CHAPTER 5

LAND OWNERSHIP AND ENCLOSURE: CHANGES IN THE WAY THE LAND WAS USED

5.1: Introduction

Chapter 4 investigated the effects of climate on the use of the land in the parishes of Edmundbyers and Muggleswick and concluded that there is no evidence that land was abandoned because of any such effects. It also noted how the In this chapter the process of enclosure and land improvement will be further examined in order to further discover how the agriculture of the parishes developed and changed.

Enclosure of any type is usually highly visible in the landscape. It also frequently requires the adoption of new ideas and can be part of a complex process of change. Enclosure involves creating new boundaries (Johnson, 1996: 70-1) and can take place for a variety of reasons. Boundaries are neither natural nor normal (*ibid*: 71) and are dominated by three main purposes, which frequently occur in combination: to keep something in, to keep something out (*ibid*), or to denote ownership.

Keeping things in may include containing animals like cattle or sheep, as with vaccaries and bercaries. In the case of fields, it is often a case of keeping deer and livestock out of arable land; enclosures may also be used to keep people out, as with defensive enclosures for excluding enemies. People may also have different perceptions of enclosures because, for example, inclusion and exclusion may be used for ritual purposes, in the sense that only certain people may be allowed to enter particular areas. The indication of possession by enclosure has probably grown in importance since prehistory as the private ownership of land has become more widespread. It is also often used to denote responsibility for an area and a restriction of access to others (Bevan, 2003: 300-1) - not necessarily barring them completely, but suggesting that the space is not open to the public. Thus boundaries can be physical, legal or mental, sacred or profane; they can have a variety of functions with different meanings, social or symbolic depending on the circumstances, and may have implications for legal and customary rights (Johnson, 1996: 71).

Wherever fields were established, even if only temporarily, they had a permanent effect on vegetation as they were a 'more complex and potent form of land use' than what went before or followed (Roberts, 1978: 20). Early structural arrangements of the countryside survive to modern times because the landscape evolved slowly rather than because it remained unchanged; because boundaries are 'conservative features' they frequently survive despite other changes (Jones & Page, 2006: 31). While it has not been proved categorically that administrative areas, such as parishes, preserved earlier boundaries like Roman estates (*ibid*: 227), and areas using the Midland agricultural system were much affected by mediæval ploughing and Parliamentary enclosure, it is still possible that some current land divisions are based on Roman or earlier ones (Jones, 1986: 85).

There is some evidence of enclosures of various types and from various periods in Edmundbyers and Muggleswick. It is also possible that, in the 'upland peripheries' of the region, some of the supposed mediæval fields may reflect prehistoric land use (Roberts, 1978: 10). The enclosures chiefly considered in this chapter are fields because of their long-term and current influence on the landscape, although a brief consideration of other forms of enclosure will be included.

A brief history of enclosures in the landscape sets the background to a closer investigation of the organisation of the landscape from the Middle Ages, relating the UDV to other parts of the country. Then, in order to understand more fully the development of the fields, there are sections on the nature of the boundaries between them and discussion of the evidence that this provides for the field pattern; on the field names and on the tenants.

New ideas regarding the improvement of the land, crops and livestock were frequently implemented alongside the process of enclosure. Consideration of improvement generally, and in the UDV, will also be included in this chapter to assist in understanding the development of agriculture and the landscape. Although 'improvement' is closely linked to enclosure, it will be discussed in a separate section. This is because the details of enclosure in the UDV, such as the nature of the boundaries, need to be assessed immediately following the general section on enclosure.

5.2 The development of enclosures

Ditched enclosures were used for gathering and ritual in the Stonehenge area from the fourth millennium BC and there were causewayed enclosures with ditches and banks, sometimes with palisades, in southern Britain before c. 3000BC . Late Neolithic enclosures included henges and stone and timber settings (*ibid*). However, The use of enclosures in the North Pennines probably came later than in other parts of Britain (Whittle, 1999: 58 - 72).

Perhaps the best-known enclosure features from the Bronze Age are the Dartmoor reaves. After about 1400 BC, the landscape was divided into territories which all contained good valley land, upland and moorland access. The reaves divided open moorland from the lower land, separated territories and defined their field systems (Champion, 1999: 101). The North Pennines would seem to be a suitable area for similar arrangements, yet none have been found. In the Cheviots in the second and first millennia BC there were piecemeal enclosures instead, forming small groups of fields covering up to 0.5ha (1.25 acres) at remote sites with single farmsteads (Jones, 1986: 117). Beaker settlement and enclosures spread to the moorlands and there was denser settlement in the Tyne valley, Cheviot slopes, the Wear valley and Cleveland during the later Bronze Age than previously. 'British' settlements consisted of enclosed ring-fort farmsteads supported by cattle rearing and a little arable (Butlin, 1973: 96).

During the Iron Age banked and ditched compounds often replaced palisaded enclosures . Single household enclosed farmsteads became the dominant type of settlement in most parts of Britain (Haselgrove, 1999: 115). Hillfort building varied across Britain and sites like Traprain Law, Lothian, were abandoned (to be re-occupied later) before some southern sites were built, mainly in the fifth and sixth centuries BC (Haselgrove, 1999: 120). Hillforts are scarce in the northern Pennines, except for Ingleborough. Cunliffe suggests that the area is so dissected topographically that groups were isolated, there was a lack of political cohesion and so foci like hillforts were not needed (1974: 206). Certainly there are few hillforts known in County Durham but Steve Speak (pers. comm. 2010) has suggested that this may be partly due to no-one having looked for them. In the Cheviots hillforts of various sizes are found, often with elaborate defences suggesting social unrest (Tolan-Smith, 2006: 24).

In northern England the characteristic enclosures of the Iron Age were small sub-rectangular or D-shaped (Haselgrove, 1999: 117). Palisaded enclosures containing one or more circular huts were found in North-east Britain (Cunliffe, 1974: 55).

While there is some evidence for human activity in the Edmundbyers and Muggleswick during the prehistoric period (see chapter 3), firm data for similar enclosures to those above is lacking, despite the Iron Age/Roman Iron Age roundhouses and associated drystone walls excavated about ten miles south on Bollihope Common in Weardale (Rob Young/Jane Webster, 2001). There are certainly earthworks visible on Muggleswick common but dating them is, of course, difficult. In chapter 4, research suggested that they might date from the period following the Dissolution of the Monasteries, thus making them much later in origin.

The Romano-British countryside was partitioned into field systems crossed by tracks and boundaries. Most settlements continued as they were before the Roman invasion; they were mainly farmsteads, enclosed groups of roundhouses. However, some settlements shifted, boundaries were re-drawn and new field systems developed (Esmonde-Cleary, 1999: 166). The change to Roman-style villa-centred agriculture occurred mainly in the more productive areas (Muir & Muir, 1989: 32).In much of North-east England the 'British' settlements continued throughout the Roman period until the Anglo-Scandinavian. The economy was dominated by cattle-rearing with just a little arable. The Roman influence was minor in the civil zone; the main obvious changes were the building of strategic roads and Hadrian's Wall, which created a huge demand for wheat - up to 10,000 tons a year (Butlin, 1973: 97; Tolan-Smith, 2006: 46). At Bollihope Common Iron Age roundhouses which were found have evidence of their continued use into Roman times; amongst other finds are fragments of bangles made from recycled Roman glass, possibly manufactured at Traprain Law (Allason Jones, pers. comm.). During the time the area was settled (which may have extended beyond the Roman period), small-scale iron and lead production took place. As well as this, however, there are various enclosures associated with animal handling. Another Iron Age/Romano-British farmstead was found near Bellingham, overlooking the North Tyne, where four circular houses stood in a stone walled enclosure which was subdivided into pens (Muir & Muir, 1989: 32; Keys to the Past ref. no. 7972).

However, there is little evidence for Roman period occupation of the area now covered by the parishes of Muggleswick and Edmundbyers, apart from the putative farmstead above Pedam's Oak (Ross, 1987: 55-7, 86). There is no other archaeological or written evidence for settlement or agriculture although the demand for wheat for the Roman army may have encouraged arable farming in the area.

H.L. Gray endeavoured to demonstrate the variation of field systems throughout the country and and to link common fields, particularly, with Anglo-Saxon settlement in those places, suggesting that this system was introduced from northern Europe by Saxon settlers. However, there were no common field systems in use in northern Europe at that time (Aston, 2004: 124). Recent archaeological evidence suggests that the settlement patterns, administration and landscape, as well as the population and material culture, of prehistoric and Roman Britain were maintained into the Saxon period (Oosthuizen, 2011: 379-380). The fields were of two types, sometimes found together:

1. a hub of arable with irregular additions of fields that had occurred over centuries,
2. regular rectilinear plans that respected the local topography and were caused by large areas being divided up.

Because the evidence of manuring indicates that the core arable was cultivated without a fallow season, it is probable that an infield-outfield system was used (Oosthuizen, 2011: 380).

From the mid-seventh to the end of the ninth century the area of cultivated land increased greatly but the infield-outfield system continued in use ((Oosthuizen, 2011: 383, 384). There were enclosed arable fields throughout the country, shaped as irregular circles, ovals or rounded rectangles and they were bounded by hedges, banks and/or ditches. Often they were subdivided but had no physical internal divisions, so the fields appeared 'open'. One which has been identified near to the UDV is at Cockfield (County Durham)(Oosthuizen, 2011: 387).

Edmundbyers and Muggleswick may have been settled by the late Anglo-Saxon period, judging by the placename analyses (see 3.4), but there is scant evidence for the extent of settlement and agriculture. The Anglian Kingdom of Bernicia covered the coastal area from the Tees to the Tweed, later spreading westwards to join with Deira and form Northumbria. Most settlements were in the lowlands. Danes invaded,

but did not settle in northern parts of Northumbria, although there was some Danish settlement in south Durham (Butlin, 1973: 97). Most Northumbrian settlement was rural and the main occupation farming. The size of farmsteads is unclear, but the main social unit was the township, with land worked by the inhabitants. The townships were grouped into shires, which were landed estates and local government units; later they formed the basis for parishes (Lomas and Muir, 2006: 55). The UDV may well have fitted into this pattern. Distinctive in the upland landscape similar to that around the UDV are settlements like Ribblehead, where there are the remains of several buildings set within an enclosed farmyard and with an associated field system (Richards, 1999: 201). Simy Folds, in Teesdale, consists of four settlement sites, three of which are comprised of buildings set around their own enclosed yard and integrated into the extensive local field system; however, the remains of the field boundaries are difficult to date (Coggins, Fairless and Batey, 1983: 3 - 4, 21 - 22).

5.3 The Middle Ages

It was during the Middle Ages that the landscape of the parishes of Muggleswick and Edmundbyers became organised as part of the estate belonging to Durham Cathedral Priory. The process of the growth of the estate is described in section 3.3. From this time onward there is more evidence of how the land in the UDV was used. Much of what occurred in the parishes fits well with developments in other parts of Britain although there were regional variations. In order to understand how the parishes were farmed, it is useful to look briefly at England as a whole.

By the time the mediæval period was fully under way, much of England's agriculture was utilising some form of open field system. However, 'What is known about common field systems is still vastly outweighed by what is unknown, despite over a century of scholarship' (Oosthuizen, 2011: 394). The basic tenet behind open field agriculture was that peasants paid to farm the land by working for a number of days for the landlord (Pryor, 2011: 251). This was not the fully-developed common field system. Probably a two-course crop rotation and an infield-outfield system was used (Dyer, 2009: 24). However, because of an increase in population between the ninth/tenth centuries and the fourteenth, common fields may have proved to be the best way of feeding everyone (Aston, 2004: 86). Common fields had developed by 1300 and are a specialised version of open fields. They are found in the so-called Central Province of England, with variations sometimes in the areas beyond this. The system usually involved two or three equal-sized fields; holdings in them were evenly

distributed, there was a regular rotation system and fallowing was part of this (Oosthuizen, 2011: 377). Thus the Midland system would have developed in association with the development of villages and the rising population (Aston, 2004: 127). Dahlman states that 'there was never an open field system that had an identical shape all over England' and that it was not devised and imposed. Rather, it grew by trial and error over time as farmers worked out the best ways to deal with soil, topography, climate, animal husbandry and so forth. Consequently it was quite possible that, at any one time, villages would be at different stages of developing open field agriculture (Dahlman, 2008: 16).

Another possibility is that the new system came as a sudden change, created or planned (Aston, 2004: 127). Estate tenants were brought from their scattered farms and hamlets to larger settlements. Concurrent with this, new arable land-holding systems were introduced (Stamper, 1999: 258). Each holding, theoretically, had a 'fixed allocation of resources and rights' - a share of arable, meadow and other land. The arable land was organised in a single rotation and the fallow was used as grazing by the community (*ibid*). This was the 'open field' system, thus called because there were no visible internal boundaries. Ploughing produced a ridge and furrow pattern, especially on heavy soils, with the ridge providing a higher, better-drained area of soil. The allocation of land was often done in a regular cycle (*ibid*).

The traditional system of three common fields taught to schoolchildren did not exist throughout most of Britain, only in a specific swathe of England. It was in the Midland belt of England (figure 5.1) that the open field system with two or three fields was most developed (Donkin, 1976: 83). This Midland system of 'champion' landscape was formed by settlements surrounded by their open fields. The intention was to farm the land efficiently using common tools, labour and animals, the latter fertilising the fields. It is a system that only works when labour is plentiful (Pryor, 2011: 252). Each field was divided into furlongs and then into strips. The unhedged strips were scattered throughout the fields and the tenant farmers had to reach agreement about the crops, rotation, pasture and so forth (Aston, 2004: 120, Williamson, 2003 : 1 - 2). The peasant farmers held one or more strips in each field, up to a total of 15 or 30 acres. The strips were allocated in strict order and each strip in each field had to be worked in the same way. Often the majority of the land was owned by a local landowner occupying the manor house and the manor court met annually to organise the cropping routine. The crops were rotated to maintain soil

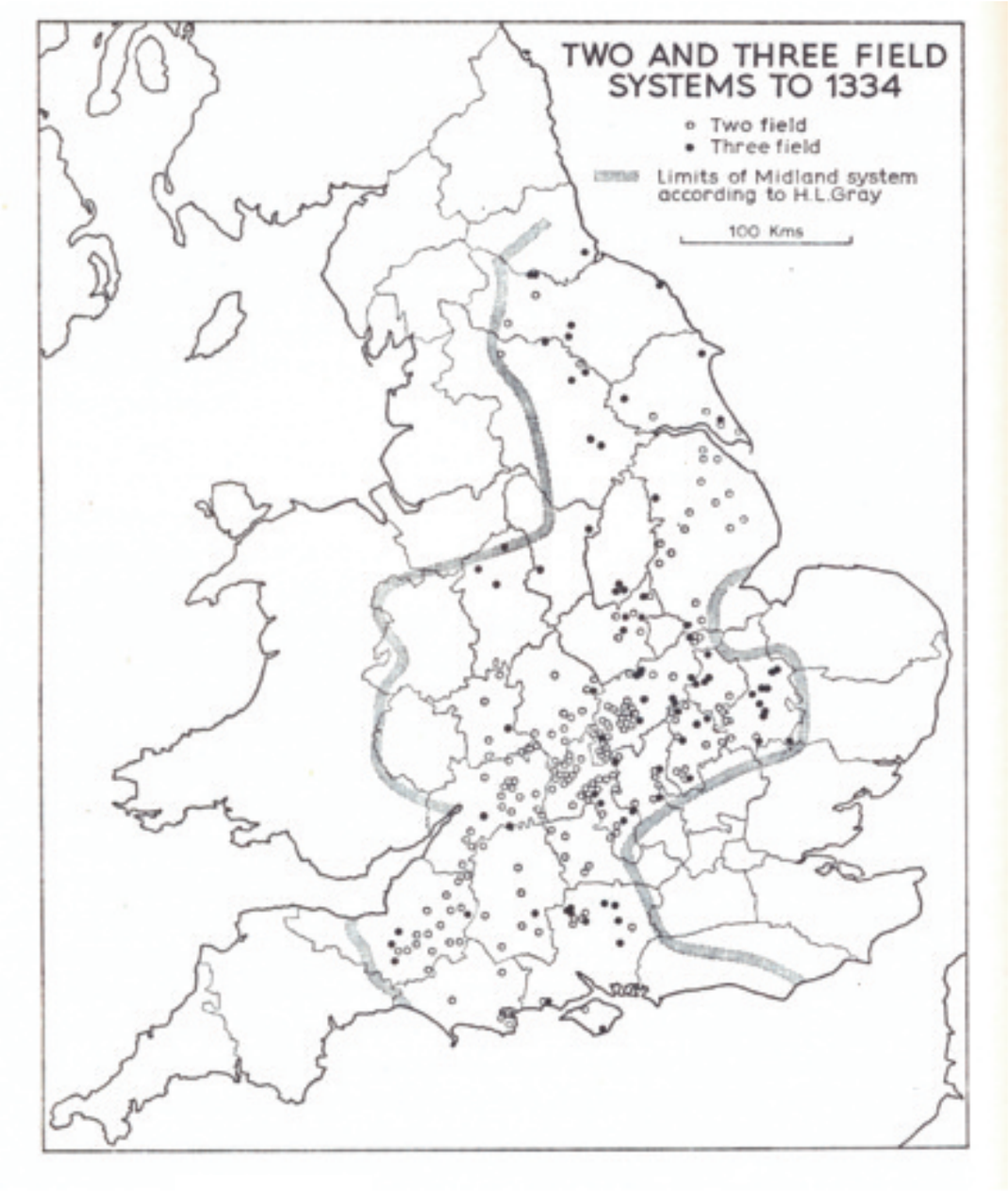


Figure 5.1: Map showing Gray's Midland Zone and the extent of 2- and 3-field systems (from Donkin, 1976: 82)

fertility, with up to half the land fallow each year. After harvest the animals grazed the stubble and manured the land. There were fines if peasants did not comply with what was decided (*ibid*: 252, 297; Dyer, 2009: 21-3). The permanent grassland could be used by villagers to graze their animals, but numbers were carefully controlled. As the details of the system were not recorded until the twelfth and thirteenth centuries, it may have taken some time for the rules to develop to this complexity. The advantages of the Midland system were that it was fair for everyone and, although no-one could become rich, starvation was unlikely (Dyer, 2009: 23). Large landowners, like the Church, saw advantages in open fields and nucleated settlement and imposed it on their estates (Pryor: 2011: 304). Planned nucleated villages imposed by the lord usually had houses on identical plots beside a green or along a street (Dyer, 2009: 21-3). Certainly the Church owned land in Edmundbyers and Muggleswick from early in the second millennium AD, if not earlier (see 3.3) and, as far as it is possible to tell from the 1649 Parliamentary Survey, the layout of Edmundbyers conformed with this pattern (see chapter 3.6 and figure 3.23).

There were also extensive new areas of arable land and the long strip fields suited the mouldboard ploughs which were difficult to turn (Pryor, 2011: 297). Ridge and furrow, still visible in some pasture fields, including in Edmundbyers and Muggleswick (chapter 4.13) was a way of dealing with heavy land and wet conditions. It was only possible because of the way the mouldboard allowed the plough to build up the soil. The ridges remained drier in wet weather and the crops were not waterlogged as the furrow drained the land. This ploughing method continued to be used into the post-mediæval period and was still in use in the Cheviots in the eighteenth century to deal with drainage problems (*ibid*: 298).

There were regulations regarding the enclosure of any land. A peasant could not enclose his land, even if he acquired a whole furlong by purchase or exchange, because it would affect the grazing rights of community members. The lord of the manor could, however, enclose a consolidated area of the demesne - part of the manor reserved for his own use - and take it out of the common field organisation (Donkin, 1976: 85; Dodds, 2007: 9). Lords of the manor shared rights to the waste with the peasants, but the Statute of Merton (1236) allowed them to enclose it, provided enough was left for freeholders. Monasteries were given extensive grazing rights, even when they possessed no arable land. Moreover, grazing and assarting were controlled in royal forests and private parks for hunting purposes (Donkin, 1976: 99). Such parks were often enclosed with 'elaborate banks and ditches' topped with

timber palisades and with deer leaps so that the animals could get in but not out (Aston, 2004: 111-2). The grants of land from the Bishop to Durham Cathedral Priory mention such park enclosures (appendix A.1 and A.2).

In areas where ploughing was difficult - where it was hilly and wet or the soil unsuitable - the villages were smaller, there were small dispersed farms and hamlets, and the landscape was more ecologically diverse. Farmers concentrated on sheep and cattle, fodder crops and woodland products (Pryor, 2011: 252-3, 293; Williamson, 2003: 5). There were some open fields, but the field systems were more irregular, the fields smaller and greater in number and the arrangements for the fields and for tenure were more flexible (Williamson, 2003: 5; Glasscock, 1976: 151). Townships often consisted of several hamlets instead of a nucleated village and holdings were closer to the farmsteads rather than being widely scattered. There was some communal farming, but it was much less rigorously organised. Piecemeal enclosure was easier to achieve in such areas as there were fewer tenants involved and reaching agreements was less complicated (Williamson, 2003: 5). As far as can be assessed using the 1649 Survey, this does not apply to Edmundbyers. As shown in chapter 3, the arrangements here were more akin to the Midland system with the tenants mainly living in the village and holding portions of the fields which lay around it. Dodgshon notes that the system in use in what has been called Ancient Countryside was often a combination - an adaptation to suit local circumstances - which consisted of a core of subdivided fields and severally-held land or enclosures beyond (1976: 97). Thus there was no clear and sudden division between the two systems. Open fields of some sort could be found in all English counties, often making up a significant part of the land area even outside the Midland Zone, while areas similar to Ancient Countryside could be found within the Midland Zone (Williamson, 2003: 22).

Monastic foundations, such as Durham Cathedral Priory, had a significant effect on the landscape in the Middle Ages. From the tenth century they rationalised their landholdings and drew people into nucleated settlements. The land was effectively a communal farm and was the same as the demesne lands of the manors, often directly administered by the Church (Pryor, 2011: 277, 242). Edmundbyers may have become a nucleated settlement during this period, although its ownership is complex as it was held by individuals like Alan Bruncoste (or Bruntofte) as well as the Bishop before becoming part of the Priory's Muggleswick estate. Monasteries often had granges on their estates. These were farms set within their land, worked by lay

brethren and hired workers, and not constrained by communal farming or tenants (Dyer, 2009: 135). Like other estates, monasteries often ran vaccaries and bercaries with stockmasters and shepherds to oversee the livestock (*ibid*: 125). This is the type of arrangement that seems to have prevailed at Muggleswick. Sheep were an important part of the monastic economy from the mid-twelfth century with each bercary having 200 - 300 sheep and the monastery owning up to 12,000 animals. Vaccaries often had 20 - 80 cattle; they needed more enclosed grazing than sheep but both were also grazed on the moors (Simmons, 2003: 78-9).

By around 1300 the population had risen to as many as five million and the consequent demand for food and pressure on agricultural land may have been ameliorated by the use of assarting (Jones and Page, 2006: 119). However, the Black Death reduced the population so that the feudal open field system no longer had the labour it required. The shortage of labour meant that the peasants had more influence; they could move to better conditions or negotiate better terms and the open field system was gradually changed to suit local circumstances (Pryor, 2011: 347). Farmers found that the open field system inhibited dairying or cattle rearing and fattening enterprises but it was easy to enclose common pastures or ancient countryside for these purposes (Williamson, 2003: 194). Thus the earlier trend towards more cultivation was reversed in favour of cattle- and sheep-rearing which also had cheaper labour costs (Jones and Page, 2006: 218). During the late fourteenth and the fifteenth centuries settlements shrank and communities were weakened. This made them vulnerable to enclosure of their arable for sheep pasture by landlords and tenant farmers (Jones and Page, 2006: 119, 214). From 1450 until about 1520, much arable land was given over to pasture: the demand for wool and rise in prices meant that sheep-rearing became more important. The open fields were enclosed, tenants evicted and villages deserted (Baker, 1976: 210). This does not seem to have been the case in the UDV, however: the village at Muggleswick disappeared but the main landuse was already animal-rearing and at Edmundbyers the village and open fields seem to have continued in use, as is suggested in the 1649 Survey (chapter 3).

It is possible that the UDV was influenced to some extent by Scottish agricultural practices as may have occurred in Northumberland. The small population and plenty of waste for grazing and 'forest products' in Northumberland possibly allowed a two-field system to worked in many townships, one arable and one fallow. Alternatively they may have used the infield/outfield system or runrig in the Border areas, as in

Scotland (Newton, 1972: 74), although it was probably only 'pure' runrig in the uplands such as Hexhamshire, Tynedale and Redesdale (Tate, 1942: 40). The Scots/Irish ('Celtic') runrig system meant that each tenant had a share of each type of soil in the township, resulting in the scattering of their plots (Gray, 1915: 412). Runrig used two fields, usually with a single landlord, with multiple tenants holding strips that ran throughout the infield. While tenancy agreements varied, often the strips were re-allocated annually (Pryor, 2011: 308). H.L. Gray suggested that the three-field system extended as far north as Durham City and that Northumberland may have been transitional between the 'Celtic' and 'Midland' systems (Butlin, 1973: 94). Whether the uplands of Durham, especially those on the Northumberland border like the UDV, were included in this assessment is not clear. Gray hypothesised that 'English border counties originally had the same field system as Scotland but developed it differently' (1915: 313). Where intensive cultivation led to the development of an infield/outfield system in Scotland, Northumberland did not make the same differentiation between the two and a shortening of the fallow period allowed a type of three-field system to become possible (*ibid*: 413). However, since there is evidence that Corbridge had a modified three-field system north of Gray's limit to the Midland system it is quite possible that something similar existed in Edmundbyers (Butlin, 1973: 103).

Moreover, early court rolls suggest that a three-field system of agriculture was used throughout eastern Durham as far north as the Tyne (Tate, 1942: 119), although some early charters - such as one for six acres at Whittonstall, only a short distance from Edmundbyers, - suggest the use of a two-field system (Gray, 1915: 219). It would seem that lowland Durham was using something more akin to the Midland/Champion system than to Scottish runrig. Britnell's work on East Durham found evidence that solskifte, or sun-division, was employed there between about 1100 and 1400 (2004: passim). More irregular systems may have been used further west, but neither Tate nor Gray seems to have meant anywhere west of the present A68; the most intact three-field systems seem to have been on the plain of the Tees (Tate, 1942: 119; Gray, 1915: 105). At Eggleston, some seventeen miles south of the UDV, three fields were recorded in the Jacobean period with the land fairly evenly distributed. Gray observed that, in the seventeenth century, change had commenced with conversion to meadow but without enclosure, which followed later. This was also happening in other valley townships but not in the fell country - 'an interesting departure from the normal system' (1915: 106-7).

By the end of the Mediæval period the open field system in Northumberland had become more sophisticated with three or more open fields and the waste becoming the township's common land with stinted pasture (Newton, 1972: 75). Stinting had been known in the uplands before 1250, but this variety dates from the fifteenth century (Winchester, 2002: 83). The crofts and garths of the villagers were enclosed by fences or walls although the arable fields usually remained unfenced (Newton, 1972: 75). This fits well with the description given of Edmundbyers in the Parliamentary Survey of 1649. Other aspects of the more general arrangements for agriculture may also have applied to some degree to Edmundbyers although, as was shown in chapter 3 and will be described further below, circumstances in Muggleswick were probably somewhat different.

Conditions from early Mediæval times were not easy in County Durham. It has been described as a thinly-populated wasteland with fewer settlements than the land to the north and areas that were 'not conducive to intensive settlement' (Butlin, 1973: 97). In 1086 the pattern of landuse in North-east England differed from other areas (Dunsford and Harris, 2003: 35). The Norman Conquest in the eleventh century, followed by the 'harrying of the north' meant that North-east England and its population were devastated by both the Normans and the Scots. Northumberland became a kind of frontier province and both it and Durham were remote both economically and politically. In some respects they had closer links with Scotland than with areas further south in England (Butlin, 1973: 97). Despite population growth in the twelfth and thirteenth centuries, individual vills probably resembled islands in a 'sea of waste' (Dunsford and Harris, 2003: 35). The arable land/population density estimates for County Durham in 1183, 1380 and 1418 indicate that there were relatively high numbers of people in the southern and eastern parts. The sandstone plateau areas also seem to have fairly high densities of population and arable land, especially in the fourteenth century. However, the high moors of West Durham, where Muggleswick and Edmundbyers lie, and the river valleys had fewer and smaller settlements than the lowlands. (Butlin, 1973: 140 - 141). The wastes were so extensive in Durham that bringing them into cultivation took longer than in Southern England and the process was curtailed in the fourteenth century by Scots raids, climate change and famine (Dunsford and Harris, 2003: 35). Throughout the period between the eleventh and seventeenth centuries it was a violent area where power was held by prince-bishops and military aristocrats and 'border tenure' (see below) was widespread (Butlin, 1973: 98).

Villages in the north of England during the early Middle Ages often had a regular layout of houses and tofts, lying along one, two or three streets and sometimes with a village green (Dodgshon, 1976: 97). Some village layouts were planned similarly in Durham between the eleventh and fourteenth centuries; Roberts concludes that this mostly occurred before the twelfth century following devastations during the late eleventh and especially on estates belonging to the bishop and the cathedral priory (Roberts, 1972: 54). Whether Edmundbyers was actually planned like this is not clear. The 1649 Survey suggests that it might have been, although there is no mention of a village green. Planned green villages existed in Durham by 1183, shown by details in the Boldon Book and Priory rental records (Roberts, 2008: 239). Economic circumstances changed after 1350 and it became difficult to manage demesne farms directly, so landlords began to lease them out (*ibid*: 136). About the same time, the falling population resulted in a decrease in the value of tithes, especially of corn, so landlords favoured a change to pastoralism (*ibid*: 137). The arrangements on tenants' land was that up to two-thirds of the land was cultivated using ox-ploughs. The four crops grown were, usually, wheat and barley sown in the autumn and spring crops of oats and peas, in roughly equal acreages (*ibid*: 194). Again, there are no data to confirm that this happened in Edmundbyers, although the leasing of the farms may have begun during this time.

Despite the increase in the number of settlements and increase in the cultivated area from the later twelfth to the early fourteenth century, there was much land left unimproved in North-east England (Lomas, 1992: 150). In the two centuries from 1550 the unimproved common or waste was important in the land management of the region. The high moors of the west were frequently used for transhumance with summer shielings (Butlin, 1973: 137). Stewart Shield Meadow above Weardale probably originated as a shieling (Dunsford and Harris, 2003: 43-44; Winchester, 2012: 143). Waste, 30 - 60% of a township area, was significant for animal pasture and was also shared between communities - intercommoning - although this could lead to complaints about overstocking. The system of 'stinting' was introduced to deal with this. Turf for fuel could be obtained from the waste, too, and the land could be ploughed as a temporary supplement to the arable (Butlin, 1973: 137 - 8). From the evidence presented in chapter 4, the latter was a possibility in the UDV. However, it seems more likely from that evidence that much of the ploughing of the fellsides was later and that earlier cultivated areas were included in the enclosure that occurred before 1800.

Most farmers were customary tenants and they held most of the land in a township. In the lowlands each usually had one farm (sometimes a half, or two or three). In a township there might be ten to thirty such tenants whose farms or husbandlands totalled 26 to 80 acres, spread among the common fields, dales in the meadows, rights of commonage in the common fields, pastures and wastes (Butlin, 1973: 138). Husbandlands, the common units of tenure, came with commonage rights - proportionate to the number of husbandlands held - and customary services (*ibid*). Tenants were still providing customary services into the sixteenth and seventeenth centuries, although payment in lieu was taking over (*ibid*: 139). 'Border tenure' was found in Durham and Northumberland until its abolition in the early seventeenth century. It involved, among other things, keeping arms to defend against attacks by the Scots. A side-effect was that it helped to secure tenure as a tenant could not, theoretically, be evicted if he had a horse and armour. When border tenure ended, greater agrarian change became possible (*ibid*) and a rapid economic and cultural transition took place (Yelling, 1977: 19). It is clear from the 1649 Survey that most of the farms in Muggleswick and Edmundbyers were held under Border tenure as the majority had to supply a horse and man (or a proportion of one) for border service.

Land management variations in Northumberland and Durham in the period between 1550 and 1750 are not well understood although it is possible to obtain an outline of the principles from documents. Two known features are that arable land was left fallow and that animals grazed on that fallow and on the stubble after harvest (Butlin, 1973: 132). Oats, barley, rye, wheat and peas were common crops, with sixteenth and seventeenth century surveys showing that wheat was more usual in lowland areas and oats more important in the uplands (*ibid*: 134). Sheep and cattle breeding was important in both the lowlands and the uplands, so hay crops were essential. This is shown by the amount of meadow, even in the common fields. (Butlin, 1973: 134). Meadows were divided into strips, or 'dales', like the arable and these were allocated each year by lot or rotation. Good grassland, often located between the common waste and common arable, was used for ox pasture because these animals were vital in the cultivation process (*ibid*: 134 - 135).

Moorland farms made distinctive enclosures in the North, were of various sizes and often started as a relatively small grant of land. Some became huge and covered hundreds of acres while others, especially in the High Pennines, were only occupied

seasonally as summer pastures or shielings. Some of the latter became permanent, as at Stewart Shield Meadow and Bollihope Shield (Dunsford and Harris, 2003: 43-44; Winchester, 2012: 143).

5.4 Edmundbyers and Muggleswick in the Middle Ages

The acquisition of the parishes and the formation of the Priory's Muggleswick Estate were discussed in chapter 3 with further details in appendix A. The documents granting the land to the Priory detail the enclosure of that land, sometimes with a wall and sometimes with a ditch or wooden palisade. However, these documents do not describe the organisation of the agriculture on the estate. This section, therefore, will look more closely at what information other sources provide on the subject. Later in the chapter (section 5.9) regressive mapping and fieldwork will be used to investigate the process of agricultural enclosure in more detail.

On Durham Cathedral Priory's estates, as in other areas, attempts to improve the soil and increase agricultural efficiency took place. The acreage of arable land was increased in order to boost cereal production, a peak in which was achieved at the beginning of the fourteenth century. However even the best run estates, lay or monastic, made little investment in agriculture (Glasscock, 1976: 154). On the Muggleswick estate even less investment would have been made in cultivation, which was mainly for the subsistence of the local population, and the emphasis was on stock rearing for profit, due to the topography.

Demesne farms tended to be organised with their arable and meadow mixed with that of the tenant farmers in strips, or blocks of strips, in the common fields. However, there were some discrete farms with enclosed land separate from the rest of the community. The origin of demesne farms is vague and possibly ancient, but there were numerous examples in the North-east, varying from around 100 to over 1000 acres and mostly arable; not all townships had demesne land. Demesne farms were run from a curia or hallgarth which had a wall or fence enclosing the buildings. These included the owner's accommodation and accommodation for farm servants, farm buildings, as well as orchards, kitchen gardens, dovecotes and fishponds (Lomas, 1992: 188). Recent excavations at Muggleswick, in which I have been involved, suggest that a similar arrangement may have been in place there. Twelfth century monasticism encouraged the development of new farms which could be leased or managed for the landlord (*ibid*). Despite the change to leasing out demesne farms

due to the economic situation after 1350, the bursar of Durham Cathedral Priory continued to run the stock farm at Muggleswick (*ibid*: 136) although by 1290 he was already leasing six of his twenty arable farms (*ibid*: 189).

The stock farm at Muggleswick raised cattle and sheep, which were not home-bred but brought in from as far as Morpeth and Barnard Castle. The main purpose was to provide meat for the priory, but quantities of wool were also produced; Muggleswick and Saltholme together produced 100-220 stones of wool per annum during the fifteenth century, giving a cash income of up to £30 (Lomas, 1992: 194). Unlike the other main stock farm at Saltholme, Muggleswick was in an upland location with moorland grazing. It was sufficiently prosperous to attract reivers from Tynedale and Redesdale (and further afield) so that in 1449-50 a watch, with bows and arrows, had to be kept on winter nights at a cost of £2 a year and there may even have been a local 'protection racket' (*ibid*: 193-4).

It was at the Dissolution of the Monasteries that the agricultural system of the UDV probably underwent its greatest change and the major enclosure activity in Muggleswick took place. At the Dissolution, the Prior was able to have himself appointed Dean of Durham. The ownership of the Muggleswick estate went to the Dean and Chapter, so the manor experienced more continuity than might otherwise have been the case. However, under the reorganisation, the benefits of the estate were shared between some of the prebendaries rather than going to the Dean (see appendix C). This may have followed a process also found in Devon and elsewhere whereby at the Dissolution the division of land - as between the prebends - resulted in the building of scattered farmsteads for the working of the land as at Buckfast Abbey (Turner, 2007:63).

In 1555-6, during the reign of Philip and Mary, the Statutes of Durham Cathedral were drawn up by a committee consisting of Nicholas Heath (Archbishop of York), Edward Bonner (Bishop of London), Cuthbert Tunstall (Bishop of Durham), Thomas Thirlby (Bishop of Ely) and William Armistead (Chaplain to their Majesties). The Statutes received confirmation under the great Seal (Fawcett, 1901: 21). As a result of this, 'the house, manor, and park of Muggleswick, was divided into three parts, amongst the fifth, sixth, and eighth prebends, with all the woods, mines, and quarries within' (Fawcett, 1901: 21). The corps lands 'were excepted and reserved for the common use and necessaries of the church'. The prebends or prebendaries (cathedral canons whose

income came from the lands they were allotted) had to pay for the privilege, the fifth and sixth paying 15/7d each while the eighth paid 7/9d (*ibid*). The situation described at the time of the 1649 Parliamentary Survey (Sobo, 1995) was one of disparate farms, as example of Cushat Leazes shows (and see section 4.14.1): 'All that messuage or Farme howse with the appurtenances the walls built with stone and Clay and thatched with Linge with a parcell of ground Called Cushett Leazes meadowe wherein the said farme howse is scituate...' and, although shares in the waste or common pasture are mentioned, there is no indication of shares in the arable land. This is possibly because the main arable land was situated around the township - Edmundbyers - and the farms of Muggleswick were mostly pasture.

The ownership and development of Edmundbyers had followed a different path. Not only did the Prior and Convent gradually acquire almost all of the parish of Muggleswick (which has since been revised in area), but the estate also gradually gained the village and parish of Edmundbyers from a variety of owners. In 1183, the Boldon Book describes Edmundbyers as being held by Alan Bruncoste (or Bruntofte) for his service in the forest (Greenwell, 1871: 179). The fate of the parish after that is not entirely clear. In around 1250 Adam de Bradley and his heirs seem to have held, in perpetuity, at least part of Edmundbyers which they acquired by giving Gilbert, son of Radulph de Rugemond, money when he was in dire need of help. In addition to land they also had the advowson of the church (*ibid*). By 1325 some of Edmundbyers belonged to Walter de Insula (Holy Island) and he granted all the lands, tenements etc. which he held there to Sir John de Cotum, chaplain. Sir John also gained the advowson of the church at this time. He then conveyed 'manorium meum de Edmundbyres' to the Prior and Convent of Durham together with the advowson, villeins and so forth. This conveyance was approved by Bishop Beaumont. At this time, it seems, the Convent already held one-third of the vill of Edmundbyers, one-third of the advowson of the church and one-third of the mill, all given by Johannes Gylett of 'Eggesclyf' (*ibid*: 180). Thus, by 1328 Edmundbyers was part of the Muggleswick estate and became the township, there being no nucleated settlement at Muggleswick, at least after 1431. It was at Edmundbyers that the Halmote Courts for the whole estate were subsequently held. As the township for the estate and possibly housing the greatest proportion of the population, Edmundbyers was probably responsible for most of the cultivated production.

Land at Edmundbyers and several local farms produced rents for the Priory. Much of the land is likely to have been unenclosed and used for pasture, therefore, but some was clearly used as arable, for subsistence purposes at least. The land around Edmundbyers seems, from the later 1649 Parliamentary Survey (Sobo, 1995), to have been divided into at least three common fields: the Town Field, the West Close and the Middle Corn Field (this name suggests that there were other corn fields). The ridge and furrow of the latter two can still be seen (figure 4.9). In 1649 many of the estate's tenants still held shared land ('moieties') in these fields as well as having some 'closes'. Entries in the Survey include:

> Thomas Andrews: '..And all that Dale of Meadowe Ground being about the Moyety of a Close called the Westclose adjoyning upon Edmundbyers churchyard to the North and boundered on the East South and West with the Common or Waists'.

There are also references to the common arable fields and to the 'Middlecorn-e Feilde'. This particular entry suggests that the West Close had already been given over to meadow by 1649 despite apparently early ridge and furrow being clearly visible on it today. And:

> Clement Parker: '..boundering on a Messuage of George Lumleyes on the West and the Middlecorne Feilde on the East the Towne street on the South and the Kilne Feild on the North..'

A number of houses within the village continued to be farms well into the twentieth century, with fields scattered around the parish (see below: 5.9); this may have been a vestige of the mediæval communal farming system.

The circumstances described above will be returned to later when the field enclosures of Edmundbyers and Muggleswick, and their typology, are investigated in sections 5.9.1 and 5.9.2. The process of enclosure generally, and how it may have affected the UDV, will be summarised in the next part of this chapter.

5.5 Enclosure

The process of enclosure can be defined as 'the replacement of medieval systems of open fields and common farming practices with a private, hedged landscape' (Johnson, 1996: 47). This involves (i) a change in the physical landscape with addition of boundaries and (ii) a change in the legal situation of 'land with 'common rights' versus 'land held in severalty' free from such rights'. However, physical enclosure

could occur without entailing change in legal status (Johnson, 1996: 47). Nonetheless, it is often seen as dividing up the landscape to denote ownership (Pryor, 2011: 380).

The open fields and commons had worked adequately in circumstances where there were numerous small farms, little specialisation and limited markets. This system, with its communal rights and organisation was suitable for a situation where ideas about private property were not well developed (Williamson, 2000: 57). However, the developing ideas of capitalism were affecting this. It should be noted, though, that capitalist producers often did cultivate their land in open-field strips while there was a good deal of enclosed land in the Middle Ages (Williamson, 2000: 58).

Enclosure was of two main types: enclosure of the open, mainly arable, fields around a village and the enclosure and reclamation of commons and waste (Williams, 1970: 55-6). Many of the open field systems seem to have been enclosed gradually, and piecemeal, from the Middle Ages on by tenants' agreement, and this occurred early in areas where open fields were only marginally sustainable. However, the process culminated with the Enclosure Acts of the eighteenth and nineteenth centuries (Aston, 2004: 124; Pryor, 2011, 341-2). The best evidence for piecemeal enclosure in the sixteenth and seventeenth centuries comes from the landscape; the haphazard and unplanned nature of the process means that there is little documentary evidence. Enclosure by Act of Parliament is better recorded and involved following a stipulated procedure (Aston, 2004: 131).

Some parishes were enclosed during Tudor or Stuart times but others kept their open fields into the nineteenth century (Whyte, 1999: 270). Some field systems mapped in the sixteenth to eighteenth centuries had changed very little since the fourteenth (Muir & Muir, 1989: 54). Enclosure by agreement was usually caused by a desire to consolidate holdings and simplify the agricultural process, so could be from relatively small-scale to the destruction of a whole open-field system (Muir, 2000b: 212). Enclosure occurred later in the Central Province (Midlands) because it was more difficult to amalgamate the widely separated strips and landholdings than it was to enclose Ancient Countryside (Pryor, 2011: 465). Williamson notes that in much of the Midland area the enclosure of open fields between 1450 and 1850 had little to do with improving arable farming but was mainly an expansion of pasture (2000: 66).

Government opposition to enclosure, and generally, was lessened in the 1600s, but most schemes were still by common agreement as people recognised the advantages of enclosure (Whyte, 1999: 270; Darby 1976: 22). The main phase of enclosure in England and Wales was from the mid-1700s until the early 1800s, with peaks of activity in the 1760s and 1770s, and during the French Wars (1793 - 1815). An estimated 2.73 million hectares of common field arable land were enclosed, about 21% of England, demonstrating how much must have been enclosed earlier (Whyte, 1999: 271). In 1850 there still around two or three million acres (some one million hectares) of unenclosed common land in England and Wales. Between 1852 and 1888 General Enclosure Acts and the Commons Act of 1876 facilitated further enclosure up to about 1914.

The system for private agreement enclosure in the later period was for a group of commoners in a village to appoint commissioners and surveyors who would be responsible for allotting the new holdings. The Court of Chancery or Court of the Exchequer would then confirm the new arrangement. However, it depended on all the commoners agreeing or sometimes being bought out, otherwise the solution was to turn to an Act of Parliament and to force agreement (Darby, 1976: 22). From 1774 the House of Commons decreed that a notice stating the intention to enclose land had to be placed on the door of the parish church for three Sundays in August or September. Occasionally a public meeting would be called, too. After that, Parliament could be petitioned for permission and a Bill could be drawn up giving details of the intended enclosure. Objectors could put their case when the Bill went to a house of Commons committee; once the Bill was passed, then the commissioners were appointed and the survey and mapping took place (Hill, 1975: 13).

There was a standard procedure for the surveying and laying out of Parliamentary Enclosures although the Acts actually operated at parish level. The result was areas of square and rectangular fields with hawthorn hedge boundaries and wide, straight roads which were sometimes existing tracks re-aligned. Occasionally, however, the reversed-S shapes of former strips were followed and preserved. Farms became more compact and some of the farmsteads formerly clustered in the villages moved out to the new holdings. These are often recognisable from their sixteenth and seventeenth century architecture. Many parishes were transformed within five years (Whyte, 1999: 271; Aston, 2004: 131). The process could actually take five to six years because it was so complex. It was necessary to survey up to several thousand interlocking places

with various forms of ownership; they had to be valued and re-assigned as well as new roads being set out and field drainage re-organised. There were also conflicting claims to settle, so the whole procedure was expensive (Darby, 1976: 24 - 25). The commissioners made decisions about rights of way and disputes concerning the cost of fencing. Special awards of land were often made to the lord of the manor and the owner of the tithes; sometimes land was also put aside for the poor of the village (Hill, 1975: 13). Once the legal process was completed, the change straight from common fields often took place on a specific date, usually with the common fields totally removed. All holdings in the township thus had the same enclosure history (Yelling, 1979: 153).

Enclosing forest, pasture and waste probably went on, however, from at least the late Saxon period (Aston, 2004: 131). This produced patterns of small, irregular enclosures which are easily identified but difficult to date (Whyte, 1999: 270). This widespread landscape has hedges, winding lanes and scattered farms produced by the piecemeal enclosure of fields. Assarting took place, also, with trees felled and their roots dug up. Such activity is demonstrated in farmsteads that have late mediæval architecture and/or documents proving their existence by the twelfth or thirteenth century. These holdings were held in severalty and the system persisted to the 1700s (Aston, 2004: 131). The enclosure acts were a way of 'suppressing commons as well as open fields'. While many moorland commons in England and Wales were enclosed by Acts, the aim was to improve them, not destroy them like the heaths, which were considered to be dreary wastes that harboured highwaymen while forests were thought to 'encourage immorality' (Rackham, 2003: 131, 149). There were still large areas of unenclosed pasture, wood pasture and woodland in former royal forests in 1800, as well as upland seasonal pasture. Most of them were enclosed in the first half of the nineteenth century when they were shared out between new farmsteads. This resulted in a rapid change in the appearance of the landscape from the previous centuries (Aston, 2004: 131-3).

In Northern England the process of enclosure from the mediæval system was often piecemeal rather than due to Parliamentary Act. In Northumberland, Durham and Cumberland the unenclosed arable fields disappeared quickly after the sixteenth century, partly because the agricultural system and inheritance process together were conducive to enclosure (Gray, 1915: 404). Most common fields in Northumberland and Durham were not enclosed by private or general Acts of Parliament.

Consequently there is a lack of enclosure awards and maps for the area which hinders the investigation of field system development (Butlin, 1973: 93).

The hill-farming of the uplands used the valley floor and lower slopes as in-bye land for some arable, hay and good grazing. Beyond that, the fells provided summer pasture. The two were often separated by a head dyke, an important feature and often one of the few permanent enclosures of the mediæval upland landscape. Within it there could be farms holding land in severalty or, more usually, communal agriculture (Winchester, 2002: 52-3, 62). The farmed landscape of the Dales was changed by piecemeal enclosure so that most of the open fields and meadows had disappeared by the eighteenth century (*ibid*: 62). The expansion of enclosed land in the sixteenth and seventeenth centuries was a feature of the uplands as areas of hill grazing were taken from the fell and attached to the head dyke. They provided rough grazing, perhaps shared by small groups of tenants, which could be controlled better than the open waste (*ibid*: 68). During that period, the lords attempted to acquire parts of the commons as private pasture although the tenants resisted because their common rights were affected. In 1590 in Teesdale, for example, Lady Jane Bowes enclosed 200 acres at Cronkley Pasture (*ibid*: 68). By the early 1600s there were stinted cow pastures enclosed from the fell attached to many Pennine communities. In Upper Weardale these existed from at least the 1570s. Later these enclosed stints were subdivided and attached to individual farms (*ibid*: 69 - 71).

In the high lands of western Northumberland there were isolated farms, hamlets and small villages engaged in cattle and sheep rearing - and reiving. Arable land was in closes or small common fields. Because partible inheritance was favoured in these areas there was population pressure on the better land and too many people for the resources (Butlin, 1973: 120 - 7).

There is no complete record of Durham awards before 1633, but between 1633 and 1700 there were 28 agreements confirmed by the Court of the Bishopric of Durham. Twenty of these related mainly to common fields (Leonard, 1905: 111). It is probably that common fields actually made up a relatively small area of the county and the comprehensiveness of their enclosure in the seventeenth century is suggested by the lack of later Acts (Leonard, 1905: 113). Any extensive open and common fields had mostly disappeared by about 1750 and the few remaining examples indicate a difference between the large-scale agriculture found in the more favourable lowland

areas and the smaller-scale arable of the upper dales (Butlin, 1973: 110). The uplands of Durham saw some 23,000 acres of waste enclosed (Tate, 1943: 39 - 52). Some of these enclosures were of land that was well outside the economic limits of cultivation, so this often remained pasture despite being divided by long stretches of fence or wall (Harris, 1976: 178 - 9).

The lead dales, with the fells and moors, had a basic economy and were almost entirely pastoral in the early modern period. Between them and the arable lowlands lies an intermediate area of sandstone plateau. Here there was more pasture than arable, with a system that may have started as two-field or intensive one-field; however there was a strong influence from coal extraction (Butlin, 1973: 127 - 131).

In the common fields of this region, the smallest unit was the 'rigg' or 'land'. These were separated by furrows (or 'floors', according to Butlin, 1973: 131). The local description that I have heard is 'rigg and furr'. Most riggs were less than half an acre in area, but could vary. Length varied too, being up to 600 yards, as did breadth (4 to 16 yards, average 12). Riggs could be 'long and sinuous', 'short and straight' or all types in between (Butlin, 1973: 131). The rigg was usually the basic unit of both tenancy and cultivation. They were often separated by grass baulks that not only acted as boundaries but provided grazing and access to lands. The manor court enforced grazing rights and rights. There is often a gap of several years between the date of the Act and the date of the Award. Also, the area of land awarded may be different from that requested and the area actually enclosed was sometimes less than that awarded. There were only six Durham parishes still with open fields by 1800 and most of the land enclosed in Northumberland in the eighteenth and nineteenth centuries was moorland and upland pasture (Butlin, 1973: 98-99).

5.6. Edmundbyers and Muggleswick

A change occurred in Edmundbyers between the 1649 Survey and the drawing of the 1800 estate map. Some of this has already been referred to in chapter 4 and will be considered again in the light of the map regession in section 5.9. The 1649 Parliamentary Survey of Edmundbyers and Muggleswick, transcribed by Muriel Sobo, shows that the common fields of Edmundbyers were still in use, although some enclosure may have been taking place. There are references to the tenants holding Dales in, for example, the Westclose. However, given that there were some closes in 1649 and the common fields seem to have been shared between only a few people, it

is likely that the process was under way before that date. The shapes of some of the fields around the village indicate that they were enclosed from the dales (or 'doles') of the common fields and one group of fields are actually called 'the Long Dales'. These narrow fields vary between 209 and 340 yards in length; typical ridge length and thus length of a 'land' was a furlong (220 yards/200m).

In the parish of Muggleswick, things were different in 1649. The holdings tend to be described as lying within the fields by whose names they are known. The fields around the 'centre' of Muggleswick are a different shape from those around Edmundbyers - more regular and not long and narrow - and do not demonstrate a pattern from which arable strips might be discerned. Although this land, too, was probably enclosed by mutual agreement, or by allocation from the estate (the land was shared between the cathedral prebends by this time), it seems it was enclosed from pasture or waste.

Neither Edmundbyers nor Muggleswick features in the lists of Enclosure Acts for County Durham. This would suggest that the ownership and use of the local commons had already been settled. The only Act shown in the Durham Enclosure Awards table is for 952 acres at Ruffside, in Edmundbyers parish (Act 1864, Award 1870). Ruffside is outside Edmundbyers township and, by this period, the 17th century house had become a substantial manor in its own right. The evidence from the table supports the theory that the arrangements made in Edmundbyers and Muggleswick were local agreements. The field system seems, therefore, to have been established before the estate map of 1800 was produced, since the boundaries were in place then and have not changed significantly since. The nearest other enclosure awards were in Whittonstall and Tynedale, in Slaley parish on the north side of the Derwent Valley and across the watershed in Stanhope parish in Weardale.

5.7 Enclosure and political implications

Despite the different character of the UDV, as already established and to be further substantiated, the connotations of enclosure for the population would have had similarities to those for other areas.Johnson observes that Gray, Chambers and Mingay all considered that open fields were inefficient and survived only due to 'peasant sentiment'. Clark, however, thought that they survived because enclosure was not really profitable before 1750 . If open fields were not an efficient way to use the land, why did they develop in the first place? One possible reason was to reduce

risk (Clark, 1998: 73; Johnson, 1996: 62). McCloskey attributes the use of a common agricultural system to risk avoidance (2001: 19). The holding of scattered plots of land would reduce output and would thus be 'a strange burden for a community close to starvation to assume'. Disadvantages include possible time lost moving from plot to plot, the proximity of neighbours and the 'clumsy common routine' imposed by the village (*ibid*: 17). However, McCloskey calculated the loss of production at 10%, which is not as high as sometimes thought. The sharing of plough teams, egalitarianism or inheritance laws do not explain the use of scattered plots, so the reason may be to insure against disaster. The variation of land type, crops and yield in a township would make it beneficial to have plots in different places (*ibid*: 18). Despite being inefficient, the open fields provided protection in a situation where crop yields were low and unpredictable; a shortfall could mean debt, disease, malnutrition or starvation (*ibid*: 18). Scattered plots have been used in peasant agriculture across the world and the reason has been attributed to risk aversion and risk avoidance (*ibid*: 19). In England, risks were higher before the seventeenth century and agricultural improvement; thereafter the value of the insurance provided by scattering was reduced because farmers became more affluent and there were more opportunities for non-agricultural employment (*ibid*: 18, 23). However, this raises the question of whether enclosure and agricultural improvements reduced risk, or whether a perceived reduction in risk facilitated enclosure.

Certainly there were disputes as early as the mediæval period. In 1490 the freeholders and tenants of Lanchester were in dispute with the Prior over the pastures the Convent of Durham had been given at Horsleyhope, Hisehope and Baldinghope. There was a balance of evidence in favour of the Prior holding the land in severalty despite testimony that Lanchester people had used the land for some time. At one stage the argument became hostile and violent when the Lanchester freeholders and tenants physically asserted their 'rights', making it necessary for the Convent to prove their title to sole ownership (Greenwell & Knowles, 1896: 9-19, 8). However, permission was sometimes given by the Prior for enclosures. For example, a fee was received by the Priory for the sale of enclosures in 1350: De Johanne Bynge, pro warda ij parcium [2 parks/enclosures] terrae Johannis Edmundbyres de Edmundbyres, eidem Johanni vendita [sold], anno Dni. m.ccc.l, 23s. (Halmota Prioratus Dunelmensis: 80) and in the list of tenants and rents for Ruffside in 1418: idem Willelmus ten de novo appruatus [William holds the new enclosure] (Bishop Hatfield's Survey: 1418). On the other hand, in 1369 the reeve was instructed to seize

an acre of land that had been taken from the waste by John of Edmundbyers and in 1370 there was again an injunction for him to seize for the lord 2 dales of land containing 1.5 acres 'that John of Edmundbyers unjustly enclosed' (Longstaffe and Booth: 97).

There are records of occasional riots and disturbances in England over enclosures in the 1221 - 1348 period. Also there are many cases of people breaking into closes or parks and committing misdeeds, although these are not necessarily attributable to enclosure or the assertion of common rights. (Dyer, 2007: 23), so the events in the UDV are not unique. In 1285 the destruction of enclosures 'by persons unknown' was problem enough to result in legislation. Most of the land contended was in pastoral economy areas in woodland country (loss of access to fuel and timber), on wetland or moorlands, not in champion landscapes (*ibid*: 24).

There was strong feeling against enclosure which led to riots and to attacks on people putting up enclosure notices. Hill considers that some hardship was caused by enclosure (1975: 15). Legal charges and surveyors costs were high and hedging and walling expensive; such costs had to be shared and it was difficult for small landowners who often sold out to wealthier neighbours. Those with no legal claim, particularly those squatting on commons or just managing to eke out a living, lost both land and rights. Copyhold tenants, who held their land by 'copy of court roll' (the mediæval manor court roll) could also lose their land, often because the original document had disappeared (Hill, 1975: 15). On some remote manors, like Bellister (near Haltwhistle), copyholders were liquidated, as were the majority of those in the manor of Whickham (in the lower Tyne valley) following a change in ownership in 1728 (Hughes, 1969: 127-8). Even those with valid legal rights could lose out. Their land was frequently too small to support their livestock and the common meadow had gone (Hill, 1975: 15). Landless labourers experienced a change in their economic security as they no longer had anywhere to keep livestock (Johnson, 1996: 75). Moreover, the landlords took the woodlands where they had cut timber and firewood and stocked them with game for shooting (Hill, 1975: 15).

There was much debate about the merits of enclosure. Charles Varley ('Varlo') championed the open field system. Writing in the eighteenth century, his opinion was already somewhat outdated. Enclosure, to him, was a way of turning land to pasture rather than improving farming and he wanted a general enclosure act to bring waste

land into cultivation (Green, 1961: 85). Varlo thought areas with communal fields were the richest, happiest and most independent. More corn was grown in open field counties to supply London and foreign markets, also providing food and work for everyone, including the poor. Varlo also thought that corn grew better in open areas than small fields, that less land was lost to hedges and ditches and open fields were better for agricultural improvement. They also encouraged competition because crop quality and quantity, and cultivation methods, could be compared (*ibid*: 86). Enclosure only allowed rich farmers to become richer, reduced the amount of corn available and left the poor vulnerable to hunger. All in all, Varlo considered that 'these town-fields is the greatest spur to improvement of any thing that could be invented' (in Green, 1961: 87). Thus they might be thought advantageous to innovation.

Addington listed several reasons why he considered that enclosure was against the public interest:

(i) It reduced both the area of tilled land and employment because farmers could change to pasture. The plough was 'indispensibly necessary to the very being of the community' (Addington, 1772: 8 - 9, 23).

(ii) A few people became richer at the expense of the rest, due to the costs of enclosure. Rent increases and loss of common rights affected the livelihoods of many (*ibid*: 10, 20 - 2).

(iii) Land ownership became monopolised, reducing demand for agricultural and non-agricultural labour (*ibid*: 26, 33 - 4).

(iv) It caused depopulation, with rural out-migration both to cities and overseas. It also caused a reduction in marriage because of the lack of employment and difficulties of finding dwellings (*ibid*: 28 - 32).

His contemporary, Richard Price, agreed that enclosure would result in a large proletariat workforce that would be unwilling to marry because the costs of keeping a family were prohibitive. Conditions in towns were less good, resulting in a high death rate. Thus enclosure and engrossing had a 'direct and negative' effect on population growth in both towns and countryside (Thompson 2008: 628).

The continuation of some fields around Edmundbyers in shared tenancy up to and beyond 1800 (see below), following a slow change from the 1649 circumstances may be due to factors indicated by Clark. Clark's research suggests that the open fields were not inefficient and their survival was not in spite of the possible profits from enclosure. The profitability of enclosure relied on the cost of capital and land rents,

so the process accelerated in the 1760s when land values rose relative to wages (Clark, 1998: 100). The costs of converting land from common to private were high because of the investment in infrastructure. Common fields economised on the costs of fencing, drainage and so forth, which made them relatively efficient. Little redistribution of land resulted from enclosure; any rise in rents was possibly due to the consequent rise in the value of the land (*ibid*). Clark also argued that enclosure was not an institutional innovation. Instead, changes in relative prices permitted new choices from a set of possible property rights (Clark and Clark, 2001: 1033).

Shaw-Taylor studied a group of ten settlements, looking at the situation of agricultural labourers and whether Parliamentary Enclosure made them more wage-dependent. Their independence was based on keeping cows; other rights, like gathering fuel made their living conditions better but did not make them independent (Shaw-Taylor, 2001: 97). Some 80% of labouring households in the study did not own or rent common rights, although more than previously thought owned or rented common-right cottages. There was no evidence of labourers owning or renting land in the open fields. Thus most of them relied on wage labour, suggesting that the change to capitalist agriculture had been completed before Parliamentary Enclosure in these villages (*ibid*: 98). However, while a minority of people were disadvantaged by the loss of their common rights with enclosure, Shaw-Taylor suggests that most agricultural workers were proletarianised before that (*ibid*: 124-5). Thus enclosure may have caused serious hardship to some, but it was not the only factor involved in the change to agrarian capitalism (*ibid*: 100, 125)

Throughout the northern counties, 'tenant right' was an 'ancient but variable custom' and involved being prepared to defend the Border against the Scots. By the middle of Elizabeth's reign this had changed for the tenants of the Dean and Chapter of Durham. Confirmed by the order of the Council at York in 1577, it was revised to mean only the ancient rents and fines together with the right of succession of the widow then the eldest son (Hughes, 1969: 117). Circumstances for these tenants, including those of the Muggleswick estate, were clearly changing from a relatively early date. However, this did not happen without complaints: in 1639 tenants led by George Grey and Anthony Smith protested that the Dean and Chapter were violating the custom and there were further complaints after the Restoration. While the Dean and Chapter received a verdict in their favour, they were commanded by the king

and Dr Grey (a prebend) not to oppress their tenants; thus rents remained the same for Dean and Chapter tenants for more than a century following the Restoration (*ibid*).

It is possible, though, that Parliamentary enclosure allowed the development of new professions such as surveyors, auctioneers and land agents, and the establishment of the rural capital market and the country banking system (Walton, 1979: 243-4).

Superficially, the process of the Enclosure Acts appears to have been fair to those people whose lands were enclosed. Certainly it was advantageous to the richer landowners whose friends in Parliament could support them against complaints about the Bill under consideration. Moreover, the commissioners appointed to oversee the process were also often friends and neighbours of the petitioners. The slow speed of travel made objection difficult and many villagers had no documents to prove legal title to their land; customary use was not sufficient (Hill, 1975: 13).

While some of the rich prospered from enclosure at the expense of some of the poor, the number of smallholders of land was increasing over much of the country, particularly where most enclosure was occurring (Hill, 1975: 15-16). Although fewer workers were needed where arable was turned to pasture, this was somewhat mitigated because the enclosure of waste and commons brought more land into cultivation. The agricultural revolution that was taking place relied on hand labour and was not mechanised, so required more labourers until after 1850 (*ibid*: 16).

Unlike Varlo, Bailey considered that enclosure was beneficial; more people were needed to work the land and more crops were produced. He was unable to understand why the Board of Agriculture and Internal Improvement wanted to know how enclosure of the commons affected the poor (Bailey, 1810: 98). He commented that:

> The industrious poor must certainly be benefited by an increase of employment, and an increase of provisions; and enclosing of commons can only be inimical to vagabonds, sheep thieves, and other pests of society.
>
> (Bailey, 1810: 98)

This seems to be more of an indication of Bailey's social status and attitude than a recommendation for enclosure. He also notes that some commons produced better rents once enclosed while others showed little benefit. He knew many of the

commons about which he was writing and stated 'that upon average the lands are at least ten times more valuable by enclosure than they were in a state of common' (Bailey, 1810: 99). Tate agrees and considers that the care used in eighteenth century enclosures was remarkable and resulted in very little organised protest (1945: 137).

Bailey and Varlo epitomise the differing opinions of the literate classes, who expressed themselves through sermons, pamphlets and court enquiries about the 'more visible forms of enclosure' (Johnson, 1996: 56-7). Most of the debate, which began in the early sixteenth century, was about the loss of common rights. The popular reaction was usually against enclosure, although little opposition to piecemeal enclosure is recorded, and state reaction depended on the circumstances. Commissions were set up by Royal authority in the late fifteenth/early sixteenth century to investigate depopulation due to enclosure because the problem was seen as threatening (*ibid*: 57). Johnson suggests that 'many acts of resistance against enclosure involved elements of symbolic inversion' as they were often led by women (*ibid*: 58).

With open fields a community was self-sufficient as there was a balance between arable and pasture, with the livestock providing manure for cultivating crops. With the development of regional markets and urban capitalism the system ceased to be appropriate. This was a gradual process, so enclosure was gradual but it was not necessarily more efficient economically (Johnson, 1996: 63). It is a common assumption that changes in agricultural practice and the enclosure process were due to a desire to improve economic efficiency. This improvement contributed to a doubling of agricultural productivity between 1500 and 1750, although Robert Allen's research concludes that enclosure was not the cause of increased yields and labour productivity (*ibid*: 61, 63).

Bevan discusses an aspect of enclosure whose effects are, perhaps, more difficult to quantify. Landowners had maps and terriers produced to detail the land they owned, its use and its productiveness. 'Estate maps were both symbols and tools of elite domination over tenant classes through land ownership and property management' (Bevan, 2003: 334). I would argue that this point of view is just as biased as the attitudes attributed to the landowning classes. Certainly estate maps can be viewed in this way but, equally, knowing the land one owns, regardless of its size, and how it is used is sensible and practical. Despite the élitist connotations, it is impossible to

say whether all landowners had maps drawn simply in order to dominate their tenants or just for management purposes.

Another socio-political aspect of enclosure is that land ownership has, over the years, become concentrated in the hands of a few - 0.6% of the population own c.50% of the land. This is due to many factors, but 'the most blatant and the most contentious' has been enclosure, which only ceased when it began to upset the middle classes (Fairlee, 2009: 1, 14). Some have argued that the agricultural revolution could not have occurred without enclosure but, in the last thirty years, some historians have shown the opposite. Innovation did occur before the 1800s and four-course rotations and new crops could be, and were, introduced into open fields. The main problem with this was persuading everyone to join in (Fairlee, 2009: 14 - 15). There is fuller discussion of Improvement below.

5.8 Field Boundaries

At Roystone Grange, in the Peak District of Derbyshire, investigations have shown that the field boundaries - the wall typology - can provide data regarding the process of enclosure of the land. The results have some similarity to the map of fields at Pedam's Oak (fig. 4.30), although at Roystone Grange the research was achieved through fieldwork and at Pedam's by using maps. Although dating walls is fraught with problems and seldom very accurate, the boundaries themselves can sometimes be dated or at least placed in a chronology using maps, documents and typology. The example of what was achieved at Roystone Grange inspired me to look more closely at the field boundaries in the UDV. Other studies have been made of field boundaries and walls; these, too, have assisted in researching those in Muggleswick and, particularly, Edmundbyers. Of especial interest is Raistrick's 1946 Dalesman Handbook about the walls of the Yorkshire Dales. Some of his historical data may have been superseded in the intervening years, but the similarities of land ownership, topography and agriculture make it an extremely useful comparison.

A brief account of the research at Roystone will be given to explain how that work has informed this thesis, then a comparative account of Raistrick's work and the UDV, with some additions form other research, will form the background to the discussion of the field boundaries in Edmundbyers and Muggleswick.

The Roystone area of the Peak District has been described as a 'landscape of walls': a typology of them was produced and figures 5.2 and 5.3 show that some of probably them date from the early Bronze Age. There were also a number of Romano-British settlements in the White Peak with associated enclosures, as at Rainster Rocks, Chee Tor and Cow Law (Hodges and Wildgoose, 1981: 52). At Roystone Grange there may have been more than five farms during the Roman period.and the well-built double-orthostat walls divide the land into two blocks. The 30ha of the northern one contain a number of dwellings, each of which may have lain in its own enclosure. It is possible that the main purpose of this northerly enclosure was for stock-handling. The other area also covers about 30ha but has the remains of three separate field systems with Romano-British period field banks and terracing with evidence of lazy-beds. There is also a possible similarly walled paddock in the valley bottom (Hodges and Wildgoose, 1981: 50; Hodges, 1991: 78-80). These can be seen on the map of Roystone Walls (figure 5.2).

Field walls in the Peak District often date from the later eighteenth century enclosure period (Hodges, 1991: 26). The type 1 walls at Roystone Grange (figures 5.2 and 5.3) are examples and were built before the construction of the railway (*ibid*: 131). Enclosure in the area had been taking place for some time. Records indicate an early seventeenth century dispute about the enclosure of Ballidon Moor and the type 2 walls probably date from then (*ibid*). Parts of Parwich parish were enclosed gradually from the mid-1500s but there were still 380 ha of common land to be enclosed after the 1788 Enclosure Act. At Roystone, little land outside the Cistercian estate was enclosed in the seventeenth century although new fields were made from the monastic sheep ranch. Some of the Romano-British enclosures were re-established and fields on the east side divided, while new fields were added beside the lanes to Parwich and Pikehall. More extensive change occurred around 1800. There were few new fields close to the farm, but new walls enclosed higher land, including Minninglow, permitting agricultural improvements after a series of bad summers (*ibid*). The careful research at Roystone and the wall chronology give an insight to the complex and long-term process of enclosure. The typology and chronology of the walls at Roystone can be seen in the composite map and associated details which draw their data from the full account in Hodges' book.

Among Raistrick's first observations are the patterns made by the boundaries in the Yorkshire Dales around Clapham. Close to the hamlets, villages and farmsteads they

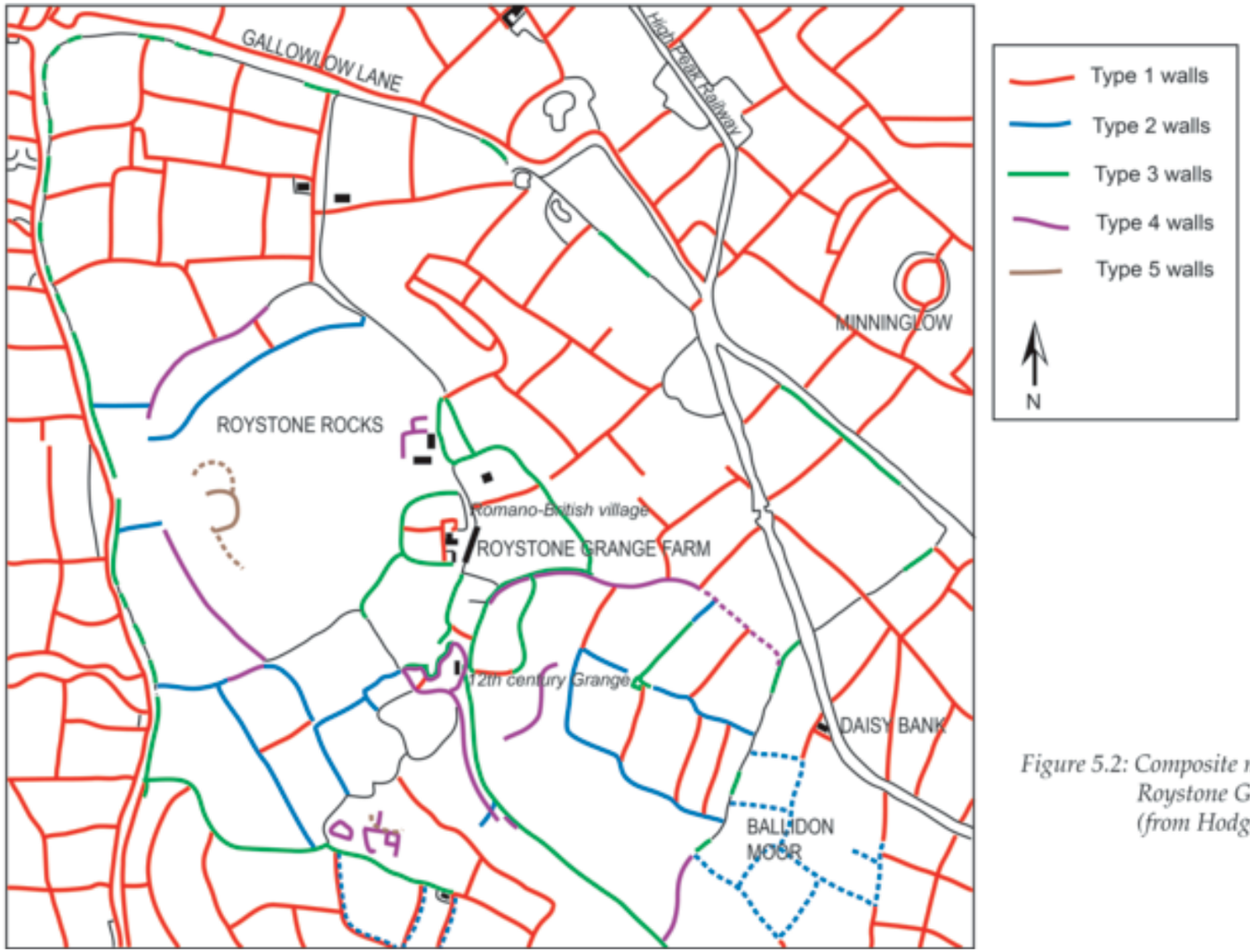


Figure 5.2: Composite map of the walls at Roystone Grange (from Hodges, 1991: 41, 42)

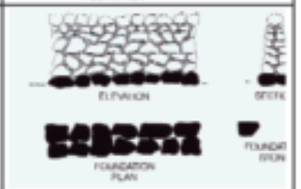
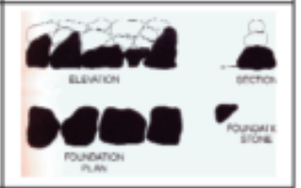
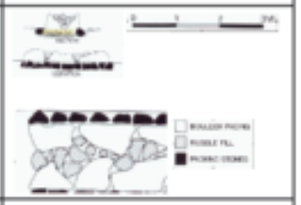
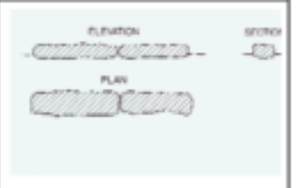
Wall type	Name	General	Dimensions	Description	Date	Illustration
1	Enclosure walls	Straight, obviously surveyed. Some dolomitic boulders in base possibly marking surveyors' lines	H = c. 150 - 180cm Base W = 50 - 60cm Top W = c. 40cm	Foundations in shallow trench and same design as rest of wall. Carboniferous limestone; small quarried stones; both sides faced; core filled with small stones. Occasional through stones; transverse capping stones	c. 1800, based on comparison with other local dated walls	
2	Post-mediæval walls	Almost straight lengths but tend to go 1 or 2m off course in either direction. Tend to respect landscape	H = c. 150 - 180cm Base W = 60 - 80cm Top W = 30 - 40cm	Foundations of 2 rows of dolomitic boulders; wall fabric = small irregular stones; 2 faces, void unfilled. Topped with small boulders or occasionally small capping stones.	Older than type 1. Especially associated with enclosure on Ballidon Moor (documented disputes around 1600)	
3	Mediæval walls	Only short full-height lengths remain. Very strong foundations, often re-used in later walls	H = 100 - 120cm Base W = 80 - 100cm Top W = 20 - 30cm	Foundations of massive weathered dolomite boulders, possibly from scattered exposed sites, laid on topsoil and form main part of walls. Upper wall probably single thickness of rough dolomitic stones. Gaps between stones suggest instability and thus stop sheep climbing over.	Overlain by types 1 & 2, so pre-date post-mediæval. Walls of this type associated with 13/14th C. Cistercian Priory	
4	Romano-British walls	Nothing remains above foundations	Foundations mostly stand c. 50cm above current ground level. Foundation W = 1 - 2m	Foundations = limestone slabs laid in 2 parallel lines - 'double-orthostat wall'. Set in shallow trench and packed with stones. Stones and rubble in space between. 2 possible phases shown by difference in foundation stones	Dated by association with farmyard enclosure walls at Roystone Romano-British village	
5	Prehistoric walls	Only found in area of Roystone Rocks. Used to make small enclosure.	Foundations = one stone thick. H = 10 - 20cm W = 40 - 50cm	Long boulders set end-to-end on topsoil; nothing survives above them.	Early Bronze Age suggested - excavations produced early BA potsherds and worked chert and flint of Mesolithic to BA date	

Figure 5.3: Details of the wall types at Roystone Grange

are irregular and crooked; the enclosures around the villages are small, forming crofts and tiny fields, with their walls seldom straight (1946: 4). A similar situation exists in Edmundbyers, with the remains of small closes and crofts around the houses. When undertaking the study of boundaries detailed below I decided not to try to record the details of these enclosures for two reasons: firstly, because they have been affected by the various housing developments in the village and, secondly, because the development of the village itself has been discussed in chapter 3.

The crofts of the villages were used to grow crops like hemp for linen or grain for the resident's own use or his livestock. Animals could be enclosed on them and thus the soil was well-manured and often more fertile than in the fields (Raistrick, 1946: 6). The irregular walls of these closes were distinctive: 'In these older walls, it is common to find their base including monstrous single blocks and boulders, often a ton or more in weight, two or three feet high and as much long, standing on edge like rows of giant teeth. The wall includes and is built on them' (*ibid*: 6 - 7). Similar large stones are often found at the base of walls in the UDV. Raistrick observed, also, that beyond the village crofts lay a geometric and fairly regular pattern of field walls. In the Yorkshire Dales they occupy the valley bottoms and lower fells (Raistrick, 1946: 4). Although there is a similar change in field pattern around Edmundbyers, there is more lower fellside land than there is valley bottom. In the Dales these fields can be up to 20 acres but often have smaller enclosures taken out of them. Also in the Dales there are straight walls which can continue for miles on the higher land, as far as the watershed, only interrupted by the most major of obstructions (*ibid*). This does not occur in the UDV and the higher fell land is mostly open, apart from more modern fences which have been used to delineate estate boundaries, mainly for grouse shooting purposes. Raistrick attributes the Dales boundaries to the sixteenth, late eighteenth and nineteenth centuries (*ibid*).

In the Middle Ages the agricultural system, according to Raistrick, was based on that introduced by Anglo-Danish settlers with shepherds using the upper fells (1946: 4). Whether that was the case may be debatable, but the result seems to have been common fields and three zones of land around the settlements (*ibid*) presumably leading to the three zones described above. More significant are the methods used to indicate the various parts of that land. Boundary stones were used to mark land that was allotted in strips, but meadowland and arable tended to have a ditch and fence or a bank set with thorn trees; these areas were not subdivided (*ibid*, 4 - 5).

Much of the land was owned by monasteries, just as the UDV was. Because there were disputes between tenants of different abbeys over boundaries, the disputed borders were marked with stones and gradually the boundaries of the wastes between the different settlements were marked with stones, ditches and banks or simply using natural features (Raistrick, 1946: 5). Similar solutions used in the UDV may have resulted from similar problems. The boundary of the estate was mainly marked with cairns on high points but along the Derwent, at least, boundary stones were erected to mark the land of the Dean and Chapter (thus post-dating the Reformation in this case). Just as on the manor of Muggleswick, the monastery records for the Dales show that some land was enclosed early, in the thirteenth century, mainly as small fields. These had stone walls, unlike the banks and palisades of the UDV, and were mainly to keep animals out. Later, as the sixteenth century wool-trade developed, better sheep breeds were introduced and pasture land was improved. As a consequence parts of the moors and wastes were fenced to control the sheep (*ibid*).

When, in the sixteenth and early seventeenth century, the common field system collapsed, land holdings were consolidated. The 'walls' built to enclose them had no real plan 'beyond the convenience of the inclosure and the available material'. The walls themselves were squat and the stones mainly uncoursed because they were made of the nearest materials to hand and were added to whenever required (Raistrick, 1946: 6 - 7). Large stones and boulders were placed in a rough double wall along the boundary and defined the foot of the wall, often two to three yards wide. Stones were gathered from nearby and placed in between to form a pyramid-shaped mound. Subsequent settlement means that these structures are now often six to nine feet wide at the base and about four feet high (*ibid*: 12). These enclosures were made before the Enclosure Acts and were 'by agreement' (*ibid*: 11). There may be a correlation here with the early boundaries found around Edmundbyers (see below) although it is likely that such a reorganisation of the land was later here since the 1649 Survey indicates that some common field agriculture was still ongoing.

Studying enclosure in County Durham, Bailey noted that the boundaries of the enclosures varied according to the area, with fences made of earth mounds planted with quickthorn differing between dry and moist soils . The advantage of the dry soil boundary was that the land could be ploughed almost to the mound. Walls were used 'where the land is too bad to grow thorns, or the climate too high'. They were usually

2 feet 4 inches wide at the base, one foot 4 inches wide at the top, 4 feet six inches high with a coping of 9 inches (60cm, 40cm, 1.37m and 22cm, respectively; total height 1m 60cm). Walling - the stones and the building - cost 7 shillings per rood of 7 yards. The cost of leading the stones varied depending on the distance, but averaged the same as the walling so that the total cost was 14 shillings a rood (Bailey, 1810: 100). As now, the cost of walling was expensive and quickthorn would have been a more affordable alternative wherever feasible. Winchester notes that drystone walls were more a feature of Parliamentary enclosure than earlier periods (2002: 62). Piecemeal enclosure was achieved using earthen or turf banks with brushwood ('dry hedges') on top. These were called 'stake and rice' hedges.

Raistrick went on to study the details of construction of the standing walls. Using information from the Enclosure Awards and by measuring numerous examples, he was able to produce an average of the wall dimensions. He also provided details of how the wall is built. First a trench is dug, about 1.2m wide and footings comprising two rows of large squarish boulders are laid with their rougher ends inwards. The gaps are filled with irregular stones which will grip each other and give stability. Raistrick's dimensions give a width at the base of 70 to 90 centimetres (1946: 14). The walls of the North Pennines, around the UDV, are usually 60cm wide at the base (W. Telford, Dry Stone Walling Association, pers. comm.). Horizontal stones are added in level courses and filled with smaller stones (called 'hearting' in the North Pennines). In the Dales, through stones which go the width of the wall, or sometimes project, are used to bind the two sides together. There are usually two courses of them, at 60cm and 1.2m height (Raistrick, 1946: 15 - 16). In the North Pennines there is usually only one course of through stones at a height of 50cm - the top of the 'first lift'. Although they sometimes form a more or less continuous course it is more traditional for them to be placed at intervals of 1.5m (W. Telford, pers. comm.). Once the wall is high enough the top is filled and levelled so that the coping stones can be put on top, usually lying at an angle. The width at the top is generally 30 to 40cm in the Dales but around 30cm in theNorth Pennines. The overall height in the North Pennines is usually around 1m 20cm but the walls Raistrick measured were 1.6 to 1.8m high. The Dales walls are made of limestone and the UDV ones of sandstone; the different types of stone can affect the construction style. At openings like gateways the walls are brought to a 'head' (Dales) or 'cheek end' (North Pennines) by making a course of through stones over the footings with similar sized stones at right angles to make a squared end. Other features include different varieties of style and holes

for sheep to pass through called by various names including 'cripple holes' in the Dales and 'lunseys' in the North Pennines (Raistrick, 1946:16 - 17; W. Telford, pers. comm.) (see fig. 5.6).

5.9 The Upper Derwent Valley

The field boundaries found in the parishes of Edmundbyers and Muggleswick today are of four main types. Adjacent to the fells the fields are almost entirely enclosed by drystone walls but towards the east, hedges predominate. Fences have been used to supplement or replace the boundaries, especially where the hedges or walls are inadequate alone. The fourth type of boundary may, in some cases, be much older. There are a number of field boundaries consisting of low walls or revetted embankments with fences on top. Some of these may have been topped by dry hedges and may be among the earliest formal enclosures in the area (excluding any possible prehistoric or Roman enclosures), perhaps originating in the mediæval period. The locations of these may be important in the development of the local landscape and are discussed further below.

While the fields are continuous to the east of Edmundbyers and Muggleswick, a head dyke generally divides them from the moors to the west. Above this there are a few enclosures, such as that known as Jackie's or Harry's allotment and farms like Pedam's Oak and College.

My research into the field boundaries in Edmundbyers and Muggleswick involved several stages. The first was to analyse the boundaries in the area of Edmundbyers as they appear on the current O.S. map, using colour-coding to differentiate between walls (or hedges, fences etc.) that surround areas, ones which are not cut or abutted by others, ones which are cut and ones which are abutted by one or more other boundaries. This investigation was intended to discover whether a pattern could be discerned in these characteristics which might indicate the order of their construction and, thus, a chronology for the enclosure of the fields.

The next part of the research was to use fieldwork, and Google Earth where the land was difficult to access, to record the nature of the boundaries and to differentiate between walls, hedges, fences, embankments and so forth, and between combinations of these. The purpose was to see whether there was any correlation between this analysis and that undertaken in the first part. A relationship between boundary types

and characteristics would assist in confirming the chronology of enclosure.Then the tenants of the fields recorded for the 1800 estate map were given colour codes and the fields they rented were coloured on the map so that the distribution of land could be identified.

By this point it was already clear that Edmundbyers' fields had not greatly changed between 1800 and the current O.S. map. Nonetheless, the regressive maps were compared to confirm - or negate - this theory. Finally, an analysis of the field names was carried out. In some respects it might have been appropriate to do this first because some of the names have ancient components, probably pre-dating the fields. However, since the fields named were those on the 1800 map, it made more sense to look at them after establishing the history of the field layout.

As already established, the enclosure history of Muggleswick is different. Moreover the area is so large and, in places, difficult to access, that I decided to concentrate on a small comparative area in order to look at the distribution of land. Muggleswick, though, is a suitable area for the investigation of older boundaries underlying the present ones, so attention was given to this aspect of the area. The names of fields in Muggleswick have been studied with those of Edmundbyers but not mapped.

5.9.1 ***Edmundbyers:***

Boundary analysis

I undertook an analysis of the field boundaries, using the first edition O.S. map, for the area around Edmundbyers to see if any pattern could be discerned (figure 5.4). It is difficult to define different boundaries as the pattern is complex and some boundaries may fall into more than one category. Purple indicates outer boundaries between field and fell, field and road, etc., as well as apparent boundaries around groups of fields. These boundaries came to light during drawing because they appear both to be irregular compared to the other boundaries and to surround groups of fields. It can also be seen that the fields they enclose are mainly long and narrow, suggesting that they have been enclosed from the mediæval strip fields. These may be the product of the first parcelling out of the mediæval fields. This is a result that I did not anticipate when embarking on the analysis. It is probable that these land parcels were allocated to different farmers some time before the 1800 estate map, possibly during the seventeenth century when a number of farmhouses were built in the village (chapter 3). These farms were still worked into the twentieth century,

with their fields scattered around the village. The green lines are boundaries that abut other boundaries but are not abutted or crossed by other boundaries and are not outer boundaries. There are a number of these and several of them delineate strip-shaped fields within the larger divisions noted above. The pink lines mark boundaries that both abut other boundaries and are themselves abutted. Together with the green boundaries they break up the larger land divisions. The pink boundaries are generally longer than the green and were presumably the next stage in sharing out the land after the major sections within the purple boundaries; the green boundaries are then subdivisions of these areas. So the enclosure process involved a division into large plots, followed by two further subdivisions, visible on the map (fig. 5.4) as long narrowish areas often divided into squarer fields. The long narrow divisions reflect the strip pattern of the open fields. A few boundaries immediately to the north of the village are coloured orange; these are ones which cut each other at right angles and are thus different from the others, although the ghost of the strip pattern is still partially evident.

This analysis was useful in identifying the possible process of enclosure of the common fields of Edmundbyers. The next stage of investigation was to look at the actual nature of those boundaries, to use retrogressive methods to identify changes in boundaries and to study the pattern of tenancies in 1800 to discover how the land was apportioned.

Boundary type analysis

The same base map was used to record the different types of boundary found around the fields of Edmundbyers. Colour coding, as shown on figure 5.5, was used to identify the boundary types. It soon became apparent that the boundaries are complex and do not always have a clear relationship with the analysis described above. Generally speaking, it is the case that drystone walls (black on the map) are the main form of boundary, especially to the western side of the village. However, walls have been permitted to fall into disrepair. These are recorded in figure 5.5 as either dilapidated (grey) or ruinous (orange). In some cases they have been replaced by fences. Some of the more recent boundaries - as those established when the reservoir was constructed - are also fences. There are also a number of embankments. It can be difficult, especially when access is is a problem, to tell whether these are the remains of drystone walls which fell so long ago that they have been overgrown or whether they were originally built as banks. Certainly some of them have straggling

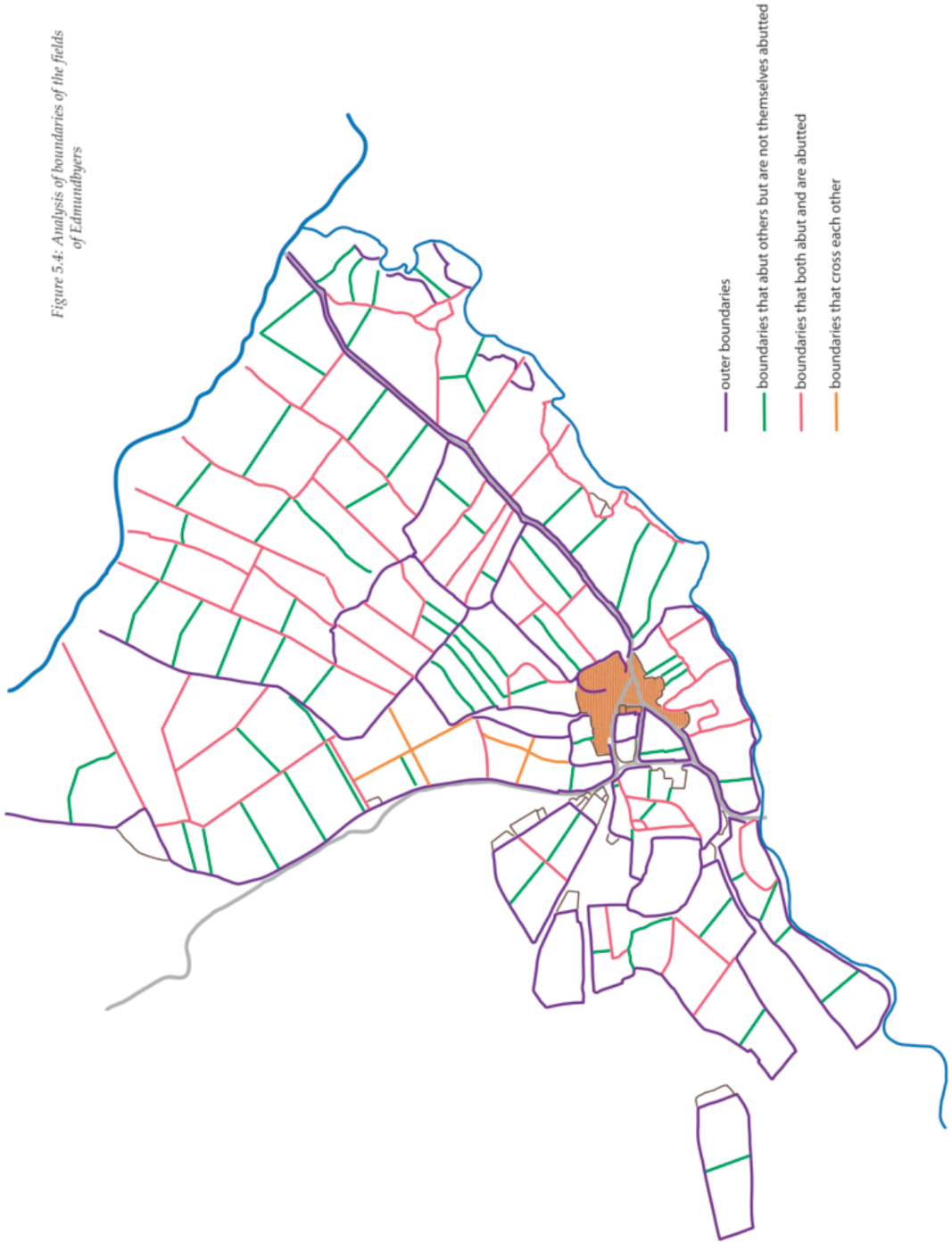


Figure 5.4: Analysis of boundaries of the fields of Edmundbyers

Figure 5.5: Analysis of field boundary types in the vicinity of Edmundbyers

blackthorn and hawthorn trees along them which suggests that they were bank and hedge boundaries originally. Usually, now, they are supplemented with fences. There are also lengths of hedgerow, mostly thorn but with other species also, which have not always been well-maintained. Little 'plashing' or laying of hedges has been done for many years. Almost all the hedges are supplemented by fences.

From the map in figure 5.5, therefore, it can be seen that the main boundary type is some form of walling, whether in good condition or possibly originally an embankment. However, the relationship of the physical boundary types to the analysis of the development of the boundaries described above is inconclusive. As will be shown during the more detailed study of the walls, in some places a possible older boundary does coincide with the putative first part of the enclosure process.

The physical features of the walls around Edmundbyers are shown in figure 5.6. They conform with those indicated by Raistrick (section 5.8) although some of the names of the various parts of the wall vary from region to region. Comparisons of style and terminology have been made with Raistrick's account. The photographs in figure 5.6 have been located on the map of boundary types (fig. 5.5) using letters.

The presence of embankments in the area near The Hole farm (between Black Hill and Limerick) has been referred to in chapter 4 (4.13.3). However, there is probable early boundary at the east end of village beside the footpath leading down the Kill Bank to Edmundbyers Dene. There remains now little more than a crumbling bank of earth and stones, but its character is such that it is likely to predate many of the other boundaries (fig. 5.6a). Moreover, some of the other boundaries do display possible early characteristics, including that shown in fig. 5.6b and the one adjacent to an old trackway in fig. 5.6c. These may equate to the boundaries of meadow and arable land described by Raistrick (above) and this would support the idea that they are early forms of boundary.

Regressive mapping of enclosed area

I also undertook a retrogressive analysis of the boundaries of the fields around Edmundbyers using a selection of maps, starting with the current Ordnance Survey map and using the 1920 and 1890 editions, then the 1800 estate map. There were some problems associated with this. The current map is easy to use but the older maps, since the best source was Edina Digimap, are only available in black and white. The

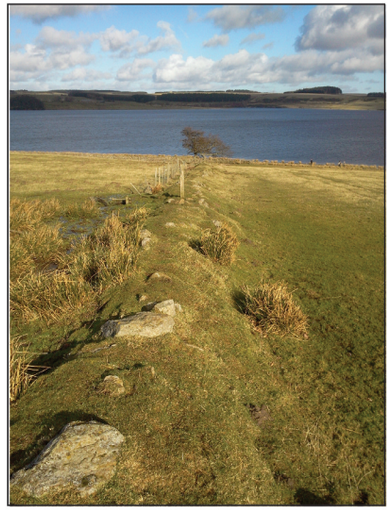
monochrome editions are more difficult to decipher as it can be a problem differentiating between walls and streams or other features. Sometimes walls 'disappear' into woodland or it is not clear whether there is a physical boundary between fields and woodland. Many of the maps of intervening date did not provide full data coverage of the area. The 1800 map was photographed in sections in rather adverse circumstances (standing on a chair with the map spread on the table at Durham Cathedral Archives!) so that the sections are not necessarily concurrent nor at exactly the same scale. Consequently there may be some minor discrepancies between the maps.

As noted above, my initial theory was that no great change had occurred in the boundaries between 1800 and the present, so that the enclosure that must have occurred between 1649 and 1800 has been maintained. The retrogressive analysis bears this out to a large extent. It can be seen in figures 5.7a and b that over most of the area only small changes have occurred. These are where boundaries have been added (i.e. fields have been subdivided) or where they have been removed (i.e. fields have been enlarged). The boundaries affected by this are shown on the maps in figures 5.7a and b. However, at the western end of the village, around and including the area noted above as having possible embankment boundaries, a good deal of change took place between 1800 and 1890. This mostly took the form of infilling and readjusting of existing boundaries.

It can be assumed therefore, that the major part of the enclosure process around Edmundbyers had been completed by 1800. There are no Acts of Enclosure for the parish, so it must all have been "by agreement" - or, at least, at the behest of the Dean and Chapter who owned the estate. The area to the west of the village was consolidated during the nineteenth century, probably earlier rather than later. The changes that have occurred since within the major boundaries are due to further consolidation by individual farmers linking fields together, often by simply allowing walls to fall down so that stock have a larger area to graze. Much of the area is now farmed by one family and there are large parts where the fields have been allowed to run together because there is no need to keep stock from entering neighbours' land. The head dyke is, generally maintained. The additional subdivisions which have waxed and waned since 1800 have generally been for stock handling purposes.

boundary a

boundary b, running from right across picture



boundary c

Figure 5.6: Boundary types
above - some of the wall types found in Edmundbyers;
below - features of dry stone walls

boundaries added since 1920

Current map of Edmundbyers
(sketch map based on current O.S. map)

boundaries added since 1890

boundaries lost by present time

1920 map of Edmundbyers
(sketch map based on 1920 O.S. map)

Figure 5.7a: Map regression for fields around Edmundbyers

boundaries added since 1800

boundaries lost by 1920

1890 map of Edmundbyers
(sketch map based on 1890 O.S. map)

significant changes (mainly infill)
between 1800 and 1890

boundaries lost by 1890

1800 estate map of Edmundbyers

Figure 5.7b: Map regression for fields around Edmundbyers

Tenancies

The 1800 estate map is accompanied by a list of tenants and the fields that they rented. I used this list to produce a map showing which land in Edmundbyers was rented by whom. This produced interesting results.

Figure 5.8 shows that the fields rented by different tenants were scattered around the village and that many fields were still shared by two or three tenants, a probable relict of the mediæval system. It will be shown below that this differs considerably from the circumstances in Muggleswick.

This scattered landholding continued into the twentieth century, as shown by the hand-drawn map provided by Heine Ruhe which indicates the fields farmed by Village Farm in the 1940s (fig. 5.9). Even though much of the land is now farmed by one family, there are still pockets owned or rented by other individuals, such as The Hole farm, various horse owners and farmers who live outside the village. Thus the pattern of landholding is still influenced by the heritage of the mediæval open fields and the initial enclosure process.

5.9.2 Muggleswick:

The history of the parishes in chapters 3 and 4 indicates that the development of Muggleswick differed from that of Edmundbyers. At the Dissolution of the Monasteries, the Prior was able to have himself appointed Dean of Durham and the ownership of the Muggleswick estate went to the Dean and Chapter. However, under the reorganisation, the benefits of the estate were shared between some of the prebendaries rather than going to the Dean (see appendix C). This may have followed a process also found in Devon and elsewhere whereby at the Dissolution the division of land - as between the prebends - resulted in the building of scattered farmsteads for the working of the land as at buckfast Abbey (Turner, 2007:63).

In 1555-6, during the reign of Philip and Mary, the Statutes of Durham Cathedral were drawn up by a committee consisting of Nicholas Heath (Archbishop of York), Edward Bonner (Bishop of London), Cuthbert Tunstall (Bishop of Durham), Thomas Thirlby (Bishop of Ely) and William Armistead (Chaplain to their Majesties). The Statutes received confirmation under the great Seal (Fawcett, 1901: 21).

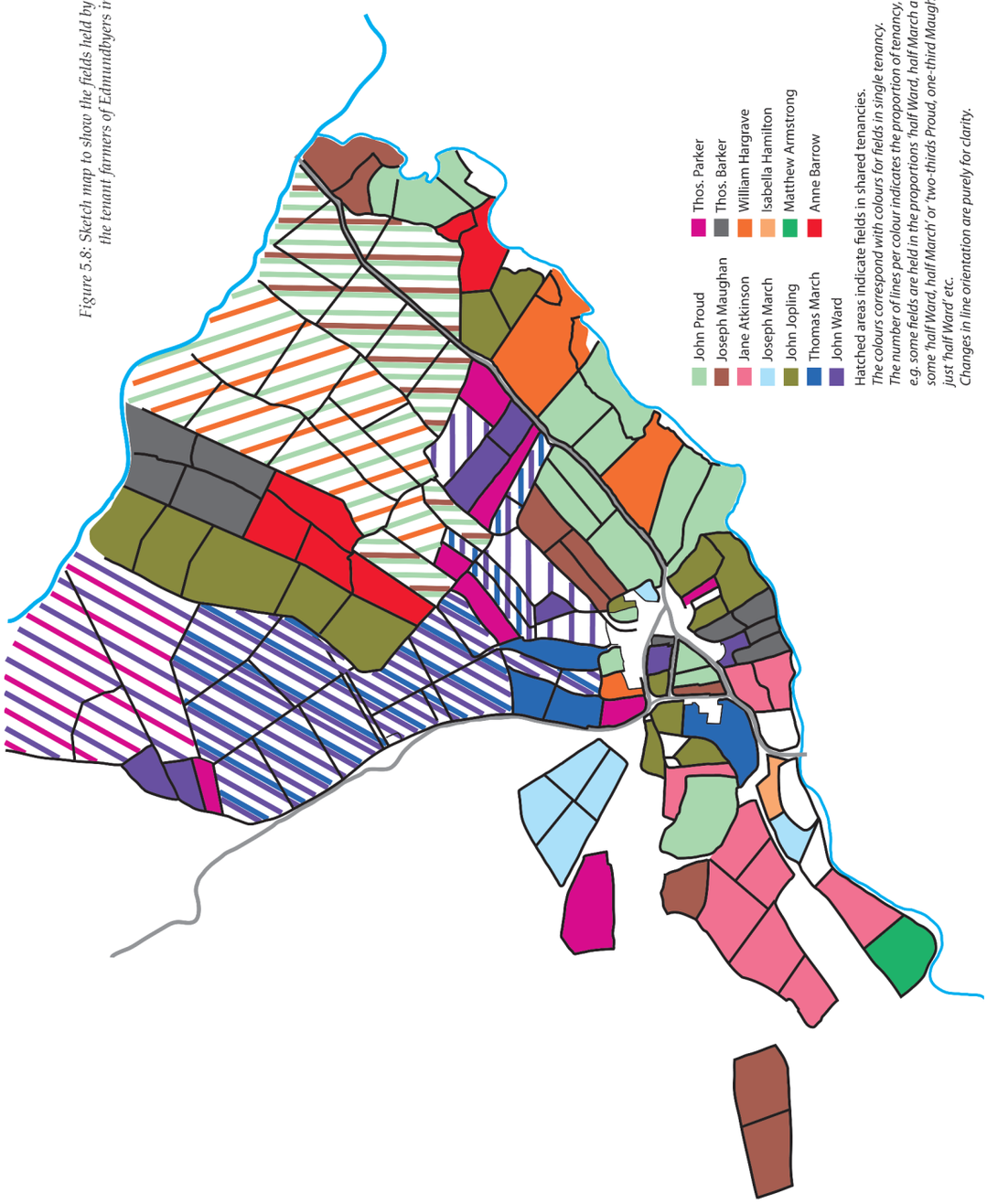


Figure 5.8: Sketch map to show the fields held by the tenant farmers of Edmundbyers in 1800

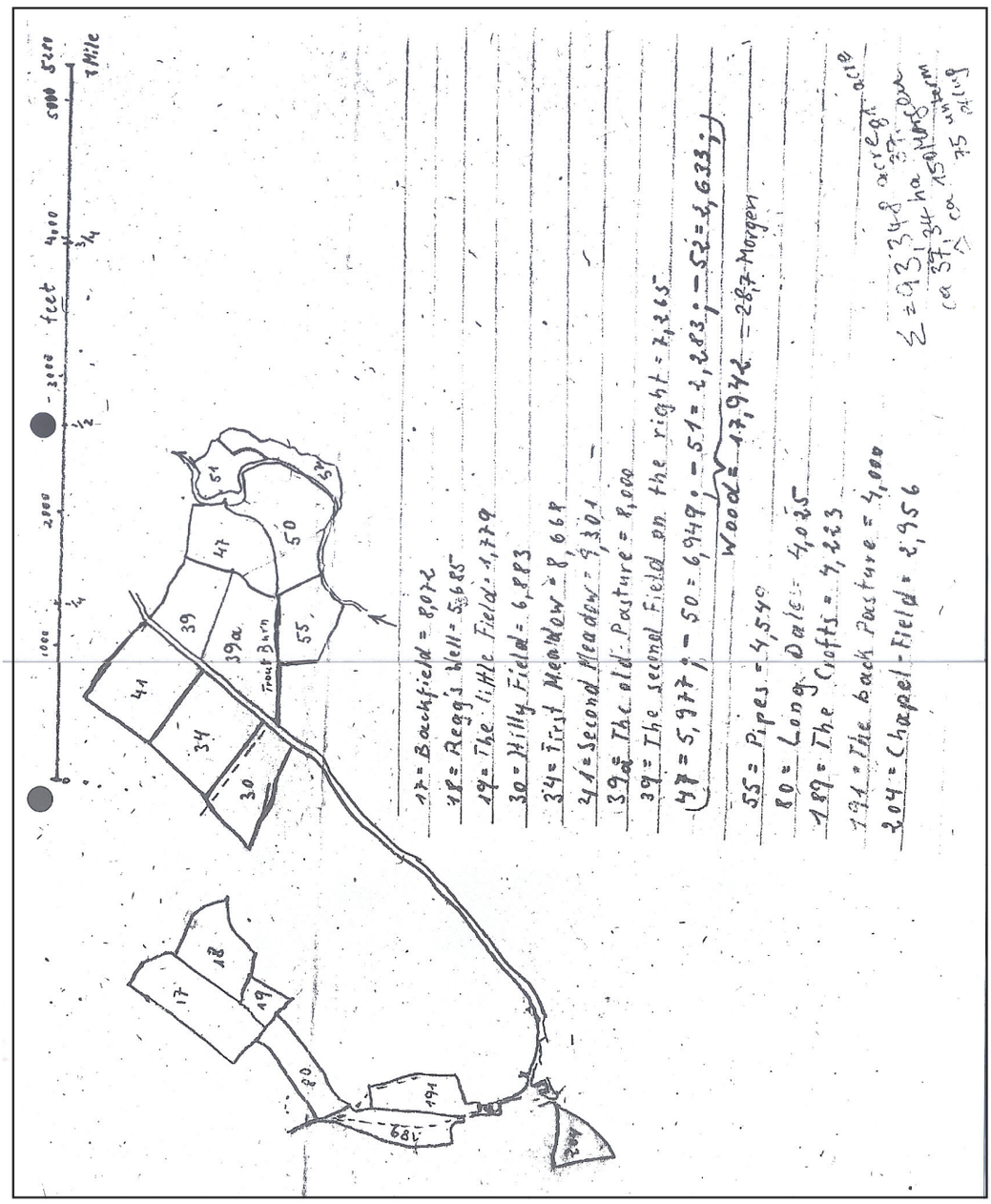


Figure 5.9: Heine Ruhe's map of the fields used by Village Farm in the 1940s

As a result of this, 'the house, manor, and park of Muggleswick, was divided into three parts, amongst the fifth, sixth, and eighth prebends, with all the woods, mines, and quarries within' (Fawcett, 1901: 21). The corps lands 'were excepted and reserved for the common use and necessaries of the church'. The prebends or prebendaries (cathedral canons whose income came from the lands they were allotted) had to pay for the privilege, the fifth and sixth paying 15/7d each while the eighth paid 7/9d (*ibid*). The situation described at the time of the 1649 Parliamentary Survey (Sobo, 1995) was one of disparate farms, as shown in the following example:

> Rich. March: All that messuage or Farme howse with the appurtenances the walls built with Clay and stone and thatcht with Linge with A Close of meadowe Called the Lare wherein the said howse is scituate...
>
> (Sobo, 1995: page 12 of the original document)

This arrangement differs considerably from that in Edmundbyers. Moreover, the parish is much bigger, with large parts of it distant from public access. For these reasons I decided not to attempt a full survey at this stage but to concentrate on the details of a some interesting examples of boundaries.

Boundaries

Mention has already been made of the embankments at Cushat Leazes (section 4.14.1) and how they differ from the current field boundaries. There are other notable boundaries within Muggleswick. Firstly there are similar embankments in the fields between Shield Farm and Dyke House. They are still in use, albeit topped with fences. The name Dyke House might have been given to the farm because of the dykes or walls, which must have been of significance at the time.

Another area enclosed by embankments is further west beside the road between Muggleswick and Edmundbyers and lying between The Deans and East Cote Farm. These embankments are of considerable interest. They are built with revetted sides, the stones having been laid vertically or at an angle; they are now topped with a fence. The enclosed area is irregular and divided by the remnants of similar embankments with a few thorn trees along them. Other boundaries seem to link with them in places.

These two areas would seem to be early enclosures, partly due to their different character and partly because more recent boundaries respect them. They might be part of the original division of the land that occurred at the Dissolution and be roughly contemporaneous with the embankments described at Cushat Leazes.

The locations of these enclosures are shown in figure 5.10, with detailed photographs of their character.

A large, roughly circular embanked enclosure lies in the field close to the angle of the Muggleswick road and the Burnhope Burn west of West Cote Farm. It could, theoretically, date from almost any period although it has some characteristics that suggest it could be prehistoric. Another, roughly rectangular lies close by, cut by the Muggleswick road and so clearly pre-dating the route (fig. 5.10). There are embankments on several parts of Muggleswick Common, including what appears to be the remains of a stone wall. These are all somewhat enigmatic. When the Lidar for the area becomes available it might be possible to see more of their character and to assess better their antiquity.

The field boundaries for Muggleswick have not been mapped like those for Edmundbyers. They are generally similar, with many dry stone walls, supplemented with fences and sometimes in a poor state of repair. Since it was possible to identify some of the fields at Cushat Leazes from the 1649 Survey, further work to try to link the Survey with the 1800 map and the current field layout would be worthwhile. As noted for Cushat Leazes, this depends to a large extent on being able to match acreages and is, therefore, likely to be an extended task.

Map regression

It can be assumed, even though the above-mentioned research remains to be attempted, that the fields in Muggleswick were essentially instituted at the time when the land was divided between the Prebendaries. By 1800 the layout should have been well established. Undertaking regressive mapping, as for Edmundbyers, would confirm this. The same maps were used: the current, 1920 and 1890 Ordnance Survey maps and the 1800 estate map. The same problems were encountered: the monochrome maps were sometime difficult to read and the photographs of the 1800 map were not consistent in scale, area or quality. Due to the size of the parish, an area of Muggleswick which included the Priory Grange ruins was chosen for analysis. The analysis was carried out in the same way as for Edmundbyers, identifying the changes in boundaries that had occurred, working backward from the current map. The details are shown in figures 5.11 a and b. Like Edmundbyers, the changes that took place were relatively minor and occurred mostly within the footprint of the existing fields rather than adding to that footprint.

Figure 5.10: Muggleswick walls and enclosures

Lamb Shield is one of the exceptions to this. In 1800, as figure 5.12 shows, only a few fields were enclosed. However, by the time that the 1890 Ordnance Survey map was produced more land had been enclosed from the fell, although most of it was rough pasture.

Tenancies

The area of Muggleswick being so large, I decided to concentrate on a limited area to study the land holdings. As with Edmundbyers, this depended on the list of tenants that belongs with the 1800 estate map and linking this with the fields shown on the O.S. map.

Thus, figure 5.13 analyses the tenancies of part of Muggleswick and shows clearly that the land was let in blocks of fields to tenants who lived in farmhouses set within the land they rented. This tallies with the circumstances extant at the time of the 1649 Parliamentary Survey when, as indicated above, the farms were described as lying within their fields. It seems likely, therefore that these are based on the allocations of land made to the prebendaries at the Dissolution.

This is very different from the situation in Edmundbyers where the land was held in severalty for much longer. It may have meant that that the farmers of Muggleswick, although only tenants, were in a much better position to 'improve' than those those of Edmundbyers.

I have thus been able to demonstrate the differences in the land allocation between the two parishes and the history of enclosure. This is significant because of the effect on the field patterns and the way the land was worked. Edmundbyers farmers continued, until recently, to have to move equipment and livestock around their scattered fields, which must have been much less convenient.

5.10 Field and farm name analysis

It has already been established (chapter 3) that the landuse of the parishes was very different prior to the Reformation. Muggleswick, as far as we can tell, was mainly parkland, woodland or pastures associated with vaccaries and bercaries. Edmundbyers was a nucleated village with open fields. The Parliamentary Survey of 1649 provides information about the circumstances that prevailed following the Dissolution of the Monasteries. Edmundbyers still had mainly common fields with a

boundaries added since 1920

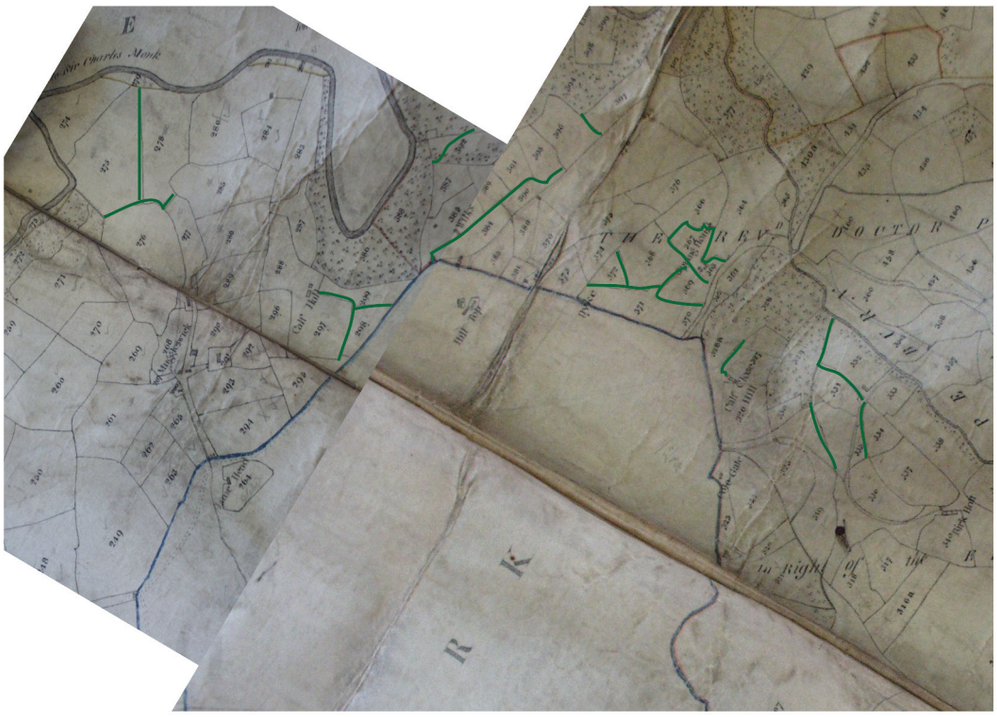
Current map of Muggleswick
(sketch map based on current O.S. map)

boundaries added since 1890

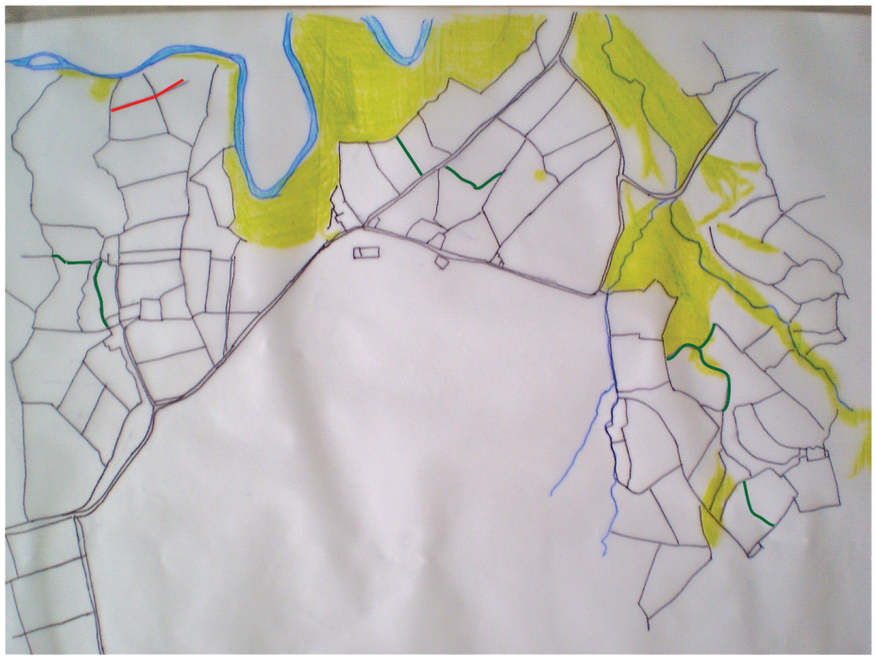
boundaries lost by present time

1920 map of Muggleswick
(sketch map based on 1920 O.S. map)

Figure 5.11a: Map regression for fields in part of Muggleswick



boundaries lost by 1890
1800 estate map of Muggleswick



boundaries added since 1800
boundaries lost by 1920
1890 map of Muggleswick
(sketch map based on 1890 O.S. map)

Figure 5.11b: Map regression for fields in part of Muggleswick

Figure 5.12: Enclosure at Lamb Shield
top: 1800 estate map
below: 1890 O.S. map

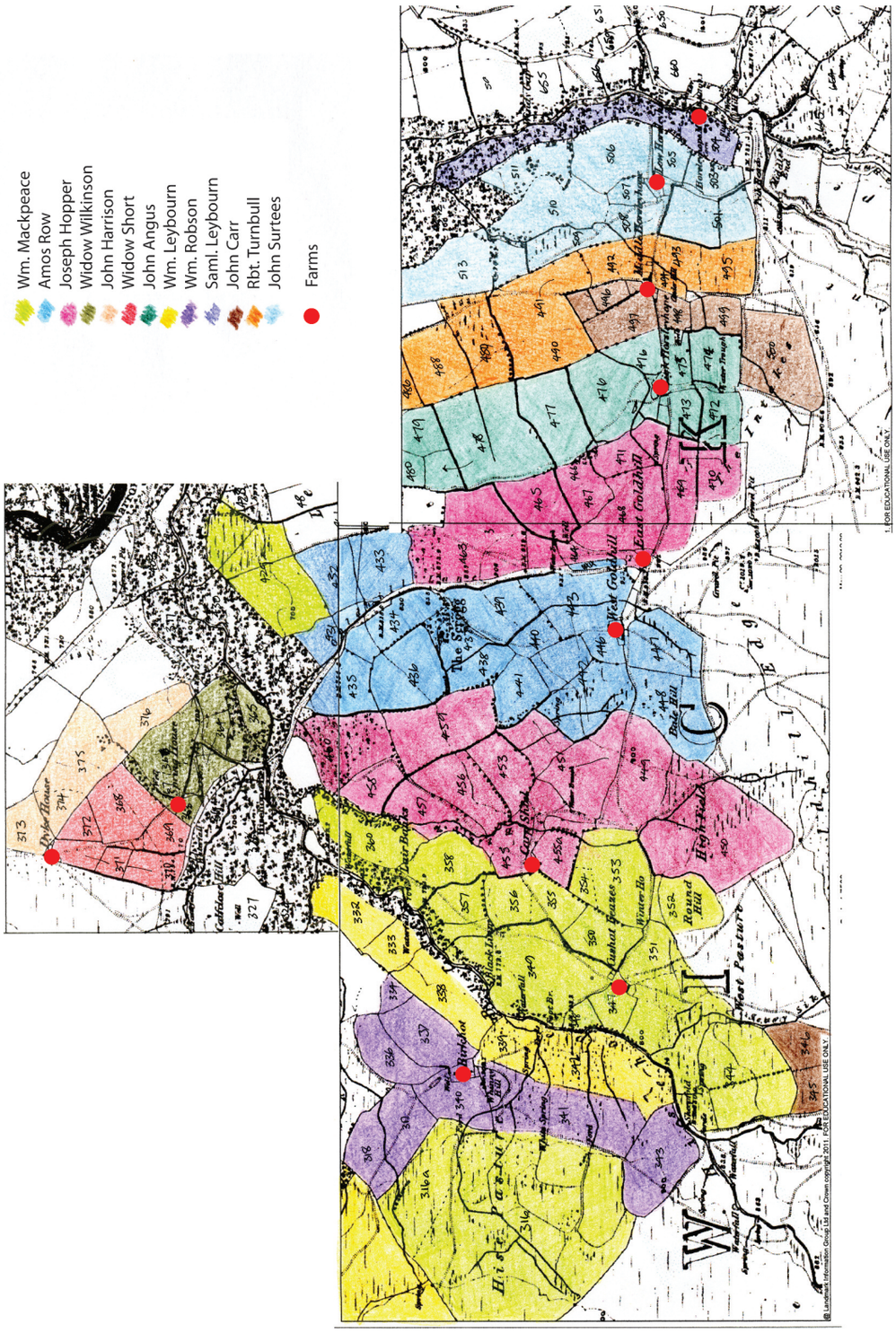


Figure 5.13 : The allocation of fields in part of Muggleswick, including Cushat Leazes, showing the concentration of rented land around the farmhouses

few small closes while Muggleswick had been shared between three of the cathedral prebendaries and consisted of scattered farms within their enclosed fields. From this, it can be seen that it is likely that few, if any, of the farms or fields of Muggleswick were established or named before the Dissolution. It is probable, therefore, that most of the farms and fields were established in the sixteenth and seventeenth centuries and given names that reflected their location, often using the names for topographical features that were already in common use. Thus it cannot be assumed that the field names ascribed at the establishment of the farms are of any earlier origin than this, even though they contain elements from Old or Middle English, or from Old Norse.

Another problem, with field names in particular, is that such names change over time. The names listed in the 1649 Survey do not necessarily appear in the 1800 estate survey and the names from 1800 have not necessarily survived to the present. It is possible to suggest reasons for this. If a farm is passed from one generation to the next, then the traditional names are likely to be passed on as well. However, if a farm is sold or transferred to another tenant, this continuity is lost. The new farmer may not know the names of the fields, or may not be able or bothered to read the documents giving their names. He will then call the fields by any name he deems appropriate, often 'the hayfield', 'the big field', 'the meadow', 'the hill field', 'the low field', or a similar descriptive title. Continuity of field names over long periods of time, therefore, might indicate continuity of tenure or simply that the incoming tenant was literate.

The names of the farms themselves are a different matter. With these it is more likely that there will be continuity since they will be far more widely known and in common use.

In the discussion below the names are, generally, written as they occur in the documents, with the spelling and capitalisation as recorded.

Analysis of fields in 1649

There are fewer field names listed in the 1649 Survey than there are in the notes that accompany the 1800 Estate Map. There are two main reasons for this.

The first reason is that there are virtually no fields named for Edmundbyers in 1649. A number of small closes are mentioned and the larger, common fields like the Middle

Camfeilde	OE *camb* = combe, long narrow hill or ridge, 'house on the ridge'
Spring Pasture	OE *spring* land adjoining, or containing, a wood OR land adjoining, or containing, a well or the source of a stream ME copse of young trees Anglo-Saxon *springan* where water springs out of the ground
Paddock Meadow	OE *pearroc* grass enclosure ditto same derivation as 'park' - an enclosure, enclosed place for recreation or keeping animals for hunting; in Teesdale a small field next to a cottage
Dyke House/The Dike	ME embankment, flood-bank OE *dic* = ditch, drain, often a boundary with a quickset hedge on upcast mound, bank, ditch, foss, trench, moat. In Weardale stone walls are called dykes/dikes
Upper Carr (et al)	ON marshy land overgrown with brushwood OE *carr* = rock, ON *kjarr* = brushwood ME *ker* = swamp, marsh Egglestone suggests that, in Weardale, carr = rock and has no connection with marshy land
Cockshott	poss OE *cocc-skȳte* glade through which woodcock dart, and where they can be hunted. Also OE *scēat* block of arable land, consisting of a number of selions or lands, all running in the same direction, and having at either end a headland on which the ploughteam could turn. Beckensall agrees on meaning of shott, no suggestion for first element
Intack Meadow	ON *inntak* land taken in or enclosed from the waste Land taken in, locally *intak*
Goldhill	land characterised by a golden colour - poss by abundance of yellow flowers or circles of yellowish grass caused by fungi (fairy rings)
Broad Meadow	OE *brād* wide piece of land ditto = broad, OE *braedu* = broad strip Anglo-Saxon *mæd, mædowe* a grass field - meadow is grass ready for cutting
Leas(e)/Leaze/Leys	OE *læs* pasture, meadow land ditto Anglo-Saxon *læsu, læswe, læse* pasture. Lease is a loosing or letting for set period, hence leased land becames known as the 'leases'
Lea/Lee/Ley	OE *lēah* meadow (Or OE *lǣge* untilled land) wood, clearing, meadow Anglo-Saxon *leah, leag, lege, lea* from *licgan, liggan* = to lie. Opening in forest where cattle could be depastured.
Haugh	OE *halh* a nook of land (N. country piece of riverside land) originally alluvial land in river bend, came to mean any land beside stream or river Common in Northumberland, low lying ground near a river; most authorities agree on this
Calf Close	OE *cealf* land on which calves were kept common name for an enclosure
North Nooke Meadow	ME *nok* small secluded patch of land, a small triangular patch nook, secluded ground a corner
Cushett Leazes	poss OE *cūscote* land frequented by wood pigeons ditto
Parrock Meadow	OE *pearroc* a small (grass) enclosure (see Paddock, above)
Helme Field	OE *helm* land near or containing a shelter place-name: roofed shelter for cattle
Lowe Meadow	poss OE *hlāw* land by, or on, a mound mound, hill, burial mound
Sike Field	OE *sīc* meadow land beside a stream Beckensall gives OE *sic* = small stream, meadow by a stream, ON *sik* = ditch, trench Common local name in Weardale. Anglo-Saxon *sic* or *sich* -a small watercourse draining a marshy area
Hogg Close	OE *hogg*
Fludgate Meadow	OE *flōd*
Clough Pasture	OE *clōh* deep valley or ravine, a dell Beckensall gives 'cleugh' with same meaning Anglo-Saxon *clough* a cleft down the side of a hill; narrow ravine more like a cleft than a water-worn valley; also 'cleugh'
Whitt field Paddock	poss OE *hwīt* land with a white surface possibly due to dead grasses or cotton grass

Sources:

Field (1973)

Mawer (1920)

Beckensall (n.d.)

Egglestone (1886)

Table 5.1: Table of field names mentioned in the 1649 Parliamentary Survey of Edmundbyers and Muggleswick. Data are colour colded according to source

This table has 3 pages in total.

The full version can be seen in the attached folder of tables

Corn Field and the West Close. Since the land was still being mostly farmed in common, there were hardly any individual fields and thus no names to record. Nonetheless, as will be seen, this situation did have an effect on the later naming of fields once they had been divided and enclosed. The second reason is that, although it is likely that there were many fields in Muggleswick because the land had been divided into disparate farms, only those fields that helped to locate the farmsteads were mentioned by name.

The origins of the names are detailed in table 5.1 and from this it can be seen that many of the names are composed of words with Old English or Middle English elements. However, as stated above, it is unlikely that many of these names are actually that old. Further comment on this topic will be made in the analysis of the field names in 1800.

The use of some words in field names indicates enclosures (see table 5.1 for meanings). These names include Paddock Meadow, Dike House, Intack Meadow and several fields with the suffix 'garth'. Other fields are named after domestic animals, such as Calf Close, Hogg Close and Beegarth field meadow. Wildlife also feature in field - and farm - names: Cockshott, Cushatt Leazes, Foxholes and Harehott Meadow. However, it is natural features that dominate the names and it is possible that some of these, especially those related to topography, may pre-date the enclosure of land at Muggleswick. Topographic names include Camfeilde, The Deanes, Clough Pasture, North Nook Meadow and names incorporating 'haugh'. Goldhill, Greene Close, Birke Close, Broome Close, Bracken landes meadow, Birk busse close and Linghill meadow are all examples of vegetation being used as descriptors of fields. Water, too, influenced names, such as Spring Pasture, Sike Field, Welfield Meadow and Boggs meadow. Helme Field and Coate Howse Close are named because of buildings while Hell Hole must have had a profound influence on the person who named it. Lime Lands probably refers to land which was treated with lime to improve fertility, but Whitt field Paddock and White Riding Meadow may have been limed or may have been covered by white coloured plants. 'Riding', of course, refers to land that was cleared from the waste.

What is interesting from the 1649 Survey is that many of the farm names have continued in use to the present day, even though many of the farmsteads have lnot been inhabited for many years. They include Combefield House (Camfield), Dyke

House, Spring House, Cushett/Cushatt Leazes, Coate House, The Deans and Cockshot.

Analysis of fields in 1800

The handbook accompanying the 1800 Estate Map lists all the fields belonging to the estate, their sizes and their tenants. Consequently, there are many more field names than found in the 1649 Survey. The field names for Edmundbyers are mapped in figure 5.14.

The limited number of names from 1649 means that it is not possible to state categorically whether all or merely some of the names continued in use. Possibly some, also, became changed - field to meadow, for example - or the main element was corrupted. However, it is clear that some did survive and reappear in the 1800 list (table 5.2). They include Spring Pasture, Calf Close, North Nook, Sike Field, Well Field, Beegarth, Boggs Meadow, Oake Hill and Hell Hole; the latter is an interesting survivor. Winterhouse also survives, as does Mawe meadow as Moan or Mown Meadows.

The field names can be grouped by type just as the 1649 ones and, as before, some names fall into more than one category. A number are linked to enclosure processes and include Hay Guards, Dry Ley Way, New Dales, Applegarth, Long Riggs and West Close. West Close existed in 1649 when it was one of the common fields of Edmundbyers. By 1800 it referred to a smaller area.

Animals again feature in the names; domestic animal names include Dog Pool, Cow Close, Ox Close Hill and Horse Pasture. Catt Hole (probably wild cats), Trout Burn (see watercourse names in chapter 3), Crow Haugh, Fox hill Wood and Clapping Gate are all based on wildlife. Names based on vegetation include Seedy Field, Strother Head, Junipers, Seaves, Hollins, Pry Field, Oaky Hill and Broomy Hill. Hay Guards, Rye Close, Clover Field, Mown (Moan) Meadows and Fallow Field refer to agricultural practices and crops, while Haugh Dang may be linked to work practices.

Topographic names are common in 1800, as in 1649. Fell Intack, Low Half (haugh) and Low Field, High Field, Soulter Haugh, Roundhill Close, How Meadow and Kiln Bank are all examples of these. Names connected with water include Black burn, Spout hill, Bog Close, Pipe Hill, Foul Hoggars, Pismire Intack and Sike Field. There

Figure 5.14: Field names in Edmundbyers in 1800

Hay Guards	OE *hēg* hay or OE *(ge)hæg* fenced-in piece of land [is 'guard' a corruption of garth?] OE enclosed land or ME *hay* is a forest fenced off for hunting
Allotment	land allocated to an individual esp to manorial or parish official (hist); to any
Shield Ford	ME *schele* a shepherd's summer hut, or small house, shed Ang-Sax. *scyld,*
Rough Bank	OE *rūh* rough grassland
Catt (Cat) Hole(s)	land haunted by cats OE wild cat OE *hol* hole, hollow, pit Ang-Sax. *hol,* Germ. *hohl,* Dan. *hul* a hole, cavern, den, hollow place
Park	OFr and ME *park* land enclosed for hunting or for a pleasure garden Welsh and French *parc* Ang-Sax. *pearoc* park, parrock, paddock, an inclosure. An inclosed place for recreation or for keeping deer or wild beasts for the chase
Intack/Intake	ON *inntak* land taken in or enclosed from the waste Land taken in, locally *intak*
Lane	track/right of way OE *laning* land, track locally lonnin one of narrow ways intersecting the hillsides in various directions
Battle Spot	'land on which juridical battles took place' - introduction of juries generally replaced trial by battle; last occurred 1819 *Spot* is small portion of land; battle possibly derived from *battle/betle* fertile ON *beit* pasture bait animals [as in bait packed lunch?]
Lisburn	
Fell Intack	ON *fell* Norwegian *fjeld* allied to Ang-Sax. *feld field* [don't agree see Ice *fjell*]
Dog pool	may be corruption of *dock* [poss. less likely here as usually 'docken'] otherwise self-evident Ang-Sax. *pol,* Welsh *pwll,* Ice *pollr* pool
Limerick	
Dry Ley Way/ Dry Low Ways	OE *drȳge* dry OE *lēah* meadow/*lǣge* untilled land or OE *hlāw* mound, hill, burial mound Ang-Sax. *leah, leag, lege, lea* from *licgan, liggan* to lie. A lea was an opening or forest clearing where cattle might be depastured, but where a good deal of woodland might exist
West Close/Quarry Intack	land on west of parish + ME *clos(e)* enclosure OFr and ME
Black burn	OE *blæk* black - soil darkened by eg coal, fire, surface water or poss. bleak OE burna spring, stream Egglestone suggests that Teesdale/Weardale watershed is division between use of beck (Deira, Danes, Norse beck to south) and use of burn (Bernicia, A/S burn to north). [not sure how accurate this is] Ang-Sax. *burn, bourn,* a stream, brook, river

Sources:

John Field (1973)
Beckensall (n.d.)
Egglestone (1886)

Table 5.2: Table of field names mentioned in the 1800 list of tenants accompanying the Estate Map of Edmundbyers and Muggleswick. Data are colour colded according to source

This table has 7 pages in total.

The full version can be seen in the attached folder of tables

are also names that are related to buildings: Church and Kirk Fields, Winterhouse Field, Smiddy Haugh, Shop Field, Little House Field, Hall Field and Barn Riggs. Locational names are found in 1800, too: Home Field, Back Field, North Nook, Reinds, High Middle Field.

A number of fields are named after people, such as Priest Field, Stephen's Field, Peggy's Hill, Smith Close and the two with moveable 's' - Isaac Spark (Isaac's Park?) and Jack's Hagg (which occurs in 1649 as Jack Shagg meadow). Some fields have other descriptions - The Ell, Shake Dott, Sour Milk Hole, Broad Meadow, New Field, while a few places have more exotic names like Lisburn and Limerick.

As with the 1649 field names, many of the name elements are Anglo-Saxon/Anglo-Scandinavian in origin. This, however, is not conclusive proof that the names are actually that old. In a number of cases, Old English and Old Norse elements are combined, or they are combined with more recent terminology. The explanation is that many of these words were in 1800, and many still are, in common usage in local dialect if not in modern English in general.

Twentieth/twenty-first century Field Names

Discussion with the late Joe Dodds in the early 1990s revealed that he knew some of the fields by different names (see map, figure 5.15). One field he had always called the Goose Fleet, because migrating geese tended to graze there, and another field was called the Jane Elliot because it was one that she had rented - as recorded in 1800. The adjacent Allison's Field was presumably also named after the tenant. The Long Dales were, judging from the map, allocations from the town field strips so that their history continued into modern times. The Pipes is clearly a continuation from at least the 1800s, as is the Dog Pool, but the Show Field must be a modern title due to the use of the site for the Edmundbyers Show. The Trows is a strange name, but is possibly a corruption of 'trout' since the Troutburn flows nearby.

Heine Ruhe, a German prisoner-of-war allocated to the village in the 1940s, kept a diary in which he recorded his daily work and leisure activities. He is still in contact with local people and provided chapters for the book which the village produced as a millennium memorial (Edmundbyers Village Meeting, 2000). Since only a couple of farmers remained in Edmundbyers, and because of his diary, it seemed sensible to ask Herr Ruhe if he remembered any of the field names. His list includes a number

Figure 5.15: Hand-drawn map of Edmundbyers showing the fields as named by Joe Dodds

that do date back to 1800 at least - Backfield, The Pipes - but also several with more pragmatic names - First Meadow, Second Meadow, the old Pasture, the Second Field on the Right (fig. 5.9).

5.11 Improvement

As noted in the introduction to this chapter, enclosure and improvement generally go hand-in-hand, the first often being a requirement for the second to take place (Williamson, 2000: 64). The two have been separated in this chapter so that the assessments of the fields and their boundaries could be undertaken. The close relationship between them, however, should not be forgotten. Both contemporaries of the Agricultural Revolution and later researchers have considered that enclosure was necessary for any serious improvement to take place. It meant that innovative farmers could have full control over their crops and animals, increase their potential to make a profit (Tarlow, 2007: 42).

The process of 'improvement' is generally thought, by modern landscape and economic historians, to be part of 'the efforts made by landowners in the eighteenth and early nineteenth centuries to enhance the productivity of their land and the efficiency of rural management' (Tarlow, 2007: 35). It was morally and socially desirable even when it was not ultimately profitable. Thus, it is generally assumed that 'improvement' is a relatively recent aspect of agriculture, but this is not strictly the case. Between the mid-seventh and ninth centuries, kingdom-states like Mercia emerged and large estates were given to monasteries (Oosthuizen, 2011: 384). Associated with this was a growth in the number of watermills, suggesting that they had more grain to process than was required for subsistence (*ibid*: 385). At this time new crops were introduced, better varieties of grain grown, more legumes and even flax and hemp for industrial scale linen manufacture. Manuring of the soil was better organised, sometimes involving the folding of animals and sometimes using the legumes as 'green manure', and the mouldboard plough came into widespread use (Oosthuizen, 2011: 385-6).

The 'Agricultural Revolution' is usually assigned to the century from 1750. However, significant changes had been taking place from the fifteenth and have continued to be applied. These changes could vary; sometimes they involved new techniques or new crops, sometimes existing methods were expanded or intensified (Tarlow, 2007: 37). The more important agricultural revolution may, therefore, have occurred in the

sixteenth and seventeenth centuries rather than the eighteenth and nineteenth. This innovative 'breakthrough in farming techniques' involved the introduction of what was later called 'ley farming', in which arable land was put under grass in order to recover for a while and pasture was cultivated; it had advantages for those with enclosed land (Darby, 1976: 13). Open fields could be more flexible in use than sometimes thought and it was possible to have a mixture of arable and ley in each of the three fields. Different farmers sometimes grew different crops in the same field and the introduction of leys meant that fallow could be used more efficiently. So that fields were not necessarily empty all year, 'hitch' crops like peas, vetches and lentils were sometimes grown. The right of common grazing on the fallow did not inhibit such innovations (*ibid*: 14). There were still places practising virtually unchanged mediæval agriculture as the enclosures of the eighteenth century approached, and fallowing remained necessary on heavy, wet clays. However, there were also many open-field villages that used a flexible rotation system, employing ley farming and other new ideas (*ibid*).

Thus, while there were agricultural innovations before the eighteenth and nineteenth centuries, during this time more previously little-known or seldom-practised techniques were introduced and disseminated alongside totally new ideas (Walton, 1979: 246). Much investment was made, also, in land improvement such as undersoil drainage, and new steadings and workers' cottages on estates (Whyte, 1999: 271). Also introduced were chemical fertilisers and mechanical improvements, better fodder cropping and consequent improvements in sheep and cattle breeds (Harris, 1976: 174; Walton, 1979: 246).

From about 1750 there were significant changes in agricultural practice. The ideas of 'scientific' farming were disseminated via journals, societies and publications (Tarlow, 2007: 36). The development of cheap printing technology assisted in this, so that new ideas could be spread and the improvement of agricultural production became viewed as an economic, social and cultural necessity (Tarlow, 2007: 63 - 4). Many of the farmers would have been able to read and those who could not would have talked to others or joined the growing number of agricultural societies. While in the mid-eighteenth century scientific farming was the domain of high-status gentleman farmers, between 1800 and 1845 the number of agricultural societies had grown from 35 to 360. They were supported from the late eighteenth century by the developing national infrastructural and communications system (see chapter 6) (Tarlow, 2007:

36). This is borne out by an interesting observation that Northumberland farmers, between 1780 and 1815, were able to access up-to-date information about agricultural techniques, not from the local newspaper or even word of mouth, but by writing directly to agricultural innovators in other parts of the country (MacDonald, 1979: passim). Their letters, and the replies, were much assisted by the better roads and more rapid passage of vehicles.

The main reason ascribed to 'improvement' is a desire for greater profits. This being so, then there has been much discussion as to why the agricultural revolution did not take place earlier. The answer is considered to be that knowledge and a practical interest in agricultural came to be thought of as necessary accomplishments for a gentleman (Tarlow, 2007: 40 - 41). Previously their interest had been supervisory and theoretical but from the mid-eighteenth century it was influenced by the growth of 'Science and Progress' and the innovative and experimental ideas that went with this (*ibid*: 41).

There were various methods that were employed to improve agriculture. Where the land was extremely boggy, such as the Fens or Romney Marsh, then drainage was the aim of the improvers (Tarlow, 2007: 51). It was not always successful. In Northumberland, attempts to drain Prestwick Carr were made from the Middle Ages at least (Harbottle, 1995: 4). Further attempts were made in the nineteenth century which resulted in the enclosing and sharing of the land between several landowners and the construction of new roads. Nonetheless, the Carr continued to flood intermittently up to the end of the twentieth century (Harbottle, 1995: 9 - 14) and presumably still does. No such drainage is recorded for Edmundbyers and Muggleswick, although several of the valleys have been used for reservoirs, probably because they already had a tendency to gather the water from the fells.

Where soils were lighter, as with chalklands, and the nutrients were poor, then the removal of scrub like furze and fern was a method of improvement. However, the soils needed a good deal of manuring and careful rotation of crops - like the Norfolk four-course - were needed (Tarlow, 2007: 53). There is a good deal of gorse growing in the UDV. Sometimes it is removed but it soon grows back if not carefully managed. Even so, it grows where there is rough pasture on thinner soils and is rather less common on good grassland; on the little arable it is not found.

Improving the soil itself was an important method of increasing crop yields and profits. One of the methods employed was liming, or marling with a mixture of clay, lime and other ingredients. It was useful on acid soils but tended to be used in other conditions in the hope that it, alone, would improve fertility. Liming was labour intensive and heavy transport was needed. Consequently lime kilns were usually close to the source of materials or to where the lime would be used (Tarlow, 2007: 54). There are two lime kilns in Muggleswick, listed by English Heritage; one is dated to the late eighteenth century and one to the early nineteenth. However, in the 1649 Parliamentary Survey for Edmundbyers, the part of the area now known as the Kill Bank is referred to as the Kilne Field (Sobo, 1995: 62 and 65 of the original). This would suggest that a lime kiln existed here in the mid-seventeenth century, there being no evidence for any other type of kiln. If this was the case, then the improvement of the fields around Edmundbyers was under way before enclosure was complete.

Manuring was the other chief method of soil improvement. Various materials were used: bird dung, bark from tan pits, saltpetre, oxblood, soot or bones and industrial waste; in places nightsoil was transported from the towns (Tarlow, 2007: 55), especially after transport became easier, and continued until modern sewage systems were introduced. From personal observation I know that nightsoil was spread on the fields north of Morpeth because the broken clay pipes and pottery thrown in the 'netty' were widespread. I have not seen anything similar on the fields in the UDV.

Using 'convertible' or 'up-and-down' husbandry was another way to manure the soil, alternating crops and animals on the fields. Although it was used from the early modern period it became more common with the increase in enclosed land (Tarlow, 2007: 55).

By the end of the seventeenth century the soils in many parts of Scotland were eroded, acid and lacking in nitrogen. Liming and growing legumes helped and new crop rotations were introduced in the lowlands from 1750. However most of the Highlands and much of the lowlands was only profitable if used for pasture (Tarlow, 2007: 57). Tarlow cites a farmstead called Over Newton in Upper Clydesdale. In the mid-eighteenth century there was a farmstead set in the middle of arable land but by the mid-nineteenth the settlement was abandoned and the land enclosed for stock rearing (*ibid*). This kind of desertion did not occur in the UDV, probably partly because there was already a substantial amount of stock rearing compared with arable.

One of the major tenets of improvement was the consolidation of land tenure. The increase in farm size begun earlier continued during the eighteenth century as small farms were amalgamated and smaller landowners bought out (Tarlow, 2007: 57 - 8). Increasingly the land was being organised into estates owned by gentry or aristocratic landlords and managed by tenant farmers who employed landless labourers. With enclosure, new farms with specialised production were built (*ibid*: 58). This did not happen in the UDV in the same way, although the estate at Ruffside probably developed like this. However, the use of labour by tenant farmers was, no doubt, a feature of the agriculture of the area especially when there were insufficient family members for the work. However, it should also be remembered that some of the farms only continued at times because there was additional work in the lead mines and associated industries.

As a more capitalistic attitude grew towards farming, the rental practices altered. Where generations of families once farmed they were pushed out by entrepreneurial farmers who were willing to pay higher rents. Up to this time many rental agreements had been verbal and informal but now they were increasingly documented. This was not necessarily advantageous to farmers who were less literate or whose first language was not English, as in Wales or Scotland (Tarlow, 2007: 59). In Muggleswick and Edmundbyers, however, it seems likely that rental agreements had been formalised and documented for some time. The details given in the 1649 Parliamentary Survey suggest that clear records had long been kept by the Dean and Chapter since they list all the land and buildings held as well as the rent and when it was payable.

Another important method of improving the land was to drain the fields. Although some drainage had begun in Stuart times, thousands of miles of drains were dug in the nineteenth century and clay pipes were produced for field drainage. In fact, underdrainage was possibly the most important type of improvement in northern parts of Britain. The earlier open ditches and cultivation furrows were replaced by underdrainage in grids or herringbone patterns because it made for better pasture and easier cultivation (Tarlow, 2007: 60). Many of the pastures in the UDV show signs of underdrainage having not been maintained: rushes and wet ground are frequently found on enclosed land which must once have been better pasture. An interesting discovery was made when new drainage ditches were dug on fields to the south of The Hole in Edmundbyers. At a substantial depth a layer of vegetation was revealed,

much of it apparently small branches. Tarlow mentions the use of bracken, gorse or small branches laid in trenches or pits as one of the first forms of underdrainage employed (2007: 60). If this is what we found at The Hole it must have involved a great deal of labour.

Interestingly, there were no major technological advances during the so-called agricultural revolution although there were improvements to the machinery. Metals ploughs and horses had replaced oxen and wooden ploughs over the century leading up to the mid-1800s. Stronger breeds of horse like Clydesdales, Shires and Suffolk Punches were bred; they were docile, easy to keep and did less damage to the crops and land than oxen. Horse gins were introduced for threshing; it was not until the twentieth century that steam machines, including threshers became important (Tarlow, 2007: 62 - 3). Tull's horse hoe and seed drill, with other mechanical advances, made ploughing, sowing and harvesting easier and the land could be farmed more intensively (Raistrick, 1946: 7; Tarlow, 2007: 63). The Dukes of Northumberland were improving landlords, rebuilding farms approximately every ten years and planting trees, while the Commissioner for Greenwich Hospital gained the forfeited Derwentwater estates after 1715 and engaged in similar improvements (*ibid*: 123). In Northumberland the adoption of factory farms and steam-powered machinery went ahead in the nineteenth century while in other parts of the country, such as Middlesex, land management had not greatly changed (Harris, 1976: 186). The improvements by Northumberland landlords caused the greatest colonisation of the waste since the 1200s (Newton, 1972: 124-5). It is interesting that Northumberland should have been more advanced in these respects than southern England, but this may have been due to its proximity to the industrial advances being made on Tyneside. However, while the long-standing use of lime was increased - and there are a number of disused lime-kilns in the region - underdrainage was not widely embraced until the 1830s (Williamson, 2002: 113). In the UDV, Ted Curtin purchased the first tractor in the area before the Second World War. When Ernie Walton subsequently bought a Ferguson - the 'little grey Fergie' - he was being innovative because the Fergie was not just a tractor but a whole system of agricultural equipment, being designed to take a number of useful attachments. The delight of many vintage tractor enthusiasts, the 'little grey Fergie' continues to be a versatile machine.

However, improvements were not as thorough in the mountainous and moorland areas as on the downs and heaths of the lowlands. This was largely because the

environment was much harsher and the altitude restricted cultivation (Harley, 1976: 249 - 250). The first O.S. maps of Northern England show that the upper limit of cultivation was ragged in character and there were many individual enclosures detached from the main improved land (Harley, 1976: 251), such as Peg's House, Bollihope.

While farmers probably starting breeding animals selectively at an early date and the size of them increased, the 'significant increases in meat yield' during the agricultural revolution were probably the result of breeding animals which grew larger and matured younger (Tarlow, 2007: 64). Robert Bakewell experimented with selective breeding in the eighteenth century, improving animals for meat production and carcass quality. Culley progressed this, breeding sheep and cattle in the Cheviots (Raistrick, 1946: 7). However, it is Bakewell's work which is of most interest in the North Pennines. While Bakewell originally developed the longwool Leicester sheep, it became concentrated in the North of England and became known as the Hexham Leicester. Its usual name now is the Bluefaced Leicester and it is important both for wool and for breeding (http://www.blueleicester.co.uk, accessed 23/5/2014). Although the Leicester fattened quickly, the meat quality was not particularly good, having a high proportion of fat. It was sometimes referred to as 'coal-heavers' mutton (Davis and Becket, 1999: 3). The Bluefaced Leicester is usually crossed with the Swaledale in the UDV, or with the Northumberland Blackface, to produce a prolific, early-maturing, hardy sheep, the North of England Mule (http://nemsa.co.uk/). This has been the chief pasture-kept sheep of Edmundbyers and Muggleswick for many years, with a few Leicesters for cross-breeding with the fell-kept Swaledales. In more recent years more exotic breeds have been experimented with, including Jacobs, Lleyn and Lincolns. Cattle, too have varied. At one time, relatively recently, the Belted Galloway was popular but now various other breeds have been introduced as well. There are a number of riding horses, too, but the most exotic of the livestock are alpacas, a herd of ten being 'stinted' on the fell just like the sheep.

Research by Davis and Beckett has added to the information about the improvement of livestock. As they note, increases in agricultural output were achieved at a time when the agricultural workforce was in decline (1999: 1). It is sometimes assumed that the size of animal bones found through archaeological excavation can be used to tell if the animals were 'improved', larger bones meaning larger animals. However, this does not allow for different ages of the animals at slaughter (*ibid*: 4). Davis and

Beckett used bones from several excavations to carry out their research, including two relatively close to the UDV - at Closegate, Newcastle and Prudhoe Castle. The zoo-archaeological evidence indicates a variation in animal size across the country, with cattle sheep being smaller in the more remote parts like Cornwall and Northumberland than in the central region (*ibid*: 6). So it is the change, if any, over time for each site which is more important in assessing whether there was improvement in animal quality. For Closegate they found that sheep in the thirteenth to sixteenth centuries were quite small but those from the seventeenth to eighteenth centuries they were larger. Newcastle sheep were significantly larger than their predecessors by the end of the seventeenth century. At Prudhoe Castle the results for cattle bones show that they, too, increased in size from the fourteenth to the seventeenth centuries (*ibid*: 10). The influence of the age of slaughter remains to be considered. Using dental evidence, it was shown that in the thirteenth to fifteenth centuries more than 80% of the cattle were older than three years when slaughtered. Later this was reduced to approximately 40%. This indicates a change to more emphasis on beef production, and dairy products, suggesting greater specialisation (*ibid*: 13 - 14). This research supports the idea that agricultural improvement was a long-term, gradual process starting at least as early as the fifteenth and sixteenth centuries and was not a 'revolution' (*ibid*: 14).

Along with the new consolidated holdings came new farm buildings, often standing isolated among their fields. Some of them were 'model farms', designed to have the human and animal accommodation well-separated. However, they were expensive to build, so most farms were not of this type unless they were on the estates of the most affluent landowners. Mostly the existing farms were adapted as necessary (Tarlow, 2007: 67 - 69). None of the farms of the Muggleswick estate fit this model type. However, the change from the rather rough-sounding houses of the 1649 Survey to the surviving house and byre design described in chapters 3 and 4 might well have taken place around this time, including the upgrading of Cushat Leazes to a two-storey dwelling. Where landowners did improve their farms and parkland, they usually increased productivity, improved the workforce and provided better housing, a school and church (Tarlow, 2007: 74).

Given that the climate of the North Pennines has been likened to that of the Eastern Highlands (4.2.1) and the cross-Border incursions, it is perhaps appropriate to take a brief look at Scotland to see if there are any similarities. In Scotland the change was

slower at first but increased speed between 1770 and 1850 (Tarlow, 2007: 78). There was resistance to the Industrial Revolution in the north and west of Scotland and landowners thought the tenants to be backward and intransigent. The system in use was still essentially feudal (Tarlow, 2007: 81). Lowland Scotland was similar to Northern England in that much of the land was held by a few large estates. Improvement could be planned on a grand scale (Tarlow, 2007: 78). Much has been written about the cruel treatment of peasants put off the land to be replaced by sheep. The general agreement is that, in the Highlands, many people were forced to leave the land they traditionally farmed for two reasons, economic hardship or eviction. Some of the landlords who wanted to consolidate their holdings to raise sheep or later, deer for shooting, were ruthless in the way they evicted people. The poorest people, and the most ill-treated, had to move to towns where they often begged for a living or emigrated, a preferable solution (Tarlow, 2007: 80 - 81). However, records show that the rates of emigration were similar for both the areas subject to clearances and uncleared areas; emigration was underway by the late eighteenth century anyway (*ibid*).

In the Highlands of the mid-eighteenth century the conditions for the peasants were very poor, so it was not surprising that educated men and landowners set out to improve them. Although some landowners were only concerned with themselves, others wanted better conditions for their remaining tenants, giving them longer leases and more security. They also considered that building stone houses and villages, and seeing that there were more varied occupations were necessary actions (Tarlow, 2007: 82 - 83). Some clearance activities aimed to resettle people on crofts and in enhanced coastal towns (*ibid*: 84).

Research and excavation at Ben Lawers have shed some light on the improvement process in Scotland. The main period of improvement on Loch Tayside was in the later eighteenth century and began with the building of castles (Atkinson, 2010: 318). In 1769 there were some 120 settlements held by multiple tenants occupying five or six buildings. These buildings included longhouses, barns, corn-dryers and gardens. The infield, or better quality land, was on the lower slopes with small fields divided into strips. These were divided between the families and cultivated using the runrig system. Beyond them, on the poorer land, were fields that had to be left fallow and used as grazing two years out of three (*ibid*: 319). Transhumance with temporary shielings was also employed. Right at the end of the eighteenth century a new lease

system was introduced which ended the old joint farming arrangement by dividing the land into new lots with 15 year leases (*ibid*: 319 - 320). Fields were drained, five-fold rotation introduced and new farms established in the outfield. By 1820 it was clear that the tenants were having problems and more farms were amalgamated (*ibid*: 320).

At Ben Lawers the excavated sites were of three types - longhouses with byre and human dwelling attached, cottages with no animal section and outbuildings (Atkinson, 2010: 326). What is particularly noticeable about the longhouses is the change in the location of the byre depending on when they were built. Thus it has been suggested that these houses, built as part of the 'improvement', were designed and constructed according to a plan which was intended to improve living conditions (*ibid*: 328). They differ from the houses of the UDV described in chapters 3 and 4 in being longhouses rather than houses with two floors. However, the attached byre and the improved design do support the notion that there was a general upgrading of accommodation alongside the agricultural improvements.

Such clearance of the land as occurred in parts of Scotland did not take place in Muggleswick and Edmundbyers although the Victorian introduction of grouse shooting as a leisure activity did mean that the moors began to be managed for that purpose. This provided work for gamekeepers and, on days when there was a shoot, work for anyone who could spare the time as beaters and loaders for the guns. This continues to the present day. There was no loss of grazing for stinted sheep although other restrictions may have affected the day-to-day use of the fells by local people.

Thus, in the eighteenth and nineteenth centuries, the many changes associated with agriculture were 'improvements' by the standards of the time. Crop and livestock production improved and many country dwellers found they were living in better conditions. However, those on the fringes of society, like the sick, the elderly and the very poor, found themselves even more marginalised. Thus it was clear that 'improvements' were required in society also (Tarlow 2007: 87 - 88).

5.12 Conclusions

This chapter has investigated the linked processes of enclosure and improvement, comparing the methods used in the parishes of Muggleswick and Edmundbyers with the procedure in other parts of Britain. It has shown that, while there are similarities,

the developments in the two parishes differ significantly from what might be considered the norm.

Firstly, the ownership of the land by Durham Cathedral Priory and later the Dean and Chapter made the estate different from those owned by lay gentry. The extended period of open field use in Edmundbyers and the early enclosure at Muggleswick when the land was shared between the Prebendaries made the parishes dissimilar from each other as well as from those in other parts of the country. The different enclosure processes have been described and discussed.

The regressive mapping and studies of field boundaries have helped to give a better understanding of the enclosure process. From this research it has been shown that it is likely that enclosure of Edmundbyers' fields began with larger plots being enclosed, shown by the older and 'outer' boundaries, and that these were then subdivided. The division of the land respected the old strip fields. In Muggleswick the land was enclosed at the Dissolution of the Monasteries but the research at Cushat Leazes has suggested that the original enclosures were not maintained but were reorganised at some point before 1800. The regression maps show that no large areas of land were enclosed after 1800. Most of the boundary changes were internal or involved the addition of small areas.

The field and farm name survey indicated that many names have much older linguistic origins than the age of the actual places. It suggests that the names of physical features tend to last in the landscape and that the actual words have continuing importance. The continued use of some of the names is an interesting social feature.

Agricultural improvement reached different parts of Britain at different times but it has been shown that Edmundbyers and Muggleswick were involved in the process. It is probable that soil improvement, at least by the use of lime, was under way before the mid-seventeenth century and the early enclosure would have permitted selective breeding of animals. Farmers in the UDV continue to show an interest in trying new breeds to improve productivity. The introduction of mechanical assistance like tractors and binders fitted with the developments of the twentieth century. Today, younger farmers round up sheep with quad bikes where their grandfather rode a horse until the 1980s.

Thus, while this chapter has continued to demonstrate that the UDV may be considered different in many respects it has also shown that it has been part of the national 'agricultural revolution'.

CHAPTER 6

COMMUNICATIONS

6.1: Introduction

Thirteenth century documents make specific mention of two roads within the parishes of Edmundbyers and Muggleswick - the route referred to as Balyolfgate (Greenwell, 1872: 182), which passed north-south through Muggleswick, and a tributary from the west via Wascrop. These routes, and others, will be described and discussed in this chapter in an approximately chronological order which allows the development of a pattern of communications to be established.

Roads, tracks and waterways are important aspects of the landscape and 'an understanding of the means and the lines of movement pioneered by people in their efforts to communicate, socialise and trade with each other is crucial to the understanding of almost any landscape' (Muir, 2000: 93). Travel, transport and routes have varied over time and their effect on the landscape has increased. Some background to this process will be discussed before proceeding to the detailed analysis of routes in this area of the North Pennines and their relationship to the wider communications system.

6.1.1: The development of routes

Why and how routes developed may be considered to be somewhat serendipitous; those that developed to fit the requirements of local people are often called 'desire' paths. Did early hunter-gatherers have paths they followed? It may be presumed, from evidence such as the hunting camp at Birkside Fell (see chapter 3), that they sometimes followed regular migration routes seeking animal and other resources, but would we have been able to recognise them? A group of people walking in single file would have to follow exactly the same route at fairly regular intervals for a path to be worn through the vegetation. Ingold (2007: 43) notes that reductive traces in the landscape are left by humans who frequently follow the same route and refers to 'A line made by walking' which artist Richard Long made in 1967 by walking up and down in a field until he made a line in the grass. If the routes to the hunting camps were only walked once or twice a year, the plants would re-grow. If people walked

as a group in open country, not in single file, the damage to the vegetation would be more widespread but less intensive; again the regrowth would hide the route. Or, perhaps, the group followed much the same direction but not exactly the same route each time. A permanent path would not be made.

Tilley (1994: 27) explains that, when people move through the landscape on a daily basis, their passage has a biographical significance for them as they read known signs like marker stones or distinctive logs. Travelling along a path, he says, 'can be claimed to be a paradigmatic cultural act, since it is following in the steps inscribed by others whose steps have worn a conduit for movement which becomes the correct or 'best way to go'' (*ibid*: 31). As one moves along a path new sights, smells, signs and physical sensations are experienced while others are left behind, thus it is necessary to feel a landscape to understand it and this experience can be shared with others by talking, writing or drawing (ibid). I would contend that such second-hand knowledge is far inferior to the actual experience; thus we today cannot fully understand the familiarity our ancestors had with the landscape simply by reading about it.

Following a path is necessary in order to reach a place. People arrive and depart along paths; without them there can be no places. By following a path people remember the way as they go; they do not need maps because they use the landscape itself to guide them (Ingold, 2005: 204, 56). There is no mental or cognitive map involved in the process but 'ordinary wayfaring' is more like storytelling (*ibid*: 219) - perhaps the putting together of fragments of information as each landmark is recognised.

Followable paths must have resulted from the regular use of a route, perhaps from the camp to the water supply or to the place where hunters sat looking out for passing game. 'A routeway will only develop when sufficient people wish to travel between two points, though once established a routeway becomes a significant feature of the countryside' (Muir, 2000: 94). The most used routes for the first farmers would have been from the farm towards water, to the fields or to where the cattle grazed. It is likely that people might have ventured as far as the next farm, so a longer regular route would become established, and from that farm to the next. Local links to ritual or spiritual places - and later the church - from settlements or farms or, especially, from the settlements to the fields are mentioned by Aston (2004: 145) as significant in the pattern of routes. Hoskins notes that many by-roads and lanes developed in Saxon times between villages and the woods in which they had rights (1970: 185).

Rough tracks evolved to link villages and hamlets (Newton, 1972: 216-7) and Whitlock concurs: 'Footpaths were originally entirely utilitarian. They represented a short cut across country between two villages, two groups of cottages, or to the nearest alehouse, church or other much frequented feature' (1980: 172). In fact, even much later, as seen on 18th and 19th century maps, many roads simply meandered from one farm or hamlet or village to the next - and often still do. Slightly longer routes developed when transhumance was practised; in Somerset this linking of upland and lowland resources produced much of the region's road pattern (Aston, 2004: 145).

Communication, in the past, meant people and goods moving about the landscape and, to understand routes, it is necessary to understand why this was occurring (Aston, 2004: 138).

This need to travel only as far as the next farm may seem limiting and primitive today and was probably mostly connected with necessity. However, until relatively recently for many people, travel was fairly slow, often on foot in remoter areas, could be dangerous and, anyway, socialising with one's neighbours was much easier than going to town. Even in the latter part of the twentieth century there were still elderly country people in England who had never travelled more than a few miles from their homes, such as the woman from Lacock, Wiltshire, who in 1988 was excited about a trip to London but had never even been to nearby Swindon (A. Newton, pers. comm. 1988). Even today, most people do the bulk of their travelling over relatively small areas, visiting neighbours and friends, the shops, travelling to work and to visit family - regular trips, most of which are fairly local. Only needs such as the transport of goods, holding business meetings or going on holiday require fast long-distance communications. The development of a local road network, therefore, was based on local trade, social and administrative needs. With the nationalisation (i.e. nation-wide) of government and trade there was an institutional change and better and more direct roads became necessary - as in the turnpike era (section 6.6).

It should not be considered, however, that people in the past did not travel far afield. While many had no cause to go far from home, there are examples of travellers covering long distances, albeit much more slowly than today. Benedict Biscop, for example, travelled to the continent and as far as Rome several times in the seventh century. The existence of Balyolfgate (section 6.4) shows a need for travel between Teesdale and Tynedale and troops aiming to foil the army supporting the

Muggleswick Conspiracy in 1663 met only Joseph Hopper, riding home from a trip to Ireland.

6.1.2: Studying routes

Dating roads requires care. Many developed gradually from footpaths and tracks, becoming more formalised as their use increased. Consequently they may have been in use long before they were considered important enough to record on maps or in other documents; some of them are much older than we think (Aston, 2004: 146). Roads and tracks are very difficult to date; while many might be mediæval or earlier in origin - possibly even prehistoric - their looks can be deceptive. They should be studied in relation to 'other features of the cultural landscape' (Muir, 2000: 93). The category of routes also changes over time. For example, Clennel Street in Northumberland can only be proved to have been in existence by the 12th century when it was used in transhumance practices for the sheep belonging to Newminster Abbey. It could easily, however, have been used by traders in the prehistoric and Roman periods; it was frequently used by reivers during the Border wars and as a drove road from the 16th century (*ibid*: 97).

Rackham gives advice about researching roads: the best-preserved parts of ancient highways are found up and down slopes and on plateaux, river crossings often move causing misalignments of road sections and genuine ancient long-distance roads are usually coincident with parish boundaries in places and may be preserved as footpaths or hedgerows (2003: 114 - 5). He also advises that, where evidence has not been destroyed and construction took place according to the statute, finding a trench or long parallel-sided gap between a wood and a road is 'strong evidence that both the wood and the road date from before 1300' (*ibid*: 116).

The terminology used in different periods for roads and paths might give clues, in documents and local names, about the communications system (Morriss, 2005: 10 - 11). The word 'road', Morriss states, dates only from the late 16th century and is derived from the Old English rád meaning to ride. Older is the name 'way' from the Old English *weg* (move, journey, carry). 'Street' is now usually only found in towns although it was used by the Saxons for Roman roads. It comes from the Latin *strata* and O.E. *stræt*, and means a 'deliberately engineered route dedicated to traffic' (ibid). Morriss does not mention the term 'gate' from *gata* (O.E.) still used in Icelandic for

street, way or path. This last term is relevant to my study areas as several routes have this name.

In the following sections I investigate the routes around Muggleswick and Edmundbyers, making comparisons with other areas during different periods, and taking into account the above-mentioned factors.

6.2: Pre-Roman routes

The numerous and varied trackways of prehistory were the precursors of modern roads; some were short and used for transhumance and others were longer-distance routes used for hunting or trade (Morriss, 2005: 25). Often they are braided holloways, used for thousands of years, naturally subject to erosion, and extremely tricky to date (ibid). It was once thought that the patterns of prehistoric communications were linked to the uplands and ridges where many monuments were found; the higher routes were thought to be safer than the valleys and lowlands which were poorly drained and wooded. However, pre-Roman society in Britain was sophisticated enough to deal with basic road engineering like surfacing. Generally, unsurfaced tracks seem to have been adequate and such engineering was only needed on local paths and causeways between homes and fields - presumably because of heavy use - or in marshy areas (Morriss, 2005: 26 - 7). In the wetlands wide wooden walkways crossed fen, fenwood and raised bog, indicating that there were organised routes across them and a wide use of the landscape (Whittle, 2003: 61). The best-known of these is the 'Sweet Track', built c.3800BC and at least 2km long, which linked people and perhaps animals to a small dry island (ibid). The succession of walkways here and other similar tracks in the Somerset Levels show that woodland management and coppicing were going on to provide materials (*ibid*; Aston, 2004: 26). Such routes developed from the simple pegging-down of bundles of twigs to the stronger and more elaborate piles and walkways (Muir, 2000: 96). Well-organised communities were necessary to co-ordinate human and natural resources for such elaborate construction (Aston, 2004: 26). Similar tracks have been recorded in the bogs of Lancashire (*ibid*) as well as in Eire (e.g. the trackway at Corlea built 148BC). If this is the case, could there be similar, yet undiscovered, routes across the moors of the North Pennines?

In the south of England the routes of old trackways can still be traced on the current land surface, such as the Icknield Way below the Chilterns, the Pilgrim's Way along

the North Downs and the 'Jurassic route' along the Cotswolds and through Northamptonshire to Lincolnshire. Such trackways may have already been old in the Roman period and tended to follow ridges of well-drained land (Darby, 1976: 1; Frere, 1969: 3). Ancient trackways and prehistoric settlements may be mostly mutually independent (Hindle, 1993: 19 - 20). Muir concludes that routeways are there to serve communities; they are thus related to settlement patterns and link neighbouring settlements. Nonetheless, dating a trackway as prehistoric without associated firmly-dated features would be foolish (2000: 96). Even when parts of prehistoric trackways are found during an excavation it is generally not possible to tell whether they were part of a wide network of routes or merely local field tracks (Muir, 2000: 97). Some routes do show the use of engineering expertise, such as a possible Bronze Age metalled road found at Yarnton near Oxford. The road bed was made of limestone fragments, brought from some five miles away, with quartzite pebbles and had timber handrails. It formed a 5m wide causeway which stretched 35m across a river channel (ibid). A recently-discovered metalled and cambered road at Bayston Hill quarry, Shropshire, has been dated to the first century B.C. and indicates tribal trading relationships since it was designed to take heavy traffic. Other evidence shows that it had been a droveway before the road was built (Morris, 2011).

6.2.1 Northumbria

The trade in Langdale axes is well known. They were exchanged widely in Britain with some of them, at least, being transported by sea. The trade was also taking place with herdsmen from the Yorkshire Dales who had followed summer grazing into and beyond the Pennines (Muir, 2000: 94). Perhaps herdsmen from the Durham Dales made a similar journey, possibly to the Cumbrian stone circles which Muir considers may have been trading sites, like the Neolithic enclosure found at Gardom's Edge in Derbyshire (*ibid*).

In Northumberland, the ancient trackways through the hills are often associated with the hillforts that are found on or near the summits. The Salter's Road at Alnham runs within one kilometre of Castle Hill and High Knowe, and the hillfort at Alwinton lies even closer to Clennell Street which climbs towards the Scottish border (Newton, 1972: 47). Frere noted that the ill-named and discontinuous highland zone of Britain actually has pockets of lower and more fertile ground which are suitable for agriculture and in places may have been fully settled. Even so, the 'inhospitable hills' cut them off from each other so that communications were not easy (1972: 3).

6.2.2 Edmundbyers and Muggleswick

The evidence reviewed in chapter 3 suggests that the Upper Derwent valley and the surrounding hills were known to prehistoric people. It can be surmised that groups of people were moving through the landscape here during prehistory. Whether they left any routes that were adopted by later people and are still visible or used cannot be easily ascertained.

With so little evidence for settlement in Edmundbyers and Muggleswick for this period it is difficult to assess the communications in the area. Some of the early occupants would have been hunter-gatherers, based on the data from Birkside Fell, and probably travelled from the coast and back, possibly following the rivers. To assume that the early farming communities of the area were static is too simplistic. While they were settled, this does not mean that there was no travel between farms, adjacent valleys or even further afield. It is not possible from the evidence to draw any firm conclusions, however.

6.3: Roman routes

It was perhaps only due to the need to transport people, goods and information, as under Roman rule, that long-distance routes became necessary. As trunk roads and motorways do today, Roman roads often took more direct paths and by-passed many small settlements, although they were often far from straight. Davies points out that the Romans were skilled in taking the direct route between places but they would deviate from a straight line if they had good reason (2002: 39). The main reason that Roman roads were built with their characteristic long straight stretches was 'mathematical convenience' (ibid: 52). Short sections of straight lines would have been much easier to lay out than curves and the places where roads change direction are often found near high ground so that it seems logical that these higher parts would have been good survey points (Morriss, 2005: 30 - 31).

The 'typical' Roman road had a metalled roadway lying between the 'shoulders' of the agger or central mound. Either side of the agger were deep drainage ditches, then an area cleared of vegetation and, beyond that, smaller ditches (Davies, 2002: 33). The outer ditches were usually 25.5 or 20m apart and may have defined the 'road zone', while the road itself varied in width from 3.1 to 9.2m (Morriss, 2005: 31). The outer ditches are seldom noticed, suggesting that this may be because they were not always dug or because they are outwith the excavation area (Davies, 2002: 34).

The Roman administration in Britain built some 6,000 miles of road, a feat that was not attempted again by any government until turnpiking. Parts of Roman roads remained in use for centuries, through the mediæval period, and still underlie many modern routes, as can be seen on many Ordnance Survey maps (Davies, 2002: 26; Muir, 2000: 99; Liversidge, 1973: 381; Darby,1976: 2). Sections of Watling Street, Ermine Street, Fosse Way and other Roman roads are still in use (Whitlock, 1980: 33). However Roman roads began to be neglected once Roman administration ceased and alternative routes replaced some sections of road, perhaps because the terrain was difficult or sometimes in order to link with new settlements, so that the system became distorted (Muir, 2000: 99).

Roman roads required regular repairs and there is evidence of this on Dere Street just after it crosses the Tyne at Corbridge (Liversidge, 1973: 382 - 3). It has been discovered that the metalling on Roman roads does not all date from the time the road was built but layers may have been added when the road was repaired later in the Roman period (Davies, 2002: 35 - 6). Outside military areas the problem of road maintenance may have been passed to the civitates and landowners may have been responsible for the roads and bridges that adjoined their estates (Liversidge, 1973: 389; Davies, 2002: 105). Bridges, too, needed repair with the one at Piercebridge being replaced; the first bridge was largely made of wood and the second, on a different alignment, had stone abutments and piers (Fitzpatrick and Scott, 1999: 115, 119; Liversidge, 1973: 388). Fords used for crossing rivers often pre-dated the Roman period but at least some Roman fords were paved with rough stone blocks, like the one at Iden Green in Kent (Liversidge, 1973: 387).

Roads built for the Roman military were later adapted for civilian transport, meaning that some of the earlier routes were abandoned (Liversidge, 1973: 390). In places it is clear that present parish boundaries pre-date these roads, which cut heedlessly through existing boundaries, although parish boundaries do sometimes coincide with Roman roads (Aston, 2004: 40, 43). Official traffic on the roads included the army, government officials and the cursus publicus - the imperial posting service invented by the Emperor Augustus. Because the administration of the empire depended upon this there were relays of horses every 6 to 16 miles and a mansio every 20 to 30 miles (Liversidge, 1973: 390). On Stane Street, between Chichester and London, excavations have shown the mansiones to be about 12 miles apart, between 2.5 and 4 acres in area, with an embankment around the rectangular enclosure. The road ran through the

middle and evidence of stables, cart sheds and simple living accommodation has been found at Hardham and Alfoldean (Liversidge, 1973: 59). Dere Street, no doubt, largely conforms to this design.

The importance of the network of Roman metalled roads had an impact on the economic landscape and influenced the siting of towns; many of the so-called small towns of Roman Britain were established at road junctions or along roads because good communications were important for commerce (Cleary, 2003: 163; Hodder, 1979: 49).

With a well-engineered road network goods could be transported throughout the province of Britain. The roads were at the top of a hierarchy of routes in the empire which included unsurfaced roads, older trackways and rivers, canals and sea routes (Muir, 2000: 100). Even really heavy items like stone sarcophagi and large altars were moved over long distances, indicating that the carts and wagons available were capable of such work and the road system was well-maintained (Frere, 1969: 300 - 301). It was once thought that Roman transport was not very sophisticated. However Greene has shown that there was 'a range of vehicles from slow solid-wheeled carts drawn by oxen through to light horse-drawn passenger vehicles' (1990: 36 - 38). Examples of these come from carvings and literature. Of course, such sources often do not provide accurate details of harness or vehicle construction, so that there has been misunderstanding about them. Despite the sometimes simplistic carvings, it has been found that there were vehicles with pivoted front axles (Greene, 1990: 38) and that the idea that horse harness restricted the animals' breathing and limited their traction capacity is incorrect (ibid: 39). Most heavy haulage was done by oxen and much material was transported by mules which are tougher animals than horses (ibid). Greene quotes Duncan-Jones' (1974) relative transport costs for the Roman empire:

sea : river : land - 1 : 4.9 : 28

(this compares with ratios for eighteenth century England of 1 : 4.7 : 22.6) (*ibid*: 40). Clearly land transport was significantly more expensive so that, where possible, water-borne transport was favoured. River and canal routes in Britain were limited so that there had to be an efficient road distribution system - after all items like pottery and oysters are common at most Roman sites, so must have been transported there (Salway, 1988: 563 - 5).

In mountainous areas indirect evidence is difficult because the topography means that few roads have long straight stretches. Maps, observation and aerial methods can provide indications of the agger as a raised mound or crop mark, and the lines of modern roads, parish boundaries and tree lines may also be helpful. Metalling can also be a clue, but some later roads had similar methods of construction. Artefacts provide the most accurate dating, but are rare. Sometimes roads believed to be Roman are proved to be later, such as Margary 614, the Dean Road, in the Forest of Dean, which was dated to around 1800 after a charcoal deposit found beneath part of the road was radio-carbon dated to between 1660 and 1945 (Davies, 2002: 28). In other cases the long-term presumed line of a road has been found to be wrong following fieldwork investigations, such as Margary 712 near Slaithwaite in the Pennines (Brook et al: 38 - 41). Despite all that is known about Roman roads, human and natural actions in the time since they were constructed can therefore make the identification of them difficult (Davies, 2002: 35). The discovery of the metalled Iron Age road at Bayston Hill quarry and the recently-found junction on Margary 181 (see below) emphasise how much more there may be to learn.

6.3.1 Northumbria

Muir states that, north of Hexham, 'the Roman alignment [Dere Street] is very largely followed by the A68' (2000: 100). Actually, his geography is inaccurate - Dere Street runs north from Corbridge, but the principle of the Roman road continuing in use is correct. Even nineteenth century antiquarians noticed the coincidence of Roman and later routes, while recognising that they were not always easy to identify:

> It is now understood that these Roman roads were much more numerous than was at one time supposed; often remaining unrecognised owing to the circumstances that many have continued in use from the time of the Romans until now, and have always formed the public highways; for which they have been found admirably adapted, from the excellence of their engineering and the solidity of their construction.
>
> (Featherstonhaugh 1900: 81)

There were more than 60 forts controlling the north of Britain, about 40 of them south of the Tyne-Solway area and around 20 in Lowland Scotland, all of which needed to be supplied. More than 1,300 miles of road had to be surveyed and constructed in order to do this and Frere suggests that these penetrated and surrounded the 'blocks of hill-land' (Frere, 1969: 115). 'High quality roads were constructed across the north east' (Anderson, 1992: 88). These would have included all three types of road

described by Davies. He suggested that the Romans built 'penetration roads' into areas being invaded, following the army's advance, and established forts along them for security. Dere Street is an example of a penetration road. The second type of road was built once an area was secured; these 'territory-holding roads' filled the gaps between the penetration roads to help with controlling the area. The Stanegate is an example. Linking the forts and gates along a frontier were roads like the Military Way behind Hadrian's Wall: these Davies calls 'frontier-support roads' (2002: 115).

In Northumberland, at least, the main areas of native settlement were thought to be concentrated along the lines of the strategic road system inserted by the Romans, along Dere Street and the Devil's Causeway, 'linked by the lateral road from Redesdale to Whittingham' (Newton, 1972: 47) although aerial photography has shown this to be too simplistic as there were settlements in other locations.

In North-east England most rivers flow through high ground for much of their course and are thus fast-flowing and not navigable until their lower reaches. Raymond Selkirk was convinced that the Romans dealt with this problem using canals and pound locks, producing the 'Piercebridge Formula' to explain it (1983). Anderson, having examined all the evidence, concludes that river routes are extremely limited in the north-east of England - although their naturally navigable stretches may well have been used - and canals both unlikely and unnecessary as the road system serving Hadrian's Wall was more than sufficient to compensate (1992: 86 - 88).

Although the North Pennines were on the fringes of the Roman Empire the area did have some major routes because of Hadrian's Wall and there must have been minor routes to link them and to connect settlements and resources to each other and to the Roman infrastructure. The core system of Roman roads needed the support of a 'multitude of lesser roads and trackways' which may have been indistinguishable from ones in existence prior to the Roman period (Muir, 2000: 99). Much of the present road system in the North Pennines might have existed in the Roman period although, as already explained, obtaining definite dating evidence is difficult.

6.3.2 Edmundbyers and Muggleswick

The nearest certain Roman road to the Edmundbyers and Muggleswick area is Dere Street (Margary 8 - see fig. 6.1) which originates in York and passes through Aldborough (Isurium) to Catterick and continues as the modern B6275 through

Piercebridge. There it crossed the Tees and continued to Binchester, then via Lanchester, Ebchester, Apperley Dene to Corbridge, a little west of which it crossed the Tyne. Confusingly, Dere Street was previously referred to as 'Watling Street' and is thus mentioned by Hodgson who confirms its route: 'the Roman highway from the south, after traversing the Palatinate, crosses the river Derwent and enters Northumberland at the eastern extremity of the Parish of Bywell St Peter' (1902: 12). Hodgson also notes that the 'pavement.....is still visible all the way up, at intervals' including in Whittonstall village (*ibid*: 12-13). From Corbridge, Dere Street and the A68 to Carter Bar largely coincide until just before crossing the Rede at Elishaw where the Roman road goes straight on to Bremenium, and the Roman camps to the north-west of it, and the modern one bears right (Margary, 1967: 427 - 430, 439 - 441; Liversidge, 1973: 386; Newton, 1972: 215; Muir, 2006: 185; O.S. Landranger 87 and adjacent maps for Edmundbyers/Muggleswick area). The Roman road may have been heading for the port of Cramond on the Firth of Forth (Liversidge, 1973: 386). Davies suggests that Dere Street was more important than the western route into Scotland from Chester, partly because it was wider (8.4m rather than 7.2m) with a 'greater construction depth' (2002: 123).

Featherstonhaugh , in his description of Edmundbyers and its history, identified two local Roman roads (1900: 83). However, as is typical of antiquarians of his time, he did not indicate the origins of his information. He does not mention Dere Street but equates one road with the A68 in its earlier incarnation before twentieth century upgrading, running from Auckland through Rowley, Allansford, Minsteracres and on to Corbridge. The other, he states, passed from Stanhope via Bale Hill to Baybridge and on through Slaley Forest, again to Corbridge.

Evidence for the precursor of the A68 being a Roman road is sparse. It may well have been an early route but most information is for later periods. The crossing point on the Derwent at Allensford may indicate use prior to written records. The Baybridge road also may have early origins but is probably later (Newton, 1972: 222). Selkirk, however, was convinced of its Roman origins, quoting 'old documents hitherto ignored' which he does not name (2000: 6). Even if these roads were in use during the Roman occupation they may have originated much earlier. The Historic Environment Record for Muggleswick and Edmundbyers lists no Roman sites or finds, not even roads. Figure 6.1 shows only two Roman roads in the immediate vicinity of Edmundbyers and Muggleswick: the one Margary labels 8d (Dere Street)

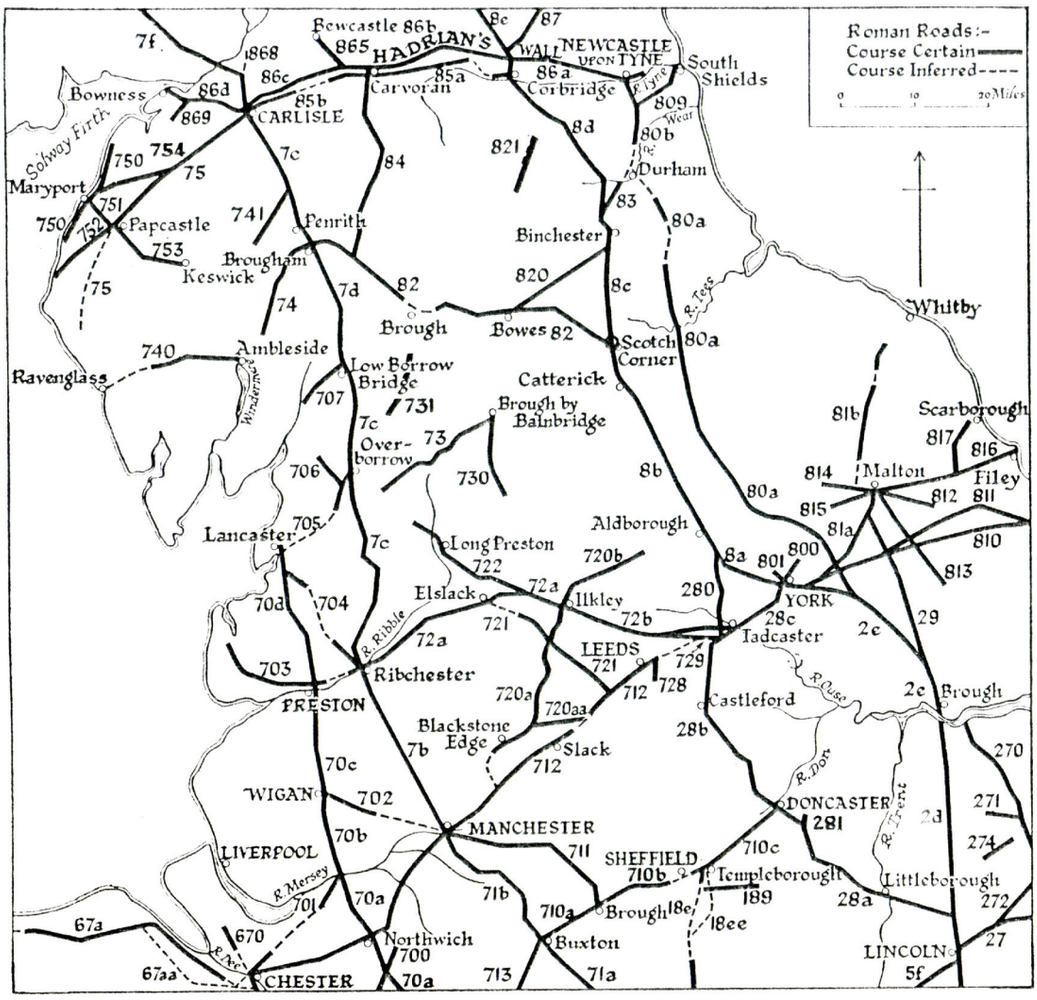


Figure 6.1: Margary's map of Roman roads in North-east England

and number 821 (the stretch of road between Eggleston and Stanhope) (Margary, 1967: 359; 401 - 452). However, to the west, beyond Alston, the Maiden Way Roman road (Margary 84) passes the fort at Whitley Castle.

Raymond Selkirk had a long-time aim to find the 'missing' Roman road across the North Pennines in the Edmundbyers area and was much excited during a drought to find a road exposed as the waters of the Derwent Reservoir dried up (2000: 6). Probably this was the road that was diverted when the reservoir was built and which is shown on Ordnance Survey maps before 1966, but there is little data to suggest its date of origin. Davies has made it clear that identifying Roman roads is problematic (2002: 26 - 28), but this did not seem to deter Selkirk. The Historic Environment Record for Northumberland notes evidence for a Roman road north of the Derwent Reservoir in the area of Minsteracres. The Local History of Healey (Keys to the Past, Ref: N13355) states 'The earliest remains are a possible Roman road that may run across Edmundbyers Common in County Durham north towards Barleyhill and then to Broomhaugh and Dere Street'. This Roman road (HER N9833) is described as running beside the Minsteracres estate. Other evidence includes Roman stones in one of the boundary walls traces of a fortlet (probably the Apperley Dene farmstead) near where the road crosses the Stocksfield Burn. The Barleyhill road referred to now disappears beneath the reservoir. However, the 1964 Ordnance Survey map shows it crossing the Derwent near Mill Shield and passing Hunter House, as a minor road and bridleway, to a junction with the present B6306. No extension southwards across the moor, even as a footpath, is indicated. The Ordnance Survey map surveyed in 1837 tells a similar tale; clearly if there was a route that crossed the moor to link with this road it went out of use long ago. What might be confusing the issue is that the Millshield-Barleyhill road is composed of very straight stretches. However, it passes between very regular fields which may be the result of Parliamentary enclosure; such roads do tend to be straight and have nothing to do with Roman survey methods. Care needs to be taken with the HER in the case of this road as the main contributor of the information was Raymond Selkirk. Some local archaeologists are sceptical of his opinions as he was notoriously fixated on the Roman period and his affection for things Roman may have biased his findings.

Nonetheless, there is evidence that Romans were moving around in the Upper Derwent/Weardale area. Roman altars have been found at Bollihope Common and Westgate-in-Weardale suggesting that these areas were visited by members of the

Roman Army based in the region, perhaps when hunting if not on a more regular basis. Moreover the Roman Iron Age settlement on Bollihope Common produced finds of recycled Roman glass bangles, possibly manufactured at Traprain Law (Lindsay Allason-Jones pers. comm.) which indicate that trade was taking place within the North Pennines and between this area and other parts of Britain during the Roman period. It is therefore likely that there were well-used routes along the valleys and possibly across the intervening watersheds as well. With so much evidence for Roman routes and activity in the vicinity, it is very likely that there were routeways in use in the immediate Muggleswick/Edmundbyers area during the Roman period.

If there were people resident in the UDV during Roman times they would almost certainly have been affected by Roman communications. There were known Roman roads within easy walking distance and it is likely that the people had contact through trade with the nearest forts and farmsteads - like Ebchester and Apperley Dene - at least.

6.4: Anglo-Saxon and Mediæval - the case of Balyolfgate

Documentation for the Anglo-Saxon period is largely absent, except by implication, just as it is for earlier periods. Edmundbyers and Muggleswick are mentioned in the Boldon Book (chapter 3) so were clearly accessible, if not for the survey officials themselves then for the authorities who could provide the information to them.

6.4.1 Anglo-Saxon and Mediæval routes

Morriss has suggested that when the Roman Province of Britain 'broke up into various regions and kingdoms' a nationwide system of roads was no longer necessary and local paths and tracks were sufficient to link settlements and their farms and pastures (2005: 33). It is possible that most Dark Age and Anglo-Saxon settlements were located away from Roman roads, partly because they made fast access routes for 'potential aggressors' (*ibid*: 34). The aggers of Roman roads were sometimes used as settlement boundaries and later as parish boundaries (ibid).

In the later Saxon period there is some documentary evidence for an improved network of roads. Alfred, while King of Wessex (871 - 899), set up some 25 or 30 fortified towns throughout his kingdom which were strategically placed and accessible by whichever method was locally better - road or river transport. Some

made use of Roman roads to link them and some used trackways. There seem to have been at least four different types of road: the first two were mainly for trade and were port straets and saltways. 'Port' was the name for a market town and 'straet' suggests the re-use of a Roman road. Saltways were principally for the transport of salt (Morriss, 2005: 34). In fact, there is a 'Salter's Gate' adjacent to Balyolfgate between Wolsingham and Muggleswick. Charters also mention two types of road used chiefly for military purposes. Herepaths were fairly common 'army paths' used for the rapid deployment of troops and often linked royal manors and ecclesiastical estates as well as towns. Cynges ferdstræts had the same purpose but were less common, and probably less important, routes used by local militias (*ibid*: 35). Perhaps the Peak District's 'Cyngstræt' was one of these. In the late eleventh century four great roads - Watling Street, Foss Way, Icknield Way and Ermine Street - became roads on which 'travellers enjoyed the king's special peace' (Stenton, 1936: 3). This has two implications: firstly that these routes had been used, possibly continuously, since Roman times; and that London had ceased to be the hub of the road system as other towns had grown in importance. The king's peace was later extended to include 'all the greater roads' and the idea of a national road system, rather than a localised one, began to develop again (*ibid*: 3 - 4).

It has been popularly thought that roads in mediæval Britain were quagmires and travel was difficult (Stamper, 2003: 261), although there are few complaints about the roads in Mediæval literature (Morriss, 2005: 36). There is evidence that roads were not always bad - for example King Harold and his army made the journeys to Stamford Bridge and then to Hastings in short order (*ibid*). English kings frequently travelled the country with huge baggage trains and many retainers with relatively little difficulty (Morriss, 2005: 36; Stenton, 1936: 5 - 6). Hindle used the chronicles of several English monarchs to reconstruct the most heavily-used royal roads to give a national picture (Aston, 2004: 143). Of course, the monarch had resources of manpower, transport and finances not available to the majority of the population. In December 1409 the Duke of York's vehicle carried fish from London to Hanley Castle (Dyer, 2000: 263), a time of year when the roads might well have been poor; moreover, fish does not keep for very long, even in winter. This journey of more than a hundred miles, including the Cotswold escarpment, suggests that the mediæval road system was more than adequate for transporting goods (Dyer, 2000: 263). Such data suggest that travel over long distances was possible and not always prohibitively slow - or people were just used to the situation and it was not worthy of comment. Apart from

the king's peregrinations, people travelled to administer estates or justice (such as the Halmote Court held at Edmundbyers), to go to markets and fairs, and to visit shrines and churches, friends and relatives (Aston, 2004: 140; Hindle, 1976: 208). Glasscock suggests that in the mid-fourteenth century most places were within three or four hours' journey of at least one market centre and that in the early fourteenth century the carriage of Exchequer goods from Westminster to York took ten to fourteen days (1976: 174). 'By the end of the Middle Ages, virtually every village in the country was within walking distance of a fair or market, and most villagers were able to make at least on annual visit to such an event' (Whitlock, 1980: 75). Transport costs meant that 'provincial magnates' in the far north did not buy from suppliers in London as much as those in the south. Nonetheless, 'the bishop of Carlisle and the cellarer of Durham Priory bought spices from merchants in the capital' (Dyer, 2000: 261).

People generally walked or rode on horses, mules or donkeys, so that the roads did not need to be very wide or straight and steep gradients were not a great problem, although a direct and level route would be favoured when the going was dry (Aston, 2004: 140). The width of many known mediæval routes, and the many 'packhorse' bridges found in some areas, indicate the extensive use of packhorses and travel on foot or horseback (Aston, 2004: 138 - 9, Glasscock, 1976: 174). However a law of Henry I (Leges Henrici Primi 80:3) stated 'that major highways should be wide enough for two wagons to pass in opposite directions and for sixteen knights to ride side by side' and there were fines for obstructing these roads (Morriss, 2005: 35; Stenton 1936: 3). This seems very wide, however, and many roads would not have been so broad. Lopez suggested that mediæval roads did not necessarily take better routes than Roman ones - they often coped with the same sort of gradients - but the problem of steep hills was improved by using additional draught animals on those sections, a solution the Romans apparently overlooked (1956: 24 - 5). He also suggested that mediæval people were not keen on straight roads and preferred the 'winding streets and limited horizons' such as were found in towns (*ibid.*). Only the wealthy travelled by coach, probably an uncomfortable mode of transport as they were heavy and unsprung. Mostly they were used by women, although this was starting to change by the mid-seventeenth century (Morriss, 2005: 39).

Goods were generally moved by packhorse or cart (Donkin, 1976: 119). Carts had two wheels and waggons, longa caretta which became more common in the thirteenth

century, had four (Aston, 2004: 139; Donkin, 1976: 119). Some goods, such as salt from Droitwich, could be transported by packhorse (Darby, 1976: 65), but more bulky items such as great timbers for cathedral roofs must have needed waggons, probably drawn by oxen. Carts were used for items that could not be moved practically by packhorse but which did not need waggons, including fish, grain, flour, wine, salt, cloth, hay, faggots and brushwood, peat and stone; occasionally they were used for iron, tin and military purposes (Glasscock, 1976: 174). Where conditions permitted, heavy goods went by river (Donkin, 1976: 119). For the period between 1350 and 1600. Butlin (1979: 145) observes that the domestic market was very important as that is where most products were sold. He states that while some goods went by river or sea, most were distributed by road even though there were limitations to the main road network and other roads were in poor condition. Between the tenth and fourteenth centuries the haulage system in Europe underwent something of a revolution, with the introduction of horseshoes, rigid tandem collars and new styles of harness. However, these ideas spread very slowly and their main effect was to cause a reduction in the price of mules so that there was 'an unprecedented expansion of transport by pack animals in the later Middle Ages' because it was so much cheaper (Lopez, 1956: 24). Wheeled traffic, carts and waggons mostly, grew as trade developed in the sixteenth century (Morriss, 2005: 40). There is little documentation of the long-distance movement of cattle and sheep, perhaps because this was often undertaken by people who did not keep detailed records. Animals were often moved around in order to stock manorial home farms or granges (Stenton, 1936:17). This happened at Muggleswick.

Roads were often not deliberately constructed but simply worn down by the habitual passage of travellers and maintained by use (Aston, 2004: 141; Hindle, 1976: 208). Hollow-ways, with steep sides, are often found on mediæval sites and can be traced up hillsides and through woods. Where the going was difficult, on steep hills or boggy areas, multiple routes can sometimes be seen resulting from travellers trying to find an alternative path (Aston, 2004: 141). A Statute of Winchester (1285, Edward I) permitted the use of the fields adjacent to the road if it was blocked. It also stated that no ditches, bushes or trees should be allowed within 200 feet of the highway so that murderers and robbers had nowhere to hide. However, this did not affect the condition of the road itself (Morriss, 2005: 37) Some roads were causewayed to deal with the local conditions and some raised roads remain; sometimes the route was terraced to deal with the slope (Aston, 2004: 141). No engineering of routes is known

to have occurred between 410 and 1066, but people still needed to travel both locally and regionally so a network of minor roads and tracks evolved (Muir, 2000: 100). In fact the mediæval concept of 'road' was as a right of way rather than 'a physical track' (Hindle, 1976: 208; Ransom, 1984: 20 - 1). There is virtually no evidence of the Normans planning or improving roads to help them control rebellious areas (Morriss, 2005: 35). However, in 1102 Henry I apparently had a road cut so that his army could cross Wenlock Edge and this seems to be the only one constructed during Norman rule (Stenton, 1936: 6).

Between 1334 and 1600 any improvements made to roads were very localised and there were only small changes to the communications network (Baker, 1976: 237). Road maintenance was the responsibility of local communities and tended to be haphazard and to stop at the parish boundary. Since highways were considered to be part of the common land of the manor they were not usually demarcated from the commons they crossed and they often widened where they reached greens, heaths or wood pasture (Rackham, 2003: 115). The increase in number of wheeled vehicles from the sixteenth century put pressure on the road network. With the Dissolution of the Monasteries in the 1530s there came an apparent 'steep decline in the quality of British roads' because the monastic organisations had made significant contributions to their maintenance (Morriss, 2005: 40).

Up to 1150 a number of specialised routes also developed for the trade in vital goods, like the aforementioned salt roads and portways (Muir, 2000: 101). Mediæval roads did not differ greatly in appearance from roads of earlier or later periods (*ibid*: 104) so their identification can be just as difficult as that of Roman roads. Even the name given to a road might only describe just one of several functions. However, in some places roads did have special purposes, like the corpse roads found in some large parishes of former Cumberland or the North Riding (ibid: 106). In the uplands there were specialised roads for the distribution of extracted materials like peat, lead, stone and coal (*ibid*). Upland routes were also used by monks and lay brethren visiting granges, traders with packhorses, dealers selling local produce and tenants attending manor courts (*ibid*). All these uses would have been relevant to the roads of Muggleswick and Edmundbyers.

Roads from the mediæval and earlier periods often vary in width and their boundaries are 'even more sinuous than the road itself' (Rackham, 2003: 115). Where

the land was unfenced, it was common for travellers to make new tracks beside those too muddy or rutted to negotiate and these 'bundles of parallel tracks' can show ancient routes over heath or moor (*ibid*). Of course, similar evasive action took place in other periods, too. In areas of Ancient Countryside squatters often built cottages with long narrow gardens within the width of the highway, sometimes in rows that went on for several miles (*ibid*).

There was more travel around the country after the Norman conquest due to the centralisation of government (Stenton, 1936: 3 - 4). From as early as the twelfth century there are references to 'the London road' in various towns (Donkin, 1976: 119) and the mediæval road network had a strong ordering around a single node - London (Dodgshon, 1979: 103). This may hint that society was 'nationally integrated', although 'most parameters, from livestock prices to the trading areas of medieval pottery manufacturers, suggest otherwise' (Dodgshon, 1979: 103). By the end of the twelfth century the central courts of justice and finance were attracting people to Westminster and London was benefiting from the increase in European trade (Stenton, 1936: 3 - 4). However the peripatetic character of the royal household delayed the concentration of the road system on London. What is more, some provincial capitals still had a great deal of commercial independence and, in the North-east, towns like Durham, Newcastle on Tyne and Kingston upon Hull still had mints and road systems seem to have radiated from them (Stenton, 1936: 4 - 5). In the case of Durham, at least, the dispersed holdings of Durham Priory may have contributed to the development of the system of communications.

The Highway Act of 1555 was the first legislation passed in England that applied to roads in general. It did very little to improve the roads, simply passing the responsibility from the officers of the manors to parochial surveyors of highways (Baker, 1976: 237). The problem lay in the organisation. The constables and churchwardens in each parish had to call a meeting at Easter at which two unpaid people were elected to be 'surveyors and orderers'. They had to check the condition of the roads, report to Justices of the Peace and organise repairs. Anyone who was worth more than £50 a year or who owned a horse or plough had to provide two labourers for road mending and a cart with horses or oxen to pull it (Ransom, 1984: 21; Morriss, 2005: 40).

Until 1562 the poor had to work for four days a year, unpaid, repairing the roads and thereafter the obligation was for six days - unless they were able to provide someone to do it for them (Morriss, 2005: 40). Consequently the responsibility for the roads fell on the parishioners and not on the road users. Surveyors were in an iniquitous position: they were unpopular if they insisted that the work be done and in trouble with the JPs if it was not (Morriss, 2005: 40). Although tolls were used for bridge construction, road tolls were unusual in mediæval England (Morriss, 2005: 41).

Despite all its defects, the road-system of medieval England provided alternative routes between many pairs of distant towns, united port and inland market, permitted regular if not always communication between the villages of a shire and the county town which was its head, and brought every part of the county within a fortnight's ride of London.

> In the last resort, it proved not inadequate to the requirements of an age of notable economic activity, and it made possible a centralisation of national government to which there was no parallel in Western Europe.
>
> (Stenton, 1936: 21)

6.4.2 Edmundbyers and Muggleswick

So we come to the road mentioned in the introduction to this chapter. The reference to it occurs in the episcopal grant of Bishop Walter in 1259 giving the Manor of Muggleswick and the Priory of Durham additional land; in this the bounds of the original grant from Prior Hugh (1153 - 95) are described. From the document it is clear that this road was well-established at the time the arrangement was made and must date from before the thirteenth century. The area's boundary extended from the Derwent 'to the west as far as the great road called Balyolfgate and from that place towards the north as far as the bridge which is called Thoraldebrigge (Eddy's Bridge)' and back along the river (Greenwell, 1871: 182). Also interesting from this document is the fact that there was a bridge on the Derwent at what is now Eddy's or Eddisbridge. Many routes would have made do with a ford, so this emphasises the importance of the road.

Early maps (e.g. Badeslade 1742, Heywood 1789, Cary 1793 - figure 6.2) show a road from Wolsingham in Weardale crossing the watershed and passing through Muggleswick heading north (and one, Morden 1730, erroneously, shows this road going through Edmundbyers). However, Badeslade's and Cary's maps show the road

coming from Barnard Castle before passing through Wolsingham to Muggleswick and on into the Tyne Valley. I postulate that Balyolfgate' is a mis-spelling or mis-transcription of 'Balliols' gate'. The Balliol (or Baliol) family held land in both Barnard Castle and at Bywell on the Tyne (Hodgson, 1902; Auston, 2007).

Hodgson observes that Guy de Baliol 'received from William Rufus a mediety of the manor of Bywell on the Tyne, probably including Woodhorn with its appendages, the manor of Gainford with Stainton, the vills of Marwood and Middleton, and the forests of Marwood and Teesdale in the valley of the Tees' (1902: 17 - 18). Marwood developed into Barnard Castle (ibid: 19). 'Balyolfgate' then, would have been the direct route between their lands, thus known as 'Balliols' road'. What makes this even more probable is that, at the end of the twelfth century, Eustace de Baliol made an agreement:

> To the monastery of Durham he confirmed the church of St Peter at Bywell, which, by the terms of the agreement between Durham and St Albans [the Baliols also held land at Hitchin in the Diocese of St Albans], had, together with the church of Edlingham, been conveyed to Durham.
> (Hodgson, 1902: 30)

This was again confirmed in the thirteenth century by Eustace's son Hugh. Thus there was a close link both between Barnard Castle and Bywell, because of the Baliol ownership, and between Bywell and Muggleswick due to the interests of Durham Priory.

From Eddy's Bridge the road probably followed the meandering early route of the A68 towards Tynedale, so that most of it is now lost beneath modern roads. The section between Wolsingham and Waskerley is largely lost, some of it possibly due to the building of the Stanhope and Tyne Railway. South of Wolsingham the route of the road is not clear. Sections may be traced as footpaths or parts of modern roads - even, perhaps Margary's Roman road 821 - but a through route no longer exists.

It is also likely that Balyolfgate has had a change of route at Eddy's Bridge. The current bridge was opened in 1902 but it possibly lies on a diversion of the original road. Comparing the current Ordnance Survey with the 1800 estate map, an undated estate map and Fryer's 1820 map shows the change in the road's direction (figure 6.3).

Figure 6.2: Heywood's 1789 map showing Balyolfgate from Barnard Castle to the crossing on the Derwent at Eddy's Bridge

However, Balyolfgate did not provide a link between Muggleswick and Durham. There are two major contenders for this link. Firstly, a discussion with Tom Addyman and Paul Frodsham, which took place near the top of the scaffolding surrounding the standing remains at Muggleswick in the spring of 2010, resulted in the suggestion that the building must have looked impressive when approaching from the east and perhaps the route from Durham came from that direction (figure 6.4). Modern footpaths might be the remnants of this route; its drawback is that it would have had to cross the Derwent twice in order to get to Durham.

Another possibility is that the road to Durham went via Combe Bridges. This route also has major drawbacks - there is a steep descent to the crossing of the Horsleyhope Burn and to use it would have meant a roundabout route via Balyolfgate. Featherstonhaugh mentions the existence of a mediæval road in this area: 'and also, in Hysehope dene, part of a paved road by which the monks made the journey from Durham' (1900: 98), although it is not clear exactly where he means and he could be talking about Balyolfgate. There might have been a shortcut to Balyolfgate from the grange using a clearly-visible route along a footpath that still exists between the road and the modern churchyard (see figure 6.5).

One would expect that the transfer of animals belonging to monastic estates would be recorded by the bursar and, indeed, there are references to such events in the records of Durham Cathedral Priory. There was a payment of 8d for the driving of sheep to Muggleswick on 15th November, 1531 (Raine, 1844: 72), and cows were bought - Et in 4 vaccis emptis de pastoribus de Mugleswyk - in the same year (ibid: 104). During the same period of the sixteenth century wool and iron were being taken from Muggleswick, while fresh salmon, capons and 'barley water' from Newcastle for the Prior, who was at Muggleswick for the festival of St John the Baptist, were delivered there (ibid: 132, 147, 309, 234, 245). Other goods were also moved to and from the manor, but nothing is mentioned about the roads. However, some of the goods were clearly moved by cart as a carter is paid for the work (e.g. Cuthbert Pape, ibid: 149) and another possible reference to draught animals - probably oxen - is the payment to Cuthbert Androy for making two dozen yokes or harnesses (pro factura 2 dd. jugum) (ibid: 164). Despite the existence of Balyolfgate, in the mid-1300s the Scottish army only managed to escape from Edward III, 'then encamped in Weardale' across the fells of the North Pennines by 'laying boughs to prevent their sinking in the moss' (Sopwith, 1989: 8).

Figure 6.3: The 1800 estate map, 1st edition O.S. map and current O.S map showing how the route of the road has changed at Eddy's Bridge

Figure 6.4: View from the grange ruins eastward along possible route to Durham (photograph Paul Frodsham)

Figure 6.5: possible short-cut to the grange from Balyolfgate
above - looking south towards the road
below - looking north towards the grange

While Balyolfgate undoubtedly fitted into the communications network of Edmundbyers and Muggleswick in the Middle Ages, the directions in which it took people were perhaps not the most significant to the local population. For the most part the people of the two parishes would have had little need to travel to Weardale, where the estates belonged to the Bishop, or to the Balliol lands in Tynedale and Teesdale. There is, however, a long-standing social link between the people of Weardale and those of Edmundbyers (June Scott, pers. comm. n.d.) although whether it dates back to mediæval times it is not possible to tell. Nonetheless, Balyolfgate would have been a useful road within the parishes and would have allowed passage to and through the area for merchants.

6.5 The Blanchland road

Edmundbyers was the township for the Muggleswick estate so a route between the two would have been necessary. There are references to Blanchland in the documents also (e.g. Boldon Book: 335; Greenwell, 1872: 73; Fowler, 1898: 287), despite the fact that Blanchland belonged to the Premonstratensian order rather than the Benedictines. Thus travel between Muggleswick and Blanchland via Edmundbyers was desirable. Muir emphasises the importance of such links to landscape research: 'For example, a monastic lodge could not be understood without an awareness of the track that linked it to its grange and the road network which linked the grange to the abbey and to other granges' (2000: 93). Cistercian monasteries, particularly, had very dispersed holdings (*ibid*: 106), but the estates held by Durham Priory were also scattered around the region. 'The existence of monastic property in an area could.....have a significant effect on a local road system, particularly where the holdings were of some size and related to others nearby...' (Faull and Moorhouse, 1981: 629). This section is concerned with the actual links that the grange had with Durham Priory and other sites connected with it. This 'Blanchland' road - or at least parts of it - is likely to have co-existed with Balyolfgate and there is mention of the road to Edmundbyers in the charter whereby Robert de Stichill (Bishop of Durham, 1261 - 1274) gave additional land to the priory. Amongst this land were 140 acres, taken from the waste, lying between the Burnhope Burn and on the right side of the road 'leading from Muclingwic towards Edmundbires'.

One map (Cary 1831- figure 6.6) shows such a road - but not following the current roads except through Edmundbyers village. This road from Blanchland enters Edmundbyers from the north-west where a bridleway now runs, rather than the

north as the present road does. It follows the main road through the village and then turns downhill to cross the Burnhope Burn, climbs the other side of the valley and passes the farm known as The Deans. Whether it then followed the same route as the modern road or a route that is now partially footpaths across the fell towards Muggleswick is not clear.

Certainly Smith's 1804 map and Dix's map of 1818 (figure 6.7) suggest that it meets Balyolfgate at a point south of Muggleswick church to link with the road eastwards through Combe Bridges. This adds weight to the argument that the mediæval route to Durham went that way.

The entry of this route to Edmundbyers is shown on the 1800 estate map (frontispiece) as 'former road to Blanchland', but the continuation to Muggleswick clearly went out of use before the map was drawn. However, it is possible to make out the line of the former road on the ground on both sides of the village (figure 6.8). The present route to Muggleswick follows the south side of the valley of the Burnhope Burn. Other maps - Smith's of 1804, Dix 1818 and Armstrong's 1768 map (figure 6.7) - indicate clearly that from Edmundbyers the road ran east across the fell, south of the line of the present road.

So the evidence for an earlier road between Muggleswick and Edmundbyers relies almost entirely on maps and fieldwork, and data suggesting that the present road is somewhat later come from similar sources. Clearly, however, there must have been local routes providing access to farms at the Ridding, to Low and Middle Ruffside and to Hunter House. The increase in importance of these places probably caused the main route to gradually be diverted via them while the original route across the fell became disused.

By the time that mediæval records for the area began, Edmundbyers had been the property of the Bishop of Durham for some time, so that the UDV was probably already oriented towards Durham even before Muggleswick and Edmundbyers were given to the Prior. Consequently this road, and especially its extension eastwards to Durham, is likely to have been the most significant for people living on the Muggleswick estate. Most of the produce leaving the estate would have made its way to the Priory at Durham, or its other lowland estates, while the most important visitors and instructions would have come from there. It is thus probable that people's

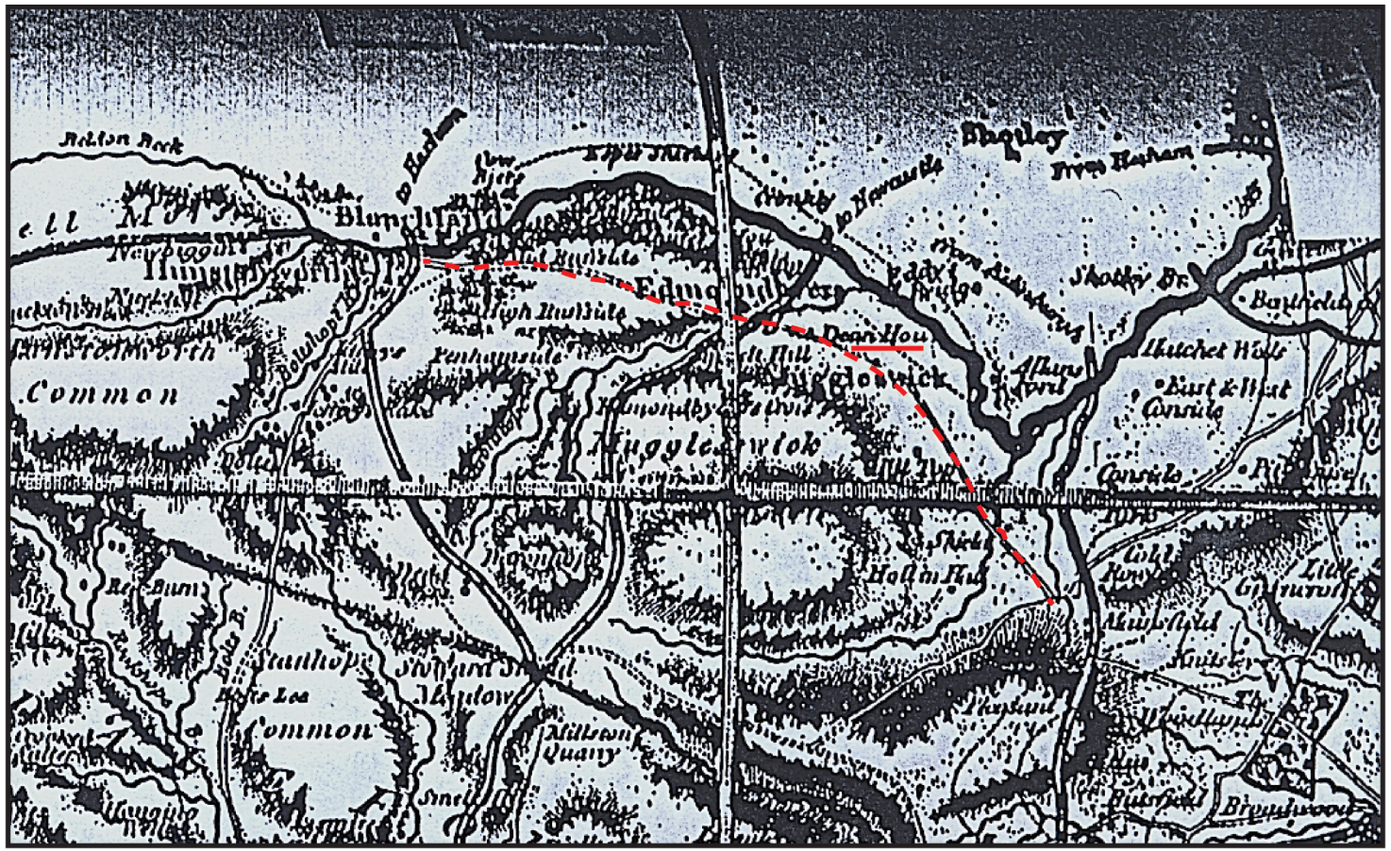


Figure 6.6: Cary's 1831 map showing the road from Blanchland passing through Edmundbyers to Muggleswick. It misses Ruffside, passes east of the current road crossing of the Burnhope Burn, emerging beside the Deans and misses Eddy's Bridge

This is taken from a poor photocopy but is used because the Deans is marked on the map. The road can also be seen in figure 6.7

Figure 6.7: Smith's 1804 map showing the Blanchland to Muggleswick road through Edmundbyers

Figure 6.8: The old road through Edmundbyers
above - looking down the Kill Bank to the Burnhope Burn
left - the route on the south side of the valley
right - the route leading to Blanchland

mindset would have been aligned in this direction and this would have been the most important route into and out of the estate. On a day to day basis, of course, the most important routes would have been those they took to the fields or the mill, the paths that were part of their daily lives. Some of these may well still exist, although it is difficult to distinguish them. Some, however, would have been on baulks between the strip fields and have long since gone out of use.

6.6 Turnpiking and the road to Stanhope

6.6.1 The road system between the Middle Ages and the Turnpikes

There is little evidence for roads between the end of the Roman period and the end of the 17th century when turnpiking began. As with Roman roads, it is possible to recognise roads that have been in use for a long time, but virtually impossible to actually date when they were first used (Morriss, 2005: 33). According to maps, England in 1700 was covered by a network of roads, but this gives a false impression of the communication system. The best were based on Roman roads but most were narrow and had soft surfaces. In summer they were incredibly dusty and in winter they were quagmires full of potholes, so travellers took diversions across fields when conditions were really bad (Hill, 1975: 43) and Emery (1976: 290) notes that roads could be difficult because of steep hills or poor surfaces. In Northern England the problems of travelling in hill country were made worse by snow, ice and waterlogged mosses, with few bridges in less populated areas (Prince, 1976: 154-5). Despite demand, coal was rarely moved more than 10 - 20 miles from the pit and York, although there were coal measures only 16 miles away, imported coal by ship from Newcastle (*ibid*: 154). Most trade was overland, however, but short-distance. Long-distance trade focused on London through a 'sophisticated complex of goods carrier services, by both pack animals and waggons' (Moyes, 1976: 404).

Roads were not all bad, but the worst ones naturally tended to be those which carried most traffic, typically between large towns, and which were 'churned by herds of iron-shod cattle, by waddling geese, by lumbering wagons, by trains of mules laden with panniers of coal and by the travellers who complained' (Prince, 1976: 154). From the Middle Ages until well into the seventeenth century the attitude to roads seems to have been that they were 'simply a linear zone for travelling along' and not the precise marked road that we are familiar with today. Thus, as noted earlier, if the road was blocked by some obstacle the traveller walked round it, regardless of whether he was trespassing or damaging land, fences or crops (Morriss, 2005: 37).

It is not, therefore, surprising that there was very little wheeled traffic, although there were regular stage coaches running between London and other towns and slow-moving stage-wagons with giant wheels pulled by up to 10 horses. Post-chaises owned by the gentry also braved the roads, changing horses at post-houses, but most gentlemen and businessmen travelled on horseback and the poor walked (Hill, 1975: 43). 'Trains' of 30 or 40 packhorses or mules were still the favoured method for transporting goods.

The Highways Act of 1555 was intended to deal with the difficult road conditions. Parishes were made responsible for the roads that ran through them, but were often not in a position - or not inclined - to do anything about this (Emery, 1976: 290). Some parishes tried to ban loads of more than a ton, while others charged road users for the repairs (ibid). In the early part of the 17th century there were various Acts that attempted to ensure that this system was more effective, but without any central organisation they made little difference (Darby, 1976: 72). The onus on parishes to appoint surveyors to supervise four days' work a year on road upkeep by the parishioners caused much complaint and more legislation. Moreover, maintaining good quality roads required skilled roadbuilding (Muir, 2000: 107). Remoter parishes tended to have less of a problem with road maintenance as there was less traffic, usually mostly local, and it was only necessary to fill potholes and clear roadside ditches. However if a major highway passed through the parish the additional maintenance could be a problem if the population was small; moreover people were not so willing to repair roads for through traffic which brought them no benefits (Morriss, 2005: 41).

Regular passenger coaches were running by 1665 linking Exeter, Chester and Newcastle upon Tyne with London and by 1715 'even the northern region' had 6 regular carrier services to London each week (Moyes, 1976: 404). The seventeenth century growth in road traffic made road improvement necessary (Moyes, 1976: 404).

6.6.2 The North Pennines

Sopwith, describing the lead mining districts of the North Pennines, comments that 'The want of good or even tolerable roads was for a long period the principal cause of the mining districts being so little known. About 50 years ago [c. 1783], scarcely a regular formed road was to be found in them' (1968: 8).

Most transport, including that of goods, in the North Pennines at the beginning of the nineteenth century was on horseback (Sopwith, 1968: 8). Emery, on the other hand, considers that Tudor England inherited a road system that was based on London and well-developed (1976: 287). The longest route went via Stamford to York, Newcastle and Berwick (*ibid*: 288). Emery also accepts that many were of Roman origin but that there were cross-country routes, too, and a network of minor roads 'most frequent where the market towns were most numerous' (1976: 287). 'Most English regions were within easy access of a main road. The chief exception was in the north where the network of intersecting roads stopped short at the trans-Pennine connection from York to Chester' (Emery, 1976: 288). North of this there were routes on the east and west coasts, but none were recorded that crossed the country (Emery, 1976: 288) although, doubtless, local people knew ways across the Pennines. According to Sopwith (1969: 8), the first carriage that travelled from Alston to Teesdale was that of Lord Lowther in 1824; prior to that carriages 'could not be brought into the interior dales'. In parts of North-east England the sands and links along the coast were, until the eighteenth century, the easiest communications route, with the Beadnell to Alnwick route in use until 1759. In the second half of the eighteenth century, before turnpike construction, Dere Street was still the main route into Northumberland from the north. It was the route that had been much used by raiding Scots in the Middle Ages because Newcastle blocked the coastal route across the Tyne (Newton, 1972: 216). Wheeled traffic in Northumberland was less by the early eighteenth century than at any time since the 1200s, so bad had the road system become. 'On the North Road rich men's coaches and carriers' wagons lumbered along at three miles an hour, but elsewhere men and goods went on horseback or not at all' (*ibid*: 223).

Sopwith complained that many of the roads in the Durham Dales had been developed from packhorse routes and consequently followed them 'in the most inconvenient and circuitous directions' with some terrifying gradients. It is not, therefore, surprising that coaches were not used until quite late. Then there was the weather: a traveller had to cope with mist and snow storms, crossing the fells 'with eyelashes covered with icicles, and a mass of frozen snow and ice suspended from his horse's head' (Sopwith, 1989:8). Much to Sopwith's relief, improvements were made, often under the auspices of the Commissioners of Greenwich Hospital, which owned land in the region. The Commissioners employed 'Mr MacAdam' in the construction and improvement of roads throughout the area. One of the early advantages of this was

the introduction of a post coach from Hexham to Penrith via Alston, an event which caused a crowd of people and a band of musicians to assemble on 29th September, 1828, to 'witness the first public conveyance that had ever traversed this part of the country' (*ibid*: 9).

6.6.3 Edmundbyers and Muggleswick

There is a long period of time between the documentary evidence of Durham Cathedral Priory and the turnpiking of the road from Stanhope when the roads and tracks of the parishes would have experienced variations in use and importance. Centuries passed during which the road pattern could have changed radically, but evidently did not. Even in 1649, the Parliamentary Survey of Edmundbyers implies quite clearly that the road from Blanchland to Muggleswick via Hepple Hill and the Kill Bank, was still the main route through the village. The present road to Muggleswick, leaving the B6278 at the Burnside, also has to be later than the monastic period at least. The current road clearly cuts across an earlier enclosure, rectangular in shape, which may have been an isolated field. However it is probable that there was a path of some description from Edmundbyers and/or Muggleswick to the cruck cottage (Durham HER: PRN 2222, recorded by Featherstonhaugh as of typical 14th century type known locally as fire houses) near the present Harehope Hall. This path would have taken a similar route from Edmundbyers as the B6278.

Communications with London could not have been too difficult, however. The Reverend John Dury took up collections in aid of the people in the capital following both the plague and the Great Fire during the height of the former and within a month of the latter event (Ornsby, 1869: 325/331).

Maps such as Heywood (1789), Smith (1804) and Dix (1818) show no road between Stanhope and Edmundbyers (figure 6.9). The village, together with Muggleswick and Pedom's Oak, appears on early maps (e.g. Morden, 1730), including some which show no roads at all, such as Speed's 1610 map of Durham and Blomes' of 1673 (figure 6.10).

Clearly Pedam's Oak was considered as important in those days as Edmundbyers and Muggleswick. Perhaps the route from Weardale previously passed through Pedom's Oak. There was a significant settlement there in the Middle Ages (Greenwell, 1871: 73; Fowler, 1986; Ross, 1987) and a possible road was discovered during

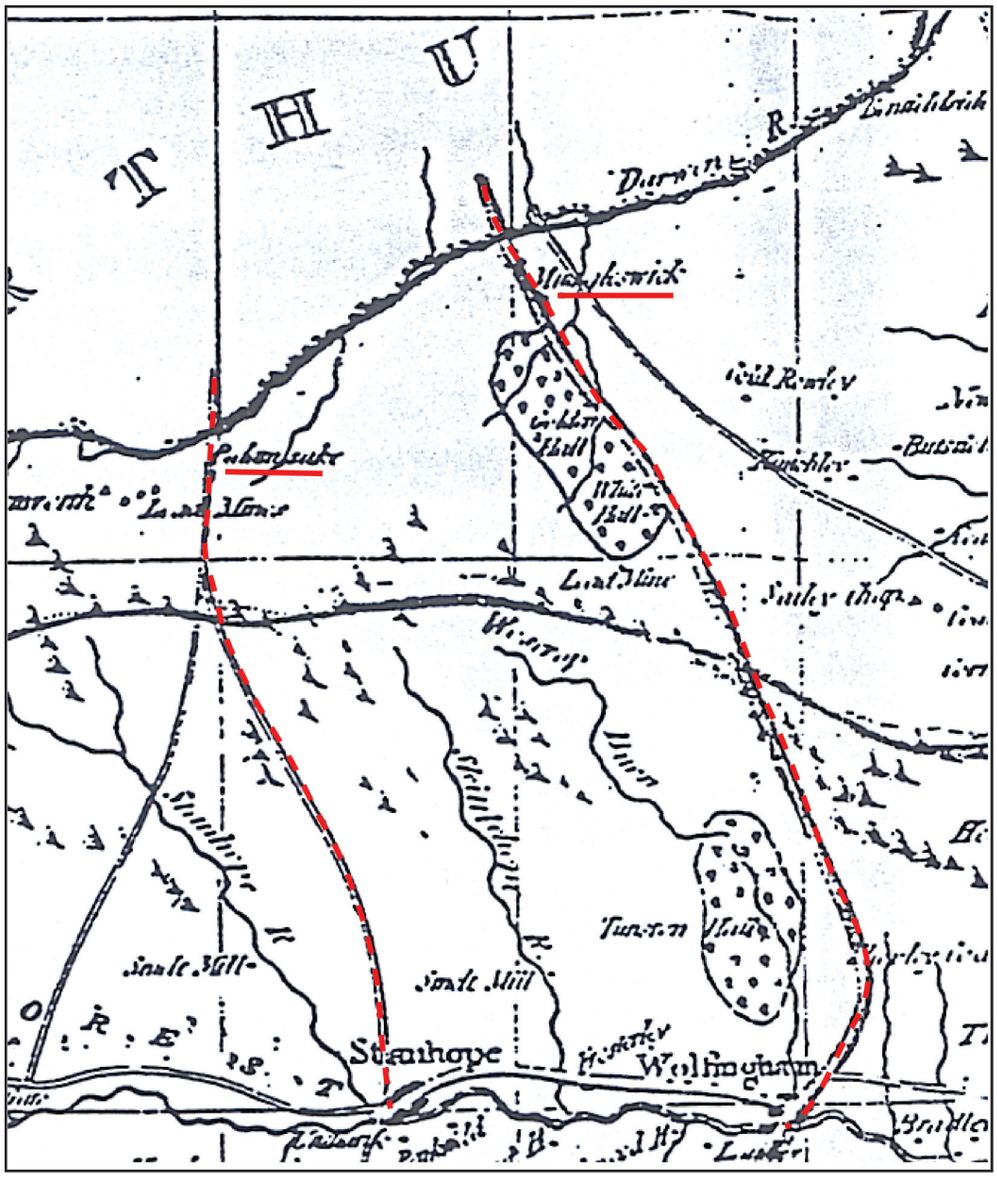


Figure 6.9: Edmundbyers is not shown on Heywood's 1789 map. The only roads go through Muggleswick and Pedam's Oak

Figure 6.10: Bill's 1626 map of County Durham showing rivers, places and some topography, but no roads

fieldwalking (Ross, 1987: 83) which takes a route across the hill instead of the current valley track. By extrapolating this route it can be seen that it may well have met the old Blanchland road at a point near Govan Gill. Govan Gill forms an amphitheatre which was used for fairs and possibly cock-fighting (Ernie Walton, pers. comm.: n.d.). It lies outside Edmundbyers and would seem a strange place to be the site of fairs - unless it was at a road junction. One feature would therefore appear to support the existence of the other. It is also possible that the road from Pedom's Oak actually continued, although I have found no trace of it, to be the aforementioned road that crossed the Derwent to Millshield and is now under the reservoir.

Roads from Stanhope to Hunstanworth and to Muggleswick via Waskerley appear on maps (Heywood, 1789; Smith, 1804) before the road to Edmundbyers is shown, although Edmundbyers Cross is marked on some of them (e.g. Smith, 1804). This seems to have been some sort of waymarker and at a later date there was a stone hut adjacent to it used as a shelter in inclement conditions (Ernie Walton pers.comm. n.d.) (figure 6.11).

6.7 The Turnpike System

It was the ongoing problem with the state of the roads that encouraged the introduction of turnpikes. However, it was the introduction of new techniques like using tar and crushed stones and Telford's road improvements that made the more significant difference (Clark, 2003: 292).

Roads really began to improve when engineers developed ideas regarding their structure. One of the first to pay attention to solid road foundations and drainage was John 'Blind Jack' Metcalfe (1717-1810). He was followed by Thomas Telford (1757-1834) and J. L. McAdam (1756-1836) (Ransom, 1984: 23; Darby, 1976b: 74). By 1820, McAdam's road-surfacing method of small stones on a well-drained foundation was used on many of the trunk roads in the south of England and attracting interest in other parts of the country (Harris, 1976: 201). The speed of travel was also improved by better-designed coaches so that the journey from London to York which took 4 days in 1754 took only 2 by 1774 (Darby, 1976b: 74) and the 10-day London to Edinburgh journey in 1750 was reduced to 2 days by 1830 (Hill, 1975: 46). In 1784 the government was persuaded by John Palmer to send the royal mail by coach and the new mail coaches provided an incentive for improvements in passenger services. Bridge-building helped, too. Prior to 1750 most large rivers were crossed by ford or

Figure 6.11: Edmundbyers Cross
(Muriel Sobo's collection)

ferry, but the early civil engineers like Telford, John Smeaton (1724-92) and John Rennie (1761-1821) were also bridge builders (Darby, 1976b: 74).

So the second half of the eighteenth century and the early nineteenth saw the great age of turnpike construction. The roads that were built or re-aligned form the basis of the A and B road network of England and included the present A68 and B6278. The quality of the roads was very variable, but the turnpikes were a significant improvement because they permitted people and goods to move faster and more cheaply (Whyte, 2003: 274). In Cumbria, for example, the Kendal to Ulverston turnpike was little better than a formalised packhorse trail (Moyes, 1976: 408). In places it is still possible to see the milestones and tollhouses that were associated with the turnpikes, and many of the bridges built at the time continue in use (Whyte, 2003: 274). To start with, turnpikes made no great difference to the way roads were built. They were still made by piling up loose material and had no firm foundation or drainage (Darby, 1976b: 74). Many turnpike trusts were not very efficient and the system would have benefited from some sort of central administration (Darby, 1976b: 74).

Turnpikes were introduced to deal with the continuing problem of poor road maintenance by parishes. A turnpike trust would be set up to take responsibility for a particular road and tolls were charged to help pay for road repairs and to provide a profit for investors (Moyes, 1979: 406). The intention was that the turnpikes would link two points, such as a source of material, like coal, with a town, so they tended to be a local initiative (Moyes, 1976: 406). In parts of the North Pennines and rural Wales a few of the turnpikes were sponsored by local authorities, although this phenomenon came late and was unusual (Moyes, 1976: 406).

The first Turnpike Act was passed in 1663 and referred to parts of the Great North Road passing through Hertfordshire, Cambridgeshire and Huntingdonshire. Tollhouses and turnpike gates had to be erected and the idea developed slowly (Hill, 1975: 44; Pryor, 2010: 452-3). The first actual Turnpike Trust was approved by Parliament in 1706, with a separate Act needed for each trust. The trusts were usually run by a group of local gentlemen, businessmen or clergy who took over responsibility for a section of road from the parish; the clerk to the trustees was usually a lawyer and the treasurer a banker (Hill, 1975: 44; Muir, 2000: 108; Ransom, 1984: 22). There were around 400 trusts by 1750, but most were only responsible for

a short stretch of road, usually 10 to 12 miles (16 - 20km) (Hill, 1975: 44); in the case of the Stanhope to Greenhead via Edmundbyers road, this was 91/2 miles. Because the trusts were responsible for such short stretches of road, the network was fragmented and the quality of the road could vary widely even along one highway (Morriss, 2005: 47). Turnpike trustees financed their road-building projects by offering a return of 4 - 5% interest to investors, with the hope that the tolls would bring in enough to pay these loans and make a profit. At first the trusts employed their own turnpikemen, but later the tolls were often auctioned off to other speculators (Muir, 2000: 108). Legal quarrels were common in the trusts and it was rumoured that lawyers, surveyors and clerks creamed off up to 50% of the toll money. The investors had to be paid, so it was road maintenance that suffered the shortfall in income (Whitlock, 1980: 112). Trusts were usually established for a limited period - 25 years was common - with the aim of returning the road to parish care when it was of a good enough standard. More often the Act was renewed because the increasing volume of traffic and financial problems meant that the roads never reached the desired standard (Morriss, 2005: 46 - 47).

Often, turnpikes took over routes that already existed, although in hilly areas new stretches of road were made to avoid gradients that were only passable by pedestrians and packhorses. Such new roads can run for miles without passing through a settlement with only the tollhouses and sometimes an inn - attracted by the passing trade - to punctuate them (Hoskins, 1970: 188). Turnpike Trusts generally adopted the roads that they thought would bring the best profit and, while they improved them, they were less interested in making roads suitable for faster speeds. The Acts 'in the eighteenth and nineteenth centuries were directed at protecting the roads from their traffic, rather than making the roads serve the aspirations of that traffic' (Morriss, 2005: 50).

Turnpiking was not necessarily a popular idea as locals often objected to paying to use what had been the roads belonging to their own parish. They also felt that they were paying to repair roads for the benefit of strangers. In 1770, John Wesley, who travelled and preached widely in the North Pennines, complained about the effect that turnpike tolls had on the poor who could not afford to pay them. It was not always easy to find an alternative route and many people saw it as wrong to have to pay to use ancient rights of way (Morriss, 2005: 51). What is more, not all the trusts were efficient or honest and most neglected the roads. The toll charges varied and

some trusts allowed special prices to people such as stage-coach operators or, in the case of the Stanhope to Greenhead road, carriers of lead from the Weardale mines (Act, 1815: 19; see appendix D); bribery of the gatekeepers was common. As a consequence there were occasional riots, notably in Somerset in 1749, around Leeds in 1753 and in Wales in the early 1840s, but the roads were much better, which was beneficial for trade (Hill, 1975: 44; Morriss, 2005: 51). There were other complaints about the toll-roads, too. Aylesbury was at the centre of a number of turnpiked roads belonging to seven independent trusts and one late nineteenth century writer grumbled that it was not even possible to take a horse out of town to exercise it without paying a toll (Whitlock, 1980: 112). The turnpikes posed a problem for farmers, also, since they regularly took 4-horse waggons to market. The toll they paid allowed them the use of the road until midnight, but they often made the return journey later than this. This seems to have been common practice: the Turnpike Act for the Stanhope to Greenhead road through Edmundbyers sets the toll to run from midnight to midnight (Act, 1815: 17; appendix D). Obviously this could be inconvenient, but some sort of time limit had to be set for the tickets and any such limit would have had its drawbacks. It was also common for farmers to return with a different load, which meant that they had to pay again. To get to market could mean passing through several toll-gates and charges in the first half of the nineteenth century rose according to the number of horses: a waggon pulled by one horse cost 41/2 d, one pulled by two horses cost 9d and so on (Whitlock, 1980: 122-3). The charges for the Stanhope to Greenhead road were set out in detail in the act and ranged between one penny and three shillings (appendix D). There was also an idea that regulations about the size, weight and wheel-width of vehicles would prevent damage to the roads. In 1753 the Broad Wheels Act made 9 inches the minimum width on all but the lightest vehicles, but broad wheels merely pulverised the road surface instead of cutting ruts (Hill, 1975: 44). There were different tolls on the Edmundbyers-Greenhead turnpike for vehicles with different wheel widths (Act, 1815: 12-13; see appendix D).

By 1750 a number of improved roads had been established along the 8 major routes that radiated from London. Nearly all the Great North Road had been turnpiked, almost to the Scottish border. In the 1750s the linking of sources of materials to hubs that were linked by turnpike to London took place in South Durham (Moyes, 1976: 406). However, the areas most influenced by the turnpike boom of the 1750s to 1770s were in a swathe from Somerset through the West Midlands to the South Pennines

(Moyes, 1976: 407). Nonetheless, by 1760 the turnpikes were reliable enough for the establishment of long-distance haulage companies like Pickfords, which were later able to 'exploit short-term gaps in the rail network' until that was further developed (Moyes, 1976: 408). The turnpikes that were paralleled by railway lines were affected most, but the increasing amount of road traffic feeding the railways actually helped the growth of the road transport industry (Moyes, 1976: 421).

More attention was paid to the areas around London and the main industrial areas with regard to road improvement acts (Prince, 1976: 155; Harris, 1976: 201). However Durham must have been included in these industrial areas since significant advances had been made by 1800 (Prince, 1976: 155). 'Even in rugged country' roads could be reasonable if there was only light traffic and the turnpikes in Northumberland and Durham were mostly in good repair - although the township roads tended to be neglected (Prince, 1976: 155). Where turnpikes were successful, they had a large impact on the areas they passed through. On the Knaresbrough to Skipton turnpike the amount of traffic increased significantly, resulting in market growth, increased rents and an overall boost to prosperity (Muir, 2000: 108). The demand for better roads is reflected in the increase in numbers of turnpike Acts. Between 1751 and 1790 there were 1600 private Acts passed, and 2450 in the next 40 years (Hill, 1975: 45). Alongside this there was a growth in the number of stage-coaches; coach-building (with better springing) became a profitable industry and coaching inns enjoyed prosperity. By 1836 there were more than 3000 coaches on the roads giving employment to 30,000 men (Hill, 1975: 45).

By 1821 around 18,200 miles of English road had been turnpiked and this had increased to 19,900 by 1848 (Harris, 1976: 201). At its most extensive, the turnpike system still only comprised about 20% of the total road mileage (Moyes, 1976: 407). However, the ascendancy of coaching was past and the income from turnpikes was decreasing rapidly, although the new road system that had been established was permanent (Harley, 1976: 271). Although road traffic became more intense, other forms of transport such as the railways meant that this was more local in character (Moyes, 1976: 421). By the mid-nineteenth century canals had taken over much of the road traffic and railways were expanding rapidly. Although for a while there was work for stagecoaches to provide links with the rail network this was soon so comprehensive, faster and cheaper that, in places, the turnpikes were almost deserted (Morriss, 2005: 51). Coaching inns suffered from this downturn in traffic and many

turnpikes lost income so that they found themselves in financial difficulties (Morriss, 2005: 51). From 1860 there was an active policy of dis-turnpiking so that the last Trust disappeared in 1895. Care of the turnpikes then reverted to the parishes and standards were not always maintained (Coppock, 1976: 352; Moyes, 1976: 421).

6.7.1 Edmundbyers and Muggleswick

While there were several turnpikes in Lowland Scotland, in the Highlands there were mainly tracks, except for the military roads begun by General Wade between the Jacobite rebellions of 1715 and 1745. Only 250 of the eventual 1200 miles of road were built before Wade left Scotland; the rest were the responsibility of his chief surveyor, Major William Caulfield. These were the first roads built and maintained by central government since Roman times and were better than most roads in both Scotland and England (Morriss, 2005: 42). The nearest to Muggleswick and Edmundbyers is the one built between Newcastle and Carlisle (Newton, 1972: 223). Other roads followed, straight with wide verges between hedges or walls, such as the 1750 Corn Road from Hexham to Alnmouth and the Northumberland section of the London-Edinburgh coach road (1763). Landowners were also building their own roads for access to their estates (*ibid*: 225) and this may account for the change in the route from Edmundbyers to Blanchland if the owner of Ruffside Hall decided that he needed better access to his estate.

The turnpiking of the present B6278 between Stanhope and Greenhead in 1815 - relatively late as most of the main routes in the region had been turnpiked earlier (figure 6.12) - suggests that, at some point before this date, the road had been established and gained some significance. Featherstonhaugh mentions an 'ancient road which mounts to the top of Harehope fell, and joins the present turnpike at the [Edmundbyers] 'Cross' ' (1900: 12), suggesting an earlier road from Stanhope. The most likely reason for this route being turnpiked is the growth of the lead-mining industry and the need to transport lead to the Tyne Valley. However, the 1800 estate map marks the route to the leadmill as the one now known as Limerick Lonnen, along the west side of the Burnhope Burn, and not the B6278. While at least two tollgates existed on this turnpike, their names given in the notice from the Newcastle Chronicle, their precise location is not clear (appendix D.2). Some of the roads on the estate maps are shown with gates, but these seem to have been for animal control - to stop sheep from wandering into the village from the fell - as several coincide with present cattle grids. Some gates were still in existence in the early twentieth century

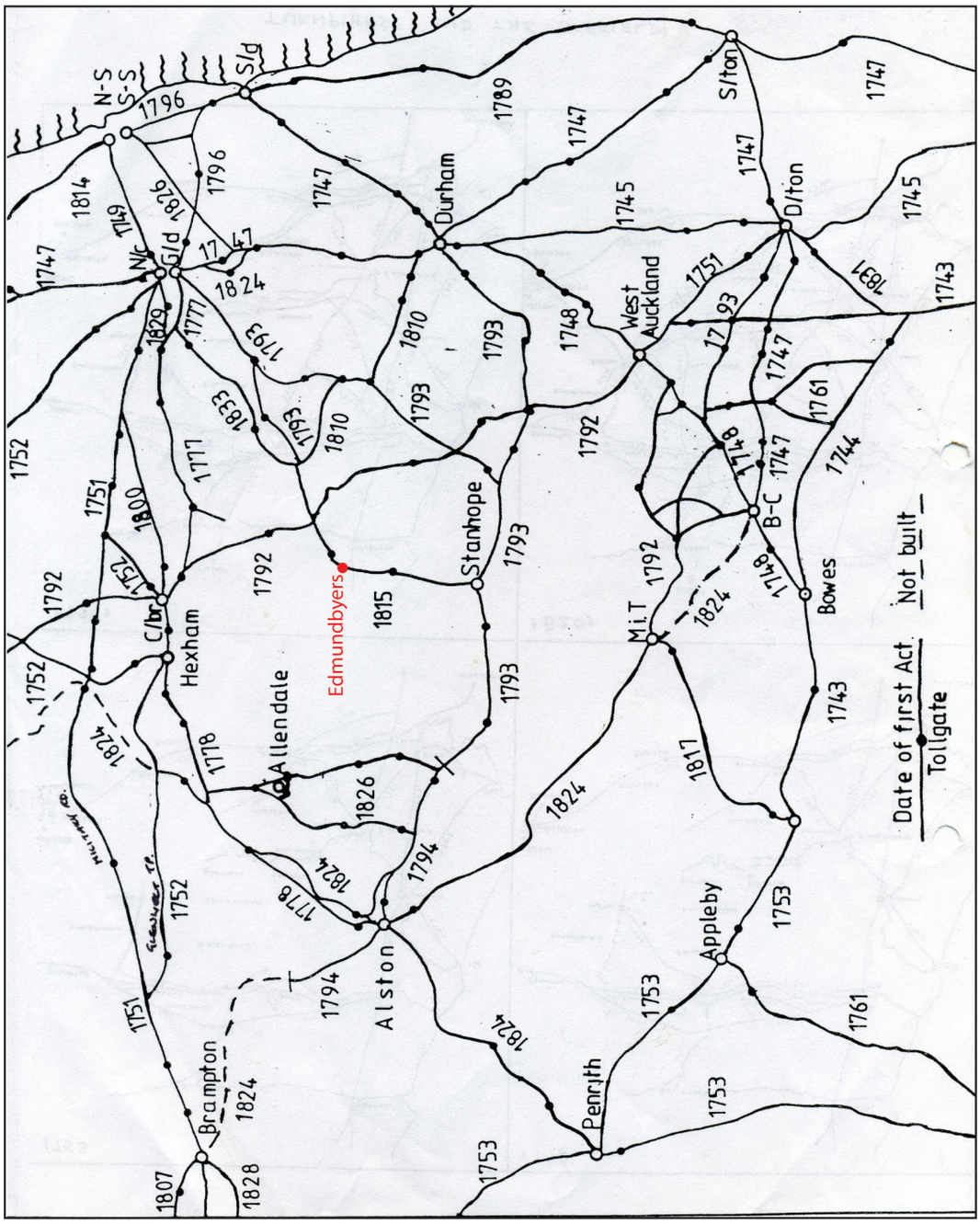


Figure 6.12: Map showing the Stanhope - Edmundbyers turnpike dated 1815 (map: Stafford Linsley)

when local children could earn a few pence opening them for traffic to pass through (E. Walton, pers. comm.).

6.8 Enclosures and roads

The enclosure of land by Act of Parliament had a great influence on the course of many roads. When land was surveyed and enclosed in regular blocks. Prior to this, routes tended to meander from place to place, shifting and following the best path (Muir, 2000: 109) and calling at settlements along the way, as did the precursor of the A68. Where the older lanes wound, the enclosure roads were laid out as part of the regular pattern of newly-divided fields (Morriss, 2005: 46). As with enclosure itself the costs of road-building had to be borne by the landowners, and this was set out in the schedules attached to the enclosure awards. This was not always popular because of the expense involved (Yelling, 1977: 100).

Although the enclosure acts affected some 21% of England, mainly in the Midlands, the new roads were largely parish-based because the enclosures also took place within parishes (Muir, 2000: 109; Hindle,1976: 6). In areas of parliamentary enclosure the roads are usually straight (Aston, 2004: 131). Older trackways were re-aligned and given wide margins, they were straightened and their courses fixed across what had been open fields and common land (Aston, 2004: 131; Muir, 2000: 109). The new roads were usually 20 feet wide, flanked by verges which could be used if the road itself was too badly rutted and which were useful for stock movement (Muir, 2000: 109: Morriss, 2005: 46). The hedges alongside them were frequently 40 feet apart, although it is possible to find ones which were 30, 50 or even 60 feet apart (Muir, 2000: 109). Sometimes new lines of communication were established and ancient ones destroyed (Aston, 2004: 146). Thus it was a good opportunity to close routes that were under-used or duplicated (Muir, 2000: 109). Other problems could be caused, also: in the Peak District some routes, like Doctor's Gate, had a number of field walls built across them as a result of enclosure and thus the through route was interrupted (Bevan, 2003: 371).

The layout of roads, with paths and trackways, was important in the enclosure commissioners' scheme and was often decided before the new allotments of land were made. The 'requirements of public passage' had to be considered, as well as access to the allotments, and the roads were an 'integral part of the whole scheme to

improve the accessibility of the farm to its lands' and to neighbouring settlements (Yelling, 1977: 137; Hindle, 1976: 6).

The parish-by-parish road improvement meant there were often problems at parish boundaries because the new roads might not meet up exactly or might simply end because the adjacent parish had used a different surveyor or not built a road there (Muir, 2000: 109; Hindle, 1976: 6). The result was 'long straight sections with occasional sharp bends' because estates with properties in neighbouring townships did not take the wider road network into sufficient consideration (Morriss, 2005: 46; Yelling, 1977: 137). The Commissioners of Enclosure straightened roads and laid out new ones so that studying almost any district will show that the road pattern and road character changed at this time (Harris, 1976: 202). Frequently these changes were significant regionally, and they included main routes across the Pennines, which were widened and had sharp bends and steep gradients removed (ibid). The new roads were also the responsibility of the parish and were not usually turnpiked; many of today's country lanes were established at this time and some were not important enough to be surfaced so remain as 'green lanes' (Morriss, 2005: 46).

While some evidence of parliamentary enclosure and associated roads can be found in the parishes adjacent to Muggleswick and Edmundbyers, within the two parishes another process seems to have taken place. Land enclosure was mostly by agreement and, while the road system may well have been altered, it seems to have occurred earlier and to have resulted in routes that are less straight. This is partly because many of the fields were enclosed from the previous 'strip field' system so that their boundaries followed the sinuous lines of the strips and the roads did likewise. There is one possible route change shown on the 1800 estate map where a track follows a route through the fields, adjacent to the present B6278 and several other tracks or roads shown by dashed lines often with gates marked on them, as mentioned above.

6.9 Carriers, Drove Roads and the influence of Lead Mining

Routes for stock-movement were often short and local - from the in-fields to the commons. However, some were long-distance and international and the 'streets' of the Borders were used to take Scottish cattle to markets in England (Muir, 2000: 106). In fact, cattle were driven on foot from Wales, Scotland and Northern England to London and other major cities (Whyte, 2003: 274).

Such droving reached a peak in the late eighteenth and early nineteenth centuries, before railway transport took over, with some 100,000 cattle being moved each year by the eighteenth century (Whyte, 2003: 274: Muir, 2000: 106). The drove roads mostly followed the high ground, with widened verges so that the cattle could graze as they travelled, and at intervals there were stances, often with an alehouse, where the herds rested at night (Whyte, 2003: 274; Hoskins, 1970: 187; Muir, 2000: 106). Parts, at least, of the present A68 were used by drovers. The road follows the high ground for much of its route and there was an inn only about two miles east of Edmundbyers and Muggleswick, at Greenhead. This inn was still in use well into the twentieth century. Cattle stopping here for the night were shod with special shoes by the father of the sculptor John Graham Lough before continuing their journey.

Often, drove roads used earlier routes following existing green lanes and trackways (Newton, 1972: 214; Hoskins, 1970: 186). This was the case in the Simonside Hills in Northumberland. Eighteenth century drovers used tracks near to the prehistoric hill settlements of Lordenshaws and Witchy Neuk, crossing the Rover Coquet by fords and following trackways northwards into the moorlands (Newton, 1972: 214). The drovers from the north also used Dere Street because it largely avoided cultivated land. At Corbridge and Riding Mill droving traffic collected to cross the Tyne (*ibid*: 222). This drove route continues through Slaley Forest - the suggested Roman road in section 6.3 - over Blanchland Common to the inn at Pennypie and on to the Durham border, passing just a few miles to the west of Edmundbyers (*ibid*).

Pack-horse routes were common on rough terrain where road-building was difficult and wheeled traffic virtually unknown. The use of pack-horses tended to persist longer in upland areas so that it was the preferred method of transport virtually from the prehistoric until well into the railway age. Other travellers used the routes, too, including local people going to market and animals being taken to pasture (Muir, 2000: 107). Some of the pack-horse trails were long-distance routes and had stagehouses where the horsemen (jaggers) could rest, with storage space for their goods and a paddock for the ponies (*ibid*). Galloways were the preferred ponies and travelled in strings with the leading horse wearing a bell - the bell-horse (Sopwith, 1989: 8). This was especially the case in the transport of lead ore, the importance of which was indicated in 3.7. The need to transport the ore had a noticeable impact on the communications system of the North Pennines.

Lead which was to be sent to the south of England was usually taken by packhorses, and sometimes by waggons, to the nearest navigable river - in the North-east much was taken to Stella-on-Tyne - and then by barge to the port or, from Stella, along the 'Lead Road' to Newcastle (Raistrick & Jennings, 1965: 267/271). The moorlands of Hexhamshire and Allandale, north and west of Edmundbyers and Muggleswick, are 'threaded by the old pack-horse routes from the lead-mines' (Newton, 1972: 222). In the eighteenth century in the North Pennines packhorses and carts thronged the routes transporting lead from the mines before winter weather made the ways impassable. The transport of lead usually began on the hills in early May, but often slowed down later because many of the carriers were farmers as well and were busy around midsummer (Blackburn, 1992: 62). Ore was collected at set times so that the farmers could combine their different activities (Raistrick & Jennings, 1965: 269). Some 1500 tons of finished lead were produced annually, refined from around 6000 bings of ore. Each Galloway pony could carry a quarter of a bing, so the ore produced represented about 24,000 horse loads - an indication of how busy the packhorse tracks were (Blackburn, 1992: 58). The Galloways were able to withstand the Pennine weather and could cope on poor feed. They wore a standard wooden pack saddle with two one-eighth bing (one hundredweight) sacks of ore slung side-by-side over it. One well-used route crossed the Derwent Valley, passing from Rookhope Mill via Millshield and Kipperlin to Apperley where it joined the Lead Way (Blackburn, 1992: 59 - 60). There was a great deal of movement within the mining areas as well, moving ore from the mines to the dressing floors and then to the smelt mills. The industry needed supplies of timber, ropes and fuel. The latter could be peat, cut on the fells in May or June and take to the mill to be stored in the peat house, or coal from local pits (Raistrick & Jennings, 1965: 268).

In the North Pennines the roads had steep gradients and poor surfaces making transport difficult and this was compounded by the 'high altitude' and 'severe winters' (Raistrick & Jennings, 1965: 271). Conditions were so bad that the major lead companies, such as William Blackett & Co., repaired the routes themselves. Since many of them passed over Blackett land, this was worthwhile. Moreover, some of the lead companies were starting to use lead carts which were more cumbersome than the Galloways (Blackburn, 1992: 61). Carts with two wheels, solid bases, sides and fronts and were used for coal, lime and peat, formed the most common transport for heavy goods. In 1757 William Blackett supported the development of a new type of cart which had six-inch wide wheels and was pulled by two horses. This coped well

with all ground conditions and was easily pulled (Blackburn, 1992: 61). By the 1790s Blackett & Co. were producing about 6000 tons of smelted lead a year, four times what the output had been in the 1730s. This meant that 180 to 190 carts were needed each day, and twice that if single-horse carts were used, as well as about 660 horses. Of the latter, some 480 were using the Dukesfield road so that a 10-horse string passed every 15 minutes (Blackburn, 1992: 65).

The London Lead Company (LLCo) used packhorses almost exclusively in the eighteenth century, with winter costs double those of the summer. Lead from Langley Mill used the Newcastle to Hexham road when this was turnpiked but Allendale and Nenthead lead continued to go by the Lead Road (Raistrick & Jennings, 1965: 271). Much work was carried out under the guidance of Charles Alsopp, LLCo's agent at Ryton, who had to deal with the problem of the isolated position of the Alston Moor mines. Alsopp worked to improve the packhorse route which tended to be fairly straight across the hills with large stones laid where the going was soft. Deep gullies, which became streams in winter, were worn on rises up steep slopes (Raistrick, 1938: 79). Instead of going ahead with a link to the proposed Newcastle-Carlisle canal, LLCo decided on a large-scale road network for the area it operated in, aiming to link its estates in Westmorland, Swaledale, Teesdale, Weardale and Alston Moor (Raistrick & Jennings, 1965: 272; Raistrick, 1938: 88). It inspected the roads it used and put pressure on the townships and turnpike trusts that had not maintained the roads. The company also offered grants for improvements and built miles of new road itself, spending £1500 on local roads and as much again on grants (Raistrick & Jennings, 1965: 272).

Greenwich Hospital had estates at Langley Barony and Alston Moor and also improved the roads, employing John McAdam for advice. They worked with LLCo on improvements so that journeys were shortened, waggons could be used and costs were reduced (Raistrick & Jennings, 1965: 272-3). Some of these road improvements seem to have included the road to Edmundbyers from Stanhope.

There was a growth in carrier services from the 1630s. The total number of services from London grew by 124% between 1637 and 1715, with river and coastal shipping growing as well (Chartres, 1977: 78). War, which disrupted foreign markets, may have been the main reason for the growth in road traffic between 1681 and 1715 because of the increase in home trade and a possible reluctance to use coastal shipping

due to the war and piracy (ibid). Chartres uses a 'service quotient' - a 'numerical measure of the place-specific frequencies' which is calculated from a multiple of the number of carrier services to a place and their weekly frequency. The Service Quotients of Land Carriage from London for certain counties and years are shown in table 7.1. (*ibid*: 76-77; Table 1: 77).

Chartres notes that the North region (i.e. the North of Yorkshire and Lancashire) had no carrier service to London in 1637 but had 6 services a week by 1751 (1977: 80). Durham and Northumberland were not as well served as southern counties but at least had services by 1715. Derbyshire's fortune seems to have improved in 1681 but services were reduced again by 1715, although still better than Northumbria. However, the logistical achievement of establishing road carrying services over long distances and difficult terrain should not be underestimated (Chartres, 1977: 81). Because of the number of days a journey took, and taking into account the frequency of the service, a number of wagons could be required for each route. For example, between London and Fulham only one wagon was needed to maintain a daily service. However, it took four wagons to maintain the weekly London to Manchester service. This could mean that wagons had to leave on a scheduled service when they were not completely full and there would be some days when they stood idle. All this increased costs (*ibid*: 84).

The development of the wagon trade and its replacement of packhorses needed particular economic conditions; wagons had to carry sufficient goods to make their use worthwhile. The goods that needed to be moved also needed to be bulky so that other forms of land transport were not practical and the roads had to be good enough all year round to take the wagons (Chartres, 1977: 82).

6.10 Early Maps - information or misinformation?

It soon became apparent, when trying to ascertain the road system in the parishes of Edmundbyers and Muggleswick, that there were certain drawbacks to trying to use maps. Naturally, this was not entirely a surprise, but I had not considered all the problems that might be involved. A lack of clear topographic information prior to the first Ordnance Survey maps was anticipated, as was some eccentricity in the location of places, but the most interesting feature was the apparent partiality on the part of the cartographer where roads were concerned. Having, since, discovered that the attitude to 'road' in the Middle Ages - and later - was a way across country rather

than a specific physical route, this is perhaps not so surprising. Often, the earliest maps (figure 6.10) show no roads at all. When roads start to be shown the majority, as shown on maps of Durham, run south-north (figure 6.13). Presumably no-one and nothing of any significance travelled east-west. Even after the Dissolution of the Monasteries, there must have been significant traffic between the Muggleswick estate and Durham, yet no direct routes between the two are shown on the early maps.

There is very little information, written or archaeological, for the network of mediæval roads, so maps provide some of the best information (Hindle, 1976: 209). However, few mediæval maps exist of Britain and those give limited data: Matthew Paris' 1250 map shows only one route, that from Dover to Newcastle; the Gough map from c. 1360 shows many roads radiating from London (Aston, 2004: 143). While the latter seems to show the germ of the 'modern' road pattern, according to it very few roads crossed the country from south-west to north-east (Glasscock, 1976: 174), confirming my own observations, and it stops short of Hadrian's Wall (Hindle, 1976: 210). Paris' map, interestingly, shows a line of named places between Dover and Newcastle, and beyond, so that Weardale is named, albeit on the coastward side of Durham, and Hadrian's Wall is visible (*ibid*: 209). Stenton agrees that there is only 'fragmentary' evidence for the direction of roads in the twelfth and thirteenth centuries, but considers that Gough's map showed, 'on the whole with remarkable accuracy', the routes of the more important English roads (1936: 7). Certainly it was progress as it shows roads for which the mapmaker could indicate the distances between the stages (*ibid*: 7-8). However, no road is shown going to Newcastle upon Tyne, although the towns between there and York are shown in the correct order, and the distances shown are not accurate, so that there is a cumulative discrepancy from the actual distances between places (Stenton, 1936: 11-12; Hindle, 1976: 210). Hindle's assessment of the usefulness of the Gough map is that the lines must represent 'at best [....] tracks which made and maintained themselves and, at worst, simply directions on the map to guide the traveller across open country' (1976: 211). Hindle questions whether the lines actually depict roads or just show that a route exists so that distances can be shown alongside them. He also casts doubt on the accuracy of the distances (*ibid*)

The map in John Ogilby's Britannia (1675) shows 'a series of roads radiating in continuous lines from London to every part of the kingdom'; these are intersected at intervals by crossroads which are less frequent further north (Stenton, 1936: 1). Ogilby

Figure 6.13: Morden's 1701 map of Durham showing north-south routes but no east-west ones

and subsequent road-books showed 'computed' miles, often similar to Gough's, which may be based on rough popular estimates or may have been genuine estimates by travellers (*ibid*: 12-14). Stenton queries whether a system such as Ogilby drew existed in the Middle Ages. Trying to link itineraries such as Leyland's to maps like Ogilby's is difficult. There is very little direct evidence of the routes that travellers could follow between distant points for the whole period between the end of Roman rule and Ogilby's map (*ibid*: 1). There are simple descriptions of roads in the boundary clauses of old English land books, but these only refer to short stretches and do not mention the towns or villages that they linked (Stenton, 1936: 1).

The only other real source of information about roads can be inferred from Royal and Ecclesiastical Itineraries. Bishops tended to be more biased about the places where they stayed, seldom travelled outside their own dioceses, and usually only visited places with a religious connection (Hindle, 1976: 212). The Royal Court was less inhibited and the king would stay anywhere he had a castle, manor or religious house, so the route could be more wide-ranging. There are certain difficulties with using such itineraries as there may be gaps in the information or some of the places may be hard to locate, perhaps not even having a modern name. Moreover, the Royal Itineraries do not indicate if river transport was used on routes where this was an alternative, or which land route was taken if there was a choice (*ibid*: 212-3). The itineraries of Kings John, Edward I and Edward II are the most useful. When the same route is shown to have been used by several kings - or the same king several times - it suggests that there was some kind of followable track or road on the ground. Data from the itineraries show the routes taken, the places the Royal Court visited and how often, thus making it possible to identify areas and routes which were not visited (*ibid*: 213-6).

Cartographers tend to gather information from various sources, 'through both direct observation and inquiry into local tradition' (Ingold, 2005: 229). This is not necessarily shown on the resulting map - 'one of the most striking characteristics of the modern map is its elimination, or erasure, of the practices and itineraries that contributed to its production' (*ibid*). This selective process of knowledge dissemination seems to have been relevant throughout the history of map-making. The earlier maps omitted data because, perhaps, their makers considered it unnecessary or irrelevant; today the most likely reason for information to be omitted may be because it is strategically sensitive.

The first milestones since Roman times appeared during the reign of Charles II, although guide-posts already existed in some places (Hoskins, 1970: 190). Clearly realisation was dawning that more people were travelling longer distances and needed some way of finding their way about. The Dover Road was given mile-marks in 1663 and in 1708 stones were placed along the Great North Road (Hoskins, 1970: 190). These earliest milestones perhaps emphasise the importance of the routes they served. They were usually the result of private enterprise and did not become compulsory until 1773.

Thus it is that, until the introduction of Ordnance Survey maps, deriving information from maps about the road system or the landscape in general is problematic. Most of the information relies on inaccurate or biased cartography, assisted in this study by fieldwork and observation, and inferences from scarce documents.

6.11 Into the modern era

6.11.1: The development of the modern road system

Around 2000 miles of new roads were made after 1845 due to enclosure awards, but little work was done on existing routes (Coppock, 1976: 353). In the late nineteenth and early twentieth centuries parishes were still responsible for roads which were often no better than cart tracks and became worse the further they got from villages. Stones 'picked' from fallow fields during the summer were piled along the roadsides for the roadmen to use for repairs. the roadmen were paid very badly but were, in some places, allowed to cut hay from the verges (Whitlock, 1980: 142). The stones were not rolled in but left for the passing traffic of 'farm waggons and tumbrils' to smooth them (Kightly, 1984: 20).

In 1888 County Councils were given responsibility for main roads; while there was some improvement, not all turnpikes became main roads under this system. Most traffic was local and there was no co-ordinated national road network (Coppock, 1976: 352). County Councils spent a significant amount of money on main roads in the years up to the First World War (Hill, 1975: 116). Secondary roads passed into the care of Urban and Rural District Councils in 1894, and remained dusty, muddy, narrow and dangerous until after 1918 (*ibid*: 116).

The development of motor transport, at first steam-powered, encouraged the - very gradual - improvement of rural road surfaces; the damage to turnpikes was

unpopular and the amount of dust caused by motor vehicles made tarred surfaces necessary (Coppock, 1976: 353; Morriss, 2005: 57). By 1905 there were some 1,269 miles of tarred roads in England and by 1913 the country had a greater mileage of dustless road than any other country (Coppock, 1976: 353). The Budget of 1910 allowed the establishment of a central Road Board which could use taxes from car licences and petrol to tar road surfaces (Hill, 1975: 116). The Road Board was replaced by the Ministry of Transport which, in 1920, started to classify A and B roads, although local authorities were responsible for actual road construction. In 1929 all roads, except for unclassified (minor) roads, came under the remit of County and County Borough Councils (*ibid*: 116). As a result, some modern roads run along the middle of multiple parallel tracks made by travellers and drovers seeking a dry route: Icknield Way is thought to have been a mile wide at one time (Hindle, 1998: 6). Many drove roads, which tended to by-pass settlements, were abandoned while some roads were tarmacked and others - such as those little-used ones leading only to fields - were left (*ibid*: 7).

Early mechanical vehicles in England, including steam-powered road locomotives, had to be preceded by a man with a red flag, a law not enforced after 1878 but not repealed until 1896 (Hill, 1975: 116; Morriss, 2005: 61). Before 1896 the maximum speed at which a motor vehicle could travel was 4 miles an hour (reduced to 2 m.p.h in towns and villages for road locomotives), but this was then increased to 12 m.p.h. until 1903 when it was increased again to 20 m.p.h. The 1896 Emancipation Act which superseded the Red Flag Act indicated some limited understanding of the new technology, but discriminated against traction engines which, weighing more than 2 tons, were limited to 5 m.p.h., while vehicles of 1.5 to 2 tons could travel at up to 8 m.p.h and it was only lighter vehicles which were permitted to travel faster . The celebration of the Emancipation Act was the origin of the London to Brighton rallies (Morriss, 2005: 63).

Gottfried Daimler and Carl Benz, having developed the internal combustion engine, first drove the resulting vehicle in 1887 (Hill, 1975: 116). The first motor car imported to mainland Britain was a Panhard Levassor, in 1895. The first motor show was held in October 1896 and the first pedestrian was run over in August (Morriss, 2005: 62). Horse-drawn vehicles began to be replaced by motorbuses after 1903, but there was still very little mechanised transport outside the towns (Coppock, 1976: 353; Morriss, 2005: 61). The numbers of motor vehicles grew so that, from around 20,000 in 1904,

there were 175,588 in 1911-12 (Hill, 1975: 116; Coppock, 1976: 353). Morriss' estimates for cars alone are around 8,000 in 1904, c. 16,000 in 1905 and some 132,000 by 1914 (2005: 64).

Much of the pressure for improvements to the road surfaces came from cyclists at the end of the nineteenth century (Morriss, 2005: 53). The wealthier sections of society adopted bicycles first, as a fashion, in the 1890s but bicycles soon became affordable to the working classes. The cycling lobby persuaded the local authorities that road improvements were needed. While some roads were good, others were in very poor condition and difficult to negotiate safely on a bicycle (*ibid*: 55). Cars, causing more damage than heavy vehicles due to their numbers, were influential also and it was clear that tar and tarmacadam surfaces were needed. The setting up of the Road Board made the care of roads a national concern (*ibid*: 64). Despite a reduction in private cars during the First World War, public transport - motorised coaches, char-à-bancs and touring coaches - was making people more mobile and contributed to the development of suburbs (*ibid*: 68). Both public and private motorised transport also encouraged visitors to the Upper Derwent Valley during the first half of the twentieth century, and a number of current residents first came as children visiting relatives or to stay at one of the many formal and informal camping sites.

6.11.2 The internal combustion engine, modern roads and the Upper Derwent Valley

The internal combustion engine must have had an effect on the parishes of Edmundbyers and Muggleswick, as with the introduction of tractors. Even well into the twentieth century much agricultural practice was traditional in nature (figure 6.14).

The internal combustion engine may also have influenced the visitor numbers in the area but, in fact, the Upper Derwent Valley had been a popular visitor attraction for many years. Early visitors, obviously, arrived by foot, horseback and carriage, but even into the twentieth century the Venture Coach ran regularly from Shotley Bridge to Blanchland carrying tourists. The horse-drawn version was subsequently replaced by a motor coach. The photograph of Low House (figure 6.15) shows that there was enough business for more than one café in Edmundbyers, indicating that there was a substantial flow of traffic through the village.

Figure 6.14: Haymaking in the 1920s.
(Ernie Walton in foreground. From his photograph in Edmundbyers Village Archive)

Figure 6.5: Low House in about 1914

The development of motor traffic led to the widespread surfacing of roads with tarmac and similar materials; the previous surfaces, while maintained, were presumably too rough for cars. Much of this road improvement took place in the 1930s and Ernie Walton dates it to that period for Edmundbyers (pers. comm.). He, and his late wife, Elsie, also recall opening the gates on the roads around the village for cars to pass through (pers. comm.).

6.12 The effects of road changes on the area

Caroline Hardie, in her report on the village for the Weardale Society (NAA), suggests that the triangle between the roads of Edmundbyers was the original village green. While this may have been the case, I do not believe that the roads of the village existed in that format at the time - before Edmundbyers became part of the Muggleswick estate in the twelfth century - when the Bishop decreed that villages should have greens.

My arguments for this are based on the evidence already put forward. In the twelfth and thirteenth centuries the only roads mentioned are those between Muggleswick and the nearby township of Edmundbyers and beyond to the monastery at Blanchland, and the main route from Barnard Castle to Tynedale. Even the road to Durham has to be inferred. Presumably, also, there were routes within the estate for access to the various vaccaries, bercaries and woodland. There is no evidence that there was a need for a road between Edmundbyers and Stanhope and the lack of such a route on the early maps would confirm this. Of course, it is quite possible that local tracks or paths existed over at least part of its length. Thus there is no definitive proof that there was a road equivalent to the B6278 to form the south side of the putative village green. Reference by the Reverend John Dury, on his return to the parish after the Parliamentary period, to a lane leading to the churchyard whereby sheep could be taken there to graze the grass adds weight to the argument (Surtees 1820/1972: 364). If there had been a good road to the south of the village, access to the churchyard would have been relatively easy. It would seem that Dury is complaining about the lack of upkeep of Church Lane. Perhaps the most interesting evidence that the 'triangle' was not a village green includes the facts that it is not mentioned in the 1649 survey (but neither are the properties that were in private ownership rather than that of the Dean and Chapter) and that rig and furrow can be seen in some of the gardens and in the village hall field. These are within the triangle and there is also rig and

furrow, which appears to be continuation of that in the triangle, just visible in the fields to the south of the B6278.

Hindle suggests that the number of roads in an area often reflects its economics (1998: 7). In the case of Muggleswick and Edmundbyers the Priory estate and its infrastructure are likely to have been one of the earlier causes of road development. People and goods needed to travel between Muggleswick, Durham and other Priory estates, and people living and working on the estate had to move between their homes and their work. Some would have been farming the town fields around Edmundbyers, some would have been working at the vaccaries and bercaries of the estate, and others would have been employed in the extraction of the estate's raw materials, like stone and timber, and its transport to where it was required. This indicates that, apart from Balyolfgate passing through the area, the main routes at the time were from the township of Edmundbyers to Muggleswick and thence, by one at least of the suggested routes, to Durham. Also necessary were routes to the fields and the animal-raising parts of the estate. Probably the relicts of many of these are visible as part of the network of paths and tracks in the parishes. Dating such routes, however, is much more difficult than dating roads that have survived to be shown on maps, although some appear on the 1800 estate map. The development of the lead mining industry had a major impact on the road system of the North Pennines, in improving some of the roads already in existence and in building new ones. Other roads, possibly including the 'low' road to Ruffside, may have gained importance when easier access was needed to adjacent estates and settlements.

The map (figure 6.16) indicates how the system of routes in Edmundbyers and Muggleswick may have looked at different periods. It emphasises how the different influences caused changes in the orientation of people's travel. Mediæval routes from the Muggleswick estate probably directed attention towards Durham whereas lead was carried from Weardale to Tynedale and on to Newcastle, so that interest in travelling to those areas developed. Today, many residents travel along the Derwent Valley to shop in Consett, but also shop, work and go to school in Hexham, Newcastle, Durham, Stanhope and places between as well.

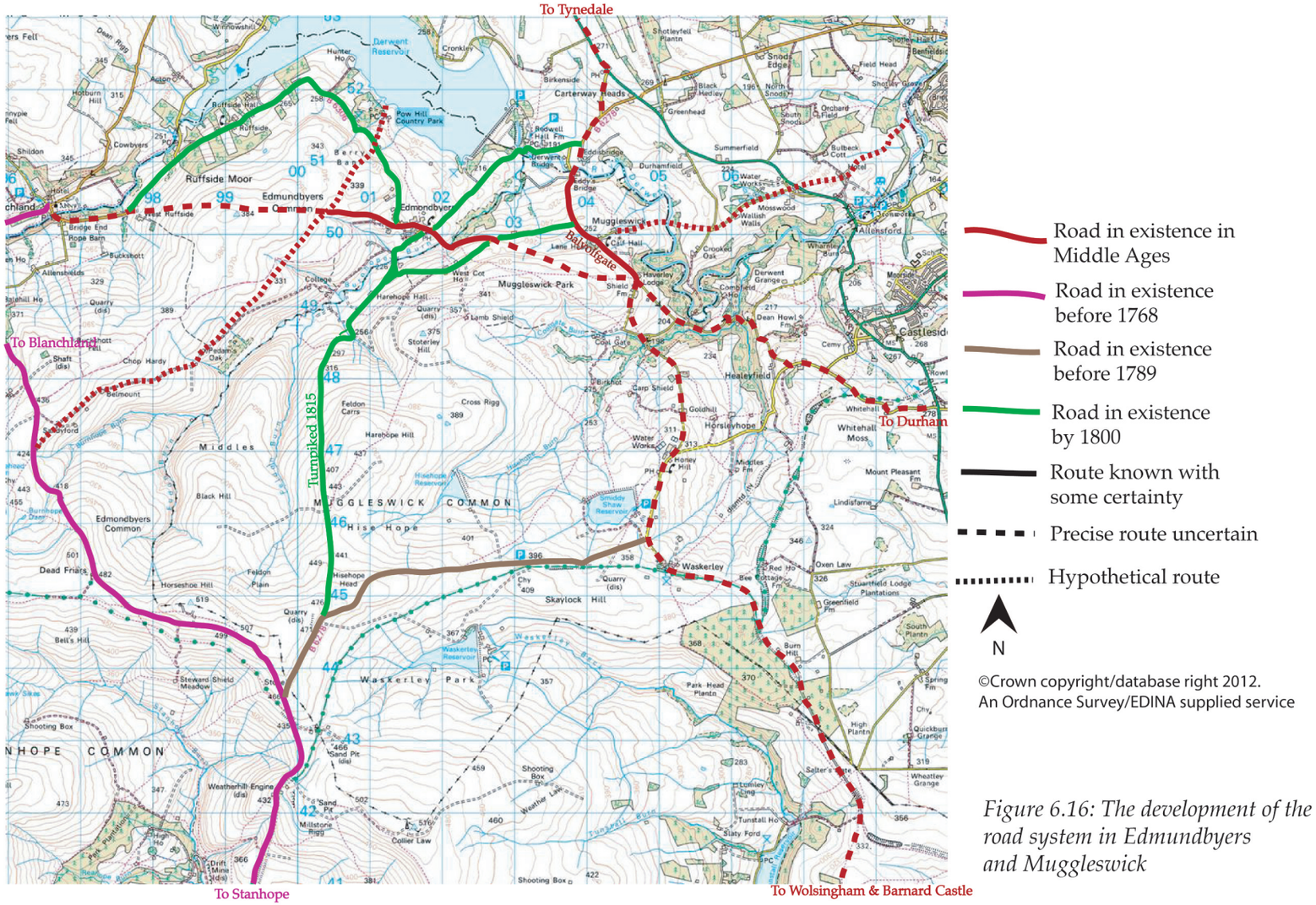


Figure 6.16: The development of the road system in Edmundbyers and Muggleswick

6.13 The Railway

The Stanhope and Tyne Railway, and its descendents, impinged on the landscape of Muggleswick and Edmundbyers for about 130 years. For a while it carried passengers, but its main function was the transport of stone, lime and minerals like lead and fluorspar to points along its route and ultimately to the Tyne. Although it was gradually closed a number of years ago, the route it followed can be clearly seen across the fells; part of it is now a walking route.

The idea was originally for a wagonway from Stanhope to the Tyne (Whittle, 1971: 14). It was an ambitious notion since the railway would stretch 34 miles from Weardale to the mouth of the Tyne across some challenging terrain. In December 1831 wayleave was obtained, for a fee, from the Dean and Chapter of Durham so that the railway could cross their land at Stanhope Fell, Waskerley Park, Muggleswick Common and White Hall Farm (*ibid*: 15). T.E. Harrison surveyed the section between Stanhope and Medomsley, and construction began in July 1832 with Robert Stephenson as consulting engineer (*ibid*: 15 - 16).

Rapid progress was made on the western end of the route with rails 'laid on the prepared formation almost regardless of gradients' (*ibid*: 17). From Crawley on the north side of Stanhope the line was raised to the summit some 440m above sea level via two steep inclines. These were the Crawley and Weatherhill banks up which there was a single 4 feet 8 inch gauge track. Part way up, Hog Hill tunnel and cutting allowed enough width for a double line (*ibid*). Once the line reached the summit it was on the border of Muggleswick parish.

The incline from Stanhope to Crawleyside, 1 in 7.5 at its steepest, was worked by a 50 horse-power George Stephenson stationary engine. It usually took two wagons at a run and, thus, around 120 to 140 wagons could be moved up or down in a 14-hour working day (Whittle, 1971: 18). The gradients on the Weatherhill incline varied, but averaged 1 in 13. This was also worked by a stationary engine. 'At its moorland summit the line was the highest of any public railway in England at any time' (*ibid*: 20).

To the east of Muggleswick, again outside the parish but relevant to the functioning of the railway, the line met Hownes Gill. This is a glacial spillway nearly 46m deep and 244m wide. The best way of dealing with it would have been a bridge but this

was deemed to costly and would take too long to build. The solution was to put inclined planes on each side. For years these caused traffic delays on the route (Whittle, 1971: 17). There was a 35hp stationary engine at Hownes Gill, manufactures by Robert Stephenson. It worked both slopes of the Gill, lowering the wagons in cradles, one on each incline; turntables at the top and bottom of each incline allowed the wagons to be manoeuvred. Only one wagon could be taken across at a time, with an average twelve an hour (*ibid*: 21). This ended in 1853 with a new system that allowed three wagons to be worked across the gorge at once. Now 550 to 650 wagons a day could cross (*ibid*: 57). However, it was the building of the viaduct that made the major difference because, although single-track, traffic could flow fairly freely. Hownes Gill Viaduct was designed by Thomas Bouch - he who later designed the fated Tay Bridge. It was built of firebricks made at Crook and has twelve semi-circular arches to carry the line some 220m across the Gill at a height of around 46m (*ibid*). It was opened on 1st July 1858.

The gradients eastward from Weatherhill were easier and parts like Waskerley Park were almost level. From the wheel house at Parkhead wagons attached to a tail rope were let down the slope to the next section at Meeting Slacks incline. Twelve-wagon trains were usual and they reached speeds of nine miles an hour. This line was unfenced and, even more of a hazard, frequently subject to deep snowdrifts (Whittle, 1971: 20). Snow remained a common hazard, even into the twentieth century, so that Waskerley had two snowploughs. Despite this, in February 1937 three locomotives and two snowploughs were derailed attempting to clear the drifts at Weatherhill (*ibid*: 207). In 1844 the system changed so that the ropes were directly attached to the Weatherhill engine instead of the Parkhead one, and thence to Meeting Slacks. This put extra strain on the Weatherhill engine which could only cope if fed first-grade coal (*ibid*: 20). The Meeting Slacks engine worked eight wagons on gradients between 1 in 26.5 and 1 in 58. It was at the foot of this incline that the village of Waskerley developed (*ibid*).

Nanny Mayor's was a self-acting incline to the east of Waskerley. It was 1026m long with gradients of 1 in 10 and 1 in 13. Eight-wagon trains ran each way, with the descending loaded wagons raising the empty ones up the incline (Whittle, 1971: 20). From there, horses pulled the wagons to Healeyfield bridge where they were loaded into 'dandy' carts to ride to Hownes Gill (*ibid*: 21).

Subsequently, the Derwent Iron Company approached the Stockton and Darlington Railway because they wanted a southern outlet via Crook which an extension of their line to link with the Stanhope and Tyne would provide (Whittle, 1971: 53). The steep slopes of the Pennines posed problems, but eventually a route was chosen that became the Weardale Extension Railway. Using Derwent Iron Company rails it was ready in 1845. It was eleven miles long and met the Stanhope and Tyne at the head of Nanny Mayor's incline, at a place called Waskerley Park (*ibid*: 54). Sidings and other facilities were planned for this junction. When the Derwent Iron Company sold the line to the Stockton and Darlington, the company merged to become the Wear and Derwent Junction Railway, with its headquarters at Waskerley Park. Waskerley, 'although a very inhospitable moorland location' was the hub of the new system (ibid). When Charles Attwood, owner of the Weardale Iron Company (founded 1845) wanted a railway from the Weardale and Derwent Junction line to Rookhope, a 5.5 mile extension was built to Parkhead (*ibid*: 55).

On 1st September 1845, the Weardale and Derwent Junction Railway began a passenger service from a station on the west side of Hownes Gill [thus avoiding the problem of passengers on the incline] to Waskerley Park and thence to Crook. Trains connected with the Stanhope to Waskerley service at Waskerley Park and combined trains then continued south. There was no permanent station at Waskerley at this time (Whittle, 1971: 56). Consequently the directors agreed on 19th November to build two rooms at Waskerley Park, one for an office and one as a passenger station. However, there were other practical problems. Nanny Mayor's incline was a slow section of the line and the Crawley and Weatherhill inclines between Stanhope and Waskerley were not only steep, but were a single line already teeming with mineral traffic (*ibid*).

Waskerley experienced almost meteoric growth as a railway centre from 1845. In 1846 a locomotive depot was set up with a shed for four engines. Sidings were built, and various stores and railway offices, even a wagon repair shop. A village grew to house the workers and later there was a church and school. Then, when the Weardale and Derwent Junction became part of the Wear Valley Railway in 1847, Waskerley ceased to be the headquarters (Whittle, 1971: 57). 'Waskerley became a well-known railway village, and its railwaymen were renowned for their toughness, a feature bred by the bleak and desolate local environment' (Whittle, 1971: 54).

Nanny Mayor's incline continued to be a slow section of the route, although engines did replace the horses, until it was by-passed by the "Waskerley" deviation in 1859. The incline was then closed (Whittle, 1971: 59). Since Waskerley was no longer a traffic centre this made it even more isolated and it 'served only a few isolated farms' (*ibid*). The original passenger service started in 1845 was reduced during the winter months and only ran from Waskerley Park to Crook. Although a full service resumed in April 1846, the Stanhope to Waskerley service was cancelled later in the year. Then the work on Waskerley Park passenger station was suspended in favour of the station at Cold Rowley, which had the advantage of being on the Darlington to Corbridge turnpike (*ibid*: 63).

When W.W. Tomlinson travelled on the Crook to Cold Rowley route in around 1854, he recorded his impressions of his journey; he seems to have been accustomed to something a little more refined. He noted that there were no signals or pointsmen on the line and that the service was made up of two composite carriages with outside handbrakes, attached to a number of mineral wagons. Travelling up Nanny Mayor's incline no more than two wagons were permitted to accompany the carriages. Going down, the carriages ran loose behind a few loaded wagons. There was no van for the guard 'who not infrequently at weekends when the carriages happened to be very full, rode outside on the buffer' (Whittle, 1971: 65). Modern Health and Safety officers would clearly have been pulling their hair out!

The traffic in lead, and in iron ore from Weardale, declined from the 1870s although the limestone traffic continued ot be heavy, especially during the First World War. This was because Consett Iron Works increased production and needed the limestone for the smelting process. Consett Iron Company acquired the Ashes limestone quarry in 1901 and by 1911 105,118 tons was being moved from Crawleyside to Consett. Thousands of tons of limestone were also passing along the system from Rookhope to Parkhead. The transport of fluorspar from Stanhope and Rookhope also developed, as well as ganister between some parts of the route (Whittle, 1971: 65). In 1916, the old Stanhope and Tyne winding engine at Weatherhill had been working for over 80 years, so it was decided to replace it. However the new engine and engine house were not completed until 1919, after the end of the war (*ibid*: 72).

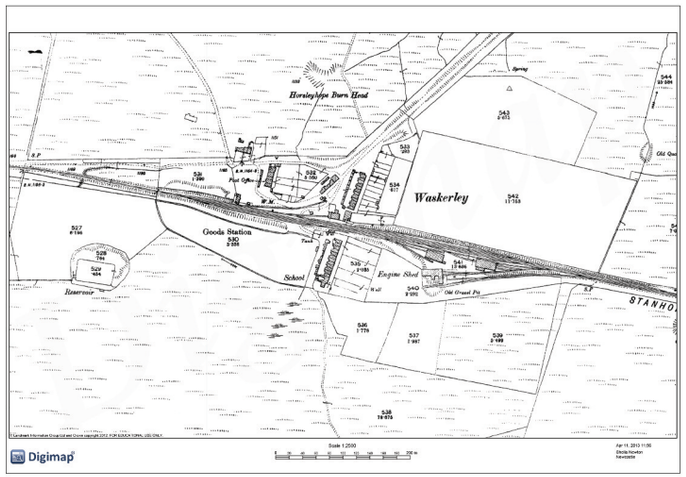
In 1923, Weardale Iron Company closed their Parkhead to Rookhope line and passenger trains from Darlington ceased to travel beyond Tow Law before the Second

World War. The line to Burnhill was closed and the importance of the Waskerley engine shed was so reduced that it also closed, on 9th September, 1940 (Whittle, 1971: 160 - 1). This meant that all traffic on the line had to go via Consett, so that it was necessary for trains to reverse at Burnhill Junction in order to change direction. However, mineral traffic continued to run between Stanhope Kilns and Parkhead (which was renamed Blanchland in 1923). Then, on 28th April, 1951, British Rail closed the Crawley and Weatherhill inclines meaning that the termini were now at Parkhead and at Weatherhill, where the sand quarries were still in use although Ashes Quarry had closed in 1949 (*ibid*: 161). The main traffic on the line was therefore sand and fluorspar. The government depot at Burnhill also provided some traffic - explosives. There was less demand for limestone and lime from Stanhope Kilns as Consett steelworks was obtaining limestone from Coxhoe and Frosterley. Stanhope Kilns were thus in decline and good had to be transported by road or by the Wear Valley branch line. The disused line between Burnhill and Tow Law was taken up in 1952 and in 1953-4 the engine shed and other buildings at Waskerley were demolished although the weighbridge and goods office remained. Due to these events the number of people living in Waskerley village was declining (*ibid*).

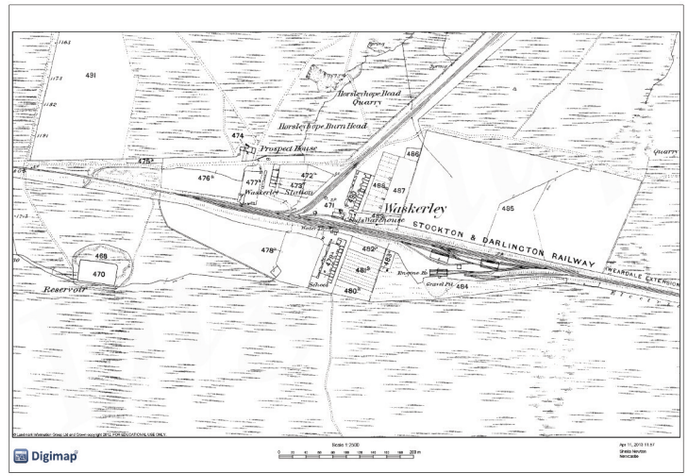
The last part left of the line west of Consett was the old Stanhope and Tyne railway to Parkhead and Weatherhill. A goods train ran from Consett to Weatherhill each day but from around 1964 or 1965 this was reduced to a few times a week. Then, on 2nd August 1965, all goods traffic to and from Parkhead and Waskerley stations ended and the stations were closed (Whittle, 1971: 162).

The population of Waskerley was so reduced that the village was eventually demolished. A few buildings remain, including the church, and in recent years the old railway line has become a part of the footpath/cycleway network.

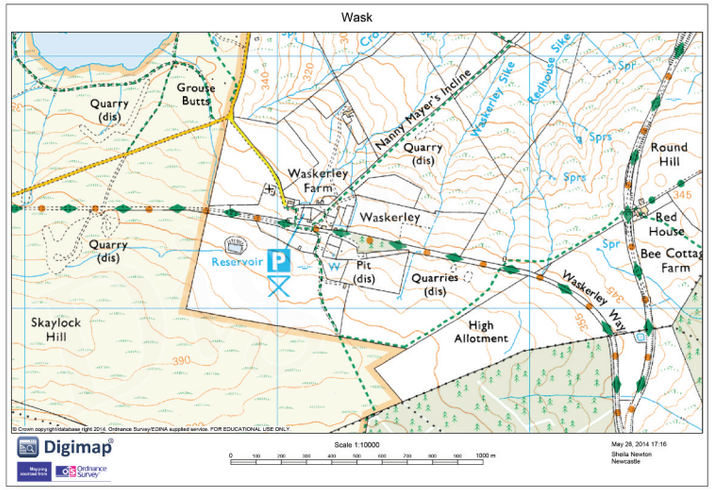
It is clear from this account that the railway lines through Waskerley were of great significance to local industry, albeit that much of that industry lay outside the parishes of Muggleswick and Edmundbyers. A good deal of engineering skill and ingenuity was employed to make the railway viable, which emphasises the value placed upon it at the time. However, its active impact upon the landscape was relatively short-lived when the length of landscape history is considered. Nonetheless, it continues to have a passive impact because the routes of the various parts of the line are visible as cuttings, embankments and inclines.



1850



1890



Present

Figure 6.17: Maps to show Waskerley when it was a thriving railway village and the situation now

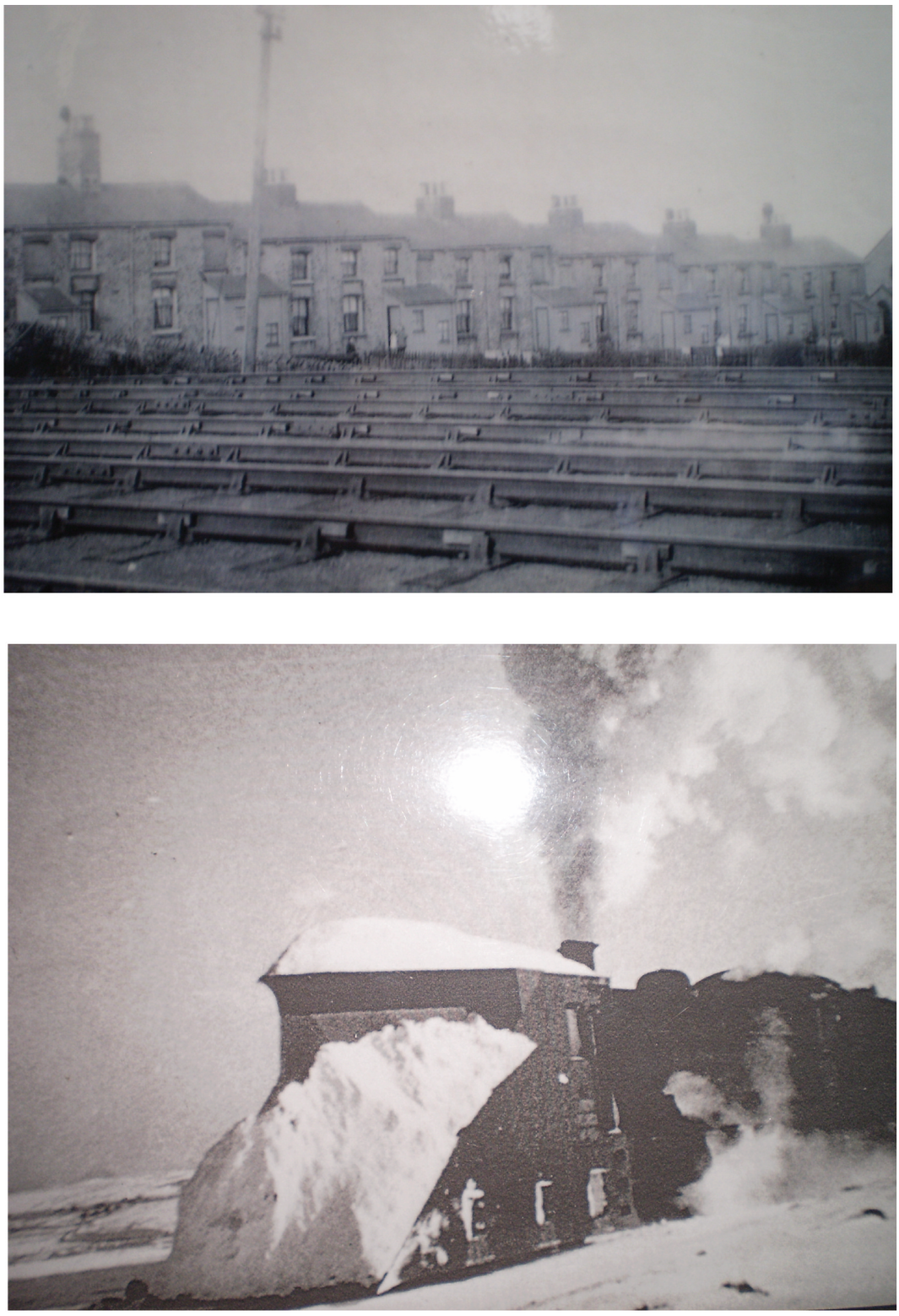


Figure 6.18: The Stanhope-Tyne Railway
above - Waskerley in its heyday across the tracks
below - an engine with snowplough in adverse weather conditions

6.13.1 Waskerley village

At its height, Waskerley village was home to about 250 people, mainly railway employees. It had its own school and post office with general store. The village hall was well supported in the close-knit community, used for bazaara, dances and Women's Institute meetings amongst other things. In severe winters the village could be cut off for days, even though the railway line was there and food had to be carried in by hand. The maps in figure 6.17 show how the village waxed and waned until there were only a few buildings left. The photographs in figure 6.18 show the railway and the houses when the village was still well-populated and an engine, complete with snow-plough, dealing with the winter conditions.

6.14 Conclusions

This chapter set out to show the influence of communications on the landscape of Muggleswick and Edmundbyers. The growth, and subsequent loss, of the railway and its associated village are well known, locally at least. Although this was a relatively recent series of events, investigating the details proved to be interesting and very informative about the relationship between the railway and the local industries. The heavy lorries serving the quarries today thunder through Edmundbyers: a railway would be far more efficient as well as safer. However, several of those roads would not exist were it not for the needs of industries like lead mining.

What was quite unexpected was the information that came to light regarding the longevity of some routes, like Balyolfgate. It is often not possible to date routes unless, as in this case, there are documents to provide evidence. Also unexpected was the discovery that the original road from Blanchland ran through Edmundbyers and on to Muggleswick. Finding traces of this on the ground confirmed what the maps indicated, although part of the route on the south side of the Burnhope Burn has been damaged by a new access road to the woodland for shooting parties. Thus the landscape changes!

The routeways show that parts of the UDV were relatively unimportant. They were by-passed by through routes for centuries, yet these routes also gave other parts a significance. On the whole, though, the area was a rural one, not necessarily a backwater but peaceful. Now, none of the roads are of great importance; Balyolfgate in particular is no longer a major route between two estates. Apart from the B6278 and the B6306 all the roads are lanes mainly used for local access.

The change in the way that these roads are used reflects the way in which people actually travel; it no longer depends upon a knowledge of the landscape as it did in prehistory or even in the days of Balyolfgate.

> Sixty years ago a great-uncle of mine came by the Worcester coach to Enstone, and thence on horse or foot to Charlbury to pay week-end visits to his wife to be. Tales of his early setting forth, and of the sights he saw by the way, have pleased the childhood of his descendants, and they have realised how such journeying quickened his love and knowledge of natural things to a point unequalled in his grandchildren. He travelled where we are transported [my emphasis]. Valuable in this connexion is the speech of our villagers: with them today the primary meaning of 'travel' is to walk, and all tramps are known as 'travellers'.
>
> *Three Centuries of North Oxfordshire*, M. Sturge Henderson (1902)

This quotation reminds us that, in the past, people experienced travel somewhat differently and used landmarks such as hills or river crossings or remembered experiences. More recent travel, by road and path at least, has relied increasingly upon maps and signposts to indicate the landmarks. Today, the SATNAV takes us or we are transported by train or aircraft. We do not need to observe our surroundings in order to find our way: landmarks have been reduced to airports, railway stations and motorway service areas - or pretty scenery at the best. We have lost contact with the ground that our ancestors' feet knew so intimately. Travel is easier but less involved with the land and we are no longer restricted to the same limited area or to directions which are prescribed by land ownership or trading links.

CHAPTER 7

CONCLUSIONS

7.1 Introduction

This thesis set out to investigate the landscape of the parishes of Muggleswick and Edmundbyers in the Upper Derwent Valley on the border of Durham and Northumberland. It aimed to study the changes that have occurred, to discover factors influencing those changes and to relate them to the situation in the wider landscape.

In order to do this, and following a summary of landscape theory, three topics were chosen for close examination: climate, enclosure and improvement, and communications. A variety of methods have been employed to achieve this including fieldwork, maps and map regression, aerial photographs and contemporary documents.

The results of this research were not always what was expected and were thus more exciting, giving potential for further work and discoveries.

7.2 The effects of climate

The research into the climate of the UDV both confirmed assumptions and produced unexpected data. It showed, both from other people's research and my own, that the North Pennines have a climate which renders the area close to marginal for cultivation. Thus the parishes of Edmundbyers and Muggleswick differ climatically from other parts of North-east England, especially those 'lowland' areas to the east. This climatic marginality has affected the agriculture and thus the landscape.

Despite this, records and field evidence show that much of the area has been cultivated at some time. The growing of crops as part of the organisation of the township in the Middle Ages was anticipated. This was confirmed by the fieldwork and data from documents like the 1649 Parliamentary Survey. At this period much of the harvest from the strip fields would have been for local use - mainly subsistence.

What was more surprising was the extent to which both the fields and the fellsides have been cultivated in the past. The use of aerial photography was particularly useful in discovering this, although some had already been found during field walking and Featherstonhaugh reported the temporary cultivation of the fellsides. It is likely that most of this was short-term and to fulfil an particular need, probably wartime conditions, with grain being more profitable. There are also a number of fields which show evidence of cultivation. They, too, are likely to have been ploughed up to meet the needs of the country in the Napoleonic Wars or the First and Second World Wars.

The case studies of Pedam's Oak and Cushat Leazes produced two important pieces of information. Firstly, it was noticed, both on the ground and in aerial photographs, that there are older boundaries at Cushat Leazes which are formed by what are now substantial embankments, enclosing areas with evidence of cultivation. These boundaries are not contiguous with the more recent boundaries and in some places underlie them. This means that they are older. The second discovery was that it was possible to locate, using areas, some of the fields mentioned in the 1649 Survey on the 1800 field layout at Cushat Leazes. This indicates the potential for some very exciting research, both mapping the 1649 holdings (the original map is lost) and relating those to the later field walls. In the process it should become clearer whether the embankments at Cushat Leazes, and any in other parts of the parishes, are those of the 1649 fields. If this is the case, they may be the original holdings allocated at the Dissolution of the Monasteries; alternatively, the evidence may indicate that they date from even earlier. In either case, such knowledge would add greatly to the understanding of the history of land use in this area.

The case studies and other evidence also show that the type of withdrawal from the uplands due to climate change that Parry hypothesised for the Lammermuirs did not occur in Edmundbyers and Muggleswick. This is not to say that the climate had no influence on agriculture. Clearly, when there was a change from subsistence to farming for profit, there was an opportunity for the tenants or the estate to decide exactly what might be profitable in the conditions prevailing in the North Pennines. Instead of withdrawing, they seem to have had the ability to adapt, as Turner and Young suggested, by changing to more pastoral farming. Yet, when economic circumstances made it worthwhile they were willing to plough their fields and any suitable parts of the fell.

There being no climatic cause for farm abandonment, and no known cases of it before the twentieth century, how did the farmers manage and why did some farmsteads ultimately become derelict? The history of the parishes in chapter 4 provides some clues. Firstly, the land was mainly managed by the estate owned by the Dean and Chapter of Durham. This may have given support with the adoption of new ideas and was possibly more paternal than the landed gentry. Secondly, the unsettled character of the region, subject to Border wars and reiving made the way of life different for several hundred years. Moreover, for much of the time after peace was established there was the opportunity for some members of the household to earn money, full- or part-time, working in the nearby mines and smelters, transporting lead ore and other minerals, or even being employed on the railway. This income would have supplemented that from farming and made continued occupations of the farmsteads possible. However, these sources of income declined and, although others arose, many were further afield and transport less good than now. Moreover, as indicated in chapter 5, many of the now deserted farmsteads are the more remote ones, which would not have had any of the modern conveniences that twentieth century people were beginning to take for granted. With relatively primitive living conditions and an insecure income, it was natural for many families to move to the towns and other employment or to better farms. It is important, though, that the the land itself was not abandoned but amalgamated into larger, more economically viable, holdings.

The vegetation of the UDV has also changed, but more because of human action than because of the climate. Although there was woodland in prehistoric times, much of that was cleared well before the mediæval period either for farming or was used as a hunting park. The remaining woodland is now in the valleys and has remained largely unchanged since first mapped. On the fells there is peat which developed slowly during prehistory. The vegetation there is mainly heather and rough grass, used for sheep grazing and grouse shooting. There are no major plantations except at Ruffside, although some of the other woodlands are managed.

7.3 Enclosure and improvement

As noted in chapter 5, these two topics are closely linked, many researchers believing that enclosure was necessary for improvement to take place. However, other research has shown that it was possible for some improvements to be introduced even when open fields were still in use.

Muggleswick and Edmundbyers are unlikely to have been unique, but they existed for part of their history in circumstances that made them different from the norm. This meant that some of the agricultural developments did not follow the course that they did elsewhere.

Edmundbyers, we know from the 1649 Survey, had used an open field system and it was still at least partially extant. In many places it was already being replaced but this was only starting in Edmundbyers. The agriculture may not have been backward, though, as evidence indicates that the fields were being limed to improve their productivity. By 1800, however, the land was enclosed in fields that have remained very much the same ever since, with just a few areas of common taken in and some internal boundaries reorganised, probably for convenience of stock handling. This division of the land respected the strip fields and this is reflected in the field shapes, as it is in many other places. The field names suggest the use of local landscape features and the local words for these have lasted even when no longer in general use. Many of the name elements pre-date the enclosure: some fields will have been named after well-known landmarks while others will have been lablled according to some other characteristic. Some names have remained in use, others have been lost. Newer names sometimes refer to previous owners or tenants. There is an indication of some continuity which is, perhaps, an interesting social factor.

At Muggleswick the enclosure came early. It is not clear what exactly existed beforehand except for the bercaries and vaccaries recorded by Durham Cathedral Priory. At the Dissolution of the Monasteries the land was divided among the prebendaries and it seems very likely that the farms established at this time were allocated particular plots of land. When the estate was surveyed some hundred years later the farms are recorded with fields of particular sizes. As was discovered in the climate research case studies, some of these seem to correlate with the fields recorded on the estate in 1800. This would give the continuous use of the enclosed fields a longer history than in many parts of the country.

This early enclosure, however, occurred while reiving was still common. To what extent it was possible to selectively breed animals in these circumstances is debatable. 'Acquiring' a good breeding bull during a raid across the border might have been advantageous, but having it 'reclaimed' along with the in-calf cows could have been a serious problem.

Despite it not being the best area for agriculture and on the margin climatically, the farmers of the UDV have shown an interest in 'improvement' whenever possible. They have changed breeds of livestock when better ones have become available and invested in modern technology.

One possible manifestation of improvement which would benefit from further examination is the change in house design that occurred some time after 1649, resulting in a style of farm which is characteristic of the North Pennines. It has been shown that an improvement in housing often went alongside agricultural improvement, as in Tayside, and it is possible that the estate played a part in this development. An investigation into the upgrading of houses and farm buildings should proceed in tandem with the study of the embankments and field boundaries found at Cushat Leazes and Pedam's Oak and assumed to exist in other parts of the parishes also.

7.4 Communications

The discoveries regarding the routes within and through the parishes was enlightening. Despite the rather remote character of the area today, with the nearest major roads passing to the east, it was important in the past when it was on the route from Barnard Castle to Tynedale, when clerics travelled to and from Durham and when lead and other minerals were carried from the mines to be processed.

It is interesting that some of the earlier roads in the parishes have changed their course while others still exist and that most of the roads now are mainly used by locals and tourists for access rather than to pass through the area.

The railway had a relatively short-term effect on the fringes of the parishes, but a significant one. The settlement at Waskerley may have all but disappeared but the church remains part of the wider church community and the use of the old railway line as a cycle and walking route brings visitors to the area.

It is clear, though, that travel to and from Edmundbyers and Muggleswick has never been so difficult that the area was cut off - except in snowstorms - and people came from great distances to visit and residents were willing to travel throughout the region. This meant that the introduction of new ideas for agriculture was facilitated

and that there were more opportunities for people to learn about and try new techniques.

The good communications were important and the changes and developments in them, as well as those that they brought, were both relevant and interesting, but it is apparent that much of what there is to discover about them has now been assessed. Further work should not ignore the possibility that there remain surprises with regard to the roads, but should concentrate on the other factors.

7.5 Further reseach

It is likely that some current landscape archaeologists will find the approach of this thesis somewhat 'old-fashioned' since it adopts a largely narrative methodology. Antrop suggests that this descriptive, often popularist approach, developed after World War II (2013: 15). Since then, as noted in chapter 2, many developments have occurred in landscape studies.

Some explanation for this narrative is therefore apposite. Firstly, not all more recent ideas have been omitted, although the research is grounded in the empirical approach of geography. The mixture of short term events and long-term processes, as in Braudels' Annaliste *événements*, *conjonctures* and *longue durée*, adds to the narrative. A clear wavelength pattern is not always discernable from the available data (Bintliff, 2006: 176 - 177) but it may be said, for example, that the événement of the Dissolution of the Monasteries led to the longer term - though still in its moyenne durée timewise - change in the landscape through the division of Muggleswick into farmsteads. Moreover, Bintliff recommends not adopting just one school of thought but using whatever methods and theories might be appropriate. Some newer approaches have been found to be relevant, and have been touched upon in the text. The power/politics aspect is one such. Nonetheless, there are many aspects that it has not been possible to include, due partly to time and space constraints.

Secondly, the interest manifested through the European Landscape Convention (Council of Europe, 2000) resulted in new ways of presenting the landscape, which include: '(i) the GIS-based atlases giving a searchable collection of thematic map layers and often web-based, and (ii) more monographic descriptions, well-illustrated with maps and iconographic material, also referred to as "landscape biographies" '

(Antrop, 2013: 19). This thesis might be considered to lean towards achieving the latter, albeit on a smaller scale, which means that it is connected with current thinking.

There is another reason for avoiding more recent paradigms at this stage. To consider fully such factors as perception, or to take a phenomenological approach, it is necessary to know what the landscape holds in order to have something with which to work. This thesis provides a significant factual basis for such research. There is also the possibility of investigating political approaches, a Marxist viewpoint and capitalism in more detail.

A suitable first course of action would be to attempt to match the fields of the 1649 Survey, using names and acreages, with the fields on the 1800 estate map. This would indicate whether these were the original enclosures at Muggleswick. Linking them with the records of leases for the farms and searching for other data about estate expenditure should help to clarify further how the landscape developed.

Future research would be greatly assisted by the use of new technologies as they become available. Once the Lidar is available, and affordable, for the UDV it may be used to substantiate the findings from the fieldwork, maps and documents. It may prove valuable in helping to reconstruct the details of the 1649 Survey. Moreover, it could highlight features, especially those from earlier periods, which are currently masked by the heather and which would be useful in reconstructing the landscape. Among the features which it would be beneficial to identify are the elements of the Priory's landuse, like vaccaries and bercaries. The use of Lidar could be combined with 3D topographical mapping and the data from documents to recover the 1649 landscape and, possibly, regress the mapping to study earlier periods.

In addition, and linking with the further investigation of the enclosures, improvement and development of the farmstead buildings, the Priory's Muggleswick estate might be compared with the Priory's other granges, and with those of other monasteries, both before and after the Dissolution. As well as giving an overview of the economic resources of the estate and their place in the economy of Durham Cathedral Priory and later that of the Dean and Chapter, this would provide the opportunity to assess whether there were policies common to all its estates regarding enclosure, improvement and farm buildings.

The research in this thesis has succeeded in using the aims and objectives set out in chapter 1 to ascertain which factors have had the greatest influence on the development of the landscape of the UDV and how they fit with the proceedings in the wider world. However, it is also the case that it has shown that these factors merit further investigation.

APPENDIX A

A.1 Grant of land from the Bishop of Durham to the Prior and Convent of Durham in 1259, from the Inventarium Prioratus Dunelmensis, Cart. secund. fo. 94a

Walterus Dei gracia Dunelm. Episcopus... Sciatis nos concessisse et licenciam dedisse dilectis in Christo filiis dominis Hugoni Priori et Conventui Dunelm. Ecclesiae boscum suum in territorio villae suae de Muclingwic, cum terra sua adjacente, includendi et liberum parcum faciendi sine saltatorio, cum omnibus libertatibus et liberis consuetudinibus, quae ad liberum parcum inclusum pertinere dinoscuntur, secundum has divisas, videlicet, incipiendo ab oriente de Flaynardysburg, et tendendo versus occidentum usque e contra ecclesiam, et ab illo loco versus aquilonem usque ad manerium dictum Prioris et Conventus, et a manerio praedicto versus occidentem usque ad magnum stratum quod vocatur Balyolfgate, et ab illo loco versus aquilonem usque ad pontem qui vocatur Thoraldebrigge, et ita in longitudinem juxta aquam usque Flaynardisburg... Ita quod nullus dictum parcum intret ad fugandum vel aliquid capiendum vel dictum parcum infringendum, nisi de voluntate et licencia dictorum Prioris et Conventus... Hiis testibus, Dominis Johanne de Balliolo, Roberto de Neuylle, Marmeducio filio Galfridi, Willelmo de Feneram militibus et multis aliis. Datum apud Middilham primo die Januarii Pontificatus nostri anno undecimo, et anno Graciae m.cc.lix

(Greenwell, 1871: 182)

Approximate translation:

Walter by the grace of God Bishop of Durham.....Know our grants and permission given to our beloved brother in Christ Hugh of the Priory and Convent of Durham. Our church woodland in the land of our vill of Muggleswick, with our land adjacent, enclosed and open park made without ?forest/mountain pastures, with all liberties and free customary dues which are recognised as belonging to an enclosed park, secondly the boundary is namely, starting from the east from Flaynardisburg, and tending to the west to a point opposite the church, and from that place northwards as far as the manor of the Prior and Convent, and from the aforesaid manor to the west as far as the great road called Balyolfgate, and from that place towards the north as far as the bridge which is called Thoraldebrigge (Eddy's Bridge), and so alongside the water (River Derwent) as far as Flaynardisburg.... Thus anyone who enters, hunts in or violates the said park shall be seized, except by the wish and licence of the said

Prior and Convent... [a list of witnesses follows] Dated at Middleham the first day of January in the eleventh year of our Pontificate and the year of Grace 1259

A.2 Other land grants to the Priory

Grant of land from Walter, Bishop of Durham to the Prior and Convent of Durham in 1260, from the Inventarium Prioratus Dunelmensis, 3cia 2dae Pont 13

Walterus Dei gratia Dunelm. Episcopus.... Hugoni Priori et monachis nostris Dunelm. ccxvj acras terrae de bosco et vasto nostro in valle de Horsleyhope, a boreali parte ejusdem vallis versus austrum, per certas metas et divisas suscriptas, videlicet, ab illo loco ubi Hystleyhopeburne descendit in Horsleyhopeburne, ascendendo versus austrum usque Wyneford in longitudine, et sic de Wayneford ascendo usque ad australem angulum muri vaccariae Prioris, et sic per eundem murum descendendo usque in Hystleyhopeburn, et sic descendendo per Hystleyhopeburn usque in Horsleyhopeburne concessimus eciam praefacto Priori et suceessoribus suis et monachis praedictis, quaterus ad nos pertinet, quod possint praedictas ccxvj acras terrae claudere et inde commodium suum facere prout magis sibi viderint expedire, salvo tamen quod ferae bestiae ingressum liberum habeant et egressum, et salvis nobis et successoribus nostris venatione et ayris avium silvestrum infra clausturam praedictam.... Hiis testibus, Magistris Willelmo de Merwer', Rogero de Saytone, Galfrido de Sancta Agatha, et Roberto de Kyrcham, Dominis Roberto de Neuille, Gilberto Hansard, Marmeduco filio Galfridi, Thoma de Heryngtone, Philippo de Lega, Ricardo Harpine, Rogero de Applyngdene, Ada de Fulthorpe, et Galfrido de Parcho militibus, Johanne de Eggescliue senescallo nostro, Petro de Bramdone, Johanne de Bel, Johanne de Londone capellano nostro, et Galfrido de Elm' clerico, Roberto de Hessewelle, Galfrido de Northamptome, Johanne de Holnesete serviente at allis. Datum per manum nostrum apud Rykehalle, xiij die mensis Julii anno Dni m.cc.lx

(Greenwell, 1871: 184)

Approximate translation:

Walter, by the grace of God Bishop of Durham.... to Prior Hugh and our monks of Durham 216 acres of land of our wood and waste in the valley of Horsleyhope, from the northern side of the valley towards the south, by certain boundary stones and boundary marks as written below, namely, at that place where the Hystleyhopeburn falls into the Horsleyhopeburn, climbing towards the south up to Wayneford in length, and thus from Wayneford climbing up to the southern corner of the wall of

the Prior's vaccary, and thus by the same wall descending all the way into the Hystleyhopeburn, and thus descending by the Hystlehopeburn all the way into the Horsleyhopeburn I concede and furthermore command that the Prior and his successors and aforesaid monks, so far as it concerns us, be able to enclose the 216 acres as they deem expedient, save nevertheless that wild animals have free ingress and egress and save that we and our successors can hunt and the wild birds in the woodland in the aforesaid enclosure... [a list of witnesses follows]. Dated by my hand at Rykehalle, the 13th day of the month of July in the year of our Lord 1260.

Grant of land at Wascrophead given to the Prior and Convent by Bishop Richard de Kellawe from the Inventarium Prioratus Dunelmensis 2da 2dae Pont 9

Omnibus hanc cartam visuris vel audituris Ricardus permissione divina Episcopus Dunelmensis salutem in Domino. Advertentes jacturas et dispendia quae ob suscitatem discordium inter inclitae memoriae Dominum Antonium Dunelm. Episcopum, praedecessorem nostrum, et dilectos filios nostros Priorem et Conventum ejusdem, [ipsum monasterium sustinuit et incurrit necnon ob specialem devocionem quam ad gloriosum confessorem Cuthbertum patronum nostrum gerimus, cujus obsequiis praedicti filii nostri sunt indies dediti, fervencius excitati, dedimus, concessimus et praesenti carta nostra confirmavimus Willelmo Priori et Conventui praefatae ecclesiae et eorum successoribus ibidem Deo et Sancto Cuthberto perpetuis temporibus servituris,] totum vastum cum bosco quo vocatur Wascroppeheued in villa de Wolsingham, cum libero introitu et exitu ad idem, sicut continentur infra divisas subscriptas, videlicet, ab angulo australi parci nostri de Wascroppe usque Katerickes-altere, sicut le edge se extendit versus occidentem, et de Katerickes-altere usque le Pykydlawe, et de le Pykydlawe usque ad alteam viam quae ducit de Stanhope versus Corbrigge, et sic sequendo illam viam versus boream usque as locum qui vocatur Bernadiscrosse, et sic de Bernardiscrosse versus orientem sequendo viam superiorem, quae jacet subtus Hunterlawe, usque in oppositum anguli borealis parci nostri praedicti, et sic descendendo ad eundem angulum, et ab illo angulo boriali in longum parci nostri usque ad angulum australem extra paliceam ejusdem parci, ubi divisae primo incipienbantur. Ita quod liceat dictis Priori et Conventui et eorum successoribus totum vastum praedictum cum bosco ex omni partr muro vel fossato vel palicia lignea vel aliter, prout magis sibi viderint expedire, includeree et in suo separali tenere, sine contradictione quacumque nostri vel successorum nostrorum. Habendum st tenendum totum praedictum vastum cum bosco praedictis Prioris

et Conventui et successoribus suis, ut supradictum est, in puram et perpetuam elemosinam. It quod nec nos nec successores nostri in dicto vasto vel bosco aliquid de cetero exigere vel vendicare in perpetuum poterimus. Licebit quoque dictis Priori et convenui et eorum successoribus omnia animalia sua moras circumjacentes pascencia, tam tempore hyemali quam estivali, ad praedictum separale quociens voluerint fugare et ibidem ad morandum receptare, et ad easdem moras prout ipsis placuerit refugare sine contradiccione nostra et successorum nostrorum. Nos vero et successores nostri totum vastum praedictum in forma supradicta praedictis Priori et Conventui et eorum successoribus contra omnes homines warantizabimus et in perpetuum defendemus. In cujus rei testimonium praesentibus sigillum nostrum est appositum. Hiis testibus, Domino Roberto de Clifford, Ranulpho de Neuile, Radulpho filio Willelmi, Roberto de Hiltone, Ricardo Marmaduke, Waltero de Wessingtone, Thoma de Qwyteworyhe militibus et aliis. Datum apud Wolsingham secundo die Novembris anno Dni m.ccc.xj et Pontificatus nostri primo.

(Greenwell, 1871: 184)

Approximate translation:

All these pages appear and are heard by Richard, by divine permission Bishop of Durham, greetings in God. Attention is directed to the expense and loss which has been occasioned by the disagreement between Lord Antony Bishop of Durham of famous memory, my predecessor, and our esteemed sons the Prior and Convent [.....] all the waste with woodland called Wascroppeheued in the vill of Wolsingham, with free entrance and exit to it, just as maintained and written separately below, thus, from the southern corner of our park of Wascroppe up to Katerickes-altere, just as the edge extends itself towards the west, and from Katerickes-altere up to Pykydlaw, and from Pikdlawe up to the high road that leads from Stanhoppe to Corbrigge, and thus following that road toward the north up to the place which is called Bernardiscrosse, and thus from Bernardiscrosse towards the east following the road above, which lies below Hunterlawe, up to the place opposite the north corner of our aforesaid park, and thus descends to the same corner, and from that north corner the length of our park as far as the southern corner outside the palisade of the same park, where the divide first began. Therefore permission is declared to the Prior and Convent and their successors to enclose all the aforesaid waste with the woodland in all parts with a wall or boundary ditch or wooden palisade, or differently, just as th elearned man hinself considers expedient, and in his separate holding, without any objection whatever from us or our successors. To have and hold all the abovesaid waste with wood, the aforesaid Prior and Convent and his successors, as stated above,

as pure and perpetual alms. Thus which neither we nor our successors have the power to to expel or punish anyone of the others. It is permitted likewise for the said Prior and Convent and their successors to hinder the grazing of all animals in summertime or winter, and to chase away as often as they wish from that place or admit to stay, just as they please without objection from us or our successors. We and our successors will protect in perpetuity all the aforesaid waste in the form said above for the Prior and Convent and their successors against all men of warrant. [List of witnesses] Dated at Wolsingham the second day of November in the year of our Lord 1311 and the first year of our Pontificate.

APPENDIX B

B.1 Calculating day-degrees

In order to calculate day-degrees for the Upper Derwent Valley a number of steps had to be taken:

Firstly, data had to be obtained. The nearest weather recording station providing sufficient data is at Durham. This site is at a lower altitude than the UDV (c.100m above Ordnance Datum) while the study area lies between 200 and 400m. This data is available online at:

www.metoffice.gov.uk/climate/uk/stationdata/durhamdata.txt

An average daily temperature for each month had to be calculated from the daily maximum and minimum temperatures given.

A formula had to be devised from the information in (Teesdale book etc) in order to calculate the day-degrees.

The length of the growing season had to be decided. Nowhere in the data about day-degrees was this clearly defined. The Teesdale book was used to decide the months to be used and these were set as April to October inclusive.

Allowance had to be made for the change in elevation (see Teesdale book for details).

Three sets of results were produced: for 200m, 300m and 400m above Ordnance Datum.

The formula for 200m was developed thus:

Basic formula:

Mean monthly temperature minus 4.4°C (base temperature for cereals) multiplied by the number of days in the month

Adjusted formula:

(Max T^o - 0.5^o) - (Min T^o- 0.5^o) ÷ 2 = Mean T^o for each month

For growing season April to October inclusive:

Total Mean T^o (April+May+June+July+August+September+October) x 214 (total number of days)

For 300m and 400m the results were adjusted as follows:

300m:
((200m result ÷ number of days [214]) - 0.5°) x number of days [214]

400m:
((200m result ÷ 214) - 1°) x 214

The data and calculations have a number of limitations and shortcomings. The results can thus only be approximate and provide a guide as to whether the Upper Derwent Valley was suitable for growing cereals. For some periods the higher elevations appear to have been particularly marginal for this. An unreliable climate may have been combined with other factors, such as soil suitability and transport links, in deciding the viability of the area for commercial production, as opposed to self-sufficiency.

Data are available for Central England from 1659 (UK Meteorological Office, Hadley Centre. Historical Central England Temperature (HadCET) Data, [Internet]. NCAS British Atmospheric Data Centre, 2006, accessed 2012. Available from http://badc.nerc.ac.uk/view/badc.nerc.ac.uk__ATOM__dataent_CET). These have been plotted on a graph to show their relationship to the 1050 day-degree minimum. There are no data for the North Pennines from such an early date. Consequently an average difference in day-degrees between 300m elevation in the North Pennines and Central England was calculated using the existing data (1880 on). This came to 442.26 day-degrees C. As all temperatures for the North Pennines are approximate, 442 day-degrees was adopted as the difference. This was subtracted from the day-degrees for Central England to give a comparison figure. As the rises and falls in temperature on the graph for 1880 onwards follow a very similar pattern for all sites, it is reasonable to suppose that a similar pattern also occurred in the period from 1659, hence the use of one figure. Thus it was possible to produce a calculated graph for 300m in the North Pennines for 1659 to 1879.

YEAR	DAY-DEGREES	DAY-DEGREES for cereal cultivation	DAY-DEGREES calculated for 300m in the North Pennines
1659	1688	1050	1246
1660	1749	1050	1307
1661	1718	1050	1276
1662	1749	1050	1307
1663	1626	1050	1184
1664	1749	1050	1307
1665	1626	1050	1184
1666	1932	1050	1490
1667	1718	1050	1276
1668	1749	1050	1307
1669	1810	1050	1368
1670	1779	1050	1337
1671	1688	1050	1246
1672	1703	1050	1261
1673	1581	1050	1139
1674	1474	1050	1032
1675	1412	1050	970
1676	1733	1050	1291
1677	1657	1050	1215
1678	1718	1050	1276
1679	1856	1050	1414
1680	1688	1050	1246
1681	1779	1050	1337
1682	1626	1050	1184
1683	1672	1050	1230
1684	1779	1050	1337
1685	1718	1050	1276
1686	1795	1050	1353
1687	1596	1050	1154
1688	1458	1050	1016
1689	1596	1050	1154
1690	1596	1050	1154
1691	1565	1050	1123
1692	1443	1050	1001
1693	1550	1050	1108
1694	1367	1050	925
1695	1336	1050	894
1696	1519	1050	1077
1697	1581	1050	1139
1698	1504	1050	1062
1699	1678	1050	1236
1700	1617	1050	1175
1701	1700	1050	1258
1702	1663	1050	1221
1703	1649	1050	1207
1704	1749	1050	1307
1705	1660	1050	1218
1706	1908	1050	1466
1707	1840	1050	1398
1708	1796	1050	1354
1709	1810	1050	1368
1710	1688	1050	1246
1711	1779	1050	1337
1712	1718	1050	1276
1713	1565	1050	1123
1714	1764	1050	1322
1715	1795	1050	1353
1716	1703	1050	1261
1717	1688	1050	1246
1718	1840	1050	1398
1719	1871	1050	1429
1720	1657	1050	1215
1721	1703	1050	1261
1722	1672	1050	1230
1723	1837	1050	1395
1724	1752	1050	1310
1725	1516	1050	1074
1726	1954	1050	1512

1727	2015	1050	1573
1728	1871	1050	1429
1729	1862	1050	1420
1730	1898	1050	1456
1731	1966	1050	1524
1732	1898	1050	1456
1733	1892	1050	1450
1734	1767	1050	1325
1735	1767	1050	1325
1736	1929	1050	1487
1737	1856	1050	1414
1738	1828	1050	1386
1739	1715	1050	1273
1740	1416	1050	974
1741	1798	1050	1356
1742	1663	1050	1221
1743	1785	1050	1343
1744	1685	1050	1243
1745	1709	1050	1267
1746	1740	1050	1298
1747	1932	1050	1490
1748	1691	1050	1249
1749	1740	1050	1298
1750	1785	1050	1343
1751	1568	1050	1126
1752	1740	1050	1298
1753	1764	1050	1322
1754	1724	1050	1282
1755	1706	1050	1264
1756	1608	1050	1166
1757	1746	1050	1304
1758	1694	1050	1252
1759	1950	1050	1508
1760	1929	1050	1487
1761	1853	1050	1411
1762	1944	1050	1502
1763	1678	1050	1232
1764	1688	1050	1246
1765	1694	1050	1252
1766	1670	1050	1228
1767	1623	1050	1181
1768	1709	1050	1267
1769	1645	1050	1203
1770	1577	1050	1135
1771	1608	1050	1166
1772	1819	1050	1377
1773	1770	1050	1328
1774	1785	1050	1343
1775	1966	1050	1524
1776	1776	1050	1334
1777	1763	1050	1321
1778	1746	1050	1304
1779	2033	1050	1591
1780	1883	1050	1441
1781	2024	1050	1582
1782	1498	1050	1056
1783	1886	1050	1444
1784	1648	1050	1206
1785	1782	1050	1340
1786	1648	1050	1206
1787	1712	1050	1270
1788	1914	1050	1472
1789	1736	1050	1294
1790	1675	1050	1233
1791	1773	1050	1331
1792	1694	1050	1252
1793	1694	1050	1252
1794	1900	1050	1458
1795	1850	1050	1408
1796	1740	1050	1298
1797	1691	1050	1249
1798	2006	1050	1564

1797	1691	1050	1249
1798	2006	1050	1564
1799	1501	1050	1059
1800	1905	1050	1463
1801	1895	1050	1453
1802	1743	1050	1301
1803	1740	1050	1298
1804	1892	1050	1450
1805	1715	1050	1273
1806	1792	1050	1350
1807	1798	1050	1356
1808	1788	1050	1346
1809	1651	1050	1209
1810	1672	1050	1230
1811	1880	1050	1438
1812	1516	1050	1074
1813	1593	1050	1151
1814	1584	1050	1142
1815	1776	1050	1334
1816	1464	1050	1022
1817	1464	1050	1022
1818	1914	1050	1472
1819	1804	1050	1362
1820	1648	1050	1206
1821	1740	1050	1298
1822	1871	1050	1429
1823	1523	1050	1081
1824	1681	1050	1239
1825	1938	1050	1496
1826	2039	1050	1597
1827	1853	1050	1411
1828	1868	1050	1426
1829	1599	1050	1157
1830	1681	1050	1239
1831	1996	1050	1554
1832	1819	1050	1377
1833	1801	1050	1359
1834	1920	1050	1478
1835	1825	1050	1383
1836	1623	1050	1181
1837	1678	1050	1236
1838	1633	1050	1191
1839	1568	1050	1126
1840	1611	1050	1169
1841	1623	1050	1181
1842	1712	1050	1270
1843	1630	1050	1188
1844	1709	1050	1267
1845	1556	1050	1114
1846	1981	1050	1539
1847	1740	1050	1298
1848	1759	1050	1317
1849	1685	1050	1243
1850	1669	1050	1227
1851	1678	1050	1236
1852	1724	1050	1282
1853	1651	1050	1209
1854	1721	1050	1279
1855	1645	1050	1203
1856	1700	1050	1258
1857	1938	1050	1496
1858	1816	1050	1374
1859	1840	1050	1398
1860	1467	1050	1025
1861	1764	1050	1322
1862	1685	1050	1243
1863	1663	1050	1221
1864	1736	1050	1294
1865	2009	1050	1567
1866	1743	1050	1301
1867	1776	1050	1334
1868	1978	1050	1536

1869	1804	1050	1362
1870	1862	1050	1420
1871	1740	1050	1298
1872	1688	1050	1246
1873	1620	1050	1178
1874	1813	1050	1371
1875	1804	1050	1362
1876	1795	1050	1353
1877	1556	1050	1114
1878	1874	1050	1432
1879	1416	1050	974

B.2 Calculations of day-degrees for the UDV, 1880 to 2011

YEAR	DAY-DEGREES at 200m	DAY-DEGREES at 300m	DAY-DEGREES at 400m	DAY-DEGREES for Midlands	DAY-DEGREES for cereal cultivation
1880	1371.30	1264.30	1157.30	1678.37	1050.00
1881	1291.25	1184.25	1077.25	1592.77	1050.00
1882	1397.75	1290.75	1183.75	1660.03	1050.00
1883	1368.25	1261.25	1154.25	1669.20	1050.00
1884	1582.65	1475.65	1368.65	1809.83	1050.00
1885	1194.45	1087.45	980.45	1507.17	1050.00
1886	1426.45	1319.45	1212.45	1751.74	1050.00
1887	1347.40	1240.40	1133.40	1589.71	1050.00
1888	1140.90	1033.90	926.90	1442.97	1050.00
1889	1443.90	1336.90	1229.90	1708.94	1050.00
1890	1479.15	1372.15	1265.15	1653.91	1050.00
1891	1334.40	1227.40	1120.40	1601.94	1050.00
1892	1170.80	1063.80	956.80	1543.86	1050.00
1893	1629.55	1522.55	1415.55	1981.03	1050.00
1894	1277.80	1170.80	1063.80	1608.06	1050.00
1895	1502.35	1395.35	1288.35	1776.20	1050.00
1896	1462.00	1355.00	1248.00	1739.51	1050.00
1897	1393.75	1286.75	1179.75	1715.06	1050.00
1898	1528.15	1421.15	1314.15	1828.17	1050.00
1899	1504.35	1397.35	1290.35	1825.11	1050.00
1900	1456.45	1349.45	1242.45	1796.60	1050.00
1901	1522.25	1415.25	1308.25	1846.51	1050.00
1902	1151.85	1044.85	937.85	1556.09	1050.00
1903	1186.55	1079.55	972.54	1617.23	1050.00
1904	1394.45	1287.45	1180.45	1727.29	1050.00
1905	1324.40	1217.40	1110.40	1632.51	1050.00
1906	1434.95	1327.95	1220.95	1791.49	1050.00
1907	1224.15	1117.15	1010.15	1574.29	1050.00
1908	1428.95	1321.95	1214.95	1742.57	1050.00
1909	1302.75	1195.75	1088.75	1620.20	1050.00
1910	1327.95	1220.95	1113.95	1678.37	1050.00
1911	1521.80	1414.80	1307.80	1947.40	1050.00
1912	1199.75	1092.75	985.75	1598.89	1050.00
1913	1387.60	1280.60	1173.60	1767.03	1050.00
1914	1492.90	1385.90	1277.90	1828.17	1050.00
1915	1277.60	1170.60	1063.60	1672.26	1050.00
1916	1356.60	1249.60	1145.60	1715.06	1050.00
1917	1337.15	1230.15	1123.15	1696.71	1050.00
1918	1348.75	1241.75	1134.75	1678.37	1050.00
1919	1345.00	1238.00	1131.00	1644.74	1050.00
1920	1304.50	1197.50	1090.50	1672.26	1050.00
1921	1559.15	1452.15	1345.15	1962.69	1050.00
1922	1135.10	1028.10	921.10	1494.94	1050.00
1923	1235.65	1128.65	1021.65	1632.51	1050.00
1924	1265.40	1158.40	1051.40	1663.09	1050.00
1925	1363.25	1256.25	1149.25	1754.80	1050.00
1926	1385.65	1278.65	1171.65	1776.20	1050.00
1927	1226.25	1119.25	1012.25	1696.71	1050.00
1928	1236.70	1129.70	1022.70	1705.89	1050.00
1929	1318.75	1211.75	1104.75	1739.51	1050.00

1929	1318.75	1211.75	1104.75	1739.51	1050.00
1930	1366.60	1259.60	1152.60	1788.43	1050.00
1931	1219.25	1112.25	1005.25	1611.11	1050.00
1932	1253.30	1146.30	1039.30	1699.77	1050.00
1933	1666.65	1559.65	1452.65	2023.83	1050.00
1934	1511.50	1404.50	1297.50	1901.54	1050.00
1935	1438.90	1331.90	1224.90	1809.83	1050.00
1936	1442.70	1335.70	1228.70	1763.97	1050.00
1937	1312.55	1205.55	1098.55	1880.14	1050.00
1938	1436.80	1329.80	1222.80	1763.97	1050.00
1939	1485.50	1378.50	1271.50	1770.09	1050.00
1940	1448.50	1341.50	1234.50	1831.23	1050.00
1941	1463.05	1356.05	1249.05	1742.57	1050.00
1942	1470.60	1363.60	1256.60	1834.29	1050.00
1943	1486.80	1379.80	1272.80	1904.60	1050.00
1944	1440.85	1333.85	1226.85	1822.06	1050.00
1945	1686.85	1579.85	1472.85	1987.14	1050.00
1946	1445.00	1338.00	1231.00	1763.97	1050.00
1947	1745.90	1638.90	1531.90	2075.80	1050.00
1948	1435.25	1328.25	1221.25	1770.09	1050.00
1949	1771.90	1664.90	1557.90	2075.80	1050.00
1950	1467.35	1360.35	1253.35	1782.31	1050.00
1951	1370.25	1263.25	1156.25	1672.26	1050.00
1952	1531.70	1424.70	1317.70	1794.54	1050.00
1953	1467.60	1360.60	1253.60	1794.54	1050.00
1954	1366.60	1259.60	1152.60	1675.31	1050.00
1955	1510.65	1403.65	1296.65	1870.97	1050.00
1956	1323.60	1216.60	1109.60	1647.80	1050.00
1957	1419.35	1312.35	1205.35	1791.49	1050.00
1958	1429.95	1322.95	1215.95	1815.94	1050.00
1959	1784.85	1677.85	1570.85	2097.20	1050.00
1960	1533.70	1426.70	1319.70	1849.57	1050.00
1961	1511.80	1404.80	1297.80	1874.03	1050.00
1962	1321.05	1214.05	1107.05	1635.57	1050.00
1963	1419.65	1312.65	1205.65	1739.51	1050.00
1964	1516.50	1409.50	1302.50	1822.06	1050.00
1965	1357.05	1250.05	1143.05	1705.89	1050.00
1966	1384.90	1277.90	1170.90	1724.23	1050.00
1967	1414.05	1307.05	1200.05	1773.14	1050.00
1968	1428.60	1321.60	1214.60	1794.54	1050.00
1969	1596.80	1489.80	1382.80	1889.31	1050.00
1970	1566.90	1459.90	1352.90	1883.20	1050.00
1971	1512.50	1405.50	1298.50	1800.66	1050.00
1972	1368.35	1261.35	1154.35	1611.11	1050.00
1973	1442.00	1335.00	1228.00	1767.03	1050.00
1974	1257.65	1150.65	1043.65	1608.06	1050.00
1975	1494.65	1387.65	1280.65	1883.20	1050.00
1976	1613.95	1506.95	1399.95	2039.11	1050.00
1977	1368.55	1261.55	1154.55	1693.66	1050.00
1978	1463.00	1356.00	1249.00	1742.57	1050.00
1979	1432.80	1325.80	1218.80	1736.46	1050.00
1980	1440.00	1333.00	1226.00	1751.74	1050.00
1981	1452.15	1345.15	1238.15	1718.11	1050.00
1982	1562.15	1455.15	1348.15	1877.09	1050.00
1983	1510.55	1403.55	1296.55	1886.26	1050.00
1984	1546.65	1439.65	1332.65	1864.86	1050.00
1985	1450.15	1343.15	1236.15	1757.86	1050.00
1986	1330.25	1223.25	1116.25	1614.17	1050.00
1987	1416.20	1309.20	1202.20	1748.69	1050.00
1988	1491.95	1384.95	1277.95	1748.69	1050.00
1989	1626.40	1519.40	1412.40	1974.91	1050.00
1990	1600.35	1493.35	1386.35	1938.23	1050.00
1991	1494.80	1387.80	1280.80	1812.89	1050.00
1992	1475.80	1368.80	1261.80	1831.23	1050.00
1993	1365.80	1258.80	1151.80	1705.89	1050.00
1994	1396.30	1289.30	1182.30	1815.94	1050.00
1995	1697.10	1590.10	1483.10	2097.20	1050.00
1996	1487.55	1380.55	1273.55	1819.00	1050.00
1997	1571.50	1464.50	1357.50	1950.46	1050.00
1998	1520.40	1413.40	1306.40	1867.91	1050.00
1999	1653.00	1546.00	1439.00	2002.43	1050.00
2000	1521.40	1414.40	1307.40	1874.03	1050.00

2001	1673.30	1566.30	1459.30	1971.86	1050.00
2002	1632.70	1525.70	1418.70	1901.54	1050.00
2003	1757.15	1650.15	1543.15	2029.94	1050.00
2004	1696.10	1589.10	1482.10	1981.03	1050.00
2005	1697.25	1590.25	1483.25	2029.94	1050.00
2006	1859.30	1752.30	1645.30	2188.91	1050.00
2007	1651.25	1544.25	1437.25	1916.83	1050.00
2008	1571.20	1464.20	1357.20	1834.29	1050.00
2009	1696.00	1589.00	1482.00	1974.91	1050.00
2010	1633.00	1526.00	1419.00	1846.51	1050.00
2011	1744.20	1637.20	1530.20	1996.31	1050.00

APPENDIX C

C.1 The Statutes of The Cathedral Church of Durham with other documents relating to its foundation by King Henry the eighth and Queen Mary.

The Endowment

16th May in the 33rd year of the reign of Henry VIII

Henry the Eighth, by the grace of God of England and France, Defender of the Faith, Lord of Ireland, and on earth of the English Church the Supreme Head: To ALL to whom these present letters shall come, Greeting.

KNOW YE that we of our special grace and of our certain knowledge and mere motion have given and granted, and by these presents do give and grant to the Dean and Chapter of the Cathedral Church of Christ and the Blessed Virgin Mary of Durham,

All that our manor of Bearpark in our county of Durham, with all its rights, members and appurtenances: and all that our park called Bearpark Park in Bearpark aforesaid:

And all those our manors of Witton Gilbert, Elvet otherwise Elvet Hall, Sacriston Heugh, Wardley, Hedworth, Pittington, Hesleden, Holme, Bewley, Wolviston, Belasis, Billingham, Ketton, Aycliffe, Hett, Muggleswick, Houghall and Shincliffe in our said County of Durham, with all their rights, members and appurtenances. To which manors and other the premises with all their appurtenances some time were belonging and appertaining to the late monastery of St. Cuthbert of Durham within our City of Durham, now dissolved, and were parcel of the possessions of the same late Monastery.

(Meade Falkner, 1929: 15-63)

We give also and by these presents do grant to the aforesaid Dean and Chapter all those manors, messuages, lands, tenements, rents, reversions, services, meadows, grazings, pastures, woods, underwoods, commons, waters, fisheries, marshes, farms,

fee-farms, rents reserved upon any demises or grants whatsoever, knight's fees, escheats, reliefs, courts, leets, views of frankpledge and all things that to views of frankpledge appertain, chattels, waifs, estrays, liberties, coal-mines, pensions, portions and tithes whatsoever, and all other our hereditaments, commodities and profits whatsoever, situate, lying or being in the towns, fields, parishes or hamlets of Bearpark, Witton Gilbert, Elvet, Rilley, Sacriston Heugh, Gateshead, Over Heworth, Tyne, Hebburn, Wardley, Monkton, Nether Heworth, Hedworth, Simonside, Harton, Westoe, South Shields, Jarrow, Southwick, Monkwearmouth, Fulwell, Sunderland, Dalton-le-Dale, Murton, Dalton, Thorpe by Easington, East Rainton, West Rainton, Moorsley, Moorhouse, North Pittington, South Pittington, Pittington, Eden, Monk Hesleden, Hulam, Hesleden, Burntoft, Billingham, Hartlepool, Hart, Holme, Cowpen, Newton, Bewley, Wolviston, Belasis, Great Burdon, Sadberge, Cleatham, Staindrop, Morton Tinmouth, Heighington, Newton Ketton, Aycliffe, Ketton, Newhouse, Coatsay Moor, Nun Stainton, Bradbury, Sedgefield, Great Chilton, East Merrington, Mainsforth, Ferryhill, East, Merrington, Mid Merrington, West Merrington, Hett, Merrington, Spennymoor, Hunwick, Haslewell in Hillhouse, Auckland, Landieu, Hilton, Wolsingham, Shipleight, Wakerfield, Burnhope, Rookhope, Edmundbyers, Muggleswick [Muddeswick in original], Greencroft, Cornsay Row, South Lintz, Lanchester, Loudhouse, Rowlands Gill, Underside, Iveston, Bushblades, Kyo, Peth, Fulforth, Broom, Aldin Grange, Houghall, Shincliffe, Croxdale, Hunter Banks, and in the parish of St. Oswald in our said county of Durham.

(Meade Falkner, 1929: 19-21)

We give also and by these presents do grant to the aforesaid Dean and Chapter all and all manner of advowsons, donations, nominations, collations, presentations, free disposals and rights of patronage of all and sundry the vicarages1 of the churches of Dinsdale, Aycliffe, Heighington, Merrington, Billingham, Pittington, Hesleden, Dalton-le-Dale, Edmondbyers, Kimblesworth, in our said County of Durham, and the vicarage of the parish church of St. Oswald within the City of Durham in the same county, and also of Berwick-upon-Tweed, Norham, Branxton, Ellingham, Edlingham, Bedlington, Meldon and Bywell St. Peter in our said County of Northumberland.

[.....]

And the advowsons, nominations, donations, and free disposals of all and sundry the curates, chantry priests and chaplains in the churches of Witton Gilbert,

Muggleswick, Whitworth, Croxdale and St. Hilda by Shields in our said County of Durham.

(Meade Falkner, 1929: 29-31)

.... and also of three pounds six shillings and eightpence yearly to be paid to the curate of Muggleswick aforesaid celebrating in the church of Muggleswick for his salary;

(Meade Falkner, 1929: 56-570

Chapter 18. Of the Lands Assigned to the Dean and Canons for the Increase of their Residences

The Lands assigned to the Deanery are: the manor and park of Bearpark, with Arbour Close and three arable closes by Stotgate; Alansford with Shipley and Whitehall; North and South Ravenscroft with Summer pasture and Holme; the tithes of the rectories of Billingham and of Merrington, and of all the towns appertaining to them.

The lands assigned to the first Canonry are: a half of the manor of Elvet Hall, commonly called Hallgarth.
The lands assigned to the second Canonry are: a half of the manor of Elvet Hall, commonly called Hallgarth.
The lands assigned to the third Canonry are: the manor of Sacriston Heugh and the close called Holcroft.
The lands assigned to the fourth Canonry are: the manor-house and farm of Witton Gilbert, Newhouse and Underside.
The lands assigned to the fifth Canonry are: a third part of the manor-house and park of Muggleswick.
The lands assigned to the sixth Canonry are: a third part of the manor-house and park of Muggleswick.
The lands assigned to the seventh Canonry are: the house and demesne lands of the manor of Finchale, with the mill and the pond in the same called the Dam.
The lands assigned to the eighth Canonry are: a third part of the manor-house and park of Muggleswick.
The lands assigned to the ninth Canonry are: the manor of Rilley and Amnerbarnes.
The lands assigned to the tenth Canonry are: the chief farm of the lands and

tenements of South Pittington with the manor-house of the same and the orchard, and the close called Pulterclose.

The lands assigned to the eleventh Canonry are: the farm of the manor of Houghall.

The lands assigned to the twelfth Canonry are: the manor-house of Bewley with the demesne lands etc.

(Meade Falkner, 1929: 120-121)

APPENDIX D

D.1 The Turnpike Act for the B6278

Preamble:

Whereas the present highway or public carriage-road leading from the town of Stanhope in the parish of Stanhope in the county of Durham, by Edmondbyers in the said county, to the Corbridge turnpike-road near Greenhead in the parish of Shotley in the county of Northumberland, extending about nine miles and an half in length, is in a ruinous condition, and it would be of advantage and convenience to the public that the said road should be effectually improved and kept in good repair, which cannot be effected by the laws in being for the amendment and preservation of public highways;

May it therefore please your MAJESTY,

That it be enacted, and be it enacted by the king's most excellent Majesty, by and with the advice and consent of the lords spiritual and temporal, and commons in this present parliament assembled, and by the authority of the same that [here follows the list of trustees] shall be, and they are hereby appointed trustees for amending, improving, and keeping in repair the road hereinbefore described, and for carrying into execution the several powers, purposes, and trusts of this act.

(Turnpike Act, 1815: 1-3)

And be it further enacted, That the several tolls hereinafter particularly mentioned, shall and may be demanded and taken at each and every of the toll-gates, turnpikes, and side-gates to be erected by virtue of this act, by such person or persons as the said trustees, or their lessee or lessees for the time being shall from time to time appoint for that purpose, (except as hereinafter is expressly directed or provided to the contrary), before any horse, beast, cattle, or carriage, upon which any toll is by this act imposed, shall be permitted to pass through the same, videlicet:

For every coach, chariot, landau, berlin, chaise, curricle, calash, or hearse, drawn by six horses, mares, or other beasts of draught, the sum of three shillings; and drawn by four horses, mares, or other beasts of draught, the sum of two shillings and sixpence; and drawn by two horses mares [sic], or other beasts of draught, the sum of one shilling.

For every chaise or chair drawn by one horse, mare, or other beast of draught, the sum of six-pence.

For every horse, mare, gelding, or mule, laden or unladen, and not drawing, the sum of two-pence.

And for every ass, laden or unladen, and not drawing, the sum of one penny.

For every drove of oxen, cows, or neat cattle, the sum of ten-pence per score, and so in proportion for a greater or less number.

For every drove of calves, hogs, goats, sheep, or lambs, the sum of five-pence per score, and so in proportion for a greater or less number.

For every four-wheeled waggon, wain, cart, or other such carriage, having the sole or bottom of the fellies of the wheels thereof the breadth or gauge of nine inches, and rolling a flat or level surface of that breadth, and drawn by any number of horses, mares, oxen, or other beasts of draught, a sum after the rate of four-pence for every horse or mare, and two-pence for every ox drawing the same respectively.

For every two-wheeled waggon, wain, cart, or other such carriage, having the sole or bottom of the fellies of the wheels thereof the breadth or gauge of nine inches, and rolling a flat or level surface of that breadth, and drawn by any number of horses, oxen, or other beasts of draught, a sum after the rate of three-pence for every horse or mare, and two-pence for every ox drawing the same respectively.

For every four-wheeled waggon, wain, cart, or other such carriage, having the sole or bottom of the fellies of the wheels thereof the breadth or gauge of six inches, and rolling a flat or level surface of that breadth, and drawn by any number of horses, oxen, or other beasts of draught, a sum after the rate of five-pence for every horse or mare, and four-pence for every ox drawing the same respectively.

For every two-wheeled waggon, wain, cart, or other such carriage, having the sole or bottom of the fellies of the wheels thereof the breadth or gauge of six inches, and rolling a flat or level surface of that breadth, and drawn by any number of horses, oxen, or other beasts of draught, a sum after the rate of four-pence for every horse or mare, and three-pence for every ox drawing the same respectively.

For every four-wheeled waggon, wain, cart, or other such carriage, having the sole or bottom of the fellies of the wheels thereof rolling a flat or level surface of a less breadth or gauge than six inches, but not less than four inches, and drawn by any number of horses, oxen, or other beasts of draught, a sum after the rate of seven-pence for every horse or mare, and five-pence for every ox drawing the same respectively.

For every two-wheeled waggon, wain, cart, or other such carriage, having the sole or bottom of the fellies of the wheels thereof rolling a flat or level surface of a less breadth or gauge than six inches, but not less than four inches, and drawn by two or more horses, oxen, or other beasts of draught, a sum after the rate of six-pence for every horse or mare, and four-pence for every ox drawing the same respectively; and drawn by one horse, ox, or other beast of draught, the sum of four-pence.

For every four-wheeled waggon, wain, cart, or other such carriage, having the sole or bottom of the fellies of the wheels thereof rolling a flat or level surface of a less breadth or gauge than four inches, but not less than three inches, and drawn by any number of horses, oxen, or other beasts of draught, a sum after the rate of eight-pence for every horse or mare, and six-pence for every ox drawing the same respectively.

For every two-wheeled waggon, wain, cart, or other such carriage, having the sole or bottom of the fellies of the wheels thereof rolling a flat or level surface of a less breadth or gauge than four inches, but not less than three inches, and drawn by two or more horses, oxen, or other beasts of draught, a sum after the rate of seven-pence for every horse or mare, and six-pence for every ox drawing the same respectively; and drawn by one horse, ox, or other beast of draught, the sum of five-pence.

For every four-wheeled waggon, wain, cart, or other such carriage, having the sole or bottom of the fellies of the wheels thereof rolling a flat or level surface of a less breadth than four inches, and not less than two inches and a half, and drawn by any number of horses, oxen, or other beasts of draught, a sum after the rate of nine-pence for every horse or mare, and seven-pence for every ox drawing the same respectively.

For every two-wheeled waggon, wain, cart, or other such carriage, having the sole or bottom of the fellies of the wheels thereof rolling a flat or level surface of a less breadth or gauge than four inches, and not less than two inches and a half, and drawn by two or more horses, oxen, or other beasts of draught, a sum after the rate of eight-pence for every horse or mare, and six-pence for every ox drawing the same respectively; and drawn by one horse, ox, or other beast of draught, the sum of six-pence.

And for every two-wheeled waggon, wain, cart, or other such carriage, drawn by two or more horses, oxen, or other beasts of draught, having the sole or bottom of the fellies of the wheels thereof rolling a flat or level surface of a less breadth than two inches and a half , double the toll hereinbefore charged, or made payable upon, or for the like carriages, having the sole or bottom of the fellies of the wheels thereof of

the breadth or gauge of two inches and an half, and the horses or other beasts drawing the same.

For every two-wheeled waggon, wain, cart, or other such carriage, drawn by one horses, ox, or other beast of draught, having the sole or bottom of the fellies of the wheels thereof rolling a flat or level surface of a less breadth than two and a half inches, the sum of six-pence, until the twelfth day of May, which will be in the year of our Lord one thousand eight hundred and seventeen; and from the said twelfth day of May, one thousand, eight hundred and seventeen, double the tolls hereinbefore charged, or made payable upon, or for the like carriages, having the sole or bottom of the fellies of the wheels thereof the breadth or gauge of two inches and an half, and the horses or other beasts drawing the same.

For every carriage employed in carrying limestones or lime, having the sole or bottom of the fellies of the wheels thereof of a breadth or gauge not less than two inches and a half, and drawn by two or more horses, oxen, or other beasts of draught, a sum after the rate of two-pence for each horse, ox, or other such beast of draught drawing such carriage, and no more; and drawn by one horse, ox, or other beast of draught only, the sum of one penny and no more.

For every carriage having the sole or bottom of the fellies of the wheels thereof of a less breadth or gauge than two inches and a half, employed in carrying limestones or lime, double the toll last mentioned.

For every horse, mare, gelding, mule, or ass, not drawing, but going for or returning laden with, or carrying limestone or lime, a sum after the rate of one half-penny for each such horse, mare, gelding, mule, or ass, and no more.

For every carriage employed in carrying coals, peats, or turfs, having the sole or bottom of the fellies of the wheels thereof of a breadth or gauge not less than two inches and a half, and drawn by two or more horses, oxen, or other beasts of draught, a sum after the rate of three-pence for each horse, ox, or other such beast drawing such carriage, and no more; and drawn by one horse, ox, or other beast of draught, the sum of two-pence and no more.

For every carriage having the sole or bottom of the fellies of the wheels thereof of a less breadth or gauge than two inches and a half, employed in carrying coals, peats, or turfs, and drawn by two or more horses, oxen, or other beasts of draught, a sum after the rate of six-pence for each such horse, ox, or other such beast of draught; and drawn by one horse, ox, or other beast of draught only, the sum of three-pence and no more.

For every horse, mare, gelding, mule, or ass, not drawing, but going for or returning

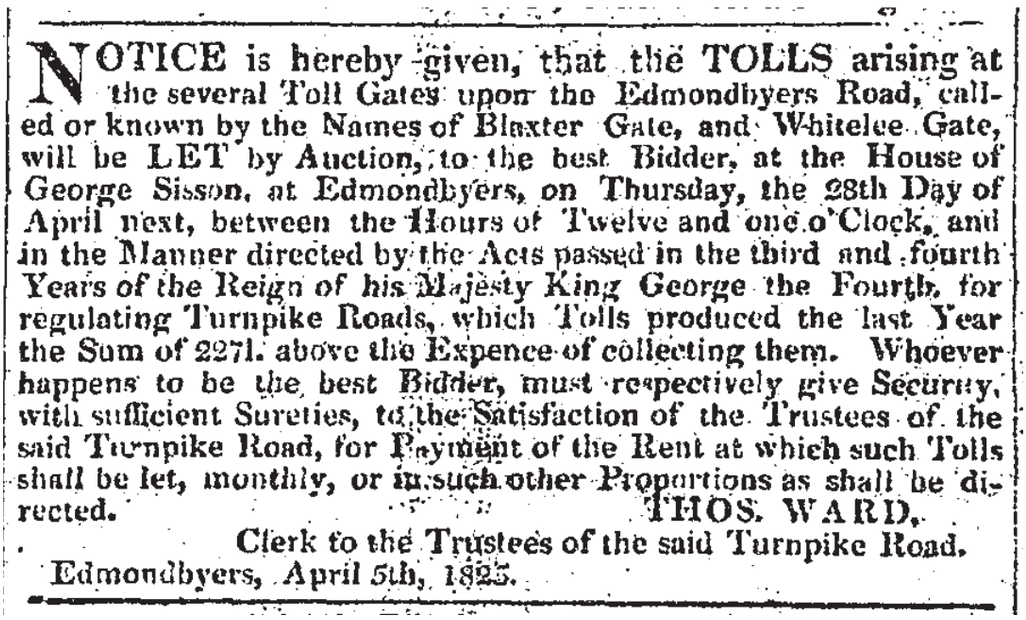
laden with, or carrying coals, peats or turfs, the summ of one penny and no more.

(Turnpike Act, 1815: 11-15)

Provided always, and it be further enacted, That no more than one toll shall be demanded or taken from any person or persons passing and repassing the same day, to be computed from twelve of the clock at night, to twelve of the clock in the succeeding night, with or driving the same horses, cattle, sheep, beasts, or carriages, through all or any of the toll-gates or turnpikes which shall be erected by virtue of this act; and that all and every person and persons having paid such toll, and producing a note or ticket denoting the payment thereof, (Which note or ticket the collectors of the tolls are hereby required to give, gratis, on the receipt of such toll) specifying therin the gate or gates freed from toll, shall pass and repass during the same day, with or driving the same horses, cattle, sheep, beasts or carriages, toll-free through the same or any other of the toll-gates or turnpikes to be erected by virtue of this act.

(Turnpike Act, 1815: 17)

D.2 Notice from the Newcastle Chronicle detialing the tollgates on the Edmundbyers turnpike road



NOTICE is hereby given, that the TOLLS arising at the several Toll Gates upon the Edmondbyers Road, called or known by the Names of Blaxter Gate, and Whitelee Gate, will be LET by Auction, to the best Bidder, at the House of George Sisson, at Edmondbyers, on Thursday, the 28th Day of April next, between the Hours of Twelve and one o'Clock, and in the Manner directed by the Acts passed in the third and fourth Years of the Reign of his Majesty King George the Fourth, for regulating Turnpike Roads, which Tolls produced the last Year the Sum of 227l. above the Expence of collecting them. Whoever happens to be the best Bidder, must respectively give Security, with sufficient Sureties, to the Satisfaction of the Trustees of the said Turnpike Road, for Payment of the Rent at which such Tolls shall be let, monthly, or in such other Proportions as shall be directed.

THOS. WARD,
Clerk to the Trustees of the said Turnpike Road.

Edmondbyers, April 5th, 1825.

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