This chapter examines the human contribution to the evolution of the Weardale landscape. We should at once imagine these human/landscape interactions as elements in an ever-changing kaleidoscope of processes, set against the backdrop of the developing uplands and valleys of this beautiful and sometimes enigmatic part of northern England.

So... to begin somewhere near the beginning... during the Last Glacial Maximum some 30,000 years ago, Weardale was dominated by a glacier originating at the head of the valley. As this retreated, (c.12-10,000 years ago), the revealed land surface was re-colonised by a mosaic of tundra vegetation with birch, hazel and
willow which, in turn, fed game animals like reindeer…

... But the landscape that the earliest inhabitants of Weardale experienced was totally different to this.

The first archaeological evidence for humans in the Dale occurs in the Later Mesolithic Period (7000 – 4000BC) when trees like pine, birch, oak, elm, and hazel were present along with a new range of animals including Red Deer, Roe Deer, aurochs (wild cattle) and wild boar. Evidence for human activity comes from scatters of stone tools found at some 85 locations in the valley and at this time people were part of the landscape. They exploited it through organised, seasonally prescribed, patterns of movement linking coastal, lowland and upland areas at specific times of the year. This activity followed the seasonal movements of the major game animals whilst also being in tune with plant ripening cycles and the seasonal availability of fish like Trout and Salmon.

Major finds from Police Field, Eastgate, Howel John, Eastgate and Bell’s Quarry, Wearhead, probably indicate ‘base camps’, that functioned in conjunction with specialised resource ‘exploitation’ camps (evidenced by smaller lithic scatters, with a restricted range of task specific tools), recorded at different locations in the uplands. There is little direct evidence for human impacts on the Weardale landscape in this period, though pollen diagrams in Teesdale suggest that Mesolithic groups were clearing small areas of the forest, possibly to facilitate easier hunting.

The mechanisms that brought about Neolithic farming (c.4000–2,500BC) are still only dimly understood. A pollen diagram from Rookhope Head suggests some early tree clearance, possibly for pastoral
activities, and Neolithic artefacts in Weardale come in the form of polished stone axes, and further lithic scatters. Sixteen Neolithic stone axes have been recorded, and all, but one from Rogerley Quarry, are located above 300 m OD (above ordnance datum). Examples come from places like St John’s Chapel, Rogerwell Hush, Whitley Rigg and Rookhope and these were probably lost during Neolithic woodland clearance at the upper forest edge. The distribution probably also relates to the movement of farming up the Dale from the eastern part of the region where pollen diagrams indicate Neolithic activities around 4000-3500BC.
Twenty-two Neolithic lithic scatters, possibly indicating settlements, have been recorded at sites like Flinty Field, Police Field, and Bank Foot Quarry. Several have produced typically Neolithic ‘leaf shaped’ arrowheads, and four finds (Westernhope Burn, East Newlandside, Horsley Burn, and Bankfoot Quarry) are close to tributaries of the main river and may indicate temporary hunting camps, or seasonal, pastoral, settlements (not unlike Medieval and later ‘shielings’).

Recently, the North Pennines AONB/Altogether Archaeology LiDAR Landscapes Project has revealed what may be the first Neolithic monument in the Dale, at Coves House Farm, halfway between Frosterley and Wolsingham on the south of the Wear. It is a small (c.45 m diameter) probably banked and ditched, circular, enclosure, almost flattened by ploughing and it is similar to other possible North Pennine Neolithic monuments.

For the later prehistoric and early historic periods in Weardale the results of the LiDAR Landscapes Project have the potential to revolutionise our understanding of long-term landscape development.

As we move into the Bronze Age period (c.2400 – 1000/800BC) (which sees the first human use of metals), we have more direct evidence for the human impact on the landscape. We still have lithic scatters from at least 16 locations in the Dale, and there are also isolated finds of classic, Early Bronze Age, barbed and tanged arrowheads from locations like Westernhope Burn, Flinty Field, Rookhope Burn, East Newlandside and Police Field, which may have been lost during hunting expeditions.

More importantly though, the earliest recognisable monuments occur in the form of burials under round
mounds, either earthen ‘barrows’ or stone-built cairns. Possible earthen examples occur at Eastgate and in the park land of Horsely Hall, but the most impressive of these monuments is the cairnfield, (a group of some 40 round, stone-built cairns) recorded on Crawley Edge above Stanhope. Two were excavated in the late-1970s, the larger one producing a cremation burial in a pottery vessel known as a Collared Urn, radio-carbon dated to c.1700BC. In addition, several jet beads were also recovered, along with the lower stone of a saddle quern, used in the grinding of cereals. Small groups of cairns like this are known across the North Pennines and they may well have been built utilising stone from initial, arable, field clearance.

The saddle quern at Crawley Edge might also
indicate the presence of a nearby settlement, but no definite Bronze Age houses have been recorded in Weardale. During a recent archaeological survey of Stanhope Deer Park, however, several other possible Bronze Age features were recorded. These included burnt mounds (piles of heat-shattered stone, variously interpreted as cooking places or sweat lodges/sauna sites) and several cairns that could be from field clearance or burial (or both).

The LiDAR Landscapes Project has also produced further potential evidence for Bronze Age landscape development in the form of a newly discovered field system at a height of 326 m OD, above White Well Crags, east of the Westernhope Burn. Though severely impacted by a quarry, the surviving fields are irregular, and contain some quite large cairns. No houses have been recorded, though they might have been of timber and traces could survive below ground amongst the field remains.

Several important finds of Later Bronze Age metalwork have also been recorded in Weardale, most notably the Heathery Burn Hoard and a lost hoard from Haggagte, near Eastgate. These may well have been ritual deposits, taking rare metalwork out of general circulation, and they are often seen as ‘gifts to the gods’.

The nationally important Heathery Burn Hoard, (discovered in the nineteenth century), was deposited around 900 BC in a cave in the valley of a tributary of the Stanhope Burn. The finds (now in the British Museum and viewable online), consisted of: bronze swords, axe-heads, spearheads, knives, horse fittings, rings, a razor, and a bucket; a bracelet and lock-ring of gold; objects of carved bone, antler, tooth and sea-shell;
lots of pottery (now mostly lost) and a few flints. Of particular interest are eight bronze ‘nave-bands’, from the hubs of the wheels of carts or chariots. These are possibly the earliest known pieces of evidence for wheels in Britain. Human remains were also found in the cave.

Clearly, from the Bronze Age onwards, humans had a severe impact upon the ‘natural’ vegetation of the Dale and initial clearances and settlements were beginning to form today’s landscape. From around 800BC to the coming of Rome in the late-first/second century AD this initial human influence on the Weardale landscape intensifies and there is evidence for Romano-British clearance from Steward Shield Meadow and Bollihope. At both sites, between 200BC and 300AD, the tree pollen declined rapidly and open grass and heathland, and some cereal cultivation, occurs. These conditions seem to have prevailed for over 1,000 years and similar, probably pastoral, clearances, are also documented in the Rookhope pollen diagram.

The Bollihope diagram is associated with a complex of late-Iron Age/Romano-British settlement sites around the modern Pegg’s House enclosure. Two enclosed settlements, with stone-built round houses and industrial working areas, have been excavated, producing quern stones, Iron Age/Roman pottery, and furnace and slag evidence for iron working. These are part of a palimpsest landscape exhibiting post-Roman, Medieval and Post-Medieval elements and of particular importance is potential evidence for very early lead exploitation.

Also, in the Iron Age, the main valley of the Dale became increasingly populated and very ‘busy’ in terms of human exploitation. Possible later prehistoric cultivation terraces and fields are visible on the south
side of the river at Stanhope, but the area of the Later Medieval episcopal hunting park, between Eastgate,

Westgate and Northgate, preserves an even larger network of early fields and settlements, underlying the later Enclosure Period field boundaries.

At least 10 settlements, including the well-known enclosures at Old Park House, are visible on LiDAR. Nine of these are located below 300m OD, close to the river; six on the south side and three on the north. Several contain round house stances sitting within field
systems and linking trackways. Of particular interest, on the south side of the river, is a double-banked enclosure at Billingshield. This is overlain by an extensive field system, suggesting earlier, maybe Bronze Age, origins. The eastern enclosure at Old Park House contains the remains of several round houses and east of this, and partially beneath the road up to Heights Quarry, lies another enclosure containing a further two possible roundhouses. At Dun Hill, an extensive arrangement of plots and terraces, including a scooped settlement with at least three house platforms, is also visible. A further, well preserved, banked and ditched enclosure survives beneath the Medieval Park Wall at High Northgate.

Direct evidence for Roman activity in Weardale is slight and limited to finds of religious altars like the third-century example from Bollihope, now in St Thomas Church in Stanhope, which gives thanks to the god Sylvanus for the capture of a large boar; and that from Eastgate, now in the Durham University Museum, and which is also dedicated to Sylvanus. A replica of the latter can be seen by the roadside in Eastgate. The altars probably document hunting forays into the Dale by Roman army officers stationed at the nearby forts of Binchester and Lanchester.

In addition to the altars, coin finds, like the six second-century AD silver examples from Slitt Wood, Westgate (now in Wearale Museum), are also known. It is thought that these may have been offerings at a
potential shrine in the valley of the burn.

Even less is known about Post-Roman/Early Medieval impacts in the Dale. Peter Bowes, in his excellent book, *Weardale: Clearing the Forest*, has discussed the potential early origins of the villages of Wolsingham, Frosterley and Stanhope, but the only really certain Early Medieval evidence from the Dale comes from recent excavations at the site of St Botolph’s Chapel in Frosterley. Here, evidence for a possible early monastic site has been discovered and the excavations produced sculptural fragments in the form of a cross made from Roker dolerite (from a source close to the Early Medieval monastery at Monkwearmouth). Available radio carbon dating hints at the presence of an early-Medieval cemetery, dating back to as early as the eighth century AD. St Botolph was a contemporary

LiDAR is a technique using laser beams to remotely measure distances to create a map of the earth’s surface.
of St Cuthbert who died in 680; and the chapel at Frosterley may be the most northerly dedication to him. The pre-Norman name of Frosterley seems to have been Bottlingham, after St Botolph.

A further tantalising glimpse of potential Early Medieval activity comes from Bollihope Common, where a pollen diagram, associated with a large stone-built enclosure, suggests that the enclosure was abandoned in the twelfth century but that it was constructed around 950AD. It may well be linked with the early development of the shieling system (seasonal pastoral exploitation of the uplands from lowland, home farm, bases) that came strongly to the fore during the Medieval period.

The Medieval period generally sees the best documented evidence for human interaction with the landscape through developing settlement, agricultural and industrial activities. By far the most accessible discussion of this period in Weardale is contained in Peter Bowes’ book Weardale: Clearing the Forest.

Bowes suggests that Frosterley, Wolsingham and Stanhope were all established by 1100AD and that the Bishops of Durham had begun to exploit the area for its vast hunting potential. Indeed, a major impact on the Weardale landscape was the twelfth-century exploitation of the Bishop’s hunting forest. This was the ultimate expression of episcopal feudal power, and every year, at the time of the autumn hunt, the residents of Weardale’s villages were expected to help with the hunt itself and all the ensuing logistics. There was a temporary hunting lodge in Wolsingham, but the centre of all the activity was what became Westgate Castle. This structure, recently excavated by the Altogether Archaeology
group, became the central administrative node for the later Great Park, and a further possible hunting lodge, later the home of Robert Strangways who ran cattle in the Park, was located at the site of Cambokeels. The rubbish midden for this site was excavated in the 1940s by Edward Hildyard, then ‘lord of the manor’ based at Horsely Hall, and it produced fifteenth-century coins and pottery, now in the Weardale Museum.

The so called ‘Boldon Book’ of 1183 (the Bishop’s equivalent of the King’s ‘Domesday Survey’), details the early history of the three main villages in the Dale and it also documents some of the actual people living in them and their trades. It certainly seems that Frosterley marble may have been exploited commercially by this period (see chapter 3).

Bowes also documents the foundation of several large farms in the Dale in the twelfth century and these may have been vaccaries or cattle ranches. Some insight into further forest clearance can be gleaned from the number of place names with the ‘ley’ element – meaning a clearing or open space. Large scale intakes were also made at this time on the moorland areas of the Dale, probably for intensified animal grazing.

In the thirteenth century the limits of the Bishop’s hunting Park became formally walled with entrances at Eastgate, Westgate and Northgate. The Castle at Westgate became not only the administrative centre of the newly ordered Park but also an important administrative focus for the Bishop’s developing lead mining interests. The Dale above Westgate was named ‘The High Forest’, probably around this time, and about thirty new vaccaries were also set up here from the mid-thirteenth century. Seasonal grazing, and other resource exploitation, probably continued on the commons above these farms.
The Park remained in operation until the early-fifteenth century, when Bishop Langley, as part of his restructuring of the Dale’s administration, had it divided up between ten new cattle farms, and part of it was also set aside for lead smelting. A small area called ‘New Park’ which had a reduced herd of deer, lasted until 1661.

In the mid-twelfth century, Bishop Pudsey obtained from the King, the rights to all of the Dale’s minerals. Thus, lead mining revenues expanded the episcopal purse in addition to existing rents and fees and by 1379 the then Bishop (Hatfield) was renting out his lead mining interests. This was a trend that developed throughout the succeeding centuries until just after 1598 when the Bishop gradually relinquished his monopoly holdings in the lead industry.

Obviously, from shadowy beginnings, lead exploitation becomes central to the Dale’s economy and from the fifteenth century onwards Bowes has shown that the records relating to lead mining are better preserved and it is clear just how few men were directly involved in the work: thirteen are recorded in 1426 and 100 years later the number was still the same. Some of the early documented mines were located at West and East Sedling, West and East Blackdenlough, Ireshopeburn and Daddry Shield and much early mining was probably done by the Bishop’s agricultural tenants, who could work part-time in the mines as well as tending their farms. Indeed, the concept of the ‘miner/farmer’, so common in later periods, probably has its origins here.

Bowes has shown that between 1426 and 1524 annual lead output in the Dale was some 67.5 tons and that at this time approximately 2.5 tons of lead ore were
required to produce 1 ton of lead. Bowes has calculated that the Bishop was making £1 on every ton of lead produced, a not inconsiderable sum at this time. Most of the ore produced in the fifteenth and sixteenth centuries was probably smelted at Wolsingham, and some smelting was recorded in the Old Park at Stanhope. Recent archaeological survey on Bollihope Common has also recorded evidence for early smelting. These processes would obviously have had further a detrimental impact on the Dale’s tree cover.

Further fusion and fission in terms of settlement expansion, agricultural developments and industrial processes occurred, with long term impacts, from the sixteenth century onwards as the Bishop’s influence lessened and capitalist interests came to dominate. From the seventeenth century onwards the face of Weardale as we now know it becomes clearer, as later dwellings, settlements, field boundaries and industries were superimposed open earlier ones. Two industries began to increase in economic and cultural importance whilst farming continued, although as will be explored, much changed in the upper Dale.

Because of its wealth of geological resources and mineral riches Weardale became the most industrialised of all the northern Dales. We shall consider each of these industries – farming, quarrying and mining – in turn, although all, particularly farming and mining, were inextricably interlinked. In the lower Dale, below Stanhope, farms were on a sizeable scale and comfortable livings were to be had, mixing arable and pastoral agriculture. This is evidenced in the fine seventeenth-century farmhouses which lie on the hillsides, including Coves, Wiserley, Peakfield, Low Bishopley and others.
These farm names with their ‘ley’ endings demonstrate much earlier origins, as outlined above, but there seems to have been a great period of rebuilding in the seventeenth century. Many sites were occupied by families who farmed at the same place through many generations, such as the Mowbrays at Low Bishopley, who can be evidenced from at least 1615 through to the nineteenth century. There was clearly considerable societal stability and comfortable standards of living. But it would be wrong to consider this community as isolated or inward looking. Recent research by Finch has shown that sons were apprenticed to Merchant Adventurers in Newcastle and some went on to become wealthy Newcastle merchants in their own right.

A few fine seventeenth-century farmhouses also lie within the Bishop’s Park, including Ludwell and Westernhopeburn, but no such minor gentry houses exist further west. West of Westgate the pressure on land increased from the seventeenth century onwards as the extractive industries, particularly lead mining, grew, resulting in a hugely increased population. There was a big surge in lead mining at the end of the eighteenth century and between 1770 and 1800 production from Weardale’s lead mines doubled.

Many of the small houses scattered across the hillsides were built at this time in response to an ever-growing population and this pressure on land and housing peaked around the mid-nineteenth century as
lead mining continued to expand, reaching its zenith in 1849. The population reached its highest point a little later and in the 1861 census nearly 5,500 people were recorded as living in the upper Dale beyond Eastgate and the villages along the valley floor from Westgate to Wearhead were nearly linked together by a ribbon development of settlement. The Bishop’s old Park between Eastgate and Westgate, however, still remained largely empty of housing.

Above the villages, on the valley sides, the land had been divided up almost entirely into smallholdings – the logical endpoint of the development of the miner/farmer landscape referred to earlier. Lead miners placed great value on their smallholdings and for mine owners they were a useful way of keeping key workers from emigrating in times of mining downturn. A typical smallholding might have a potato garth, a pig sty and grazing for a handful of cows and a few sheep. Census and tithe map data show that only a handful of farms west of Westgate could have supported a family without additional wages from mining. The 1871 census characterised many heads of households on the north facing hillside between Ireshopeburn and Wearhead as ‘Lead Miner and Farmer’. While their farms were tiny, often between 4-9 acres, they also had limited grazing rights on the unenclosed high fells, but of 34 holdings in this part of Weardale, only two (High Whin Sike and High Rigg) were bigger than 20 acres. At this time the land was more intensively managed than it had been before or would ever be again.

Enclosure of the open moors came later to upper Weardale than in more prosperous lowland areas. Wolsingham Enclosure Acts were passed in the 1760s
but the Weardale Enclosure Act, covering large parts of the western Dale, was not passed until 1799 and the further reaches of the Middlehope valley were not enclosed until 1816 after an act of 1809. In some parts of the Dale, notably at Ireshopeburn, the upper fell land is still stinted, with farm holdings allocated a number of stints or grazing rights proportionate to the size of the holding. The Killhope valley was never subject to parliamentary enclosure, and stinting remained there too.

We can recognise a three tier landscape division in the upper Dale with old enclosed hay meadows and pastures in the valley bottom, grazing pastures higher up – often large rectangular fields recognisable as an enclosure landscape – and unenclosed moorland reaching to the fell tops. Strikingly there is very little heather on the Weardale fells, as pressure on the land led to the systematic destruction of heather moorland in the nineteenth century in favour of rough grazing.

Farmsteads reflect the tiny size of agricultural units and there are almost no traditional farm buildings for housing livestock separate from the farmhouse in the upper Dale. Instead stock was wintered under the same roof as the family, leading to three basic house types. The byre for cattle was either beside the house in a row formation, behind the house under a ‘catslide’ roof, or beneath the house in what is sometimes interpreted as a continuation of the bastle or fortified dwelling. A classic house-over-byre at Spartalee near Eastgate has been recorded by the North East Vernacular Architecture Group.

The lead industry collapse in the 1880s caused mass outward migration as farm holdings could not support families without the additional wages from the mine.
Through the twentieth century many smallholdings were amalgamated into increasingly larger units and outby houses were abandoned as settlement moved downwards to the lower slopes and easier living. The higher pastures, once painstakingly won from the poor and often acidic ground, returned to rushes – perhaps of benefit to waders as nesting sites.

In the fourth quarter of the twentieth century, however, the balance changed again and the pendulum swung back. Families from outside the Dale saw the abandoned houses as perfect for a different way of life and there was a move to recolonise the upper slopes. At the same time, with an increased interest from outside in the potential to develop grouse moors, shooting lodges were built and heather regeneration and a reduction in sheep numbers were both encouraged in order to support the grouse population.

The Killhope valley illustrates these changes perfectly. The 1864 estate map shows that 13 households lived in the area, each supported by lead mining and all but one with a small farm. This was hard living, at altitudes seen nowhere else in the United Kingdom apart from Teesdale. Cleugh Head, for example, sits above the 550 m contour line. In the twentieth century, however, the valley emptied and in a new, and ill-starred, attempt to use the high uplands of Weardale for economic benefit the Forestry Commission, having bought the Killhope and Wellhope estate, carried out block planting of conifers throughout the 1950s and 60s. It was not a success and the trees, in
particular the lodge pole pine, failed commercially at this altitude. By 1980 every house in the valley was empty and the land was farmed from Westgate, eight miles to the east.

Today the Killhope valley has changed again. Park Level mine has become a museum to the lead industry, the majority of the houses have been renovated and re-inhabited and the grouse moor, which previously employed one part-time keeper, now supports several full-time jobs including those in a shooting lodge built on the site of the valley’s old school. But no hay is now made in the Killhope valley where once every cottage had one or more meadows and the grazing regime has
changed as cattle are no longer kept. Nearly all the softwood of the Forestry Commission has now been felled and much has been replaced by native hardwoods. This planting now has a different purpose – it is for environmental rather than economic benefit.

Visitors sometimes see Weardale as a timeless and unchanging landscape. This is a mistake. It is a dynamic landscape and like all human-made landscapes it changes as the human pressure on it and requirements from it continue to change and evolve.

The development of quarrying is another of Weardale’s big post-Medieval stories. Guy and Atkinson wrote of quarrying in 2008: “Despite the importance [of the Dales] to this industry, it remains one of the anomalies of industrial archaeology that it should be the least studied and most sparsely published of all the major activities of the west Durham area”. This still remains true today. Very little has been written about quarrying, despite its massive presence in Weardale. The main impact of quarrying on the Dale has been in the few short miles between Stanhope and Frosterley. The chapter on geology describes the local importance of the stratum of rock known as the Great Limestone and the fact that it dips to the east at a different rate to the fall in the valley. Between Stanhope and Frosterley the Great Limestone lies not far above the valley floor in a perfect position for exploitation and this began on a large scale in the nineteenth century.

It was facilitated by the development of the railways and it was no accident that an early railway, the Stanhope and Tyne, which opened in 1834, snaked over the moors and down the hill into Stanhope, linking Weardale to the
industrial east. The Stanhope and Tyne was constructed to export Weardale’s limestone from Lanehead quarry and was soon followed by the Wear Valley Railway in the valley floor which reached Frosterley in 1847, to access the Bishopley quarries, and Stanhope in 1862, allowing the opening of Newlandside and other quarries. The major demand for Weardale’s limestone came from the developing iron industry on Teesside and elsewhere from the 1840s onwards and it was this that drove both massive scale quarrying and railway construction. Limestone was used as a flux in blast furnaces and large quantities of Weardale limestone supplied that need.

The quarries were owned by the major Teesside iron masters such as Dorman Long and Bolckow Vaughan as well as the Consett Iron Company and quarrying firms such as Ord and Maddison. The third edition of the Ordnance Survey map, revised in 1919 and published in 1923, shows an almost continuous run of limestone quarries on both sides of the Dale between Frosterley and Stanhope and extending into the Bollihope valley to the south and the Stanhope Burn valley to the north following the outcrop of the Great Limestone. The only interruptions to the line of quarry faces are roads, lead veins (which introduced unwanted impurities to the limestone) and streams.

By the 1890s, some 1,200 men were employed in quarrying in Weardale and Frosterley and Stanhope which, although both have Medieval cores, should really be seen as nineteenth-century quarry villages, with typical terraces of housing for quarry workers. In Stanhope the narrow valley floor resulted in terraces running steeply up the slopes north of the main street. The immense scale and bulk of the brick-built village
hall in Frosterley and the stone-built town hall in Stanhope serve to demonstrate both the size of the population and its self-confidence at this time.

As will be shown later, the rise in quarrying roughly coincided with the decline of lead mining, so the centre of gravity of industrial Weardale moved east to Stanhope and Frosterley. One after another, however, the quarries gradually became worked out in the twentieth century and fell silent. The last major investment in limestone quarrying was the building of the Eastgate Cement works which was, for a long time, a major employer in the Dale, opening in 1966 and closing in 2002. The subsequent felling of the cement works chimney in 2005 seemed a symbolic moment marking the end of industry in the Dale, although Broadwood quarry worked until recently and at Heights quarry between Eastgate and Westgate limestone quarrying still continues. A major extension to secure supplies until 2046 has recently been approved at Heights.

Today Harehope Quarry at Frosterley has been reinvented as an outdoor education centre where people can learn about geology and the recolonisation by nature but elsewhere the limestone quarries are one of the Dale’s most under-appreciated and under-used
resources. Ashes Quarry north of Stanhope is accessible and locally well-used for walking, but others have no right of public access and have naturally revegetated and in some cases have become totally re-wooded. They are now undisturbed, havens for wildlife.

Ironstone mining is the Cinderella extractive industry of Weardale, little acknowledged and hardly written about. Gledhill (pers. comm.) has argued that Medieval iron mining and its concomitant smelting in small bloomery furnaces was as important an industry as Medieval lead mining. The striking ‘humps and hollows’ landscape of Queensberry ironstone quarrying in the Sedling valley at Cowshill may well be the relic of Elizabethan iron mining and we know that in 1595 George Bowes had a smelter for both lead and iron at Burtree Ford. As with limestone quarrying, however, the iron industry had its biggest impact on the landscape of Weardale in the nineteenth century. This was largely due to one man, Charles Attwood, who founded the Weardale Iron Company in 1845.

Attwood took leases to open ironstone quarries and bought a partially completed blast furnace in Stanhope dene which was in blast until the 1860s and which was not demolished until 1915. Attwood’s business expanded to Tow Law, Tudhoe and Wolsingham where he built a still partially surviving steel works. The company also opened major quarries at the head of the Rookhope valley and near Westgate and these sources were linked by a private railway which,
at Boltslaw above Rookhope, reached the highest point on any standard gauge railway in the country and which today makes a fine walking route. At West Rigg, above Westgate, now a geological SSSI, the impressive open-cut workings on both sides of the road attest to the massive landscape impact that Attwood’s company had. It has been suggested that between 1869 and 1916 1,365,307 tons of ironstone were despatched from Weardale.

Two other rocks quarried in Weardale in the twentieth century require a brief mention here. Ganister, a silica-rich sandstone used to make bricks for furnace linings, was principally quarried on the Harthope watershed between Weardale and Teesdale and whinstone, a very hard igneous rock, used for roads and setts, was quarried at Stanhope and Cowshill.

But the major industrial quarries are only one part of the story of the exploitation of Weardale’s rocks. Catch most hillsides in the Dale in low sunlight and you can pick out not only the settlements and Romano-British field systems described earlier and sometimes evidence of early-nineteenth century ploughing but also the pock marks of many small quarries. This is a battered landscape. The Enclosure Awards delineated areas for common quarries for the use of allotment holders and villagers and one can find on the enclosure maps, and then on the ground, grassed over small quarries which supplied sandstone for building houses, thinner flagstones for roofing slates and floors and limestone for burning in field kilns to sweeten the ground which was being claimed for meadow and pasture.

The Middlehope Enclosure Award of 1816 can be taken as an exemplar. This allocated 30 acres for peat cutting, locations for two common limestone quarries, one freestone quarry for building stone and seven other
sandstone quarries. All are small scale, and were not for commercial exploitation. Those permitted to take peats and stone were the allotment holders and other “tenants, lessees and assigns” of the Bishop. Look closely at the field walls of the Dale and you will see an immense variety of material used in their construction, from stone that splits evenly into thin regular pieces to chunky irregular blocks. Mostly it is sandstone, but limestone can also be found, and each wall is very local, with materials quarried from the nearest available outcrop. Weardale people knew their beds of stone and the particular qualities of each different bed. Indeed, from their observations underground lead miners were in the forefront of helping to develop geological science.

The lead mining industry of Weardale is the most widely known and probably the most researched element of the Dale’s human history. Weardale is part of the North Pennine Orefield, an area of mineralisation that encompasses the valleys of Allendale, West Allendale, Teesdale and Alston Moor as well as Weardale. But it is in Weardale, and over the border into Nenthead, where mineral exploitation has been most intensive, leaving the greatest legacy. Medieval mining has been touched on earlier but we begin to get onto firmer ground from the seventeenth century onwards with fuller documentary evidence. It is highly probable that perhaps nearly all of the veins of lead ore that are known today were known by the mid-seventeenth century, and it is said that early miners looked for signs, such as metal-tolerant flora, to locate veins. Whilst there is no certainty about the validity of such claims a more plausible case can be made for knowledge gleaned from the observation of stream beds.
One of the authors remembers vividly a thunderstorm and flash flood in the Killhope valley in 1983 when the bed of the Killhope burn was scoured out and the following morning, after the flood had subsided, the stream bed glistened with numerous pieces of lead ore. It was possible to follow this trail upstream to the point where the Killhopehead vein is known to cross the stream where the ore abruptly stopped. Did early miners discover veins by close observation like this?

Recent research by Greg Finch and Alan Blackburn (pers. comm.) convincingly proposes a lead mining boom with high prices for lead in the 1650s, 1660s and 1670s, possibly coinciding with the first big wave of new settlement in Weardale. In 1692, William Blackett of Newcastle took control of most of Weardale’s lead mines and almost immediately built the imposing Newhouse, above Ireshopeburn, for his local agent. Newhouse must have been for very many years the largest house west of Stanhope and nothing is a clearer statement of the importance of lead mining. Blackett’s successors continued to control lead mining in Weardale until 1883 – a remarkable run for a family business and unique in the national history of metal mining.

The eighteenth century saw continued expansion in lead mining and hushing became a more widely used technique. The exact nature of hushing is still subject to debate but it involved opencast mining along the line of a vein with rushes of water probably employed to wash away debris. Over time hushing created minor, man-made, valleys which are now revegetated features, but which, at the time of their exploitation, must have been ugly scars in the landscape and major polluters of the burns and the River Wear.

The last quarter of the eighteenth century and the first
three-quarters of the nineteenth was the major period for lead mining in Weardale and it dominated the economy, culture and landscape of the Dale west of Stanhope. But as has been shown above, as a major industry it did not survive the nineteenth century. The changes in the price of lead, and therefore the amount of mining activity carried out had always been cyclical in nature. This was one of the reasons why mine businesses were so supportive of smallholdings that kept miners tied to their native soil during hard times, ensuring a ready labour force when fortunes picked up.

In the late 1870s and 1880s though, the collapse of the lead price proved to be terminal, and most mines closed for good, leading to mass unemployment in the far west of the Dale. Of 106 male heads of households in the area from Cowshill to Killhope top in 1871, 79 were lead miners or miner/farmers and nearly everyone else worked in an ancillary trade – engine keepers, blacksmiths, stonemasons cartmen etc. The impact of mine closures was immediate – population slumped by 30 per cent between 1871 and 1881, affecting the whole of the upper Dale. There were 263 empty houses between Eastgate and Killhope top in 1881 and the abandonment of the higher smallholdings and their amalgamation into larger farms, discussed earlier, was now underway.

After the initial shock, however, this process became more gradual through most of the twentieth century. Weardale was fortunate in that fluorspar was found in the same veins as lead ore and at about the same time as lead mining declined, fluorspar mining began to develop. Fluorspar was used first in the steel industry, as a flux, and, then later it was used in the chemical industry. So, in the twentieth century mining continued in Weardale, although on a smaller scale.
The last commercial fluorspar mine, Frasers Grove, closed in 1999 and today one small private mine, at Rogerley near Frosterley, continues to operate, mining exhibition-grade fluorite specimens for the mineral specimen collecting market. Because twentieth century planning consents required site restoration after mining has ceased, very few physical remains of the fluorspar industry survive. A rare exception is the headframe over the shaft at Groverake in the Rookhope valley. When this was threatened with demolition recently local opinion mobilised in its defence and a vigorous, and ultimately successful, campaign was mounted to save it. It is not a particularly old feature, dating from 1972/3, but it sits in the landscape of the upper Rookhope valley as a reminder of a departed industry which still means a lot to local people.

It is the period of peak lead mining, from the 1770s to the 1870s, that produced the major mining remains which are now such significant features of the
Weardale landscape. As well as the hushes there are mine entrances and spoil heaps, washing floors, smelt mills, reservoirs, waterwheel pits and watercourses, and many of these sites have developed interesting and important ecologies of their own with metalliferous flora and lichens. Many have geological interest including for the rare minerals to be found on the surface and underground, while others are leaching minerals into watercourses to the concern of the Environment Agency. Managing such sites, by balancing the interests of geologists, archaeologists, historians, ecologists and the visitor economy, is a complex challenge which requires the co-operation of many different organisations. An attempt was made recently, with the North Pennines AONB’s ‘Oresome North Pennines’ initiative, to see if these conflicting priorities could be reconciled. The project has involved recruiting and training volunteers to record and keep a watch on important sites and it is hoped that this initial small step can be expanded in the future.

Hard decisions will also have to be taken about which industrial monuments could, and should, be saved. Conservation is expensive and few lead mining remains, though seen by many as important elements of local heritage with a potentially importance for the tourism industry, have an economic afterlife. On many sites the position is complicated by the fact that mines and washing floors were usually built in stream valley bottoms and the increasing frequency of heavy rainfall events and flash flooding threatens the stability of banksides and sites. This happened at Low Slitt mine near Westgate and led to a very successful consolidation and conservation project there. Realistically, however, many lead mining sites should be recorded and then left
to be gently reclaimed by nature.

Lead mining sites are, however, not the only legacy of this industry. As we have seen above, lead mining reached its peak in the 1860s and this was correspondingly the period of peak pressure on housing and land. Most of the housing of the upper Dale dates roughly from 1770 – 1860, and so too do the public buildings – the chapels (each community had a Wesleyan and a Primitive Methodist chapel), schools, shops, reading rooms and hotels. These buildings survive even though many have lost their original function. Each element of this rich social and cultural fabric in addition to the surviving pattern of small houses and small fields in the higher parts of Weardale is clearly part of the relict lead mining landscape. The successful application for the North Pennines to become Britain’s first UNESCO Geopark in 1993 was based on this seamless interconnection between geology, human exploitation of mineral resources and the farming and cultural landscape such exploitation created. The Geopark designation means that Weardale’s geology and landscape is recognised by UNESCO as being of global importance.

So, what of the future relationship between people and landscape in Weardale? The population is ageing and employment opportunities are few. Hill farming faces an uncertain future. But this has been a landscape fashioned entirely by people and it will continue to be so. But will that fashioning now take different forms, perhaps with a desire to increase biodiversity, focus on climate change
issues, or will food production again take precedence? We cannot know, but the ever-changing landscape of Weardale will continue to evolve thanks to human intervention.

Further information

Chapter 8 ends with a short postscript on Conservation issues.

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