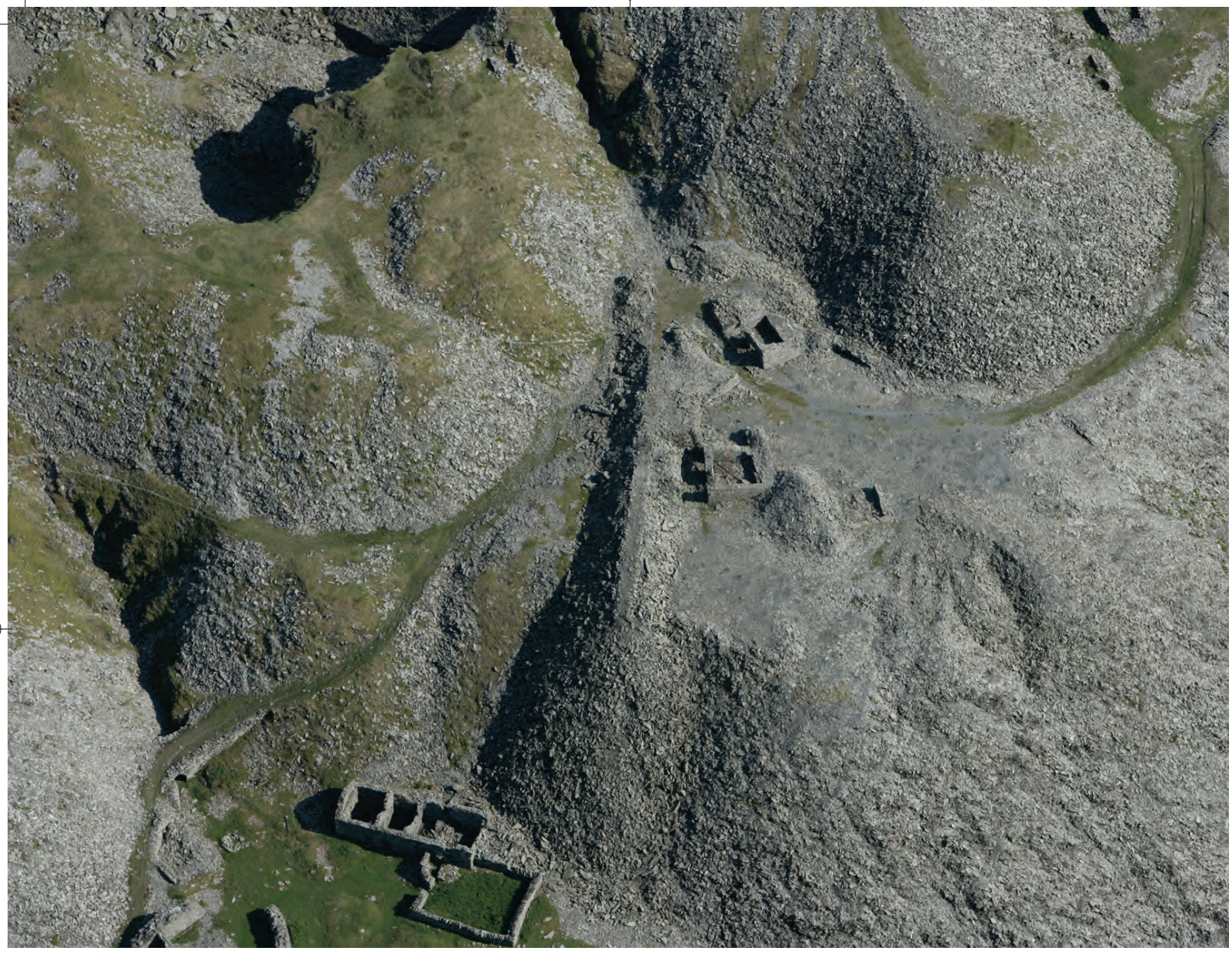
Translated seventh century Cumbric/Welsh lullaby from 'The Book of Aneurin'

All the survey teams uncovered a wealth of evidence regarding the manner in which past generations have utilised the natural resources available in the landscape. The rock that forms the mountains, the water that carves the valleys, woodland and wild animals have all at one time or another been managed and utilised by resourceful and self-sufficient inhabitants.

We cannot travel far within the two parishes without observing the evidence of quarrying (Map 8). Many are large-scale slate quarries such as Commonwood, Walna Scar and Stainton Ground. Slate quarrying in the valley developed in the seventeenth century. Although the larger quarries had already been well-documented, the groups nevertheless

Map 8 Abandoned quarries and mines recorded by R2R in the Duddon Valley. Most of the quarrying was for slate, while the mines mainly extracted copper and lead ores. It will be noted that while some quarries and mines were located close to present-day roads, tracks and bridleways, in other cases there are no obvious routes by which the minerals were transported other than on tracks that have become modern day footpaths.





Aerial Photo 4 A close-up aerial view of part of the disused Walna Scar slate quarry, showing the entrance to the workings (top), extensive spoil heaps, and several abandoned buildings from the post-medieval period
(© English Heritage. NMR)

Photo 40 (*Right, top*) Walna Scar Quarry with its many spoil heaps
Photo 41 (*Right, bottom*) A quarry face and cavern at Stainton Ground

Photo 42 Quarry buildings on Caw

Photo 43 Stephenson Ground ignimbrite quarry

studied the abandoned remains afresh as part of the project. Visible on the ground are impressive tracks, buildings, spoil-heaps and the deep clefts, shafts and caverns from which the slate was extracted. Most of the buildings would have been used for 'riving' (splitting) and 'dressing' (shaping) the slate. However at Walna Scar we have documentary evidence that three of the buildings were used for housing quarry workers during their working week (Aerial Photo 4; Photo 40). The slate from this quarry was greatly-prized for its fine quality and attractive, banded markings – the floor of the Newfield Inn at Seathwaite was extracted from this local source and is much-admired to this day.

During the survey we recorded many previously unknown smaller slate quarries (Photos 41 and 42). Most seemed to have been used for short periods indicating that the slate was not of sufficient quantity or quality to warrant continuing. Others appear to be specialist quarries; for example, where the stone naturally broke from the face in large linear flags suitable for making gate stoops or shard fencing. At Stephenson Ground ignimbrite, a volcanic rock, is found in columnar form similar to the famous formations at Fingal's Cave and the Giant's Causeway (Photo 43). Here we recorded a quarry and found that these rock columns had been used in a nearby water yeat. In addition we recorded numerous small stone quarries and roadside gravel pits known as pinnel holes throughout the survey area. Typically at such sites just sufficient stone had been extracted to construct a nearby wall, road surface or building.

In some places it was not stone but the minerals within the rock that were being extracted (see Map 8). Again most of the mineral mines such as Seathwaite and Logan Beck copper mines and Stainton Ground iron mine had previously been studied. Through the survey, however, we identified previously unrecorded mines such as the short-lived iron mine at Carter Ground. Records tell us that although this mine was only in use from 1872 to 1874, 6,555 tons of ore were extracted. We also noted previously unrecorded exploratory adits abandoned when the search for minerals proved unfruitful.

Associated with the quarries and mines we found a number of structures used to store the gunpowder for blasting. These are known as powder 'magazines' and are very sensibly situated in isolated places away from the quarry due to their hazardous nature. A well preserved example is located in Long Garth Wood where gunpowder for the nearby copper mines would have been stored (Photo 44).

In addition to the management of water for land

Photo 44 A gunpowder magazine at Long Garth which served a local copper mine

Photo 45 One of the numerous 'pitsteads' or charcoal burners' platforms identified during the survey

improvement we recorded evidence of the exploitation of water as a resource in itself. The most notable example is that of Seathwaite Tarn. Here the dam, along with its associated track and buildings, was constructed in the early years of the twentieth century to provide drinking water for Barrow-in-Furness. The reservoir is still in use today and while we were undertaking our survey it was fascinating to observe it being drained for renovation.

Electricity did not reach the upper Duddon Valley until the mid 1960s and at Seathwaite we recorded the remains of workings that harnessed the water power from Tarn Beck to provide electricity for the Newfield Inn from 1950 to 1965. Further scrutiny and investigation revealed that a mill used for carding wool had previously operated on the same site. We recorded other examples of former water-powered mills such as the bobbin mill at Ulpha and the corn mill at Hesketh Hall.

Today we associate the exploitation of woodland in Britain with large conifer plantations. In the past however deciduous woodlands were managed in a sustainable manner to provide wood for a variety of uses. The trees were coppiced (repeatedly cut back to produce new shoots that could in time be harvested as a wood supply). Wood was turned into charcoal for the iron industry. In woods such as Rainsbarrow, Wallabarrow Coppice, and Lilly Wood we recorded an abundance of pitsteads or constructed platforms

Map 9 Areas where traces of woodland industries (charcoal burning and bark peeling) were recorded by R2R in the Duddon Valley. Note that each symbol indicating charcoal burning in fact represents many individual pitsteads in the area. The most striking aspect of the distribution of woodland industries is that they are almost exclusively associated with areas of ancient woodland.

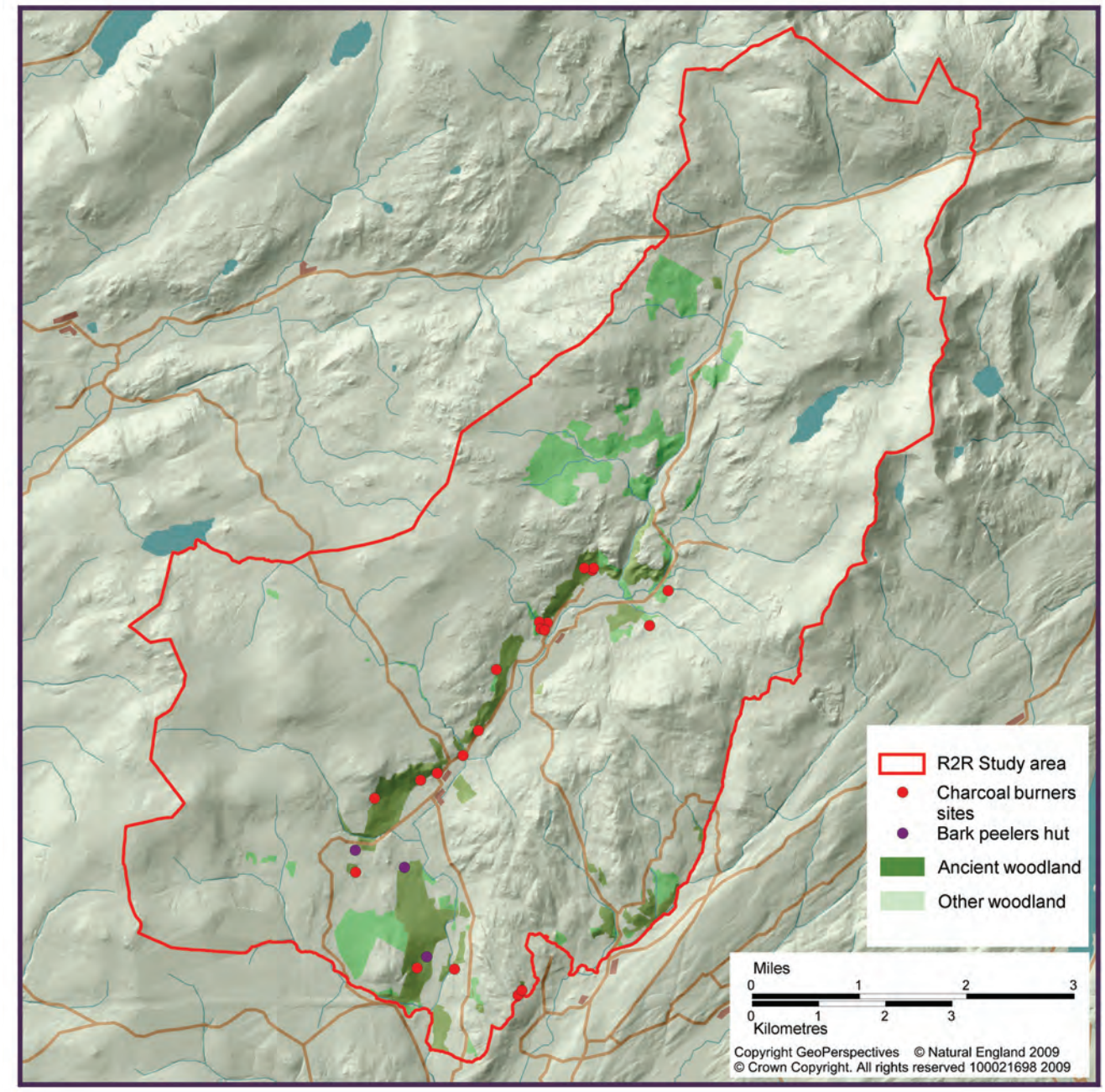


Photo 46 A ruined bark peeler's hut in Forge Wood

used for charcoal burning (Photo 45; Map 9). On sloping ground these were often supported by retaining walls on the down-slope side. Over a hundred such platforms were recorded on the western side of the Duddon Valley alone. Another woodland industry was bark peeling, where the bark of coppiced oak trees was collected to produce tannin for leather production. Also within the wood we found that generations of woodland workers had left many trackways and shelters used while going about their work. We found good examples of both charcoal burners' and bark peelers' huts. In Forge Wood six bark peelers' huts were recorded (Photo 46).

The boggy sections of open hillside offered a further resource in the form of peat. Peat was cut for fuel until the beginning of the twentieth century. This was a valuable resource, and to take peat you had to have the legal 'right of turbary'. This was the right traditionally enjoyed by specific commoners, usually by virtue of the rights attached to the property they occupied, often adjoining common land. Old court records frequently refer to disputes regarding people accused of helping themselves to someone else's peat. We noted many locations where peat cutting and transport (Aerial Photo 5) had taken place and an unexpected number of previously unrecorded storage huts or 'peat-scales' remaining nearby (Photo 47). Good examples of these are situated in the area of Copt How with further evidence above Devoke Water and at Longhouse Close.

In the past hunting and fishing provided a necessary

Aerial photo 5 An aerial view of part of Tongue House Close. The water company track up to Seathwaite Tarn goes from left to right at the top, but a much fainter and older track used for transporting peat meanders up from foreground left-centre to top left, crossing the post-medieval wall just to the left of the sheepfolds. Several other archaeological features are visible, including a presumed medieval longhouse at foreground right-centre.

Photo 47 A peat storage hut or 'peat-scale' near Wallowbarrow

additional food source as well as a sporting activity. In the medieval period much of the Duddon and Lickle valleys was deer forest owned and hunted by the aristocracy. Rabbits were also a regular source of hunted food, and as previously mentioned we recorded a rabbit smoot at Beck House enclosure near Turner Hall. Here the smoot was located next to a concealed, curved section of wall that enabled the rabbit to be easily caught as it passed through

We found no archaeological evidence regarding fishing activity along the rivers, although near Hall Dunnerdale bridge a proud fisher-man has immortalised his catch by carving the image of a large salmon on the wall. The previously mentioned drainage of Seathwaite Tarn reservoir revealed an unexpected surprise in the form of an unrecorded and forgotten boathouse (Photo 48). It clearly pre-dated the construction of the reservoir and proved to be a sturdily built three-roomed structure.

We found evidence of early beekeeping in the form of bee boles. A good example was recorded in a private garden near Turner Hall and another at Stephenson Ground. These consist of recesses, usually found in a south-facing garden wall. Each recess is big enough to hold a 'skep' which was a coiled-straw hive used by beekeepers in Britain before the introduction of the modern wooden hive in the late nineteenth century.

Photo 48 The normally submerged boathouse ruin revealed during the draining of Seathwaite Tarn reservoir. The dam, in the process of repair, is visible in the background.

3.6 How Resources were Processed

She was a woman of a stirring life
Whose heart was in her house: two wheels she had
Of antique form, this large for spinning wool,
That small for flax, and if one wheel had rest,
It was because the other was at work.

From William Wordsworth's 'Michael'

We have now seen evidence of past generations using their skill and knowledge to farm the land and their ingenuity and hard work to obtain all manner of resources available in the landscape. This however is only part of the story. The process of transforming the raw materials into food, clothing, and other domestic or commercial items has left behind a further array of archaeological features within the landscape.

The earliest evidence that we found for the processing of resources dates to the Bronze Age. At Winds Gate on Birker Moor we studied a kidney shaped area of raised ground that has been identified as a 'burnt mound' (Photo 49). Level 2 surveys of two burnt mounds are presented in Chapter 6. These features consist of a pile of burnt stones that have been cracked by fire. They are usually sited near running or open water and are thought to be places where heated stones were used to boil water for communal cooking. Many of these features have been excavated in other parts of the country including one near Kendal, and in some places a wooden trough has been found located in the hollow area at the centre.

At Cinder Beck near Ulpha we recorded the remains of an iron bloomery believed to date from the medieval period. Here we observed raised banks that contain the discarded clinker or slag from the smelting process. From the sixteenth century bloomeries were replaced by water-powered bloomery forges and in the eighteenth century the blast furnace was introduced into the area. Although located just outside the study area, the Duddon Bridge Furnace was, from 1737, the recipient of much of the charcoal produced within the relevant two parishes. It is also one of the oldest surviving charcoal-fired blast furnaces in the

Photo 49 A burnt mound at Winds Gate, Birker Moor

Photo 50 A deep pit probably used to burn bracken for potash. A tree has taken root within the pit.

North of England and a monument of national importance .

The wood that was obtained through the woodland industries was not all used for making charcoal. Near Ulpha and at Beckfoot we recorded bobbin mills. Bobbins were needed in vast quantities by the Lancashire cotton mills from the early nineteenth century and the bobbin mills of south Cumbria supplied most of their demand.

The prevalence of sheep grazing within the two parishes is directly related to the historical success of the local woollen industry. By the mid-fourteenth century the industry in this area was thriving and continued to flourish for several centuries. The process of transforming sheared fleeces into woollen cloth was undertaken locally for much of this time and we found a variety of evidence for this as we surveyed the area.

Once spun, wool needs to go through a 'fulling' process whereby it is cleaned and pounded to produce a cloth with a close-knit weave. Cleaning was traditionally undertaken using lye soap. This soap was made from a fine, potassium-rich ash or 'potash'. The potash was produced by local farmers to supplement their income. Most was produced from burning harvested green bracken which is very rich in potassium sulphate, although sometimes wood was used. During the survey we recorded a number of potash pits where such burning may have taken place (Photo 50). We also recorded several well-constructed potash kilns in varying states of preservation that were certainly used for this purpose. Two good examples are situated near to Stephenson Ground (Photo 51).

Former fulling mills are found in many locations in

the area. Good examples can be found at Beckfoot Mill and at Logan Beck. At the height of the woollen industry many corn mills were converted into fulling mills when this became the more lucrative business.

Wool was not the only material used to produce fabric. We know that flax was grown to produce linen, and hemp for rope, sackcloth and rough 'homespun' fabric. The stalks of both these crops needed first to be soaked until the fleshy stems had rotted to release their coarse fibres. This was undertaken in 'retting ponds'. The fabric produced from these plants also needed to go through a fulling process. We found a well preserved example of a previously unrecorded retting site at Old Hutton in the Lickle Valley (Photo 52, and see Chapter 4.4). This became the subject of documentary research.

We should perhaps add that fulling and retting were only the start of the process of turning the raw materials into cloth. Both wool and flax needed to be 'carded' or 'heckled' to produce fibres that were ready to be spun. Before the industrial revolution spinning was mainly undertaken locally by women as a cottage industry. It is interesting to reflect that the term for an unmarried woman – 'spinster' – which dates from the medieval period has its roots in this activity, revealing how commonplace this domestic activity was. In the area surveyed above Broughton Mills we found a concentration of sites associated with fabric production. Now a quiet hamlet, Broughton Mills was formerly a busy industrial centre with several mills, potash kilns, lime kilns and malthouses all in production during the seventeenth and eighteenth century. Although closely associated with our study area, most of these features lie on the east side of the River Lickle in the adjoining parish and were therefore not included in the survey.

Photo 51 A constructed potash kiln at Stephenson Ground

Photo 52 The 'retting' site at Old Hutton showing the raised pond edges across the moss. The ponds in between are now choked with reeds.

3.7 Defence

I can now admire Stickle Pike again, though even the sight of it has given me a nightmare since the Home Guard used me (in all ignorance) as a human target last year. To-day no one was out shooting or manoeuvring…. Easter in 1944 we saw the US Army on manoeuvres, hundreds of gun carriers, armoured cars and transport drivers processing up the dale… In foolish, but would-be friendly manner, we asked "where are you going?" but realised immediately our indiscretion. Secret destination!

From *Off to the Lakes* by Jessica Lofthouse

The most striking observation with respect to how people defended themselves within the two parishes is that for much of the time they appear to have had little need to do so. The relative isolation of the area seems to have been a defence in itself. We found no evidence of defensive structures from the prehistoric era. The section of Roman road already mentioned that makes its way across the head of the Duddon valley towards Hardknott Fort was essentially a military road but there is currently no evidence to suggest that the Roman army ventured far into our two parishes.

Moving to the medieval period, at High Cragg Farm we recorded a defensive farm building, and at Old Hall Farm we noted the ruins of a possible Pele Tower. Pele Towers are small fortified keeps that also served as houses. They are common along the English and Scottish Borders where raids by outlaws necessitated the presence of defensive watch towers. A classic example exists nearby at Broughton Tower. We also observed that the medieval hunting lodge of Frith Hall has a fortified appearance (Photo 53).

The most significant military evidence that we found dates from the twentieth century. On the hills between the Duddon and Lickle valleys we found a number of features attributed to military training exercises. We know that both the British and American regular armies, as well as the Home Guard, were active in the area most notably during World War Two. Our first hint of these army activities came while surveying farmland above Broughton Mills only weeks after the start of the project. A very startled

Photo 53 The sturdy walls of isolated Frith Hall appear to have been built to ward off intruders

team member found a bomb! The team bid a hasty retreat and the appropriate authorities were summoned to dispose of it. It proved to be a smoke mortar used to camouflage troops in combat and for training exercises. Some months later a four inch practice mortar was found by another group about a mile away. On the ground we recorded square ditches that may have been temporary munitions stores, an artillery ramp with nearby crater and a variety of stone shelters.

There is surprisingly little factual information regarding the exact nature of Home Guard training activities in the area. Nothing was recorded at the time due to the need for secrecy in the event of enemy invasion. We do know that at the end of the war a platoon of Home Guards from the Kings Own Royal Regiment was stationed at Duddon Bridge and that they booked the Brow Foot community hall at Ulpha for meetings. We also know that nationally their training programmes included learning essential skills like camouflage, field craft, tactics, and weapons use. Often live ammunition was used, giving preparation for actual combat, which no doubt accounts for our finds.

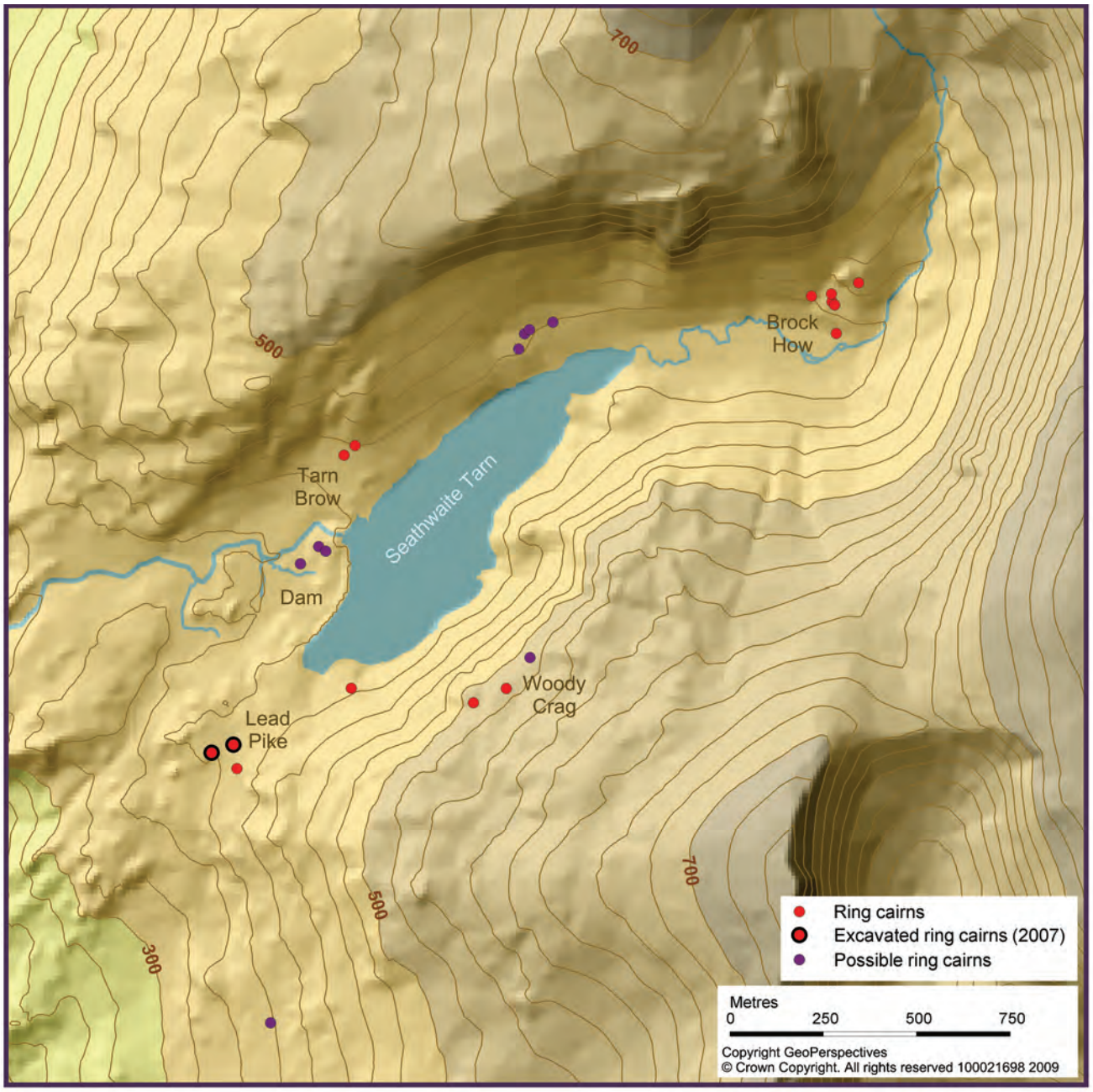
3.8 Religious or Spiritual Belief and Other Mysteries

Time-hallow'd pile by simple builders rear'd!
Mysterious round, through distant times rever'd!
Ordained with earth's revolving orb to last!
Thou bringst to sight the present and the past.

From *Fane of the Druids* by John Ogilvie (1733–1813)

Although there is by definition no written information about the belief systems of the prehistoric people that inhabited our two parishes, they certainly left us a variety of clues. Wherever we found evidence of prehistoric land use we also found monuments that appeared to be ritual in nature. In amongst the randomly-shaped clearance cairns we found circular cairns that had been constructed with great care. Some were the ring cairns referred to in Chapter 5 (see Maps 10 and 11, Photo 54, and level 2 surveys in Chapter 6). Others were circular piles of stones carefully placed to create a symmetrical appearance. Within a few of these, in varying degrees of preservation, were the remains of a stone cist. Cists are rectangular structures used for inhumation burials, formed from four or more stone slabs set on edge. Many of the cairns had long since been dug out. Nineteenth and early-twentieth century antiquarians tended to enthusiastically dig out such monuments under the guise of learning and discovery. Some of the cist cairns had the large slab that would have covered the cist discarded nearby. Perhaps the best preserved cist cairn is located near Stephenson Haw (Photo 59). Here the cist itself is well preserved and the whole monument is encircled with a curb of

Map 10 (*opposite*) A detail of the area around Seathwaite Tarn showing ring cairns and suspected ring cairns recorded by R2R, most of which probably date to the Bronze Age. Several groups of ring cairns, including those at Lead Pike, Woody Crag and Brock How, are in elevated positions with excellent views of the surrounding country. Two of the ring cairns at Lead Pike were excavated by R2R (see Chapter 5).



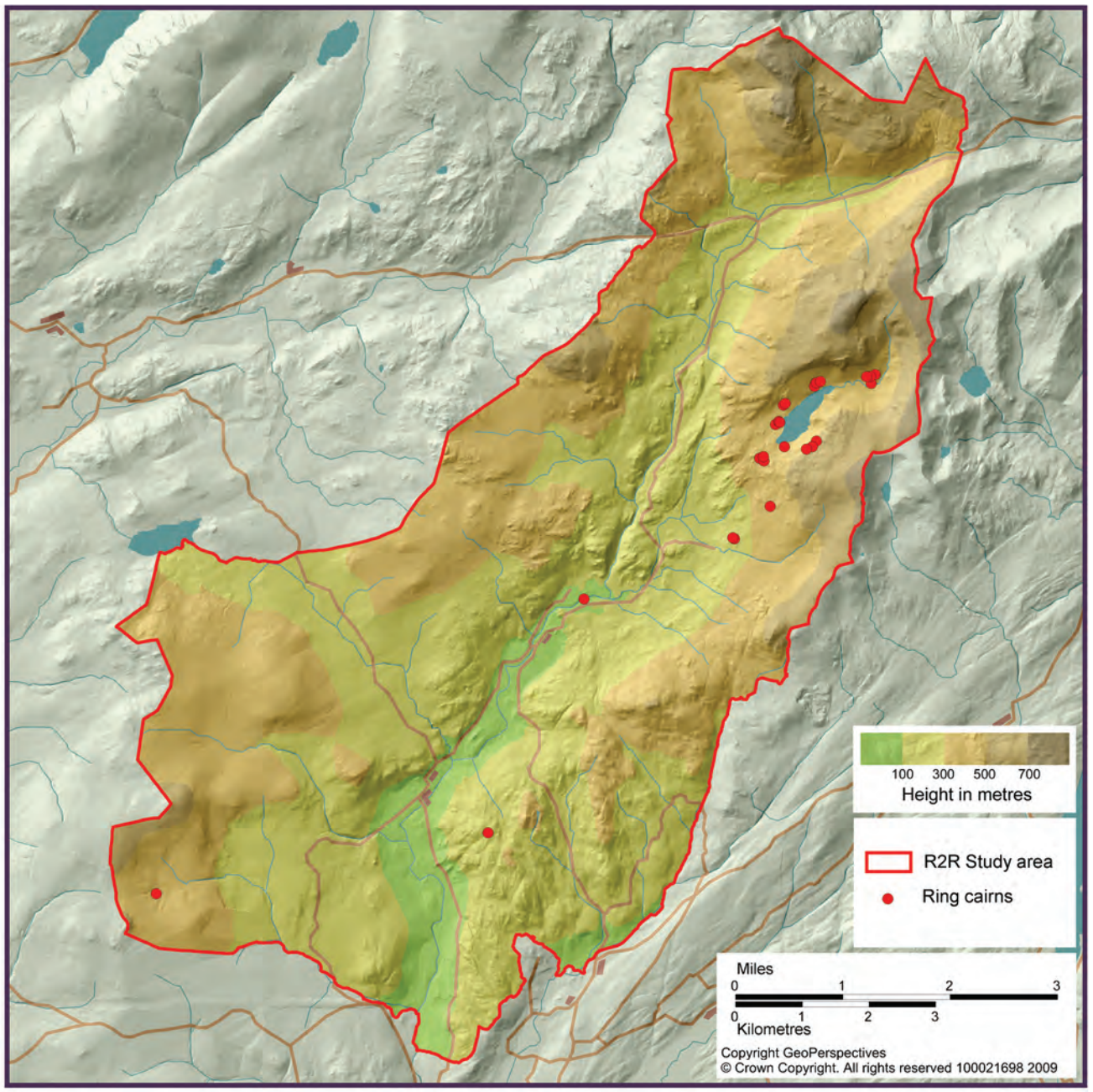


Photo 54 Ring cairn at Brock How, Grey Friar, with Seathwaite Tarn in the distance

stones that includes attractive and carefully selected white quartz stones. In places several cist cairns are found in close proximity to each other, for example on the south west slope of Caw.

As the survey progressed we began to recognise that many of these particular cairns had been placed in carefully-chosen positions in relation to the surrounding landscape. They tend to have an open aspect with the best view available of the surrounding valleys and mountains. We can only speculate on the reason for this. We have to assume that not everyone warranted burial in such a well-made monument and that the person interred there was of high status. Did the location simply reflect an appreciation of the beauty of the landscape or a desire to seek a burial place overlooking the deceased's territory? Perhaps the position related to sacred features within the landscape such as mountains or water. We were certainly amazed at the efforts that the prehistoric people had made to create a truly remarkable cairn on

Map 11 (*Left*) The entire study area showing all ring cairns found by the R2R project. It is clear that most of these monuments in the Duddon Valley are situated in the area around Seathwaite Tarn. This suggests that the tarn, or the side-valley in which it is situated, may have held a special significance for Bronze Age people, perhaps adding support to the contention that these cairns had a ritual function of some kind.

the summit of Whitfell (Photo 55). This cairn surpasses all others in size and grandeur and must say something about the significance of this mountain and also the person or persons undoubtedly buried within.

Associated with these circular cairns we found some previously unrecorded standing stones. A particularly striking example is located high above Seathwaite Tarn (Photo 56). Whether these were monumental, sacred or simply to create an identifiable landmark in the landscape remains one of the many mysteries.

When we move into the more recent past we have documentary evidence that tells us about people's beliefs and culture. We found no archaeological evidence during the survey with respect to the pagan celtic religions of the pre-Christian era. It is interesting however to note that in historical documents relating to the area as late as the nineteenth century the names of the pagan festivals of Beltane and Lammas were still in use to mark dates in the farming year.

The Anglican churches and their graveyards bear witness to the Christian beliefs of the majority of people who have lived in the parishes in recent centuries. Holy Trinity Church in Seathwaite was built in 1874. It replaced an earlier church of which all that

Photo 55 Whitfell prehistoric burial cairn

Photo 56 Standing stone on Woody Crag on the slopes of Dow

remains is a Holy Water stoup inside the south wall. The Church of St John the Baptist at Ulpha was built on the site of a chapel of ease to the church of Millom (Photo 57). Although we do not know exactly when it was built it is known that a church existed on the site in the thirteenth century. It is constructed from rough local stone, with clear glass windows, and a bell turret containing two bells at the west end. Outside it has a wooden lychgate with a slate roof. The small church of the Holy Innocents in Broughton Mills, built by the local inhabitants as a sister church to Broughton, dates from 1887. Unlike the churches at Seathwaite and Ulpha it does not have a graveyard.

During the seventeenth century the non-conformist denominations became established (for example, the Baptists in the early 1600s, the Quakers a little later). We know that a significant number of local people joined their ranks despite the fact that laws prevented freedom of worship. The number of people who could meet to worship was limited and the location had to be registered as a Dissenters Meeting House. Green Bank Farm in Broughton Mills was registered as such in the 1690s and The Low Farm in 1808. At The Low a separate Baptist chapel was built in 1856. This still stands but has long since been converted into a cottage. Proving that the people of the past were made of sterner stuff than today, a record tells us that a young woman was baptised by immersion in the river Duddon in December 1835! There is also a strong Quaker tradition in the locality and we surveyed two Quaker burial grounds. These square-walled enclosures contain no headstones, statues or monuments. They are tranquil places planted with a few conifers. At the Ulpha burial ground the last burials took place in the mid-eighteenth century (Photo 58).

Everyone loves a good mystery and the survey certainly threw up plenty of these. Many remain unsolved and are destined to be investigated and discussed long after the project ends. Despite learning to recognise the typical features of key site-types such as ring cairns, longhouses and shelters, uncertainty often prevailed and the words ‘possible’ and ‘probable’ preceded many of our attempts to interpret how sites had been used or to which era they belonged.

At times there was also uncertainty about whether a feature was man-made or natural, and in the early days of the survey we had to keep our imaginations in check. Rocks pitted with holes, for example, resembled prehistoric rock art but proved to have a natural geological explanation. In many places there are naturally upright stones that resemble prehistoric standing stones, and we had to learn to distinguish between them. As the survey progressed we got

Photo 57 (*Above*) Ulpha Church and graveyard
Photo 58 (*Left*) The Quaker burial ground near Ulpha

better at filtering out anomalies. Some sites, however, had us completely baffled. Near Hall Dunnerdale, for example, a rocking standing stone caught our attention – was it placed there deliberately? At Low Hall there appear to be cists cut into the rock –could they really be natural? These and other questions are destined to remain mysteries. One thing however is certain. The people of the past who have shared so much about their lives through this survey guard many secrets. It will take further work by ourselves and the people of the future to encourage them to divulge a few more of their mysteries.