

Assarting and the dynamics of Rhineland economies in the ninth century: *Scarae* at Werden, Weissenburg and Prüm Abbeys*

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Abstract

The article contributes to the continuing debate about ‘the Carolingian economy’. The first part introduces the reader to documents written in some of the hugely landed Carolingian abbeys in different parts of the Carolingian Empire: the second examines the meaning of the word *scara* as it appears in land surveys written in the second half of the ninth century at three monastic houses, the abbeys of Werden, Weissenburg and Prüm in the Rhineland. In Werden documents the word refers to division or share of land. In Weissenburg documents it refers to assartment of newly-acquired land. In a Prüm document written later in the century, the word means both assartment and division of land, and share or cut of the raw materials and commodities that came from the land. The word identifies the period of expansion initiated by abbeys which led to significant economic growth on monastic lands with access to the Rhine network of rivers. The Appendix offers a philological study of the word.

The present state of knowledge and understanding of ‘the ninth-century European economy’ has been summarised recently by the Belgian historian Adriaan Verhulst. After a lifetime of working around the subject, he sees the economy of the Carolingian empire, ‘as part of a nearly continuous upward movement from the seventh century onwards, at least as far as the northern half of Carolingian Europe is concerned’.¹ This is too general a conclusion. It is time to finish with generalities concerning ‘the Carolingian economy’ and examine closely the socio-economic evidence written at certain points of time in the abbeys, the regional centres where large-scale agricultural change was planned and managed.² We now need to exploit the locally written evidence rather than rely on court-centred sources produced to boost the authority of

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¹ A. Verhulst, *The Carolingian economy* (2002), pp. 1 and 135. See AgHR 52 (2004), p. 116, for a review of this book by Richard Hodges. See also R. Hodges and D. Whitehouse, *Mohammed, Charlemagne and the origins of Europe* (1983); R. Hodges, *Primitive and peasant markets* (1988); id., ‘Trade and market origins in the ninth century: relations between England and the Continent’, in M. Gibson and J. L. Nelson (eds), *Charles the*

Bald: court and kingdom (1990); id., *Towns and trade in the age of Charlemagne* (2000).

² G. Astill saw the need for regional economic studies in his ‘Archaeology, economics and early medieval Europe’, *Oxford J. Archaeology* 4 (1985), pp. 215–31. Astill thought rightly that there had been an over-emphasis on the role of kings in the exchange of goods.

kings in the Carolingian courts at Aachen or Paris. In particular, we need to acknowledge the geographical shifts in socio-economic power, in labour, production of raw materials and commodities, finance, markets and trade routes that happened after the division of the Carolingian Empire in 843 and see how some regions benefited and others lost out. In this paper we first demonstrate the commercial importance of the Carolingian Abbeys in the first half of the ninth century, especially in the Rhineland after the division of the Empire, and not least through their working of iron. We then turn to consider the expansion of the monastic economy in the Rhineland in the second half of the century through the clearance of forest, indicated by the term *scarae*.

I

David Herlihy has shown that during the ninth century the ecclesiastical landowners on the European continent came to hold a third of all the land.³ By the ninth century the larger Carolingian abbeys were headed by members of a powerful ecclesiastical aristocracy some of whom were in close contact with one another.⁴ They could call on formidable material resources to underpin their local and regional authority. Not only were they able to draw income from tenants, but they were also active in inter-regional trade and industrial production. Archaeology has begun to confirm the range of buildings described in documents that formed the monastic complex, for apart from buildings to meet the physical and intellectual needs of large numbers of monks, there were extensive workshops, including metallurgical workshops and furnaces. The economic affairs of these abbeys are extensively documented in collections of charters dating from the time of their foundation, as from the joint abbey of Stavelot-Malmédy in the Ardennes, the abbey of St Gall near Lake Constance, the abbeys of Lorsch and Fulda east of the Rhine, and in documents called polyptychs or *Urbare* pertaining to a particular date in time, which give detailed information on the lands held by the abbey at that date and the annual rents and labour services owed annually to the abbey by its tenants. It is the data that can be extracted from a group of these *Urbare* that particularly concern us in this paper, but it may be useful to give a brief account of some of the major polyptychs that survive, not scraps of documents that reflect hard times, but ones that are complete and drawn up in periods of economic stability or growth.

The polyptych of the abbey of St Germain-des-Prés in Paris was written in medieval Latin between 825 and 829 and survives as a ninth-century compilation of descriptions of 25 units of land, written in several different scribal hands, in a weighty manuscript book held today in the Bibliothèque Nationale, Paris.⁵ It captures an affluent period in the history of West Francia, later France, when named tenants, described mainly as *coloni*, and their families paid annual

³ D. Herlihy, 'Church property on the European continent, 701–1200', *Speculum* 36 (1961), p. 92.

⁴ P. K. Marshall (ed.), *Servati Lupi Epistolae* (1984); G. W. Regenos (ed. and trans.), *The Letters of Lupus of Ferrières* (1966). These letters cover the years 836–62 from the perspective of the West Frankish ecclesiastical aristocracy.

⁵ M. B. Guérard (ed.), *Polyptyque de l'Abbé Irminon de l'Abbaye de Saint-Germain-des-Prés* (2 vols, Paris, 1844); A. Longnon (ed.), *Polyptyque de l'Abbaye de Saint-Germain-des-Prés* (2 vols, Paris, 1886–95); D. Hägermann, K. Elmhauser and A. Hedwig (eds), *Das Polyptychon von Saint-Germain-des-Prés* (2 vols, 1993).

dues in kind or silver coin, and carts drawn by oxen trundled to and from the abbey and to Angers and Orléans, situated on the river Loire, and to Le Mans, situated on a south-flowing tributary of the Loire, the river Sarthe. But there is a problem with this document that has not yet been addressed, although it has been edited three times, in 1884, 1886 and 1993. The problem concerns the location of three of the units of land, *Neuilly*, *Corbon* and *Buxidum*, which are described in a separate scribal hand and provide the abbey with most of its industrial production. All three editors locate these units of land in Le Perche forest in Normandy. One of these units of land produces for the abbey the enormous quantity of 2550 *libras de ferro* (pounds of iron) per year,⁶ together with commodities such as 1400 *axiculi* (axles) and 87 *circuli* (iron bands used to encompass millstones or perhaps iron tyres for cartwheels). Mathieu Arnoux, in a detailed historical and scientific study, has shown that no iron was extracted from Le Perche forest or from anywhere in Normandy until the eleventh century.⁷ The iron may have been smithied into components in the forest of Le Perche, but our knowledge of early medieval iron production suggests that such a large quantity of iron could not have come from forest iron retrieved from shallow trenches, but must have been produced from concentrated deposits of iron ore mined elsewhere. There are indications in the document to suggest that Le Perche should have been understood as Col de la Perche in Catalonia adjacent to the site of the later medieval fortress of Mont-Louis. Our suggestion is that rich iron ores were mined from the Pyrenees (*Buxidum*) and iron bloom, iron ingots and perhaps pig iron were processed and assembled on the high plateau known as Col de la Perche. Iron transports were rerouted from the Mediterranean and transported to Paris along the land and river routes running north: the river Ariège via Foix and Pamiers to Toulouse, then via the River Garonne to the Loire. The matter is an important one because the booming economy of the abbey before the 840s and its later decline cannot be understood unless the loss of its industrial production from its 'colonies' with similar names from south of the Loire, some of which it had held since 697, is taken into account.⁸ The loss of these 'colonies' may have been caused by Muslim occupation of the iron-producing areas or simply by Scandinavian ships plundering the iron to sell elsewhere, for from the 840s Scandinavians were established on the river networks of the Garonne, the Charente and the Loire, along which heavy goods were transported back to the abbey in Paris. The abbey itself was raided by Scandinavian armies from 845.⁹

The extensive document describing not only lands and dues, but also all aspects of monastic life, known as 'The Customs of Corbie', was written between 822 and 826 by Abbot Adalhard on his return from political exile on the Isle of Noirmoutier, off the estuary of the river Loire.¹⁰

⁶ Guérard (ed.), *Polyptyque ... de Saint-Germain-des-Prés*, I, p. 858, '2600 livres de fer'; Verhulst, *Carolingian economy*, p. 77 calculated 2550 pounds of iron.

⁷ M. Arnoux, *Mineurs, Férons et Maîtres de Forge: étude sur la production du fer dans la Normandie du Moyen Âge, XI-XV siècles* (1993).

⁸ R. Poupardin (ed.), *Recueil des chartes de L'Abbaye de Saint-Germain-des-Prés*, (Paris, 1909), charter 10, pp. 15-17.

⁹ For the numbers of Scandinavian ships recorded as entering the river Seine see F. Grat, J. Viellard and

S. Clémencet (eds), *Annales Bertiniani* (1964); J. L. Nelson (trans.), *The Annals of St. Bertin* (1991): 845, 120 ships, 861, 200 ships, 865-8, 68 ships, 876, 100 ships, 886, 700 ships. Scandinavian fleets are documented on the river Loire at Angers from 854, at Orléans from 856, and at Le Mans on the Sarthe from 856.

¹⁰ J. Semmler (ed.), 'Consuetudines Corbeienses' in K. Hallinger (ed.), *Corpus Consuetudinum Monasticarum* (1963 -), I, pp. 355-422; part trans. by C. W. Jones, in W. Horn and E. Born, *The Plan of S. Gall* (3 vols, 1979), III, App. 2, pp. 91-128.

Abbot Adalhard, grandson of Charles Martel, had been the trusted adviser of Pippin I (Charlemagne's father). He was a leading light in court and monastic circles before his exile. In 813, using his influence over a network of abbeys, he had arranged for an exchange of goods between the north Italian abbeys of Brescia and Nonantola.¹¹ It was in the following year that he had been exiled to Noirmoutier by Charlemagne's successor, Louis the Pious. In 822 Adalhard founded the abbey of Corvey on the river Weser and it may be that some of the extensive lands, workshops and water-mills described in the Corbie document relate to Corvey, for not all the units of land have been identified. The description of the exploitation of land which sounds like mining may relate to Corvey, where there is archaeo-metallurgical evidence in the area of the workshops of iron-working from the ninth century onwards.¹² At the time of the writing of 'The Customs of Corbie' the abbey was still obtaining luxury goods from its cell in Fos-sur-Mer, near Marseilles.

Similarities have been observed between the Corbie document and the detailed ninth-century architectural drawing of a monastery known as the Plan of St Gall, the original of which can be viewed today in the library at St Gall Abbey.¹³ (St Gall is situated in Switzerland near the southern tip of Lake Constance and between the upper and lower reaches of the Rhine.) Both documents depict the complete life of the abbey, one in text and the other in a carefully labelled plan, from the abbey church, refectory and cellar, to the grain supply, the hospital, herb and vegetable gardens and kitchens, to accommodation for pilgrims and the poor, tithing barns for crops and animals, halls where coopers and wheelwrights, shoemakers and saddlers, carpenters and carriers worked. Both abbeys had workshops for goldsmiths, blacksmiths and fullers, for grinders and polishers of swords, and shield makers, all working under the eye of the chamberlain, the official who at Corbie counted the valuable iron tools and equipment in and out of storage. The archives of the abbey of St. Gall contain the most complete early charter record of any Carolingian abbey. They show how the abbey acquired control over its lands and tenants through new leasing agreements from 754 onwards in which property and lands were listed – fields, woodland, alp, vineyards, falling streams – as well as moveables and immoveables. Substantial annual dues were owed to the abbey, both in kind, pigs, beer, bread or in *fresh* produce, perhaps iron blooms, related to a unit of account described as *frischinga* (this vernacular word appears in many different spellings), and in metal-weight, such as two ounces of gold and five pounds of silver. A particularly interesting group of six charters (five drawn up at Rankweil and one at Bürs, considerably further south) between 818 and 825, when Gozbertus was abbot of St. Gall (to whom the Plan of St. Gall was sent), concern purchases of land made on behalf of the abbey by the local official Folcwin, termed *scultaizus*, who acted as the abbey's land agent. He was buying up land to the south-east of Rankweil, paying for each transaction in iron ingots or in iron value (*in ferro valiente*) related to an account of silver (*solidus*). Three of the parcels purchased were in the area of Bergun at the entrance to the Albula Pass. The Albula Pass, where the abbey may have collected tolls,

¹¹ G. Porro Lambertenghi (ed.), *Historiae Patriae Monumenta* 13 (*Codex Diplomaticus Langobardiae*, 88, 1873), p. 164.

Karolingischen Klosterwerkstätten in der Reichsabtei Corvey', *Archäologisches Korrespondenzblatt* 24 (1994).

¹³ Horn and Born, *Plan of St Gall*, I, p. 27

¹² H. G. Stephan, 'Archäologische Erkenntnisse zu

was a great strategic importance for it led to the Julier, Septimer and Ofen Pases into northern Italy.¹⁴

In the ninth century the abbey of St. Bertin at St. Omer, in the ancient territory of the Celtic tribe, the Morini, was situated on the coast. This was the result of the Romano-British or Dunkirkian Transgression at the end of the Roman period when there was a significant rise in sea level and much of the Flanders maritime plain, from Calais to Dunkirk and Nieuwport, went under water.¹⁵ This left the settlement at the estuary of the river Aa, a few miles north of Thérouanne, centrally situated in the low-lying sandy *Sinus Itius* for the shortest passage across the English channel for pilgrims travelling to Rome. There is controversy concerning its beginnings. The traditional story records that the twin monasteries of St. Bertin and St. Omer were founded in *Sithiu* in 640 by monks from the abbey of Luxeuil.¹⁶ The abbey of Luxeuil, founded by a colony of Irish monks in 590, was situated in the Vosges, upper Saône and by the middle of the seventh century housed six hundred monks. It was destroyed by Muslims in 731 in spite of Charles Martel's energetic defence of the Rhône valley. It was rebuilt in 746 only to be pillaged and fired by Scandinavians during the second half of the ninth century.¹⁷ If the traditional story is correct it would mean that from their early days the abbeys of St. Bertin and St. Omer would have followed the Luxeuil use of the Rule of its Irish founder, Columbanus. An alternative, but much less convincing, view is that the abbey was founded much later by Amand from Aquitaine.¹⁸ There is a great deal of place-name evidence within the St Bertin estates to suggest that Saxons had settled in the Pas de Calais, both before and at the beginning of the period of fifth-century invasions.¹⁹ The undated polyptych of St Bertin is said by its editors to have been written between 844 and 856.²⁰ The polyptych records that there was a Saxon living at Tubersent, near the river Canche.²¹ Charles Verlingen saw the area providing evidence of centuries of adjustments in what was a mixed zone where both Germanic and Romance languages were spoken and this seems a fair analysis.²² All these factors make the polyptych difficult to evaluate, for example our understanding of the *herescarii* (located on two land-units), although the names of the 21 units of land have changed little and all can be located and visited today. The polyptych shows that at the time of writing, the abbey held more than 20,000 acres of land from the coast

¹⁴ H. Wartmann (ed.), *Urkundenbuch der Abtei Sanct Gallen* (5 vols, 1863–1955), I, charters 235, 248, 254, 255, 262 and 293. c.f. K. Bullimore, 'Folcwin of Rankweil: the world of a Carolingian local official', *Early Medieval Europe* 13 (2005), pp. 43–77. Bullimore neither locates Bergun and the Albul Pass nor mentions that a quarter of the lands that Folcwin acquired for the abbey were purchased with iron ingots or 'in iron value' related to the unit of account, the silver solidus. Gozbertus was abbot of St. Gall from 816–36.

¹⁵ A. Briquet, *Le littoral du nord de la France et son évolution morphologique* (1930), pp. 199–202, 355–9; R. J. N. Devoy, 'Controls on coastal and sea-level changes and the application of archaeological-historical records to understanding recent patterns of sea-level movement', in S. McGrail (ed.), *Maritime Celts, Frisians and Saxons* (CBA Research Report 71, 1990), p. 17–26.

¹⁶ G. W. Coopland, 'The Abbey of St. Bertin and its neighbourhood', in P. Vinogradov (ed.), *Oxford Studies in Social and Legal History* (9 vols, 1909–27), IV, p. 15.

¹⁷ H. Baumont (ed.), *Étude historique sur l'abbaye de Luxeuil* (1896), pp. 1–7.

¹⁸ R. McKitterick, *The Frankish Kingdoms under the Carolingians* (1983), p. 42.

¹⁹ J. Bately, 'Grimbald of St Bertin's' *Medium Ævum* 35 (1966), p. 5. For example, Merckeghem, Ruminghem, Tatinghem, Beinghem, Audrethem, Maninghem, Basinghem, Odinghem and Fresinghem.

²⁰ F. L. Ganshof, F. Godding-Ganshof and A. de Smet (eds), *Le polyptyque de l'abbaye de St. Bertin* (1975).

²¹ *ibid.*, p. 23, *Alfuuardus ille Saxo habet Bunaria viiii.*

²² C. Verlingen, *Les origines de la frontière linguistique en Belgique et la colonisation franque* (1955), pp. 87–8 and 130–2.

south through Théroanne and the forested Boulonnais to Tubersent and the estuary of the river Canche. Their lands would have included the emporium of Quentovic, for, although Quentovic is not mentioned in the 1975 edition of the document, it is listed in a fragment of the polyptych published in 1844.²³ The omission may be because it was sacked when a Danish fleet landed there at dawn, after a night crossing, in 842. It seems never to have recovered on its site 'on the south side of the river Canche' for archaeologists have found little evidence of a thriving emporium.²⁴ However, Lupus abbot of Ferrières attached considerable importance, between 843 and 849, to the retrieval of the monastic outpost called the Cell of St. Josse, situated just across the estuary of the river Canche from Tubersent. He was at pains to stress that he did not require the Cell to obtain 'gold, silver and other precious metals, *materia*'.²⁵ This suggests either that the Cell may have been an unofficial port of entry for imported goods or that his abbey wished to collect the tolls. It is likely that either Boulogne or St. Omer, depending on weather conditions for embarkation, sailing or landing, took the place of Quentovic as the trading area with Canterbury, the river Stour and eastern England until Calais 'emerged' from its sandbank in the tenth century to replace St. Omer which was becoming silted up.²⁶

Certainly it was a traumatic but affluent century for the abbey. A very late ninth-century/early tenth-century manuscript describes a Viking visitation by a fleet in 861 when a second influential Adalhard held the abbacy.²⁷ The Vikings approached the abbey via the river Yser after a dawn landing. They made a show of beating up two priests and two deacons (who happen to have the same names as two local officials responsible for the area), and left the altar in the church piled high with silver – enough for the abbey to decide to rebuild their abbey church using new building techniques, roofing it with lead, rebuilding all the other churches on their estates and rebuilding their workshops, for the manuscript tells us that 'in the women's workshop spinning, carding, weaving and all women's work is done'.²⁸ The polyptych contains numerous references to women making cloth and garments as dues to the abbey, as well as references to seven water-mills. An eyewitness from the abbey continues the manuscript with an account of events in 891. He describes how counts and abbots fought for this rich and strategically-positioned abbey and how in 892 the Great Army came from East Francia and assembled on lands belonging to the abbey, before riding to Boulogne and taking two hundred and fifty ships for their crossing to Kent – to test to the utmost King Alfred's defence of Wessex.

²³ Guérard (ed.), *Polyptyque ... de Saint-Germain-des-Prés*, II, App. III, p. 404; *In Quentvico mansum* 1.

²⁴ D. Hill *et al.* 'The definition of the early Medieval site of Quentovic', *Antiquity* 66 (1992), pp. 965–69.

²⁵ Marshall (ed.), *Servati Lupi Epistolae*, letter 44. Regarding Lupus' efforts to recover the Cell see also letters 11, 71, 31, 42, 43, 45, 55, 60, 50, 51, 92 and 88.

²⁶ By the late ninth century, erosion of the north-west tip of the Boulonnais and gradual accumulation of eroded material in the river beds along the Flanders maritime plain together with the reclamation efforts of successive abbots of St. Bertin had allowed much land to be recovered. The first charter pertaining to a settlement at Calais is dated 938. Thereafter Calais appears

regularly in charters as it grew in significance as a *portus maris*, sea port, later a wool staple port.

²⁷ O. Holder-Egger (ed.), *Miracula S. Bertini Sithiensia* (Monumenta Germaniae Historica [hereafter MGH], supp. ser. 16, 1887), p. 509. Much localised chronicle evidence is included in this work which purports to concern miracles which happened at the abbey.

²⁸ MS St. Omer 764 fo. 85. *In genaecio ipsius nendi, carandi, texendi omnique artificio mulieribus operis (edoc)tus*. This is a previously unedited part of the manuscript, Franco-Saxon in style, that I transcribed as part of my unpublished MA dissertation, 'The Miracles of St. Bertin', King's College London, 1991.

The next major extant polyptych was written in 862 at the abbey of Bobbio in Lombard Italy. The abbey was founded by the Irish monk Columbanus in 615, who even in the abbey's early days received pilgrims from Ireland who ventured up the Rhine in merchant ships to visit Columbanus' follower Gall's earlier foundation of 610, the cell, later the abbey of St Gall. Bobbio was situated near the river Trebbia that flowed in a northerly direction, not towards the Mediterranean, but into the fertile valley of the River Po in north Italy. The polyptych describes how the abbey held 19 units of land in the valley of the Trebbia from which it obtained as rent from its peasants hay, grain, honey, wax, poultry, salt, fish, wine and olive oil.²⁹ The polyptych goes on to describe the abbey's 'exterior cells',³⁰ its trading outposts,³¹ for it held lands from north of Lago Garda, described as *Cella Summolaco*, where there was an *olivetum* providing the abbey with its largest annual harvest of olives, 2430 pounds, which the abbey clearly processed and traded. For these olives were collected in Garda, and olives and iron were hauled to Pavia on the River Ticino and to Piacenza on the River Po. There, on 'lands with tenants, and churches', recorded in the polyptych as *Cella Piacenza*, *Cella Parma*, *Cremona Portus* and *Cella Pavia*, the abbey owned mills to crush grain and press olives to produce olive oil. The abbey also had a cell at Genoa which provided it with chestnuts, wine and 40 pounds of olive oil a year. One hundred strings of figs, 200 citrons (sour oranges),³² and 100 pounds of pitch were purchased here annually for the abbey. It was through Venice that in 862 the abbey received imported goods, for their share of tolls payable at the port of Mantua was 'the fifteenth ship from Venice and we get from it in cash six silver *solidi*, three pounds of pepper, the same amount of cumin and four pounds of fine cloth'.³³

Lastly we should look at an extraordinarily rich abbey situated north of the River Po in Lombardy, founded in the 750s by the Lombard royal house, the abbey of Brescia. A document written between 879 and 900 describes its lands, farms and renders.³⁴ At this time it had 70 units of land and extensive trading outposts which stretched from the hinterland of the Italian Lakes to the Po valley, from Pavia to the Adriatic Sea. The abbey's land-units made annual payments

²⁹ C. Cipolla (ed.), *S. Colombano di Bobbio, Inventari altomedievali di terre, coloni e redditi*, in A. Castagnetti (ed.), *Instituto Storico Italiano per il Medio Evo, Fonti per la Storia d'Italia*, 104 (1979), pp. 128–31.

³⁰ *ibid.*, pp. 131–39.

³¹ Abbeys following the Rule of Columbanus from their earliest foundation had a headstart in economic matters. They did not come within episcopal jurisdiction, being directly under papal protection. Although very austere, there was no prohibition in their Rule concerning making a profit; S. M. Walker (ed.), *Sancti Columbani Opera*, (1957), Rules, pp. 122–68. The gentler, more practical discipline of the Rule of St. Benedict, included the instruction 'And, as regards the price . . . let the goods always be sold a little cheaper than they are sold by people of the world'. J. McCann (ed. and trans.), *The Rule of St. Benedict* (1970), p. 62. Under the influence of Abbot Benedict of Aniane, the Rule changed in this respect at the two Synods of Aachen of 816 and 817;

J. Semmler (ed.), *Synodi primae Aquisgranensis decreta authentica* 816 and *Synodi Secundae Aquisgranensis* 817 (1963), in Hallinger (ed.), *Corpus consuetudinum monasticarum*, I, pp. 451–68, 471–81.

³² A. M. Watson, 'The arab agricultural revolution and its diffusion, 700–1100', *JECH* 34 (1974), p. 9 'sour oranges'; *id.*, *Agricultural innovation in the early Islamic world: the diffusion of farming techniques, 700–1100* (1983), p. 42, sour orange, Latin *citrus aurantium*, p. 50 *cedri*; M. McCormick, *Origins of the European Economy* (2001), pp. 634–6.

³³ Cipolla (ed.), *S. Colombano di Bobbio*, p. 138: *Venit a nostrum parte(m) xv navis, Ven(et)icis navib(us), unde debent venire solidos vi, pip(er) lib(ras) iii, cyminu(m) similiter, linu(m) lib(ras) iiiii.*

³⁴ G. Pasquali (ed.), *S. Guila di Brescia, Brevaria de curtibus monasterii*, in A. Castagnetti (ed.), *Instituto Storico Italiano per il Medio Evo, Fonti per la Storia d'Italia*, 104 (1979), pp. 43–94.

to the abbey in both coined money, silver *denarii*, or pounds of silver, and in kind; fish, poultry, grain, hay, salt, wine, wool, hemp, cloth of various qualities, barrels, in this document called *buttes* rather than *tonnae*, *anforae* (spelled thus), *urnae* (some sort of containers) and olive oil were rendered to the abbey. Seven of the units of land, which included Pisogne, at the northern tip of Lago d'Iseo, the 50 kilometre long Val Camonica, and the mountainous Clusone, paid their annual dues in iron ingots in weights of 20, 30, 60, 100 or 130 pounds.³⁵ In Pisogne, it was the *scarius* who held a *beneficium* who rendered annually to the abbey 130 pounds of iron.³⁶ Three other land-units located near the abbey paid annual dues in iron implements such as ploughshares, scythes, forks or hatchets. With regard to industrial plant near the abbey there was a *genetium* (spelled thus), a workshop where 20 women worked,³⁷ as at St. Bertin, St. Omer, and some 23 water-mills, some designated 'communal mills'. It owned 12 ships (*naves*) on the River Po, six based at Cremona carrying salt.³⁸ Like Bobbio, the abbey of Brescia had extensive trading outposts. It held 'lands and chapels' mainly in Cremona and Mantua, but also in Pavia, Bergamo, Piacenza, Modena, Padua and Parma as well as Genoa, Ivrea and Varese. Between five and twenty free men were based in these last three places. Were these some of the abbey's merchants? They each paid small annual dues to the abbey compared with the port of Pavia which gave the abbey 15 pounds of silver a year.³⁹

In 843 the Empire was divided into three kingdoms and there was internecine strife between the rulers. The largely Romance-speaking Western Kingdom, a formerly affluent remnant of the Roman Empire, fell swiftly into decline, due in part to easy Scandinavian entry with large fleets, between 843 and 876, into the river networks of the Seine, Loire, Charente and Garonne, the estuaries of which were undefended. The West Frankish Kingdom had no offshore fleets. From 845 the estuaries of this kingdom were virtually blockaded by Scandinavian fleets. This was the end of the previously thriving Seine – *Hamwic* trade route.⁴⁰ Indeed it was not until 862 on the Seine and 873 on the Loire that one bridge on each river was fortified.⁴¹ Mayke de Jonge has termed it 'the ramshackle but functional state of Charles the Bald'.⁴² This is how it appears from the scraps of polyptychs surviving from abbeys in the Western Kingdom and from the extensive correspondence of Abbot Lupus of Ferrières, written between 840 and 862 to Charles the Bald and to many of his fellow abbots, including those at Corbie and Prüm, who regretted the passing of the good old days of Charlemagne; the imported goods to which they had been accustomed were now almost impossible to obtain in the Western Kingdom. In 840 the situation quickly worsened, for a letter from Odo, Lupus' predecessor as abbot of Ferrières

³⁵ Bobbio's iron production in 862 came from *Cella Summolaco* north of Lago Garda. The abbey of Brescia held land there where there were nine slaves *qui petras tantummodo operantur* (who only worked stones). This may refer to retrieving ore from ironstone.

³⁶ See Appendix.

³⁷ Pasquali (ed.), *S. Guila di Brescia*, p. 66.

³⁸ *ibid.*, p. 78.

³⁹ *ibid.*, p. 92

⁴⁰ Hodges shows that from c. 840 no imported pottery from Northern France arrived at *Hamwic*. The reason for this is likely to have been Scandinavian control of the

Seine estuary. Hodges, 'Trade and market origins', pp. 214–5.

⁴¹ S. Coupland, 'The fortified bridges of Charles the Bald', *J. Medieval History* 17 (1991), pp. 1–12. In this article Coupland confirmed the findings in his unpublished Ph.D. dissertation, 'Charles the Bald and the defence of the West Frankish Kingdom against the Viking invasions, 840–877', University of Cambridge, 1987.

⁴² Mayke de Jong, 'Carolingian Monasticism: the power of prayer', in R. McKitterick (ed.), *The New Cambridge Medieval History*, II, c. 700–c. 900 (1995), p. 635.

reads that ‘the palace clerks are demanding control of various monasteries and that their only concern is to satisfy their personal greed’;⁴³ abbots were advised to hide their treasure. Lupus himself, writing to invite a friend to visit him, warned: ‘rebellions have broken out in the realm of King Charles, plundering is rife . . . you must therefore seek a group of fellow travellers large and strong enough to keep off robber bands’.⁴⁴ In 844 Lupus sent three young men to the abbey of Prüm (where his friend Marcward was abbot from 829–53) for instruction in the German language.⁴⁵ He wrote later thanking Abbot Marcward for ‘giving our boys an understanding of your own language, the need for which is very important at this time’.⁴⁶ In 849 he asked an acquaintance to provide him with Italian money for a journey to Rome, since West Frankish silver coin was no longer acceptable in Italy.⁴⁷ He asked Abbot Marcward of Prüm to obtain for him a horse and two blue robes and two linen garments as gifts for the pope on his forthcoming journey to Rome.⁴⁸ We might presume that these items were unavailable in the Western Kingdom.

On the other hand, the Germanic-speaking Middle Kingdom, which stretched from the estuaries of the rivers Rhine, Ems and Weser south to Italy, and into which kingdom the three abbeys of Werden, Weissenburg and Prüm and their landholdings fell, was beginning to experience economic growth (Map 1). This was not only because of the decline of the Rhône/Saône route north from 840, due to Muslim and Scandinavian raids from the Mediterranean, but also because of the deliberate policy of its ruler Lothar I (co-emperor of the Carolingian Empire with his father Louis the Pious until 840). In order to encourage economic growth Lothar not only granted abbeys extensive lands and toll-free status along the rivers within his kingdom, but also gave to the abbey of Prüm immunity from fiscal dues, including freedom from toll on all goods traded throughout his kingdom by ship or by cart.⁴⁹ These rights were renewed by his son Lothar II, who held the Middle Kingdom until his death in 869. Such privileges had been enjoyed by the abbey of Weissenburg since the time of the Merovingian king Dagobert (629–39). In 870, by the terms of the Treaty of Meerssen, and confirmed by their charters, the abbeys of Stavelot-Malmédy and Prüm with all their lands, both those in demesne and those held by vassals, became part of the eastern kingdom of Louis the German, as did the abbeys of Werden and Weissenburg.

This is the background to the buoyant, expansionist economies of which *scarae* prove to be additional evidence.

II

Most Carolingian historians think of *scarae* solely in terms of their inclusion in Carolingian court-centred sources. Principally in centrally written sources such as the *Royal Frankish Annals*, the *Annals of St. Bertin* and Carolingian Royal Capitularies, the word occurs with the

⁴³ Marshall (ed.), *Servati Lupi Epistolae*, letter 25.

⁴⁴ *ibid.*, letter 104.

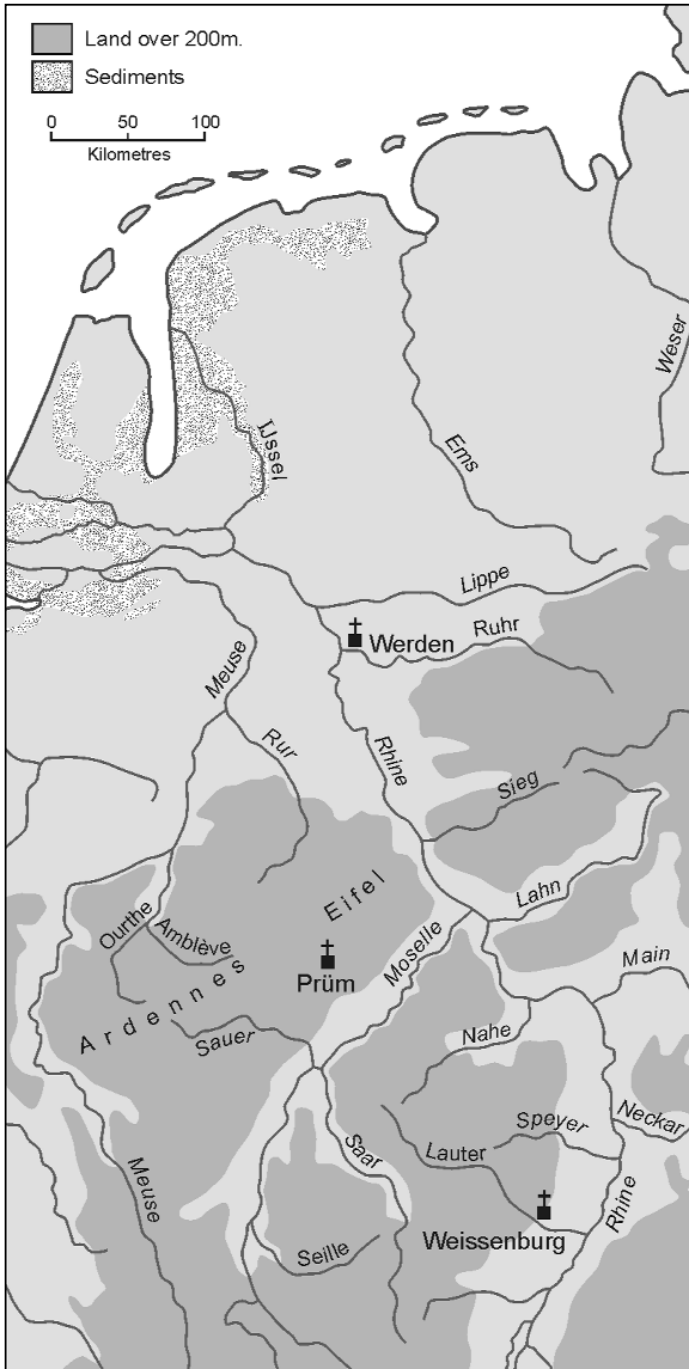
⁴⁵ *ibid.*, letter 91.

⁴⁶ *ibid.*, letter 70.

⁴⁷ *ibid.*, letter 66.

⁴⁸ *ibid.*, letter 68.

⁴⁹ T. Schieffer (ed.), *Die Urkunden Lothars I und Lothars II* (MGH, *Diplomata Karolorum III*, 1966), charters 56 (841), 57 (841) and 85 (844). These rights were renewed by Lothar II in his charter 3 (856), and extended to include a market and a mint at Rommersheim, a unit of land near the abbey of Prüm in charter 16 (861).



MAP 1. Werden, Weissenburg and Prüm.

meaning of ‘a detachment of soldiers’. Thus the *Royal Frankish Annals* describe how between 766 and 785 King Pepin, on one occasion, and then his son Charlemagne, on seven occasions, sent *scarae*, meaning well-equipped detachments of soldiers to deal with Aquitainians (766), Lombards (773) and the Saxons against whom there were four victorious attacks with *scarae* in

774, 776, 778 and 785.⁵⁰ Similar campaigns with *scarae* took place against the Slavs in 782 and the Westphalians in 784.⁵¹ The continuation of these annals, called the *Annals of St. Bertin*, describe how Charles the Bald, king of the western part of the former Carolingian Empire after its division in 843, used *scarae* to deal with his enemies, but not for the first nineteen years.⁵² The Annals describe how he used *scarae* against the Northmen in 862, 868, 869 and 876, the year he died. In 871 he used *scarae* against Carloman, his rebellious son, and his followers. A poignant reference in the year 882 written by Hincmar, who, as Archbishop of Rheims was an eye-witness, describes in the final annal a *scara* of Northmen approaching the city of Rheims. This is plainly not the usage of the word in the monastic sources being investigated here.

The first occurrence of the word *scara* from the abbey of Werden is in a heading to a charter in the abbey's oldest cartulary which is dated to the first half of the ninth century. The heading reads *De holtscara*. This *scara* certainly refers to beech and oak woodland as it is described in the Werden charter in association with the Germanic word *holt*.⁵³ This leaf woodland can be located on either side of the river Ruhr, in the proximity of the abbey. It was to be shared between 18 households for the pasturing of between 10 and 40 pigs.⁵⁴ The use of the *holt* for the purpose of pannaging these domestic swine is mentioned in the references to each of the households.

The next two references to *scara* occur in a Werden charter dated 855 concerning some of the abbey's newly-acquired woodlands situated rather further away. These were located to the north-west of Werden, on either side of the estuary of the Old Rhine, and in the marginal agricultural area known as the Veluwe, with its centre at Apeldoorn, situated to the east and south of the Aelmere as far as the river IJssel.⁵⁵ The charter specifies that 'in a wood called Putten there are 28 *scarae* and in another there are 60 *scarae*'.⁵⁶ Putten is situated to the west on an important cart-route across the Veluwe which led to the river IJssel and thence to the Aelmere and the North Sea.⁵⁷ Details follow concerning *scarae* in the areas round Nijmegen, Arnhem and in Kennemerland (between the west bank of the Aelmere and the North Sea) and it is unlikely that it was to the pasturing of pigs that these divisions or shares of land refer. The abbey of Werden held land right up to the river Ems. There are ten further references to *scarae* in Werden charters dated to the tenth century. Eight concerned woodland and two concerned wood and uncultivated land, but the use to which these divisions of land were put is not stated.⁵⁸

⁵⁰ F. Kurze (ed.), *Annales Regni Francorum* (1895), pp. 24, 36, 40, 48, 52, 68.

⁵¹ *ibid.*, pp. 60, 68.

⁵² Grat *et al* (eds.), *Annales Bertiniani*, 862 (p. 88), 868 (p. 151, 2 refs), 869 (p. 152), 876 (pp. 208 and 211), 882 (p. 250) *Scara autem de Nortmannis...*

⁵³ The word *holt* meaning 'woodland' is common in Germanic languages; for an example, see A. Everett, *Continuity and colonization. The evolution of Kentish settlement* (1986), p. 13, 'Downland place-name element indicating woodland settlements and ancient woods'.

⁵⁴ R. Kötzschke (ed.), 'Die Urbare der Abtei Werden a. d. Ruhr. Die Urbare vom 9–13 Jahrhundert', in

Rheinische Urbare, Sammlung von Urbaren und andere Quellen zur Rheinischen Wirtschaftsgeschichte 20 (1906), pp. 3–4.

⁵⁵ See S. Lebecq, *Marchands et navigateurs Frisons du haut moyen âge* (2 vols, 1975), I, Figs. 22 and 23.

⁵⁶ Kötzschke, 'Die Urbare', p. 12: *In silva quae dicitur Puthem scaras xxviii viginti octo, ... in illa silva scaras lx sexaginta.*

⁵⁷ H. A. Heidinga, *Medieval settlement and economy north of the Rhine* (1987), p. 157, Werden *scarae*. The IJsselmeer/Zuiderzee was known as the Aelmere in the early medieval period when it was rather smaller than it is today.

⁵⁸ Kötzschke, 'Die Urbare', pp. 27, 52, 53; p. 49, *saltus*.

The word *scara* occurs in a document written at Weissenburg abbey in 818–19 when the abbey held 25 units of land.⁵⁹ These lands were located, in the main, in the area to the west of the Rhine, from the abbey north to Mainz. It occurs first in the description of the land-unit Pfortz which is situated at the confluence of the rivers Lauter and Rhine.⁶⁰ At Pfortz there were 72 households. *Scara* occurs as dues/services owed to the abbey, for example, *ii scaras in anno* (two *scaras* per year). The description of this land-unit also includes an obligation to plough for a certain length of time; it is unlikely, therefore, that Weissenburg *scaras* referred to ploughing. The word occurs next in a description of Musbach, situated on the upper Rehbach, where the requirement is *in anno ii scaras* (two *scaras* per year).⁶¹ The 818–19 document was written two years after the important decrees that followed the Synods of Aachen of 816 and 817. We know from the decrees that some monks had been occupied with economic affairs relating to the land, for we are told that ‘They (the abbots) should not go round the outlying manors often or at all unless necessity compels nor should abbots entrust the guarding of the manors to their monks and if they have to go to them, when the necessary business has been completed they must return to the monastery’.⁶² It seems likely that as they questioned the peasants ‘What do you owe the abbey?’ or ‘What work has the abbey asked you to do?’ they heard the vernacular terms relating to agriculture that were used by peasants working on the land, such as *scara*, and introduced them into the medieval Latin in which they wrote up their findings.

The Weissenburg document reveals a thriving economy in terms of industrial plant which included a metallurgical workshop, a salt-making workshop and 12 water-mills.⁶³ Commodity production included axles (camshafts), timber and cartloads of pitch from the enormous area of coniferous forest on its lands between the rivers Nahe and Lauter.⁶⁴ There was a clear specialisation of labour with smiths, millers and ploughmen mentioned. The abbey owned carts and had built its own ships, on three tributaries of the Rhine, that plied the river between Frankfurt and the abbey. The abbatial hierarchy, with the annual dues or tithes that it received in cash or in kind, played a capitalistic and entrepreneurial role; it would have had a hefty regular income to invest from its land-based enterprises alone.

Part of the Weissenburg document relates to conditions in 870. It shows that by that date the abbey of Weissenburg held 315 units of land.⁶⁵ This seems to have been the result of both the division of the 818–19 units of land within existing boundaries, when *scaras* are not recorded, and the acquisition of additional land where *scaras* are documented.⁶⁶ Thirty references to *scaras* occur in the 870 part of the document. Some of the names of the land-units mentioned

⁵⁹ C. Dette (ed.), *Liber possessionum Wizenburgensis* (1987).

⁶⁰ *ibid.*, pp. 106–7.

⁶¹ *ibid.*, pp. 108–9.

⁶² Synod of Aachen 816, article 24: *Ut villas frequenter et nisi necessitas coegerit non circumeant neque suis illas monachis custodiendas committant. Et si eos ire ad eas necessitas fuerit expleto necessitatis negotio ad sua mox monasteria redeant.*

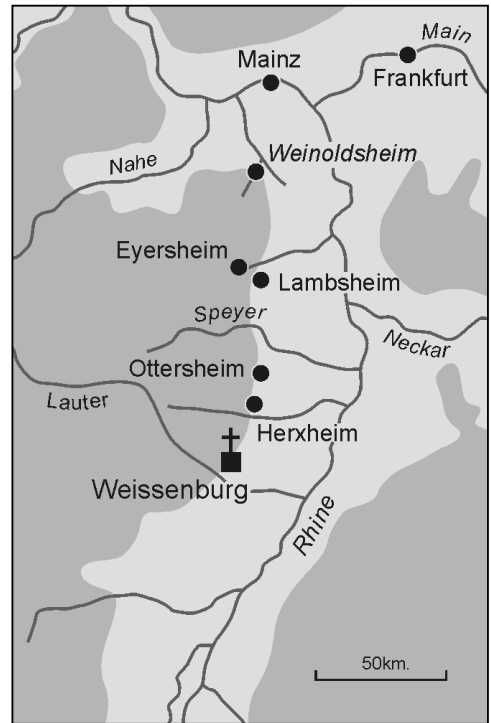
⁶³ Dette (ed.), *Liber possessionum Wizenburgensis*, pp. 104–5, *fabrica*. The abbey had held a salt-making workshop in Lorraine at Marsal on the river Seille since

682; K. Glockner and A. Doll (eds), *Die Urkunden des Klosters Weissenburg, 661–864* (1979), charter 213, pp. 427–9.

⁶⁴ Pitch, for conserving wooden structures, is made from tapping pine or burning pine very slowly as in the making of charcoal.

⁶⁵ Dette (ed.), *Liber possessionum Wizenburgensis*, pp. 26–315.

⁶⁶ P. Toubert, ‘La part du grand domaine dans le décollage économique de l’Occident (VIII^e–X^e siècles)’, *Flaran* 10 (1988), p. 65. Toubert notes that there has been no study of this very point.



MAP 2. Some of Weissenburg's assartment in 870.

in the 818–19 document recur and there is some correlation between these names and the obligation to carry out *scara* on the newly cleared land which might suggest that *scara* means to assart this newly acquired land taken from the edge of coniferous forest, all of which was located near rivers that flowed into the Rhine (Map 2). Weissenburg *scarae* seem to refer to assartment of newly acquired land at the western edge of the Rhine valley, not to ploughing.

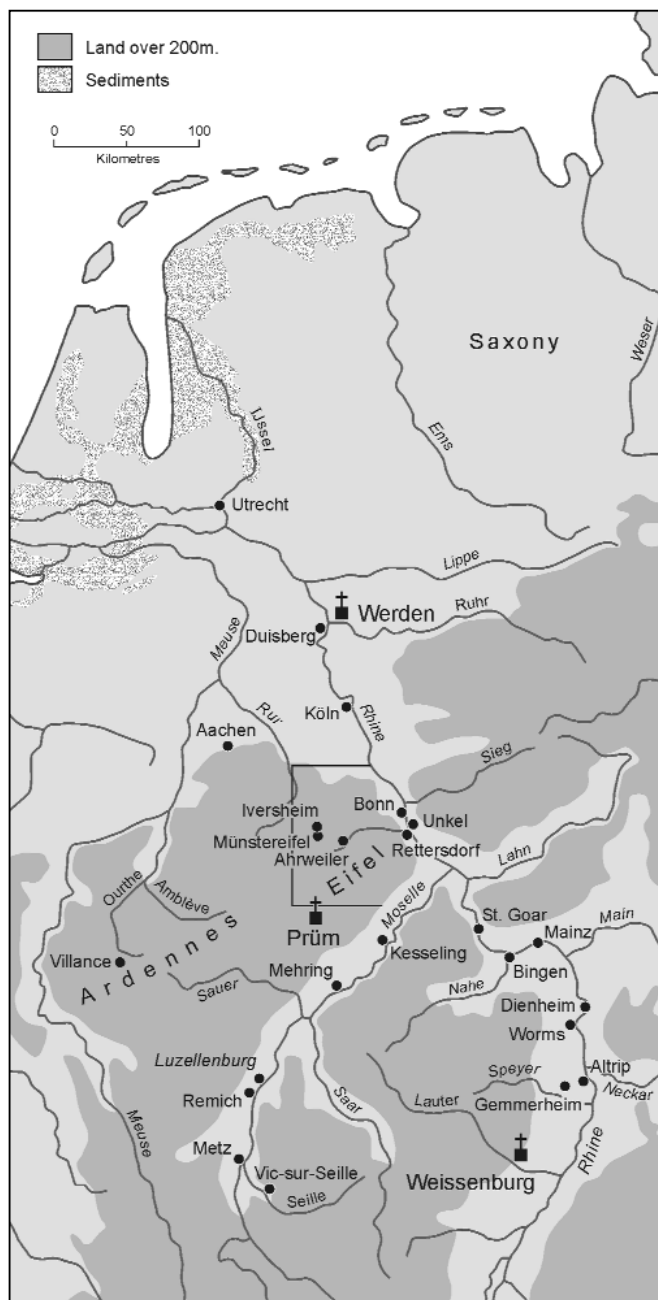
The phrase *scaram facit* occurs 34 times in a document from the abbey of Prüm dated by Devroey to 893.⁶⁷ By this time the abbey's lands stretched from the Rhine delta in the Netherlands where their lands, interweaving with Werden lands, extended from Teisterbant near the estuary of the rivers Maas and Meuse, east to Arnhem at the confluence of the Rhine and the river IJssel and south up the Rhine via their *portus* at Duisburg, Rettersdorf, Unkel and Bingen, to Altrip south of the confluence of the Rhine with the river Neckar, where the abbey's lands had bordered on Weissenburg lands since 843. The nucleus of Prüm's lands lay between the rivers Meuse and Rhine.

In his doctoral thesis of 1912 (sadly not published until 1989), Matthias Willwersch made a study of the acquisition of land by the Abbey. He found that since the 830s, the abbey had gradually been taking over land on the forested Eifel plateau to the north of the abbey and was beginning programmes of clearance.⁶⁸ An example of this was the way cut between Prüm

⁶⁷ I. Schwab (ed.), *Rheinische Urbare 5 Band, Das Prümer Urbar* (1983), pp.166–259, with *Das Prümer Urbar Faksimile*. J.-P. Devroey, 'Les services de transport à l'abbaye de Prüm au IX^e siècle,' *Revue du Nord* 61 (1979), repr. in id., *Études sur le grand domaine*

carolingien (1993), p. 543. The document was drawn up during the abbacy of Farabert, 886–93.

⁶⁸ M. Willwersch (eds) I. Schwab and R. Nolden, *Die Grundherrschaft des Klosters Prüm* (1989).



MAP 3. Main area of Prüm assartment in 893 (rectangular box).

and Münstereifel in 844 (Map 3). A source describes how a procession led by monks carrying relics followed the men who cut down the trees to open up the way to the site of a new monastery, Münstereifel, that was to be built at the centre of early Eifel clearances.⁶⁹ To the

⁶⁹ O. Holder-Egger (ed.), *Ex translatione SS. Chrusanti et Dariae*, in MGH, SS 15, i, p. 375. See Schwab (ed.), *Das Prümer Urbar*, Map 7, p. 343.

west of the abbey its lands included much of the Ardennes, and by 893 the abbey held lands as far south as the river Seille. The abbey also held land in Saxony where a part of the *familia*, peasants or lay servants, was based.⁷⁰ In total the abbey controlled about 3000 peasant households.

The phrase *scaram facit* occurs in descriptions of annual dues owed from about a third of its 118 land-units. These references occur in two areas. Firstly they occur in descriptions of 30 land-units north of the Moselle between the abbey and the river Rur, eastwards to the Rhine, with two occurrences on the abbey's lands east of the Rhine. Secondly they occur on seven land-units between Mainz and the confluence of the Neckar with the Rhine at Altrip. The first area centres on the Eifel plateau where they often occur in proximity to the phrases meaning 'making a way through', 'heavy labour services', 'work gangs', and 'making a bed in a garden', which may refer to opening-up beds in quarries from which materials were dug.⁷¹ At Ahrweiler, acquired by the abbey in 893, situated 60 kilometres north-east of Prüm on the river Ahr that flowed eastwards into the Rhine, the detailed description of agricultural and industrial produce owed annually to the abbey in tithes includes clay, iron bands, barrels, shingles, poles, wine and timber. The description of Ahrweiler also includes the sentence 'We find in the Ahrweiler communal woodland, *facit scaram* for 200 pigs'.⁷² This reflects a similar meaning for the phrase *facit scaram* as in some of the Werden documents, that is the dividing-off part of the forest by fencing or ditching, so that these pigs could forage without destroying woodlands that were now being partially cleared or farmed on behalf of the abbey of Prüm.

These were no wholesale slash and burn clearances. The 893 Prüm document shows that areas of the forests were being systematically cleared in order to open up quarries, to make ways through for carts, or be systematically farmed for coppice-wood; firewood for heating, pine torches for lighting, charcoal for smelting, wood for the handles of tools and for wattles, and that they were being economically exploited on a large scale for timber.⁷³ Timber is sometimes named according to its length, as poles, or the purpose for which it was used, as axles or camshafts. Approximately 350 cartloads of timber were carted each year and 98 carts of *materia* which may have been a special type of timber. The abbey's carting services per annum can be calculated from the document. They were extensive, for carts were now able to be drawn by bullocks along the ways opened up by the work gangs: salt (2 carts), clay (90 carts), hay (200 carts), cereals (250 carts), vines and wine (350 carts). Timber was needed for making commodities such as barrels, shingles for roofs, carts, and for building large structures such as houses, barns, mills, ships and weirs, all of which can be identified in the document. It is likely that some of the timber was used for revetting river banks and building quays to assist the loading of heavy goods at the abbey's ship stage stations. These were ports at a day's

⁷⁰ *ibid.*, p. 245: *De familia sancti Salvatoris, que est in Saxonia.*

⁷¹ *Clausuram facit; corvadae; in horto lectum i.*

⁷² Schwab (ed.), *Das Prümer Urbar*, p. 225: *Invenimus in Ara silva communia, facit scaram ad porcos cc.*

⁷³ C. Wickham, *Land and power* (1994), ch. 6,

'European Forests in the early Middle Ages', pp. 155–99. Wickham acknowledges his debt to the seminal work of C. Higounet, 'Les forêts de l'Europe occidentale du V^e au XI^e siècle', *Settimane di studio* xiii (1965), pp. 343–98. Neither refers to the work undertaken by the abbey of Prüm in the Eifel.

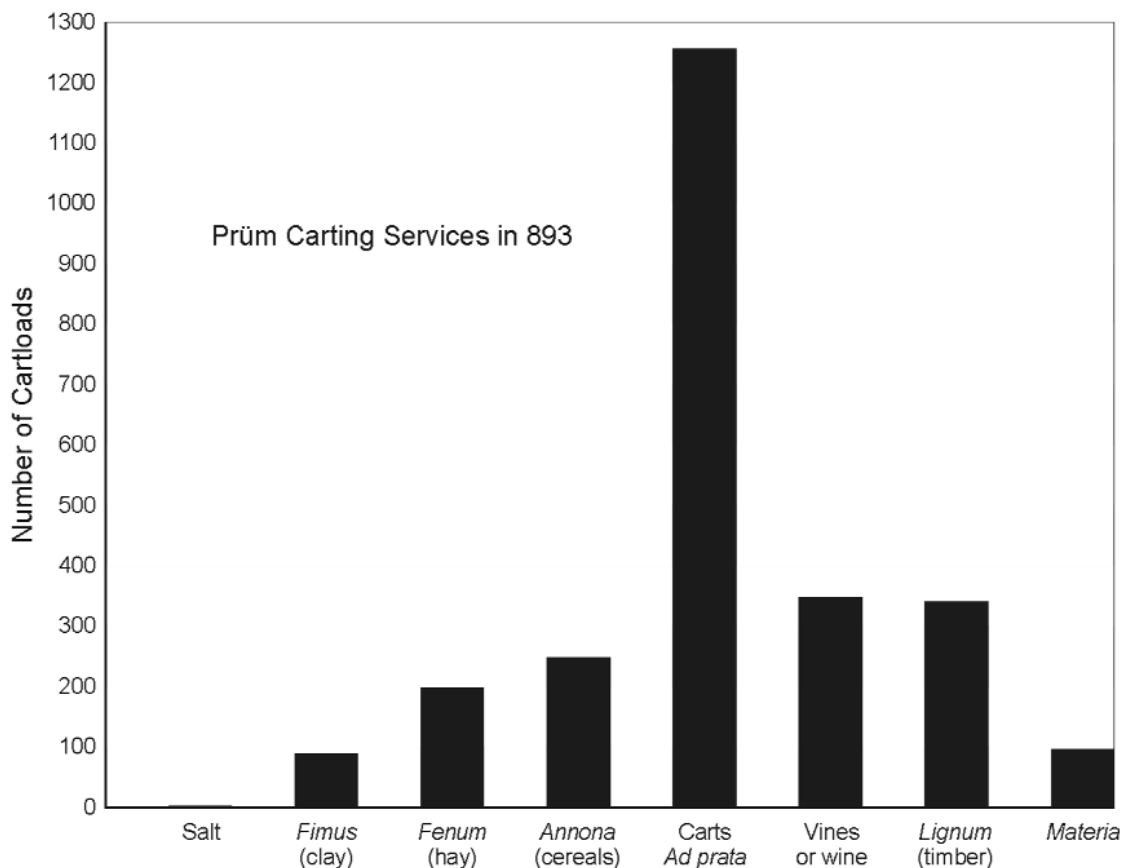


FIGURE 1. Prüm Carting Services in 893.

sailing/haulage distance from each other.⁷⁴ However, the largest number of carts per annum, approximately 1250, relate to carts going ‘to the meadows’.⁷⁵ These do not refer to cartloads of hay or cereals, documented separately, but may relate to carts bringing heavy materials such as clay⁷⁶ or limestone from the newly opened-up areas to be transported elsewhere by river (Figure 1). The abbey of Lorsch, situated east of the Rhine, which also had its own ships, documents cartloads of limestone and lime-kilns on their land at Nierstein south of Mainz between 830 and 850.⁷⁷

Clay was dug or processed on 11 land-units, nine in the Eifel, centring on Ahrweiler, two at ship stations or *portus*, one on the Moselle at Remich and one on the Rhine at Rettersdorf

⁷⁴ See Despy’s account of *étapes de batellerie*, ports at a day’s sailing/haulage distance from each other along the Meuse; G. Despy, ‘Villes et campagnes aux IX^e et X^e siècles: l’exemple du pays mosan’, *Revue du Nord* (1968), pp. 145–68.

⁷⁵ *Ad prata*.

⁷⁶ The abbey of Prüm is thought to be associated with the production of Mayen ware; McCormick, *Origins*, p. 657.

⁷⁷ K. Glöckner (ed.), *Codex Laureshamensis* (1936), p. 174: *Ad furnum calcis de petris carr. v de lignis carr. v.*

adjacent to the Eifel. At Remich the obligation is ‘to convey 15 carts of clay for the fueller’.⁷⁸ At a second place, Kesseling, further north on the Moselle, the obligation is ‘to take eight carts of clay for the fueller’.⁷⁹ The ‘fueller’ may refer to the man who builds the kiln or furnace with clay, fills it with whatever is being ‘baked’, clay pots or ore, and fires it with charcoal provided by the *forestarius*. It is abundantly clear that parts of the forested areas had been cleared by the abbey of Prüm and were being commercially exploited. Further development in the Eifel is identified at Iversheim, situated 3 km north of Münstereifel, and developed in 871. From Iversheim Willwersch identified development at Wachendorf, Arloff, Kirspenich and Hockenbroich in 893.⁸⁰ Further detail is given concerning the phrase *scaram facit*. The description of Iversheim uses the phrase *facit scaram* to Prüm, Aachen, Köln, Bonn and St. Goar.⁸¹ This seems to refer to the division, share or cut of the raw materials and commodities that came from the land, thus ‘convey shares of the commodities to these places’. We know from the writings of the Prüm monk Wandalbert that in the eighth century merchants and pilgrims travelled on ships that had to be towed through the difficult waters of Prüm’s Cell of St. Goar and had to pay a toll of a pound of silver to the abbey.⁸² We also know that before 840, potters, perhaps from Prüm, were shipping their wares along the Rhine.⁸³

The phrase *scaram facit* also occurs in descriptions of six units of land situated south of the Moselle between the Nahe and the Speyer, an area where land was greatly sought after by many ecclesiastical institutions.⁸⁴ Two of these units of land, acquired by the abbey in 868, were situated on the Nahe or its tributary the Glan which flow into the Rhine at Bingen, namely Bingen and *Winesheim*, probably modern Waldalgesheim. Three units of land were acquired earlier, Altrip (762) and Dienheim (835) both situated on the Rhine, and the sixth, Gemmerheim to the west was acquired in 831.⁸⁵

The phrase *scaram cum nave bis in anno* (with a ship twice a year) occurs five times at the abbey’s ship stage stations or *portus*, at the land-units that had ships for the transport of heavy raw materials and commodities. These ship stage stations were situated on the west bank of the Rhine, where the document written in 893 prescribes how often ships were to ply the Rhine between Duisberg (where there was a colony of Frisians who paid dues to the abbey) south to the confluence of the Rhine and the Neckar at Altrip, with stopping places, all held by the abbey, at Rettersdorf, Unkel, St. Goar, Bingen and Dienheim. The phrase *scaram facit pedestriam* or *scaram facit cum pedibus* (on foot) occurs six times, all pertaining to units of land in the Eifel and movement of commodities by cart. The phrase *scaram facit cum caballo* (with a

⁷⁸ Schwab (ed.), *Das Prümer Urbar*, p. 194: *Ducit pro lignario xv carradas de fimo*; Latham offers ‘fueller’ (for *lignarius*) or ‘woodpile’ (for *lignarium*); R. E. Latham, *Revised medieval word-list* (1989), p. 277.

⁷⁹ Schwab (ed.), *Das Prümer Urbar*, p. 222, *pro lignario ducit carrados viii de fimo*.

⁸⁰ Willwersch, *Die Grundherrschaft des Klosters Prüm*, p. 204; Schwab (ed.), *Das Prümer Urbar*, Map 7, p. 343.

⁸¹ *ibid.*, p. 218: *Facit scaram ad Prumiam, ad Aquis-grani, ad Coloniam, ad Bunnam, ad Sanctum Goarem*.

⁸² O. Holder-Egger (ed.), *Wandalberti miracula*

S. Goaris (MGH supp. ser. 15), 24 (p. 369), 27 and 28 (p. 370).

⁸³ McCormick, *Origins*, pp. 657–9.

⁸⁴ W. Fabricius, *Der Nahegau und der Wormsgau vom 8–12 Jahrhundert* in *Geschichtlicher Atlas der Rheinprovinz* (1914), Band 6 Map 1. The map shows that 25 ecclesiastical landowners, 16 bishoprics and nine abbeys held ninety per cent of the land. The Nahegau was held in its entirety by ecclesiastical landowners who included the abbeys of Weissenburg and Prüm.

⁸⁵ Willwersch, *Die Grundherrschaft des Klosters Prüm*, pp. 208–9.

horse) occurs once.⁸⁶ There is nothing in these references to *scarae* that is at odds with the *scarae* documented at Werden and Weissenburg for they all concern the division, share or cut, this time of the raw materials or commodities that came from the land.⁸⁷

The phrase *scaram cum nave* is not used for ship transport on the river Moselle when the phrase *navigium facit* is used. This is used to describe passages between Vic-sur-Seille when once a month heavy cargoes were transported on the Moselle through Metz and Remich to Mehring.⁸⁸

The term *scara* does not occur on Prüm's lands of marginal agriculture in the Ardennes where, following forest clearance, villages in close proximity to each other had developed as early as the middle of the eighth century following grants of lands made to the abbeys of Stavelot and Malmédy by Frankish rulers between 648 and 770.⁸⁹ The abbey of Prüm acquired its principal industrial land-unit in this area, Villance, near Wellin, from Stavelot-Malmédy sometime between 842 and 865.⁹⁰ By 893 it was divided into eight sub-units. A master-miner or mining-manager⁹¹ is documented as living at Villance, as well as four chief foresters to organise the provision of the charcoal. The 893 document includes the obligation to build here annually a very large *lignarium*, the dimensions of which were 6 feet x 6 feet x 6 feet. This was no ordinary woodpile. It may have been a new type of furnace for producing a new type of iron product. It was producing *patellae*, which in this context seems to refer not to ordinary plates but to plate metal for workshop industry.⁹² In 1978 Kuchenbuch detected what he saw as the seeds of an iron smelting economy on Prüm lands. He had noted the presence of the master-miner on the industrial land-unit.⁹³ Villance had a population of about 200 householders, in addition to which there was a colony of migrant workers described in the document as 'foreigners who live here under our jurisdiction'.⁹⁴ These foreigners may have been free miners from east of the Rhine for they are not named as are Prüm's own peasants. Their dwellings are termed *mansi absi*, which may have been offered as free accommodation, because the foreigners' expertise was of economic importance to the abbey.⁹⁵ The beginnings of the extraction

⁸⁶ Schwab (ed.), *Das Prümer Urbar*, p. 252.

⁸⁷ Perhaps there is a parallel with Domesday Book descriptions of land in 1086 when there is no clear distinction between the recording of ploughs and carrying out the labour service of ploughing.

⁸⁸ Schwab (ed.), *Das Prümer Urbar*, p. 197.

⁸⁹ J. Halkin and C. G. Roland (ed.), *Recueil des chartes de l'abbaye de Stavelot-Malmédy* (2 vols, 1909), I, charters 17 and 18 were redacted in 747. Some of these villages had formerly belonged to the abbey of St. Hubert; *Miracula S. Huberti (Auctores antiquissimi)* SS Nov 3, p. 819. This source records that a smith named *Anglemarus* took two *ferris fusuras*, perhaps fused iron bars, to sell at his local market at the abbey of St. Hubert in the Ardennes. He said 'I came in order to add something to my goods', pp. 819–20.

⁹⁰ Willwersch, *Die Grundherrschaft des Klosters Prüm*, p. 205.

⁹¹ Schwab (ed.), *Das Prümer Urbar*, p. 206, *fossarius*. Georgius Agricola uses the word *fossores* for miners throughout his late medieval seminal work written in Latin describing mining in Germany. H. C. Hoover and L. H. Hoover (trans.), *Georgii Agricolae de re metallica: quibus officia, instrumenta, machinae . . .* (1950).

⁹² Schwab (ed.), *Das Prümer Urbar*, p. 207: *Solvit annis singulis patella I nichil aliud*.

⁹³ L. Kuchenbuch, *Bäuerliche Gesellschaft und Klosterherrschaft im 9. Jahrhundert. Studien zur Sozialstruktur der familia der Abtei Prüm* (1978), pp. 289–92.

⁹⁴ Schwab (ed.), *Das Prümer Urbar*, p. 207: *Homines extranei, qui infra nostra potestate resident*.

⁹⁵ There is a lengthy bibliography on the meaning of *mansi absi* which is not relevant here where the meaning is plain. Carolingian historians have usually understood the phrase to imply a decrease in population.

and production of metals and the presence of migrant workers that we see in the Ardennes in 893 and in Catalonia *c.* 900 are indicators of economic development.

References to *scaram facere* in connection with division, clearance or exploitation of land do not occur on the abbey's lands in Luxembourg or on their lands in the Lahngau, the area east of the Rhine between the Lahn and the Main. Here there are references to the extraction of *ligna stratoria* and *substratoria ligna* which certainly seems to signify mining or quarrying into substratas, perhaps for brown coal.⁹⁶ We might conclude, therefore, that the phrase *scaram facit* does not refer to deep mining, but may have included the collection of iron ore thrown up to the surface during initial clearance of woodland, by the trampling and foraging of pigs, and later by the plough.

In 1935 Perrin saw the phrase *scaram facere* as describing 'a messenger service carried out on foot, on horseback or by boat'.⁹⁷ He was translating part of the marginal notes written on the 893 land-register by ex-abbot Caesarius of Prüm in 1222. This is an extremely significant source for what it tells us of early thirteenth-century conditions. The 'messenger service' was a euphemism for 'trade' for there were, as in the earlier medieval centuries, and even today, considerable ecclesiastical sensitivities about making a profit through trade.⁹⁸ Historians used to wresting meaning from difficult texts well understand this. In 1979 Devroey stressed that Caesarius' marginal notes were a response to the reality of the thirteenth century, when the abbey's interests were under threat, but there is nothing in the polyptych of 893 to allow us to say that *scara* was a messenger service. In one case, where the polyptych is explicit, 'it is about the transport of light goods, six salmon, eight garments or six pieces of cloth'. This meaning is taken from the single reference in the document to *scaram facit cum caballo* (with his horse) to Prüm from Gemmerheim.⁹⁹ Devroey's general definition of *scara* is 'a transport service, whether on foot, on horseback or by boat, without excluding, on occasion the carriage of messages'.¹⁰⁰

In a marginal note Caesarius makes a significant comment about men designated as *scararii*. He says that all those who inhabit the abbey's land-units at Rommersheim and elsewhere are required to perform labour services, 'not only the tenants, but also the *scararii*, that is to say the *ministeriales*'.¹⁰¹ This leads us to the question as to the identity of the *scararii* who in 1222 were equated with other officials with authority (*ministeriales*). *Scaram facere* in ninth-century sources referred to the assartment and cutting of land or of the raw materials or commodities that came from the land and it seems to follow that, in 893, the *scararii* were the key men who organised and carried out this work, providing and maintaining the iron implements required, that Caesarius in another note tells us were called by the vernacular word *scar*.¹⁰² Prüm's *scararii* lived on units of land near the abbey, near the land-units termed *wihc*, and near

⁹⁶ Schwab (ed.), *Das Prümer Urbar*, pp. 245, 246.

⁹⁷ C. E. Perrin, *Recherches sur la seigneurie rurale en Lorraine d'après les plus anciens censiers* (1935), p. 769, 'D'un service de message executé à pied, à cheval ou en bateau'.

⁹⁸ Schwab (ed.), *Das Prümer Urbar*, p. 171, n. 1: *Scaram facere est, domino abbati quando ipse iusserit, servire et nuncium eius seu litteras ad locum sibi determinatum*

deferre.

⁹⁹ Schwab (ed.), *Das Prümer Urbar*, p. 252; Devroey, 'Les services de transport', p. 545.

¹⁰⁰ *ibid.*, p. 545.

¹⁰¹ Schwab (ed.), *Das Prümer Urbar*, p. 167: *non solum autem mansionarii, verum etiam et scararii, id est ministeriales*.

¹⁰² *ibid.*, p. 193.

the *scararium*.¹⁰³ In 1222 they were equated with *ministeriales* because by that time they were of considerable status. But a close reading of this document of 893 shows that they are simply Prüm peasants carrying out a foreman role in organising men and the iron implements they used. This agrees to some extent with the opinion arrived at by Hans Planitz, at the end of a paper written in 1937, that the settlers of Prüm were ordinary peasants.¹⁰⁴

Caesarius' use of the word *ministeriales*, however, sparked off a spate of articles between 1954 and 1960. The articles claimed that the ninth-century *scararii* of Prüm and the *scaremanni* of the end of the tenth to the beginning of the twelfth century at the abbey of St. Maximin, Trier, where the documents are known to be forgeries,¹⁰⁵ were the descendants of a special stratum of royal dependents, the so-called 'king's freemen' who were settled on royal land on the borders or newly conquered districts of the Frankish kingdom to carry out military, delivery and lookout duties, and that the power of Frankish kings was based in large measure on the control exercised by this very large group of people. In 1963 Erich Wisplinghoff carried out a thorough survey of these writings and showed them to be wholly erroneous.¹⁰⁶ He saw the *scararii* of Prüm as 'originating from the monastic domain; they are serfs, of whom a small number have just taken the first steps on the road to a more elevated status'.¹⁰⁷ These were the men at Prüm who in 893 were rapidly developing their metallurgic skills in their workshop called a *scararium*, and were becoming expert smiths.¹⁰⁸ It is known that master ironsmiths were considered to be of high status in the ninth century for they were the sometimes itinerant craftsmen who had mastered superbly the forging and sharp-edging of iron.¹⁰⁹ It may have been some of these itinerant smiths who made up the 264 *herescararii* documented earlier in the century at the abbey of St Bertin, St Omer, which, it will be recalled, was situated on the coast.¹¹⁰ That as a group they could have been former king's freemen, may be described as out of the question. But 'imaginary precepts from Carolingian times about *ministeriales* had become an acceptable tradition in the twelfth century'.¹¹¹ Some Carolingian historians have accepted these 'imaginary precepts' uncritically.

These *scarae* in the court-centred sources have the similar meaning of cut, division or detachment, this time of an army. As we have seen, the *scarae* in the locally-written sources from Werden, Weissenburg and Prüm concern cutting and dividing land. It is when Charlemagne's *scarae* were digging themselves in, to besiege a city, that the meanings seem closest. It may follow that *scarae* in the sense of a detachment of soldiers meant soldiers with iron weapons, i.e. swords, and *scarae* referring to felled woodland meant woodland felled with iron tools and implements.

¹⁰³ *ibid.*, pp. 168, 170, 173, 174 and 181.

¹⁰⁴ H. Planitz, 'Die Scharmänner von Prüm' *Festschrift Heinrich Lehman* (1937).

¹⁰⁵ H. Beyer, L. Eltester and A. Goerz (eds), *Urkundenbuch der, jetzt die preussischen Regierungsbezirke Coblenz und Trier bildenden mittelrheinischen Territorien* (3 vols, 1860–74), I, no. 382 pp. 439, 1082–84.

¹⁰⁶ E. Wisplinghoff, 'Königsfreie und Scharmänner', *Rheinische Vierteljahrbblätter* 28 (1963), pp. 200–17.

¹⁰⁷ *ibid.*, p. 217.

¹⁰⁸ Schwab (ed.), *Das Prümer Urbar*, p. 174.

¹⁰⁹ M. Müller-Wille, 'Der frühmittelalterliche Schmied im Spiegel skandinavischer Grabfunde,' *Frühmittelalterliche Studien* 11 (1977), pp. 127–201.

¹¹⁰ See again n. 15; Ganshof *et al.* (eds), *Le polyptyque de l'abbaye de St. Bertin*, pp. 19 and 23.

¹¹¹ B. Arnold, *German Knighthood, 1050–1300* (1985), p. 50; *id.*, *Power and property in medieval Germany* (2004), p. 179.

III

The documents from St. Germain-des-Prés and from Corbie describe affluent decades in the history of the western Romance-speaking part of the Carolingian empire which lasted until around 840. Then, for the first nineteen years of his reign, Charles the Bald, lacking fleets or fortified bridges, was unable to defend his kingdom. He denuded his abbeys of silver in order to pay the exorbitant tributes in thousands of pounds of silver demanded by the Northmen. West Francia was virtually blockaded. The Seine – Hamwic trade route disappeared. There was a near collapse in the Western kingdom. In the second half of the ninth century rulers of the largely Germanic-speaking Middle and Eastern kingdoms worked with abbots to their mutual benefit and the polyptychs, particularly when words related to *scara* are used, reflect the significant economic growth that resulted. From their powerful positions as great landowners the abbeys controlled the raw materials that produced the commodities, attracted both migrant and indigenous labour and received a regular annual income from rents and dues that could be ploughed back to develop infrastructures. They were able to develop local, regional and inter-regional mints and markets and received increasing tolls as regular trade burgeoned along the Rhine network of rivers and through the Albula, Julier and Septimer Passes into Lombardy.

The significance of *scarae* for our understanding of the larger economy cannot be overstated. This paper has established the meaning of the the word and shows extensive deafforestation in progress. The question remains to be answered as to whether in the Rhineland at the end of the ninth century, these large programmes of assartment were carried out with locally made iron tools or with imported half-made tools and implements imported from the east through the Baltic or the Black Sea and Danube.

Appendix

Scara: a philological study*

The *scara* root is not common to all Indo-European languages but is confined within Indo-Iranian, Celtic and Germanic languages. This may not necessarily tell us more than that the ancestors of these linguistic groups remained in close proximity at some time during the pre-historic phase. Walde and Pokorny note that this Indo-European root occurs in Armenian as *korem* and *kerem* (I scratch, I scrape).¹ This may be one of the earliest forms and relate to pre-historic working of the land with flint tools. Buck records that *scara* comes from an Indo-European root meaning ‘cut’.² Walde and Pokorny record that it occurs as *krnati*, *krnoti* and *utkirna* (cut out, inscribed) in Sanskrit sources.³ I have come across a cognate word in

* It was the late Professor Timothy Reuter who said that the word *scara* would repay study. The author wishes to thank Professor Janet Bately, Kings College London, for suggesting that she should consult Walde and Pokorny.

¹ A. Walde and J. Pokorny, *Vergleichendes Wörterbuch der indogermanischen Sprachen* (1928), p. 938.

9.22, CUT.

² C. D. Buck, *A Dictionary of selected synonyms in the principal Indo-European languages* (1949), p. 556,

³ Walde and Pokorny, *Vergleichendes Wörterbuch*, p. 938.

descriptions of stone inscriptions in Buddhist sources from India and Sri Lanka as *aksharas*, strokes or cuts made in stone with iron tools.⁴ *Aksharas* are sometimes recorded as being missing or damaged in descriptions of epigraphic inscriptions. In Sanskrit an *akshara* could represent a syllable, a letter, a vowel or a sound. There are hundreds of these inscriptions dating from as early as the third century BC, which provide epigraphic evidence of donation of land to Buddhist monasteries in India and Sri Lanka.⁵ The word is cognate with Sanskrit *samscara* which has the similar meaning of 'separation'.⁶ In Buddhist doctrine *samscaras* were forces or energies that caused elements to separate and ally with other elements. Buddhists related this to the soul separating from the body after death and having rebirth in another body. It has been suggested that early Iron Age cultures compared the separation of iron from extraneous elements in the ore, in the difficult process of smelting iron, with such a rebirth or regeneration.⁷ There was such an iron age culture developing in Sri Lanka from the Asokan period, the middle of the third century BC.⁸ It was the Asokan kings who espoused Buddhism, and developed maritime trading links across the Indian Ocean.⁹

I note the word *scarais* with the meaning of 'divide' or 'separate' in the Old Irish *Annals of Inisfallen*. The word occurs in the annal for the year 433 AD which describes, in garbled fashion, how Mil and his sons voyage westwards in four ships from Taprobane Island (Sri Lanka) via Egypt, the Caspian Sea, Gothia (Sweden), Germania and Spain to Ireland. During the voyage a great storm arose and one ship was separated (*scarais*) from the others and the crew were drowned.¹⁰ Walde and Pokorny note Old Irish usage as *scar(a)im* (*skrami*) (I split).¹¹ It appears in the northern branch of Germanic languages as Old Icelandic *skera* (cut, prick, separate).¹² It occurs in Modern Swedish as *skär* (pure, clean), *skär* (pink, light red), *skär* (skerry, rocky inlet), *skär* ([cutting] edge, *skära* (sickle, crescent), *skär[a] skär skurit* (cut, carve).¹³ *Scara* appears in

⁴ M. M. Williams (ed.), *A Sanskrit-English Dictionary* (1899, 1956), *akshara*, p. 3.

⁵ S. Paranavitana, 'Brahmi inscriptions in caves at Mihintale', *Epigraphia Zeylanica* V, (ii) (1963). There is an ongoing debate concerning the dating of these inscriptions between this writer and Indian palaeographer A. H. Dani who notes that 'The origin of Ceylonese writing is traceable to the style of writing in India which was made popular by the activities of the Buddhists'; A. H. Dani, *Indian Palaeography* (1963), p. 225. Maloney has mapped the distribution of early Tamil Brahmi inscriptions. He shows that the BC inscriptions all occur in south India and Sri Lanka, the AD inscriptions further north; C. T. Maloney, 'The effects of early coastal sea traffic on the development of civilisation in south India' (unpublished Ph.D thesis, University of Pennsylvania, 1968), p. 88.

⁶ A. K. Warder, *Indian Buddhism* (1970), p. 118. The Buddha lived between 566–486 BC.

⁷ See R. Hingley, 'Iron, ironworking and regenera-

tion: a study of the symbolic meaning of metalworking in Iron Age Britain', in A. Gwilt and C. Haselgrove (eds), *Reconstructing iron age societies* (Oxbow Monograph 71, 1997), pp. 9–18.

⁸ G. Juleff, 'An ancient wind-powered iron smelting technology in Sri Lanka', *Nature* 379, 4.1. (1996), pp. 60–4.

⁹ H. P. Ray, *The winds of change. Buddhism and the maritime links of early south Asia* (1994), pp. 138–40, Map 17.

¹⁰ S. Mac Airt (ed.), *Annals of Inisfallen* (1988), pp. 6, 46–7.

¹¹ Walde and Pokorny, *Vergleichendes Wörterbuch*, p. 939.

¹² T. Zoega, *A concise dictionary of Old Icelandic* (1926), p. 544.

¹³ E. Gomer, *A modern Swedish English dictionary* (1979), p. 401. Note the similarity with *skorit* (he cut) in the Scaldic verse from Sighvatr's *Knutsdrapa* dated c. 1038.

Old High German as *sceran* (to shear, cut off) and in Old English as *scieran*, Modern English 'shear' cognate with 'shire'.¹⁴

Some of the ways in which Indo-European *scara* has come to be used are as words for Iron Age cutting implements. Thus it occurs in a Russian dialect as *tcherv* (sickle), in Modern Swedish as *skära* f. (sickle), as we have seen, and in Old Saxon as *sker-sahs* (shearing knife). A well-known occurrence with the meaning of 'ploughshare' is in Abbot Ælfric's Old English *Colloquy* written at the abbey of Eynsham in Oxfordshire c. 992. In the *Colloquy* the relative importance of the work of various craftsmen employed by the abbey is debated and the ploughman with his valuable *scear/scaer* (ploughshare) is judged to be carrying out the most important manual work for the abbey.¹⁵ In a document written in Lombardy at the abbey of Brescia between 887 and 906, describing the abbey's usage of its extensive lands, the word is used with the suffix *-ius* to refer to the men using the ploughshare. The title *scarius* now carried with it considerable status for these *scarii* (thirteen of them) held land in their own right, land which was known as a *beneficium*.¹⁶ The Lombards had migrated with their king Alboin and with all their families from Pannonia (adjacent to a stretch of the middle Danube) in 568.¹⁷ The word may have travelled with them. There seems to be an iron connection in these references, for by the end of the ninth century, four hundred pounds of iron per annum were being produced for the abbey on six of its seventy units of land. Other ways in which the Indo-European word *scara* came to be used was with the meaning of a division of an army, a crowd or a throng. This occurs as a *scara* in Old High German, and, as we have seen, principally in court-centred Medieval Latin sources, written between 766 and 882. This meaning of a division of an army, crowd or throng continued in Middle German as *schare* and in Modern High German as *Schar*.

The use of the word *scarae* in ninth-century documents from the three monastic houses identifies a period of assartment, division of land and commodity production in the Rhineland. This has not hitherto been recognised. Colin Renfrew argues that language and farming moved west together in a process of acculturation. The vernacular word *scara* seems to have travelled west, sometimes with migration, but mainly with agriculture and its need for the latest technology and implements. Renfrew notes that there are no certain Indo-European words for metals.¹⁸ As a word for 'iron' we may have to make do with a single root that has divided and developed in more than one direction. It seems that the vernacular technical word *scara*, used by Germanic-speaking peasants working on the lands of the abbeys of Werden, Weissenburg and Prüm was taken into the medieval Latin documents from the three monastic houses, to describe the work of assartment and division of land with iron implements that was taking place on lands with access to the Rhenish network in the ninth century.

¹⁴ J. Roberts, C. Kay and L. Grundy (eds), *A Thesaurus of Old English, introduction and thesaurus* (2 vols, 1995), II, p. 1292.

¹⁵ G. N. Garmonsway (ed.), *Ælfric's Colloquy* (1939), p. 40, l. 228.

¹⁶ G. Pasquali (ed.), *S. Guila di Brescia, Brevaria de curtibus monasterii*, in A. Castagnetti (ed.), *Instituto Storico Italiano per il Medio Evo, Fonti per la Storia*

d'Italia, 104 (1979), pp. 54, 56 (2 refs), 61, 64, 65, 68, 70, 71 (2 refs), 74, 77, 80–1.

¹⁷ J. Favrod (ed.), *La chronique de Marius d'Avenches (455–581)* (1991), p. 82.

¹⁸ C. Renfrew, *Archaeology and language, The puzzle of Indo-European origins* (1987), p. 79. He notes the Sanskrit word for 'metal' as *ayas*; *A Sanskrit-English Dictionary*, p. 85.