

DIGGING DITCHES IN EARLY MEDIEVAL EUROPE*

I

In the *Royal Frankish Annals* the year 793 is an odd one. In the first place, it marks the point at which a major change in the chronicle's composition begins, the place where one author left off and another took over.¹ Moreover, the events of that year are unprecedented in the narrative. They include the attempt by Charlemagne to construct a canal between the Danube and the Main (and hence the Rhine) rivers. This unique effort is described laconically, with the sole details offered being that the construction site became an unlikely diplomatic rendezvous as Roman and Saxon messages reached the king there. Fortunately, there is more information in the so-called *Einhard Annals*, a major revision of the *Royal Frankish Annals* datable to around AD 817. The reviser's text normally takes very sanguine views of Charles's deeds, but it presents the canal's construction as a total fiasco. Evidently, the Frankish king allowed himself to be persuaded by a shadowy gang ('certain people who claimed to know such things'), and suddenly led his retinue to a site where the Rezat and the Altmühl, tributaries of the greater rivers, almost meet in northern Bavaria. There he unleashed 'a great multitude of men' on the task of excavating a bed for the new channel. Alas, the canal was quite literally rained out. The diggers found that the autumn precipitation waterlogged the soil, so that everything dug up by day seeped back into the soft ground by night. Discouraged by this Sisyphean situation, and also 'moved' by bad news from several military fronts which the

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¹ Rosamond McKitterick, 'Constructing the Past in the Early Middle Ages: The Case of the *Royal Frankish Annals*', *Trans. Roy. Hist. Soc.*, 6th ser., vii (1997), 116–17. See *Annales Regni Francorum*, s.a. 793 (ed. Friedrich Kurze, *Monumenta Germaniae Historica* [hereafter MGH], *Scriptores Rerum Germanicarum in Usum Scholarum*, Hanover, 1895, 92–4).

original *Royal Frankish Annals* also registered, Charlemagne abandoned the site by boat, as godless peoples rose against his Frankish realm helped by traitors within it. He sailed off to celebrate the Christian holidays along the banks of Francia's more docile rivers in the Carolingian homeland. Charlemagne never returned to this project.²

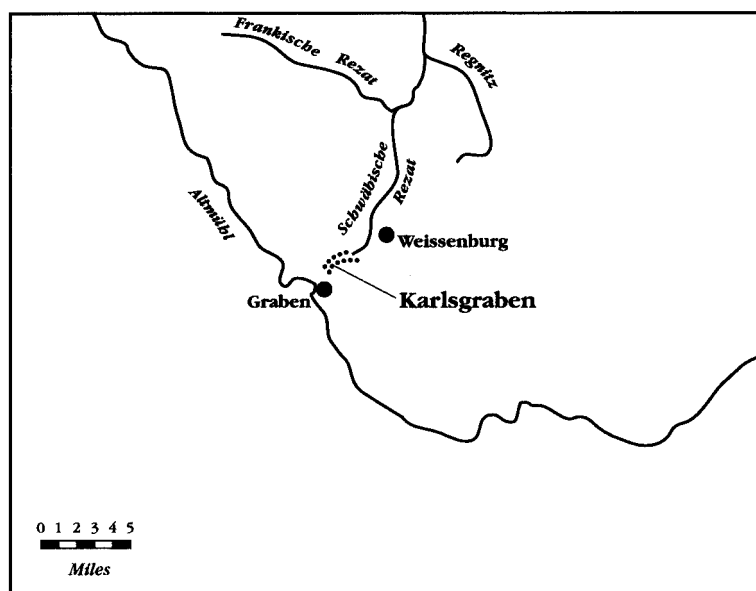
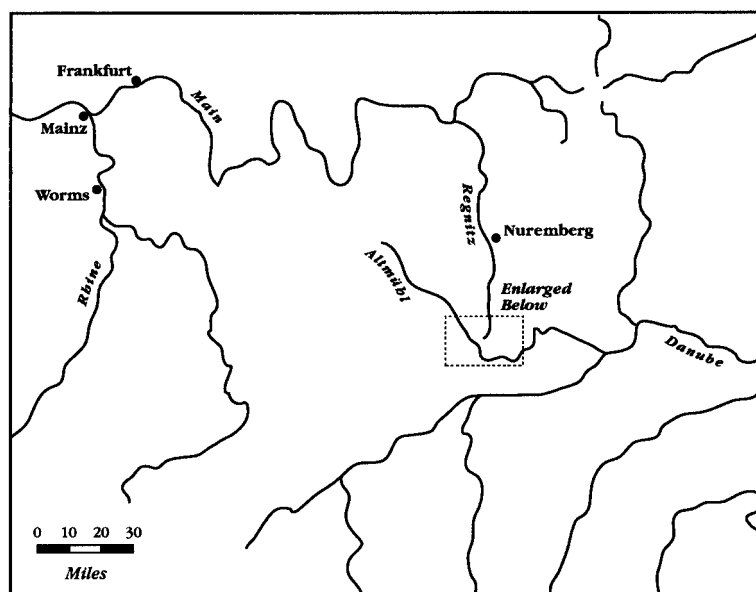
Only the redaction of the *Annals* once attributed to Einhard stresses the ecological causes for this remarkable failure of an otherwise famously successful leader. But many other chroniclers of Carolingian history noted the debacle. Most of them related Charles's decision to call off his excavators to the disquieting news of Saracen and Saxon incursions. Differences like this notwithstanding, no chronicler celebrated the digging of the giant ditch. Whether divine displeasure took the form of unrelenting rain and unstable soil, or of the fierce armies of unbelievers, it was clear to Carolingian observers that God did not support the linkage of the Rhine (via the Main) with the Danube, across watersheds today called 'the Continental Divide' (see Map 1).³

Like their Carolingian counterparts, modern scholars have puzzled over Charles's incomplete, yet impressive, ditch-digging

² Einhard's *Vita Karoli* tellingly omits this embarrassment, though it (twice) includes the grand wooden bridge over the Rhine which burned portentously just before Charlemagne died. For the fullest description, see *Annales qui dicuntur Einhardi*, s.a. 793 (ed. Friedrich Kurze, MGH, *Scriptores Rerum Germanicarum in Usum Scholarum*, Hanover, 1895, 93–5), which may be independent of the original annals: Roger Collins, 'The "Reviser" Revisited: Another Look at the Alternative Version of the *Annales Regni Francorum*', in Alexander Callander Murray (ed.), *After Rome's Fall* (Toronto, 1998), 197–212. Shorter notices are given in *Annales Laureshamenses* (ed. Georg Heinrich Pertz, MGH, *Scriptores*, i, Hanover, 1826, 35); *Chronicon Moissiacense* (ed. Georg Heinrich Pertz, MGH, *Scriptores*, ii, Berlin, 1829, 300); *Annales Mosellani* (ed. I. M. Lappenberg, MGH, *Scriptores*, xvi, Hanover, 1859, 498). The longer version is repeated in Poeta Saxo, *Annalium de Gestis Caroli Magni Imperatoris Libri Quinque* (ed. Paul de Winterfeld, MGH, *Poetarum Latinorum Medii Aevi*, iv, pt 1, Berlin, 1899, 35). Collins inexplicably calls the canal one of Charles's 'long-cherished projects': Roger Collins, *Charlemagne* (Toronto, 1998), 127.

³ *Chronicon Moissiacense* (ed. Pertz, 300), and *Annales Laureshamenses* (ed. Pertz, 35), related famine to the canal venture. The *Annales Fuldenses* (ed. Friedrich Kurze, MGH, *Scriptores Rerum Germanicarum in Usum Scholarum*, Hanover, 1891, 12), remain neutral and alone suggest the work was finished. On Carolingian tendencies to theologize meteorology, see Paul Edward Dutton, 'Thunder and Hail on the Carolingian Countryside', in Del Sweeney (ed.), *Agriculture in the Middle Ages* (Philadelphia, 1995), 112–25, relying on Evans-Pritchard's insights. On the Christianization of Frankish history in the *Einhard Annals*, see Hartmut Hoffmann, *Untersuchungen zur karolingischen Annalistik* (Bonn, 1958), 63–5.

MAP 1
THE 'CONTINENTAL DIVIDE' AND GERMANY



operation. Some have imagined that increasing commercial contacts with central Europe was Charlemagne's goal, though there is scanty evidence for this supposition.⁴ Charlemagne *did* legislate about trade with the Slavs who lived east of his realm, but he never took a very active interest in building commercial infrastructures, even in the most commercially vigorous areas he ruled. It is difficult to envisage Charles undertaking a task of the size of the Rezat–Altmühl connector in order to ease the movements of a few merchants (and smugglers) in a peripheral region far from Francia.⁵ Most scholars have therefore accepted the association between the canal and the Frankish campaign against the Avars, central European neighbours of the Carolingians whom Charles might reach more handily (*percommode*) by means of a navigable route between Francia and the Danube basin. The revised *Royal Frankish Annals* themselves make this association.⁶ Yet such amphibious operations were not familiar to the Frankish army, and, since the Franks were perfectly capable of first overwhelming and then annihilating the Avar confederation without any canals, as was proved in 791 and 796, we should wonder whether Avar wars really motivated Charles's moment of enthusiasm for a monumental trench. The Carolingian writers implied that this ill-fated project *distracted* the king from the business of ruling, and therefore of waging war, and his presence at the work site, with his entire entourage, was indeed unheard of for a king of his line. The digging also diverted military manpower, which may be what really disturbed those chroniclers who implied causal ties between foreign attacks on the realm and the canal-building

⁴ Karl Theodor von Imana-Sternegg, *Deutsche Wirtschaftsgeschichte* (Leipzig, 1909), 594; Detlev Ellmers, *Frühmittelalterliche Handelsschifffahrt in Mittel- und Nordeuropa* (Neumünster, 1972), 232–3.

⁵ Matthias Hardt, 'Hesse, Elbe, Saale and the Frontiers of the Carolingian Empire', in Walter Pohl, Ian Wood and Helmut Reimitz (eds.), *The Transformation of Frontiers from Late Antiquity to the Carolingians* (Leiden, 2001), 229; Michael Schmauder, 'Überlegungen zur östlichen Grenze des karolingischen Reiches unter Karl dem Grossen', in Walter Pohl and Helmut Reimitz (eds.), *Grenze und Differenz im frühen Mittelalter* (Vienna, 2000), 58.

⁶ Pierre Riché, *Les Carolingiens* (Paris, 1983), 99–100 and Hanns Hubert Hofmann, 'Fossa Carolina: Versuch einer Zusammenschau', in H. Beumann (ed.), *Karl der Grosse: Lebenswerk und Nachleben*, 5 vols. (Dusseldorf, 1965–8), i, 439–40, epitomize this scholarship. Adrian E. Verhulst, 'Karolingische Agrarpolitik', *Zeitschrift für Agrargeschichte und Agrarsoziologie*, xiii (1965), 179–80, describes the military consequences of the 793 shortages, with the canal as a way around expensive animal hauling (Braudel's 'no oats, no war' axiom). But such structural change was disproportionate to an episode of famine.

venture.⁷ Although joining the Rhine and Danube is an idea that has occupied several governments in modern Germany, in the early Middle Ages the locks which were an essential component of the engineering for such a canal were unknown, and so the Carolingian effort between Rezat and Altmühl was unlikely to amount to much even if the weather, the Saxons, and the Saracens had been more clement.⁸ In other words the movement of almost one million cubic metres of earth was not necessarily the sanest strategy to adopt in that particular corner of Bavaria in the midst of a volatile military situation.⁹

For a full understanding of Charlemagne's activities in those late months of 793 the immediate background of wars and tactics appears insufficient. Placing this episode in a wider context is more fruitful, a context in which other contemporary examples of rulers engaged in gigantic earth-moving schemes receive due consideration. For however exceptional the events of autumn 793 were in Charlemagne's career, he was not the only early medieval potentate to try his hand at ditch-digging. In fact the eighth and ninth centuries were a time of vigorous activity in this special field of endeavour. Between the early 700s, which saw the construction of a set of Danish earthworks, and the early 800s, when a dyke stretching for some 140 kilometres was built in Thrace, several rulers and thousands of excavators, not to mention the logistical workers and the animals and tools they used, created a

⁷ This is evident in the accounts of Poeta Saxo, *Annales Regni Francorum*, and *Annales Laureshamenses*.

⁸ The 'Karlsgraben' obtained new notoriety in the late 1900s because it seemed to prefigure the modern Rhine–Danube canal which preoccupied German politicians and environmentalists. See Bill Bryson, 'Main–Danube Canal Links Europe's Waterways', *National Geographic Mag.*, clxxxii, no. 2 (Sept. 1992), for an example of this juxtaposition; see also Klaus Goldmann, 'Das Altmühl Damm-Projekt: Die Fossa Carolina', *Acta Praehistorica et Archaeologica*, xvi–xvii (1984–5), 215; Konrad Elmshäuser, 'Kanalbau und technische Wasserführung im frühen Mittelalter', *Technikgeschichte*, lix (1992), 15. To justify this apparently doomed attempt to build an uphill canal, the simultaneous construction of retaining dams designed to bring the waters of the Rezat up to the level of those of the Altmühl (17 metres difference) have been postulated (Goldmann, 'Das Altmühl Damm-Projekt'), as has a 'stepped' series of long ponds: see R. Koch and G. Leininger, 'Der Karlsgraben-Ergebnisse neuer Erkundigungen', *Bau Intern* (1993), 14–15; Klaus Grewe, 'Der Karlsgraben bei Weissenburg', *Europäische Technik im Mittelalter, 800 bis 1200* (Berlin, 1996), 111–15.

⁹ Calculations of scale and volume are made by Hofmann, 'Fossa Carolina', 446–51. In 793 Charles was recovering from his son's rebellion, so displays of power will have been most useful. Buc's observation that Carolingian magnates formed an audience prone to creative interpretation of royal 'rituals' is pertinent to the textual tradition about the digging: Philippe Buc, *The Dangers of Ritual* (Princeton, 2001), 249–50, 260.

series of spectacular furrows that, for a time, both changed the landscapes they traversed and reordered local social relations. These diggings merit serious investigation. Their individual study, while invaluable for the knowledge of each structure it produces, obscures the similarities among structures like Charlemagne's canal (or the Karlsgraben), Offa's Dyke, the Great Fence of Thrace (or the Erkesia) and the Danevirke, to name only the most prominent examples.¹⁰ Examined together, the massive trenches created by early medieval rulers, while canalizing waters or securing the realm, permit a glimpse into the mechanics of royal power. They show how the powerful in early medieval Europe mobilized human resources to modify the natural environment. As the *Royal Frankish Annals* and other Carolingian accounts of Charles's failed ditch reveal, during the early Middle Ages environmental modification on this large scale was no neutral act, but was intimately bound up with the exercise of power and its justification.¹¹

This essay proposes a more culturally inflected understanding of the great early medieval efforts in excavation than has hitherto held sway. It suggests that the extensive ditches which appeared in diverse parts of Europe during the 'long' eighth century were one of the true marks of authority at that time, and should be investigated as such.¹² Their construction was a visible achieve-

¹⁰ These are the more celebrated and better documented examples, but similar structures existed in Ukraine: Simon Franklin and Jonathan Shepard, *The Emergence of Rus, 750–1200* (London, 1996), 172–3, 208; in Bessarabia and the Dobrudja: Ioana Bogdan Cataniciu, 'I valli di Traiano', in Marius Porumb (ed.), *Omaggio a Dinu Adamasteanu* (Cluj, 1996); in Hungary: Sándor Soproni, *Die spätromische Limes zwischen Esztergom und Szentendre* (Budapest, 1978), 113–37; and, though there was some stone wall, in Apulia: Jean-Marie Martin, 'Les Problèmes de la frontière en Italie méridionale (VI^e–XII^e siècles)', *Castrum*, iv (Rome and Madrid, 1992), 265–7. Stranieri thinks it is a high medieval boundary: Giovanni Stranieri, 'Un limes bizantino nel Salento?', *Archeologia medievale*, xxvii (2000), 334–43.

¹¹ The classic on how hegemony becomes inscribed on landscapes is Henri Lefebvre, *The Production of Space* (Oxford, 1991). See also Edward W. Soja, *Postmodern Geographies: The Reassertion of Space in Critical Social Theory* (London, 1989), 6–7, and, for a less optimistic view, Gérard Chouquer, 'La Place de l'analyse des systèmes spatiaux dans l'étude des paysages du passé', in Gérard Chouquer (ed.), *Les Formes du paysage*, 2 vols. (Paris, 1996), ii, 14–19. On early medieval rulers' self-representation through building, see Bettina Pferschy, 'Bauten und Baupolitik frühmittelalterlicher Könige', *Mitteilungen des Instituts für Österreichische Geschichtsforschung*, xcvi (1989).

¹² Ditches are not among the canonical 'Herrschaftszeichen', which instead include diadems, sceptres, orbs, and the like: Percy Ernst Schramm, *Herrschaftszeichen und Staatssymbolik: Beiträge zu ihrer Geschichte von dritten bis zum sechszehnten Jahrhundert*, 3 vols. (Stuttgart, 1954–6).

ment that manifested the capacities and fitness to rule of the mighty men who associated themselves with the projects. Whether for canals or dykes, digging ditches was a demonstrative act, part of the communication through deeds which, recent researches have shown, characterized early medieval political communities.¹³ The audiences for whom early medieval rulers staged the demonstration were various, as we shall see, and included both the powerless and the potent. Interestingly, the ditch-digging logic of post-classical European rulers might have been understood far away from early medieval Europe, too. Although the goals towards which the Negara rulers of pre-colonial Indonesia directed labour, wealth, and expertise were lavish ceremonies, not excavations, these potentates likewise sought activities whereby the princely qualities of the ruler became manifest.¹⁴ As in early medieval Europe, so in early modern Indonesia the representation of reality, albeit brief and fleeting, shaped and nurtured that reality, and hence was politically useful. Early medieval khans and kings did not, perhaps, live in 'theatre states', but the almost ritual digging of ditches with, as we shall see, little practical application, was a theatrical act. Like Negara ceremonies, ditches made obvious their organizers' ability to wield power, to obtain compliance from all participants, from the surveyors to the diggers to the guards. The diggers' compliance need not imply belief in the need for, or efficacy of, the ditches, but was, rather, a 'public display of complicity in the fictions of the state',¹⁵ in particular of the king or khan who inspired the particular digging exercise over which the diggers laboured. Early medieval ditch-digging, it will be argued, symbolized leaders' authority and its acceptance by both the powerful and the wielders of the spades. The ditches were thus an 'effective fiction' around which consensus could coalesce.

¹³ Gerd Althoff, *Spielregeln der Politik im Mittelalter: Kommunikation in Frieden und Fehde* (Darmstadt, 1997), 1–13, 229–57 (his famous 1993 article on 'Demonstration und Inszenierung').

¹⁴ Clifford Geertz, *Negara: The Theatre State in Nineteenth-Century Bali* (Princeton, 1980), esp. 120–3. For Buc, *Dangers of Ritual*, 227–37, Geertzian ideas on power representation are inapplicable to early medieval Europe, whence no rituals (only texts about them) have survived; but some rituals leave archaeological, as well as textual, traces.

¹⁵ In the words of Raymond Grew, 'Editorial Foreword', *Comparative Studies in Society and History*, xl (1998), 414. See also Stephen Jay Greenblatt, *Renaissance Self-Fashioning* (Chicago, 1980), 13, for whom 'power manifests itself in the ability to impose one's fictions upon the world'.

The effect of the fiction depended to a large extent on the kind of place where that fiction was enacted. Each of the great post-classical ditches traversed a distinctive locality, or set of localities. Although the Karlsgraben's situation was different from those of the Erkesia, the Danevirke, and Offa's Dyke, each of the digging exercises occurred in a place where the authority of the rulers was recent, contested, and difficult. Whether in northern Bavaria, in the foothills of the Cambrian or Balkan mountains, or in southern Scandinavia, each digging took place in a borderland, on the edge of the territories whence the kings drew their power and where royal desires did not always prevail. Such borderlands are often places of state 'superinvestment'.¹⁶ Using a paradigm developed by James Scott to understand the sometimes inscrutable activities of twentieth-century states, we might say that it is in their borderlands that such states pursue cosmetic 'miniaturization' with greatest zeal.¹⁷ For Scott, the imperative to create 'state spaces', in which control of resources is easiest for governors, is a typical characteristic of 'high modernist', or twentieth-century, states. In areas where states cannot establish the geometries and rationalities for which they have a predilection and need, states resort to forming 'a façade or small, easily managed zone of order', a miniature version of the ideal generalized order which remains unattainable. Borderlands are precisely the kinds of places where 'miniaturization' has the most resonance and potential, and in their ditch-digging, I will argue, early medieval states pursued a form of 'miniaturization' there. Although early medieval rulers did not aspire to the level of social control and discipline which the narrowed focus of 'miniaturization' has afforded to recent governments, their monumental constructions in sensitive, vulnerable areas did increase their presence and power.¹⁸

¹⁶ See Pierre Toubert, 'Frontière et frontières', *Castrum*, iv (Rome and Madrid, 1992), 15, on 'surinvestissement de pouvoir public' in borderlands. Ulf Näsman, 'Exchange and Politics: The Eighth Century in Denmark', in Inge Lyse Hansen and Chris Wickham (eds.), *The Long Eighth Century* (Leiden, 2000), 64–7, stresses the centrality of south Jutland to Danish kings.

¹⁷ James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven, 1998), 196, 257–8. More than palaces, royal and papal farms are places where early medieval 'miniaturization' might be divined.

¹⁸ They were not alone, among pre-modern rulers, in using simple building projects of questionable practical utility in this way. The fabled 'Great Wall of China', about which astonishing myths have circulated well into the 'information age', is another example of a borderland investment without the military usefulness it is imagined to have had. The 'Great Wall' too is a 'miniaturization', an effort by Ming dynasts to send messages, especially to their subjects, by means of mastodontic monuments:

(cont. on p. 19)

II

Discussion and analysis of the great diggings from the early Middle Ages has been restricted to single monuments and has proceeded within the national historiographies of the modern countries where the trenches happen to lie;¹⁹ nevertheless, conclusions about them have been consistent. Two main interpretations have been advanced for the lengthy linear earthworks like the Danevirke, Offa's Dyke, and the Great Fence of Thrace. The ditch-and-bank structures are seen either as military emplacements relevant to the defence of territory, or they are imagined to have been boundary markers signalling the limits of a particular authority, or a combination of both.²⁰ What these interpretations share with the predominant understanding of the canal that Charles built is that they are straightforwardly functional. The efforts and investments these excavation projects represent thus emerge as logical responses to the pragmatic needs of early medieval rulers and societies. Despite this surprising harmony of

(n. 18 cont.)

Arthur Waldron, *The Great Wall of China: From History to Myth* (Cambridge, 1990), 3–9, 16–21, 108–15, 189–91. Peter Heather, 'The Late Roman Art of Client Management: Imperial Defence in the Fourth-Century West', in Pohl, Wood and Reimitz (eds.), *Transformation of Frontiers*, 38–9, 46–58, makes similar points about the Danubian *limes*.

¹⁹ Honourable exceptions are: Uwe Fiedler, 'Zur Datierung der Langwalle an der mittleren und unteren Donau', *Archäologisches Korrespondenzblatt*, xvi (1986), who tries to understand all Balkan dykes together; Joëlle Napoli, *Recherches sur les fortifications linéaires romaines* (Rome, 1997), which never ventures beyond Late Antiquity, but is ecumenical; Bernard S. Bachrach, 'On Roman Ramparts', in Geoffrey Parker (ed.), *The Cambridge Illustrated History of Warfare* (Cambridge, 1995), on tactical affinities between Roman ramparts and post-classical earthworks; Bernard S. Bachrach, 'Logistics in Pre-Crusade Europe', in John A. Lynn (ed.), *Feeding Mars: Logistics in Western Warfare from the Middle Ages to the Present* (Boulder, 1993), 57, treats both dykes and Charles's canal as proof of excellent early medieval logistics.

²⁰ A few examples of military 'readings': Veselin Beševliev, *Die protobulgarische Periode der bulgarischen Geschichte* (Amsterdam, 1981), 477; N. J. Higham, *An English Empire* (Manchester, 1995), 140; P. Eveson, 'Offa's Dyke at Dudston in Chirbury, Shropshire', *Landscape Hist.*, xiii (1991), 61; H. H. Andersen, 'Das Danewerk als Ausdruck mittelalterlicher Befestigungskunst', *Chateau Gaillard*, xi (1983), 9–10. Examples of border-marking interpretations: Peter Soustal, 'Bemerkungen zur byzantinisch-bulgarischen Grenze im 9. Jahrhundert', *Mitteilungen des bulgarischen Forschungsinstitutes in Österreich*, viii (1986), 151; Karel Škorpil, 'Constructions militaires stratégiques dans la région de la mer Noire', *Byzantinoslavica*, iii (1931), 29; Sir Cyril Fox, *Offa's Dyke* (London, 1955), 28, 44, 218, presented the dyke as 'strategic' but not always defensible; Cyril Hart, 'The Kingdom of Mercia', in Ann Dornier (ed.), *Mercian Studies* (Leicester, 1977), 53; Henning Unverhau, *Untersuchungen zur historischen Entwicklung des Landes zwischen Schlei und Eider im Mittelalter* (Neumünster, 1990), 11, 16–17. Collins, *Charlemagne*, 168, combines defence, xenophobia, and control of commerce in the most original interpretation of the Danevirke.

interpretation, there are considerable limitations to these functionalist readings of Europe's post-classical trenches. Indeed, there are enough flaws in the functional explanations to justify seeking ulterior ones, like those suggested in this essay. Certainly the diggers may also have sought to denote a boundary or prepare for an invasion, but at the time of construction other reasons for digging ditches outweighed and overrode border-marking and fortification.

The notion that the great excavation projects derived from a desire to create military preparedness or defensibility has several weaknesses. To begin with, the scale of the earth-moving endeavours in Schleswig-Holstein, Thrace, and the borders of Wales was enormous. The Danevirke is actually a succession of distinct ditch-and-bank structures, at least three of which date to the early Middle Ages. The first Danevirke, dendrochronologically dated to around 737, but preceded by some excavations a generation or so earlier, is some seven kilometres long, with a U-shaped ditch one and a half metres deep and five metres wide, with a two-metre-high bank. The entire dyke, including the berm, stretches across some twenty metres. In the second major construction phase, associated with the Kovirke's seven kilometres of V-shaped, three-metre-deep and four-metre-wide ditch, plus a bank about two metres high, scholars have seen the hand of King Godfrid (c.800–10), for the Carbon-14 date is eighth–ninth century. Finally, in about 968, some twenty kilometres of the third Danevirke were built, much of it an accretion on top of the earliest earthwork. Its bank reached three metres in height and thirteen metres in breadth.²¹ Offa's Dyke is much longer and grander, and although, after Sir Cyril Fox's pioneering publications culminating in his *Offa's Dyke* of 1955, archaeologists have

²¹ Following excavations in the early 1980s — Willi Kramer, 'Die Datierung der Feldsteinmauer des Danewerks: Vorbericht einer neuen Ausgrabung am Hauptwall', *Archäologisches Korrespondenzblatt*, xiv (1984) — H. Hellmuth Andersen revised his chronology somewhat (see his *Danevirke og Kovirke: Archaeologiske Undersøgelser, 1861–1993*, Aarhus, 1998, for the 'definitive' version), allowing that some late seventh- or early eighth-century structures underlay the 'first' Danevirke as outlined in H. Hellmuth Andersen, H. J. Madsen and Olfert Voss, *Danevirke*, 2 vols. (Copenhagen, 1976), ii, 93–4, and Henning Hellmuth Andersen, 'Das Danewerk als Ausdruck', in Herbert Jankuhn, Kurt Schietzel and Hans Reichstein (eds.), *Archäologische und naturwissenschaftliche Untersuchungen an ländlichen und frühstädtlichen Siedlungen im deutschen Küstengebiet vom 5. Jahrhundert vor Chr. bis zum 11. Jahrhundert nach Chr.*, ii (Weinheim, 1984), 191–5. For a good summary, see Joachim Stark, *Haithabu–Schleswig–Danewerk* (Oxford, 1988), 108–28.

reduced its length, it is still regarded as involving more than a hundred kilometres of ditches and banks (see Map 2). The Mercian ditch varies from one to four metres in depth, and its embankment in some places is almost six metres high, though mostly it is much smaller. On average this dyke's width is twenty metres.²² Similar proportions characterize the Great Fence of Thrace, which the Ottoman empire knew as the Erkesia, or 'the place that is cut'. It is almost 140 kilometres long: the ditch was about a metre deep, the bank, made of the fill from the ditch, was a metre high, and the whole structure extended across some eighteen metres.²³ All the dykes were very substantial constructions when they were made, far more so than they are today.

Such a grand scale poses difficulties for comprehending the military use of the dykes. In the light of the modest size of early medieval armies, the length of these barriers is puzzling. Early medieval strategists imagined that it took one soldier to defend every 1.3 metres of fortifications, so the very long dykes would demand very large concentrations of troops. Since the linear disposition of the dykes meant redeployment of troops could not benefit from the shorter, diametrical, distances that perimetral fortifications permitted, the hypothetical defenders of the dykes would have required still larger armies.²⁴ The defence of the realm, at least in Mercia and Francia, in theory might involve most able-bodied male subjects — a sort of early medieval *levée en masse*.²⁵ But in practice such generalized levies were unknown and never attempted, and even in the ninth century, when locals might mobilize for defence, they were defending small centres. Thus, the linear fosses in Jutland, Mercia, and Thrace were hard to patrol effectively and impossible to defend or garrison when

²² David H. Hill, 'The Construction of Offa's Dyke', *Antiquaries J*, lxxv (1985), 141; Fox, *Offa's Dyke*, 44, 78, 277; Patrick Wormald, 'The Age of Offa and Alcuin', in James Campbell (ed.), *The Anglo-Saxons* (Oxford, 1982), 119–21; for a brief overview of reconsiderations since Fox's magisterial survey, see Margaret Worthington, 'Offa's Dyke', in Michael Lapidge (ed.), *The Blackwell Encyclopaedia of Anglo-Saxon England* (Oxford, 1999). David Hill, 'Offa's Dyke: Pattern and Purpose', *Antiquaries J*, lxxx (2000), prunes the dyke to a mere 103 kilometres.

²³ J. B. Bury, 'The Bulgarian Treaty of 814 and the Great Fence of Thrace', *Eng. Hist. Rev.*, xxv (1910), 282–3, which rebaptized the Erkesia in English; R. Rašev, *Starobalgarski Ukrepnenija na Dolnija Dunav* (Varna, 1982), 62–4; Peter Soustal, *Thrakien: Thrake, Rodope, Haimimontos* (Vienna, 1991), 261–2; Soustal, 'Bemerkungen zur byzantinisch-bulgarischen Grenze', 150–2.

²⁴ Bernard S. Bachrach, *Early Carolingian Warfare: Prelude to Empire* (Philadelphia, 2001), 235, 239, on military aspects of perimetral defences.

²⁵ *Ibid.*, 52–4.

they were made, before artillery and conscription. Although the Bulgar khans may have had access to somewhat greater military resources than Anglo-Saxon kings and Danish rulers, like other post-classical rulers they relied on small contingents of aristocratic retainers and loyal dependants for real fighting.²⁶ This meant that to field more than a few thousand (five thousand is the canonical number for Charlemagne's host) fighting men was a feat. Keeping them in the field for more than a few weeks without access to looting, that is, in exactly the sort of defensive war the dykes are postulated to have served, was usually beyond the capabilities of early medieval rulers.²⁷ The logistical arrangements of the most effective fighting force known in the early Middle Ages, the Carolingian army, as outlined in Carolingian edicts, do not appear equal to the strain of supporting several thousand soldiers along a structure like Offa's Dyke for significant periods of time.²⁸ Considerations of this sort call into question whether these same early medieval rulers would have gone to the trouble of building such vast earthworks if defensive warfare was their primary preoccupation (which in Mercia's, Bulgaria's, and Denmark's expansive, aggressive 'long' eighth century, it was not).

In addition, the siting of the ramparts was militarily awkward, sometimes incomprehensible. In places the dykes are exposed to commanding positions across the ditch, while in others they offered no retreat save into bogs.²⁹ All had numerous and

²⁶ Robert Browning, *Byzantium and Bulgaria* (London, 1975), 114, accepted over-awed Byzantine estimates of thirty thousand in one Bulgar army. John Haldon, *Warfare, State and Society in the Byzantine World, 565–1204* (London, 1999), 99–106, gives reasons for thinking Balkan armies were small.

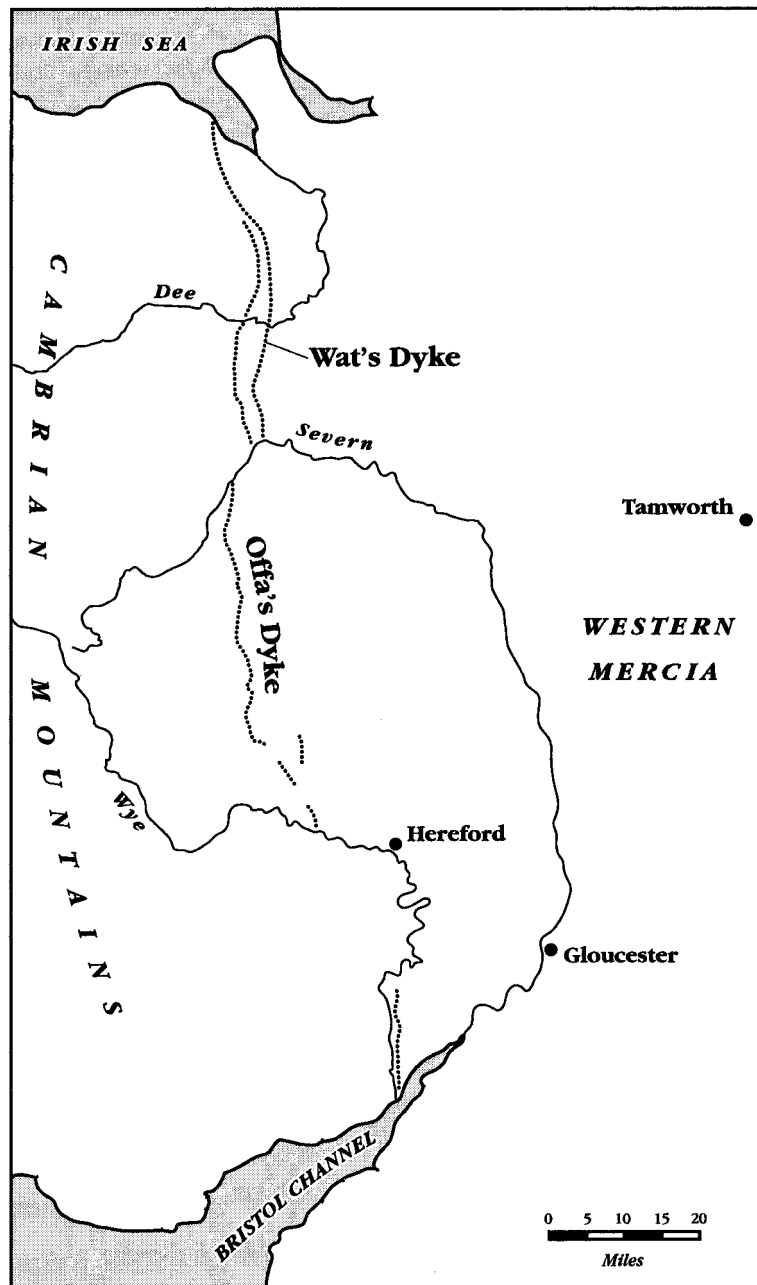
²⁷ Laudable efforts to revise early medieval army sizes upwards do not alter the picture for the practicality of earthworks: Bernard S. Bachrach, 'Early Medieval Military Demography: Some Observations on the Methods of Hans Delbrück', in Donald J. Kagay and L. J. Andrew Villedon (eds.), *The Circle of War in the Middle Ages* (Woodbridge, 1999); Karl Ferdinand Werner, 'Heeresorganisation und Kriegsführung im deutschen Königsreich des 10. und 11. Jahrhundert', *Settimane di studio del CISAM*, xv (1968), 813–22. For the traditional view, see François L. Ganshof, 'L'Armée sous les Carolingiens', *Settimane di studio del CISAM*, xv (1968); Richard P. Abels, *Lordship and Military Obligation in Anglo-Saxon England* (Berkeley, 1988), 34–6; Lotte Hedeager, 'Kingdoms, Ethnicity and Material Culture', in M. O. H. Carver (ed.), *The Age of Sutton Hoo* (Woodbridge, 1992), 287, 298.

²⁸ Bachrach, 'Logistics in Pre-Crusade Europe', 69; Bachrach, *Early Carolingian Warfare*, 136–7, 239. He is optimistic about Carolingian capabilities.

²⁹ As noted by Fox, *Offa's Dyke*, 279–81; N. J. Higham, *The Origins of Cheshire* (Manchester, 1993), 99; Frank Noble, *Offa's Dyke Reviewed* (Oxford, 1983), 66; Andersen, 'Das Danewerk als Ausdruck', 11; Herbert Jankuhn, *Haithabu: Ein Handelsplatz der Wikingerzeit* (Neumünster, 1972), 66–8; Herbert Jankuhn, 'Die Befestigungen um Haithabu', in Jankuhn, Schietzel and Reichstein (eds.),

(cont. on p. 24)

MAP 2
WALES AND WESTERN MERCIA



potentially dangerous gaps in their courses, through which enemies could easily slip to outflank any hapless defenders, and until the mid-900s, when the so-called 'Verbindungswall' closed the north-east passage into Jutland at Hedeby, a major Achilles heel was open to assailants of the Danevirke (see Map 3). The grander segments of Offa's Dyke, where impediments to crossing were greatest, do not correspond to any known Mercian strategic interests, and actually some of the weakest, shallowest parts of the dyke, and some of the longest gaps in it, lay across the most obvious routes for any Welsh attack on the Mercian heartlands around Tamworth. Although later twentieth-century investigations have filled in many of the gaps perceived by Fox, the notion that the river Wye was a barrier equivalent to the dyke along the forty kilometres where no dyke existed is problematic: rivers in the early Middle Ages were a means of communication and union, not of division, and the Wye is easily fordable at several points. In the case both of the Great Fence and of the Danevirke, roads pierced the trenches without any significant reinforcement of the vital intersection between road and fosse. Both in Thrace and in Denmark defenders were also liable to outflanking by seaborne enemies, of whom there were considerable numbers in the Baltic and the Black Sea regions. In fact, the Byzantines, against whom the Erkesia was presumably directed, enjoyed a Black Sea thalassocracy, while the seventh century witnessed the development of new versatile, fast ships among the Scandinavians and Slavs, thus making naval attacks much easier.³⁰ Moreover, only the Danevirke, in all three of its early

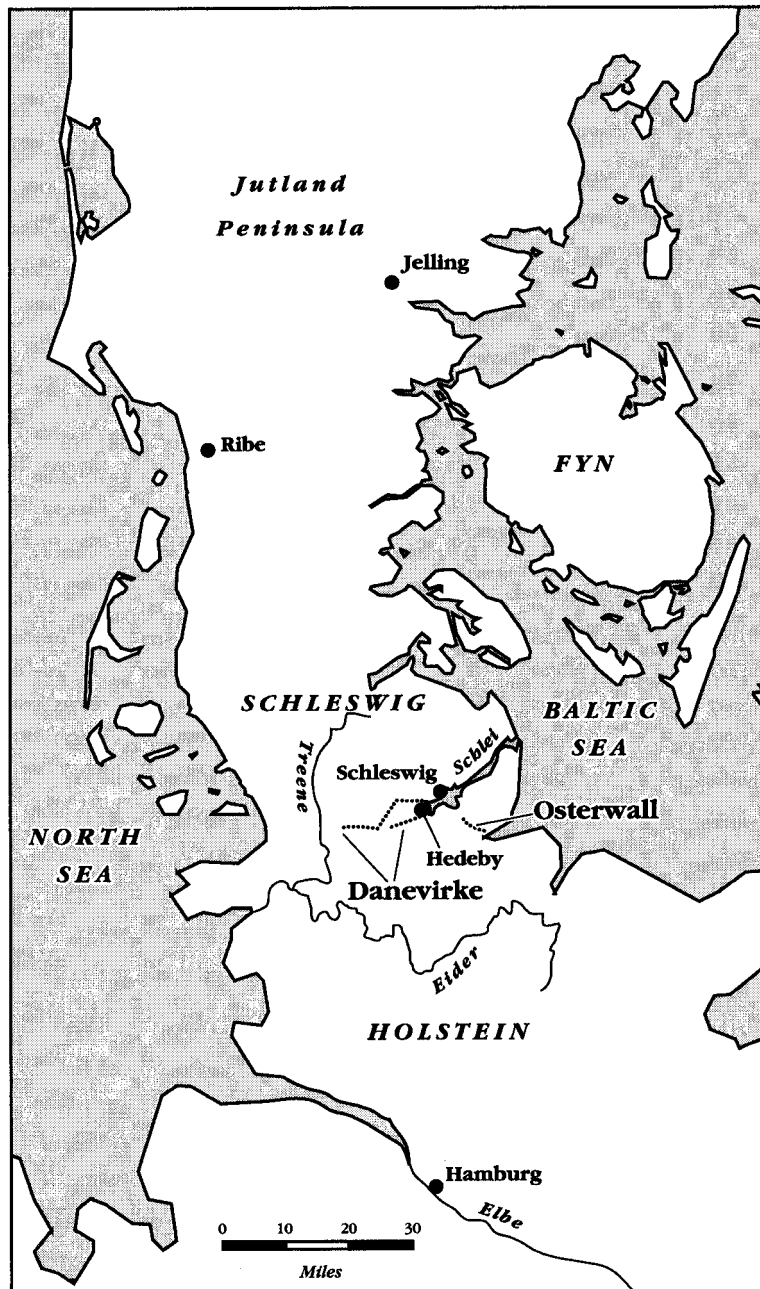
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Archäologische und naturwissenschaftliche Untersuchungen; G. Haseloff, 'Die Ausgrabungen am Danewerk und Ihre Ergebnisse', in *Offa*, ii (1937), 117.

³⁰ On Offa's neglect of 'defences' for vital portions of Mercia, and the odd elaboration of the dyke at Clun Forest, see Fox, *Offa's Dyke*, 160, 171, 207–11, 218; Sir Cyril Fox, 'The Boundary Line of Cymru', *Proc. Brit. Acad.*, xxvi (1940), 279, 290, 295; Noble, *Offa's Dyke Reviewed*, 6, 9, 42, 60–2, 66, 80; John Davies, *A History of Wales* (London, 1990), 65–6; Margaret Gelling, *The West Midlands in the Early Middle Ages* (Leicester, 1992), 106. On sea routes in the western Black Sea, see D. Obolensky, 'Byzantium and its Northern Neighbours, 565–1018', in J. M. Hussey (ed.), *Cambridge Medieval History*, iv, pt 1 (Cambridge, 1966), 490; Georgije Ostrogorski, *History of the Byzantine State* (Oxford, 1968), 168–9; Veselin Beševliev, 'Die Feldzüge des Kaisers Konstantin V. gegen die Bulgaren', *Études balkaniques*, vii (1971), 13–16; Vasil Gjuzelev, 'Il mar nero ed il suo litorale nella storia del medioevo bulgaro', *Byzantino-bulgarica*, vii (1981), 15–17. The Fence petered out at Makrolivada, where the commodious Adrianople–Serdica highway passed (Bury, 'Bulgarian Treaty of 814', 283), and was unreinforced on its eastern end, where two north–south roads from Constantinople to the Danube passed: D. Obolensky, 'Byzantine Frontier Zones and Cultural Exchanges', *Actes du XIV^e congrès internationale d'études byzantines*, 2 vols. (Bucharest, 1974–5), i, 304. On the 'Heerweg', the great north–south road

(cont. on p. 26)

MAP 3
EARLY MEDIEVAL DENMARK



medieval incarnations, had a wooden palisade on top of its bank and seems related to a nearby stronghold (Hedeby was fortified in the 800s), but because of its ample berm, assailants who got across the ditch were beyond the line of fire of whoever manned the palisade. In sum, the dykes had weak or no additional fortifications, and no forts, redoubts or garrison-housing along their course.³¹ Since the ditches sloped gently, had comfortable berms, and the banks also had soft contours, the dykes offered little to slow horse- or foot-borne traffic in the event of a frontal attack. Thus they were not good 'Annäherungshindernisse' either.³²

Burdened with so many tactical disadvantages, we would expect earthworks to suffer a bad reputation among early medieval writers on military affairs — and, indeed, those who wrote about them took a dim view of the dykes' military efficacy. Their principal weakness had been singled out in the sixth century by the Byzantine author and connoisseur of fortifications, Procopius of Caesarea. His catalogue of the emperor Justinian's building projects, famous for its account of the construction of Hagia Sophia, enumerates scores of outposts, city walls, and forts built as part of a scheme to secure the Roman Empire from barbarian challenges. Procopius' work was a panegyric, designed to contrast the idle efforts of Justinian's predecessors with the glorious, invincible structures of Justinian. But his acid evaluations of the Long Wall erected by the emperor Anastasius in southern Thrace was based on observed facts. The Long Wall, cutting Thrace from Constantinople's hinterland, was forty-five kilometres long and the empire did not have enough soldiers to man it effectively.

(n. 30 cont.)

through Denmark, see E. Ehrhardt, 'Heerweg', *Lexikon des Mittelalters*, iv (Munich, 1989), cols. 2008–9. The Kograbben had a gateway where the Heerweg pierced it: Stark, *Haithabu-Schleswig-Danewerk*, 114–15. On Mercian roads, see Fox, *Offa's Dyke*, 221. On the purpose of the Verbindungswall, see Andersen, 'Das Danewerk als Ausdruck', 195. On shipping technology in relation to fortification, see O. Olsen, 'Royal Power in Viking-Age Denmark', in H. Galinié (ed.), *Les Mondes normands (VIII–XII s.)* (Caen, 1989), 31–2.

³¹ Haseloff, 'Die Ausgrabungen am Danewerk', 118; David Hill, 'Offa's and Wat's Dykes: Some Aspects of Recent Work', *Trans. Lancs. and Cheshire Antiq. Soc.*, lxxix (1977), 33; Worthington, 'Offa's Dyke', 344; K. R. Dark, *From Civitas to Kingdom: British Political Continuity, 300–800* (Leicester, 1994), 117. Long-term garrisoning was in any case rare in post-classical times.

³² Harald von Petrikovits, 'Über die Herkunft der Annäherungshindernisse an den römischen Militärgrenzen', *Studien zu den Militärgrenzen Roms: Vorträge des 6. Internationalen Limeskongresses in Süddeutschland* (Cologne, 1967).

Inevitably, it failed to halt incursions against the capital: three times in Procopius' lifetime, scores of times thereafter.³³ For Procopius massive linear defences were flawed by their sheer size and were thus tactically worthless.

Similar views were held far from the Mediterranean, in places with a fraction of the military resources available to the sixth-century Byzantine empire. The Venerable Bede, who lived close to one of the most famous and best-researched linear defences in Europe (Hadrian's Wall, between Tyne and Solway) was curious about dykes and their construction. His description of these barriers drew on several late antique texts, including those of Orosius, Vegetius, and Gildas. For Bede earthworks were a barbarous substitute for proper fortifications and were good for nothing (*ad nihil utilem*). He argued that the Romans had known how to build useful blockages capable of keeping intruders out, but they had used masonry; when their leadership failed and the British population attempted to erect ersatz barriers from turf, the result was unable to withstand attacks. Although Bede gave the Britons an alibi by suggesting that the absence of craftspeople had played a role in the failure to erect a Roman-style wall, he also suggested that earth ramparts had tactical limitations and were an inferior artefact that no competent defender would build. On this he followed Gildas, who knew what he was talking about as he seems to have lived in a time of considerable dyke-building activity, but who did not consider long earthworks militarily viable.³⁴

³³ Procopius, *On Buildings*, IV. 9. 6–8. On Procopius' authorial intentions, see Averil Cameron, *Procopius and the Sixth Century* (London, 1985), 84–9, 110. For a list of incursions across the walls, see Feridun Dirimtekin, 'Le mura di Anastasio I', *Palladio*, v (1955), 87. See also Michael Whitby, 'The Long Walls of Constantinople', *Byzantion*, xl (1985), 560–76. On Justinian's other lengthy fortifications, see Robert L. Hohlfelder, 'Trans-Isthmian Walls in the Age of Justinian', *Greek, Roman, and Byzantine Studies*, xviii (1977). The Wall became the Ottoman Chatalya line when gunpowder warfare prevailed, and remains a military zone.

³⁴ Bede, *Historia Ecclesiastica*, I. 5, 12 (ed. Charles Plummer, Oxford, 1896), which he reiterated in his *Chronica Maiora*, AM 4163, 4377 (ed. Ch. W. Jones, *Corpus Christianorum, Series Latina*, Turnhout, 1977, 502, 515–16). For a commentary, see Walter Goffart, *The Narrators of Barbarian History* (Princeton, 1988), 300–2; J. M. Wallace-Hadrill, *Bede's 'Ecclesiastical History of the English People': A Historical Commentary* (Oxford, 1988), 11–12, 17–18. See Orosius, *Historiarum Libri VII*, XVII. 7 (ed. Marie-Pierre Arnaud-Lindet, Paris, 1991, iii, 52); Vegetius, *Epitome Rei Militaris*, I. 24 (ed. Karl Lang, Leipzig, 1885, 26). Passages in Gildas, *De Excidio et Conquestu Britanniae*, XV. 3 and XVIII. 1, are incisively treated by Nicholas John Higham, 'Gildas, Roman Walls, and British Dykes', *Cambridge Medieval Celtic Studies*, xxii (1991). How a short 'fossato' could work in conjunction with 'muris altioribus' is shown in *Liber Pontificalis*, CIII. 39 (ed. Louis Duchesne, Paris, 1955, ii, 82).

Perhaps because they were known to offer such weak cover, and so little faith was placed in them as systems of defence, combat is not recorded by contemporaries along early medieval European fosses. This is a meaningful silence. Evidently early medieval fighters sought different contexts for their encounters than those provided by dykes. Offa's Dyke does not appear to have been the theatre of hostilities, though there were plenty of these in the Welsh borderlands between the eighth and the tenth centuries.³⁵ According to an eleventh-century Byzantine historian, in AD 967 the emperor Nicephoros Phocas marched an army up to the 'great ditch' in Thrace as part of a campaign to obtain Bulgarian compliance against the Magyars. But no fighting took place there, nor did any of the numerous Byzantine campaigns in the Balkans make a recorded encounter along the Erkesia.³⁶ The Danevirke enjoyed a similarly placid existence, though it lay in a strategic place during turbulent times. When a twelfth-century Danish chronicler noted that in 1131 a Saxon invasion was turned back at the Danevirke, he specified that no fighting was necessary because the invaders were frightened by the number of Jutlanders that the Danish king Magnus had gathered north of the barrier. Even in this high medieval instance, in other words, the giant trench was superfluous, and the decisive factor was the intimidating size of the Danish host, as well as the emperor's inability to muster a fleet to circumvent the Danes by

³⁵ A Viking raiding party in 896 actually seems to have used the dyke as a road: Wendy Davies, *Wales in the Early Middle Ages* (Leicester, 1982), 66. On borderland warfare, see Wendy Davies, *Patterns of Power in Early Wales* (Oxford, 1990), 67–9; Davies, *Wales in the Early Middle Ages*, 110–13; Nancy Edwards, 'Landscape and Settlement in Medieval Wales', in Nancy Edwards (ed.), *Landscape and Settlement in Medieval Wales* (Oxford, 1997), 4.

³⁶ See Iohannes Skylitzes, *Synopsis Historiarum*, XX. 20 (ed. Ioannes Thurn, Leipzig, 1880, 277), on the 'megales taphrou'. On Bulgar–Byzantine relations in the 800s, see Vasil Nikolov Zlatarski, *Geschichte der Bulgaren* (Leipzig, 1918), 38–44; Beševliev, *Die protobulgarische Periode der bulgarischen Geschichte*, 281–7; Obolenski, 'Byzantium and its Northern Neighbours', 498–509, 512–15; Paul Stephenson, *Byzantium's Balkan Frontier: A Political Study of the Northern Balkans, 900–1201* (Cambridge, 2000), 18–23, 48–59; Paul Stephenson, 'The Byzantine Frontier at the Lower Danube in the Late Tenth and Eleventh Centuries', in Daniel Power and Naomi Standen (eds.), *Frontiers in Question: Eurasian Borderlands, 700–1700* (London, 1999), 84–90; Krasimira Gagova, 'Bulgarian–Byzantine Border in Thrace from the 7th to the 10th Century (Bulgaria South of the Haemus)', *Bulgarian Hist. Rev.*, xiv (1986), 72–6; Jonathan Shepard, 'Byzantine Relations with the Outside World in the Ninth Century: An Introduction', in Leslie Brubaker (ed.), *Byzantium in the Ninth Century: Dead or Alive?* (Aldershot, 1998), 171–4.

sailing to Schleswig.³⁷ But also in Carolingian times, when the Danevirke was fresh and more crisply defined, Danish kings did not use it to defend their realm. The sons of the same Godfrid whom the *Royal Frankish Annals* describe as the builder of a 'vallum' in a place corresponding to the Danevirke's location, preferred refuge on the island of Fyn to deploying their forces on the fosse.³⁸ Only Norse skalds eager to extol their patron's prowess could imagine fighting on the Danish fosse.³⁹ If ever the ditches had had a military purpose, it is clear they soon lost it, as no one seems actually to have used them in martial encounters. It is far more likely, therefore, that these ditches were never conceived and created by people with military interests uppermost in their minds.

At first, the hypothesis that the great linear trenches marked borders is more persuasive than the idea that early medieval people built them for defensive purposes. Certainly the three greatest post-classical earthworks occupied marginal spaces, in borderlands, and hence might have served as the concrete expression of the points up to which a particular sovereignty extended. Yet the incongruities in this explanation as to why the earthworks were made justify examining alternatives which may also reveal something of the origins of the one major earth-moving enterprise that was definitely unrelated to border-demarcation: Charlemagne's canal. Once again there is the troubling issue of the vastness of the dykes, the depths of their ditches, and the imposing solidity of their embankments as well. The sheer effort needed to erect them seems out of proportion with their rather prosaic role as boundary markers. The same effect could have

³⁷ Saxo Grammaticus, *Gesta Danorum*, XIII. 8. 5 (ed. J. Olrik and H. Ræder, 2 vols., Copenhagen, 1931–57, i, 359). German accounts were less detailed and excluded Saxo's explanation: for example, Helmold of Bosau, *Chronica Slavorum*, I. 50 (ed. Heinz Stoob, Berlin, 1963, 192). Saxo, *Gesta Danorum*, XIII. 2. 8, XIV. 17. 1 (ed. Olrik and Ræder, i, 345, 399), and Thietmar of Merseburg, *Chronicon*, III. 6 (ed. Robert Holtzmann, MGH, *Scriptores Rerum Germanicarum in Usus Scholarum*, Berlin, 1935, 102–3), give other examples of the Danevirke's failure as a defence. Cf. Andersen, 'Das Danewerk als Ausdruck', 15–16.

³⁸ *Annales Regni Francorum*, s.a. 815 (ed. Kurze, 142) reports the Carolingians 'trans Egidoram fluvium in terram Nordmannorum vocabulo Sinlendi [East Schleswig?] perveniunt', without encountering resistance, even on the Danevirke, for the Danish army stayed on Fyn.

³⁹ Snorri Sturluson, *Heimskringla*, VI. 24, 26, in *Den Norsk-Islandske Skjaldedigtning*, ed. Finnur Jónsson, 2 vols. (Copenhagen, 1912–15), i, 122–31; ii, 117–24 (citing the tenth-century *Vellekla*).

been achieved without mobilizing all the resources that were, so ostentatiously, employed to build the fosses.

Moreover the earthen lines are definitive, or at least strong enough to survive for several centuries, in the right conditions. As such they could become a nuisance rather than a helpful reminder. In the fluctuating geopolitics of the eighth century very static, fixed boundaries were atypical for few expected markers to be useful, up-to-date signals of sovereignty for long. As Mercia expanded relentlessly west of Offa's Dyke in the 700s, Bulgaria spilled south of the Haemus (today Balkan) mountains into Thrace and Macedonia in the 800s, and the Danes asserted themselves in Schleswig and North Friesland, a fixed boundary marked by a huge earthwork would soon become a confinement. Worse still, it might be an embarrassment, even a tool for newly subjugated peoples across the dyke to use in negotiating for a *status quo ante*. In other terms, penning in their claims of authority with so unmistakable a demarcation might be counterproductive in a period when neither Mercia, nor Bulgaria, nor Denmark were on the defensive for long. For example, around the time when the second Danevirke, or Kovirke, was built, the Danes of Godfrid won the submission of the Obodrites' trading posts south-east of Jutland. Assuming that the people who planned these constructions understood strategic aims and the drift in expansionary tides, we would expect them to resort to simpler, more temporary demarcators when marking borders.⁴⁰

Other considerations further undermine the notion that early medieval states marked their borders with immense ramparts. In the first place, the vast majority of early medieval borders had no such structures. In late antique Britain, when it seems there was a flurry of dyke-building, some trenches were dug which,

⁴⁰ The Danes, whose centre of power was in south Jutland, were vigorous, successful competitors with Saxons and Slavs, especially under Godfrid: Hedeager, 'Kingdoms, Ethnicity and Material Culture', 295–6; Birgit and Peter Sawyer, *Medieval Scandinavia: From Conversion to Reformation* (Minneapolis, 1993), 49–52; Klaus Randsborg, *The Viking Age in Denmark: The Formation of a State* (New York, 1980), 14–15. On the Obodrites' dealings with Godfrid, see Julia M. H. Smith, 'Fines Imperii: The Marches', in Rosamond McKitterick (ed.), *New Cambridge Medieval History*, ii, c.700–c.900 (Cambridge, 1995), 173; Andersen, 'Das Danewerk als Ausdruck', 13. Mercia was on a westward 'roll' since Penda's reign: see Davies, *Patterns of Power in Early Wales*, 67–9; D. P. Kirby, *The Earliest English Kings: Studies in the Political History of the Anglo-Saxon Heptarchy* (London, 1991), 164–5. The Bulgar khans expanded southwards in the 700s, despite Constantine V's pugnacity, and continued their expansion in the 800s: Steven Runciman, *History of the First Bulgarian Empire* (London, 1930), 85–91.

though the evidence is circumstantial, may have separated polities; but their scale is tiny compared to the excavation projects of Offa, the Bulgars, and the Danes.⁴¹ Early medieval Europeans had developed the custom of altering their landscapes to signal a property claim, and, as Lucien Febvre remarked in 1928, medieval kings tended to indicate their territorial claims in much the same way as ordinary landlords demarcated their estates.⁴² But in eighth-century Bulgaria, Denmark, and England ditches and banks were not the preferred medium for this activity. In places where wildernesses of various description were absent and could not serve to separate people's claims over territory, notched trees, carved stones, stakes, and pillars served this purpose instead, with a somewhat greater propensity for wooden markers in the Germanic north and greater reliance on stone in the Balkans.⁴³ Although hedges had their place (most evident in Anglo-Saxon England), and although areas whose hydrology required it, like the environs of Ravenna, had a number of small drainage ditches, some of which separated farms, by and large early medieval property claims were not communicated by linear, physical

⁴¹ Some of the dykes seem related to flood-control in river valleys: see Della Hooke, *Anglo-Saxon Landscapes of the West Midlands: The Charter Evidence* (Oxford, 1981), 257–60. Scholars relate others to defence: for example, Peter Wade-Martins, 'The Linear Earthworks of West Norfolk', *Norfolk Archaeology*, xxxvi (1974). But some apparently had to do with boundary-demarcation: Hart, 'Kingdom of Mercia', 53; Della Hooke, *The Anglo-Saxon Landscape: The Kingdom of Hwicce* (Manchester, 1985), 62, 193, 241; C. J. Arnold, *An Archaeology of the Early Anglo-Saxon Kingdoms* (London, 1997), 224–6. On similar 'migration age' Danish 'folk dykes', see Olsen, 'Royal Power in Viking-Age Denmark', 28; Unverhau, *Untersuchungen zur historischen Entwicklung*, 16.

⁴² Lucien Febvre, 'Frontière', *Bulletin du centre internationale de synthèse*, v (1928), 36–8, appended to *Revue de synthèse historique*, xl (1928).

⁴³ Luciano Lagazzi, *Segni sulla terra: determinazione dei confini e percezione dello spazio nell'alto medioevo* (Bologna, 1991), 22–9, 84; Anne Mailloux, 'Perception de l'espace chez les notaires de Lucques (VIII^e–IX^e siècles)', *Mélanges de l'École française à Rome: Moyen Âge*, cix (1997), 41–3, who corrects Lagazzi's overdrawn distinction between Roman and Germanic boundary systems; Dieter Werkmüller, 'Recinzioni, confini, segni territoriali', *Settimane di studio del CISAM*, xxiii (1976), 645–51; Oliver Rackham, 'Trees and Woodland in Anglo-Saxon England: The Charter Evidence', in James Rackham (ed.), *Environment and Economy in Anglo-Saxon England* (York, 1994), 8–9; Della Hooke, *The Landscape of Anglo-Saxon England* (Leicester, 1998), 80–7, 92–101; Velizar Velkov, *Cities in Thrace and Dacia in Late Antiquity* (Amsterdam, 1977), 73–4; Anne Nissen Jaubert, 'Systèmes agraires dans le sud de la Scandinavie entre 200 et 1200', in Michel Corladelle (ed.), *L'Homme et la nature au moyen âge* (Paris, 1996), 80–1. See also J. R. V. Prescott, *Political Frontiers and Boundaries* (London, 1987), 76–7.

impediments like the dykes.⁴⁴ The preferred artificial signs created an imaginary line, inviting onlookers to design the boundary with their mind's eye by linking up a succession of signalling objects. This tradition of boundary creation gave primacy to the imagination of the beholder, and involved a local, contextual negotiation of the inevitable ambiguities it created.⁴⁵ The giant artificial troughs organized space in an altogether different way.

Some surviving state boundary markers from the post-classical period confirm that states' claims of sovereignty tended to receive physical form as a series of fixed points, rather than through an etched line in the soil. Less than a century after the Erkesia was dug, Bulgarian rulers placed stone pillars inscribed with Greek words along their borders in southern Thrace.⁴⁶ But for the rest, surviving writings indicate that early medieval states preferred 'natural' boundaries, like rivers or mountains or woodlands, to distinguish between political systems.⁴⁷ Such geographical

⁴⁴ Despite Lagazzi, *Segni sulla terra*, 30, 86. For examples of Ravennan (mostly drainage) ditches that served to delineate properties, see *Le iscrizioni dei secoli VI–VII–VIII esistenti in Italia*, ed. Pietro Rugo, 3 vols. (Cittadella, 1974–6), iii, 23; Marco Fantuzzi, *Monumenti ravennati de' secoli di mezzo*, 6 vols. (Venice, 1801–4), i, no. 4, 90; no. 8, 102; no. 11, 107; no. 18, 120.

⁴⁵ Arnold Van Gennep's famous essay, *Les Rites de passage* (Paris, 1908), ch. 2, has many pertinent observations. See also Mailloux, 'Perception de l'espace chez les notaires de Lucques', 41–3; Lagazzi, *Segni sulla terra*, 30, 86.

⁴⁶ These pillars of Khan Symeon are now in Istanbul's archaeological museum: *Die protobulgarischen Inschriften*, ed. Veselin Beševliev (Berlin, 1963), 216, no. 146. They were known as 'oros'. Beševliev thinks an AD 774 reference to 'lithosoria' applies to stone border-markers: Beševliev, 'Die Feldzüge des Kaisers Konstantin V. gegen die Bulgaren', 16. See also Evangelos Chrysos, 'Die Nordgrenze des byzantinischen Reiches im 6. bis 8. Jahrhundert', in Bernhard Hansel (ed.), *Die Völker Südosteuropas* (Munich, 1987), 29. Age-old, that is stable, Balkan boundaries were valued by westerners: see Anastasius Bibliothecarius, *Epistolae sive Praefationes*, V (ed. E. Perels and G. Laehr, MGH, Epistolae, vii, Berlin, 1928, 412); and by easterners: see *Théodore Daphnopolitès Correspondance*, ed. and trans. J. Darrouzès and L. G. Westerink (Paris, 1978), 65, 67 (letter 5). It has been suggested that some Ogham stones separated districts in Wales: Dark, *From Civitas to Kingdom*, 76, 82, 116.

⁴⁷ Bruno of Querfurt, 'Epistola ad Henricum Regem', ed. Jadwiga Karwasińska, *Monumenta Poloniae Historica*, new ser., iv, no. 3 (Warsaw, 1973), 99, makes Kievan Rus into a Maginot-lined state about AD 1000 ('firmissima et longissima sepe undique circumclausit'). His easy re-entry in 1008 makes Bruno's account as unbelievable as Notker's on the Avar Ring: see Walter Pohl, *Die Awaren: Ein Steppenvolk in Mitteleuropa, 567–822* (Munich, 1988), 306–8. For a sense of what a real Avar border was like, see Jovan Kovačević, 'Die awarische Militärgrenze in der Umgebung von Beograd im VIII. Jahrhundert', *Archaeologia Iugoslavica*, xiv (1973). On the preference for 'natural' frontiers, Stephenson, 'Byzantine Frontier at the Lower Danube', 97. The Schlei and Eider rivers crop up often in Carolingian and Ottonian sources as separating Denmark: *Annales Regni Francorum*, s.a. 828 (ed. Kurze, 175); *Annales Fuldenses*, s.a. 873 (ed. Kurze, 78–9). On the Danish predilection for stream-boundaries, see C. Fabech, 'Reading Society from the Cultural Landscape: Southern

(cont. on p. 33)

features can be difficult to pinpoint and use in determining boundaries, and they always require a social and political context for a 'correct' interpretation.⁴⁸ Their use as delimitation devices in the early Middle Ages followed the same logic of definition (signs strung together in a mental line) as that of the Bulgar pillars. Einhard's well-known comment on the huge woods and mountains that served as a providential 'certo limite' dividing Frankish from Saxon lands exemplifies this. To Einhard these wildernesses minimized human competition and confrontation, providing a no man's land that was also an amorphous frontier. The ideal delimitation was a series of ecological features linked together by the cultural expectations of Frankish or Saxon onlookers, not a linear boundary.⁴⁹

In other Carolingian texts, even the most definite and obviously linear of 'natural' boundaries — rivers — were not a hermetic barrier: they were always fordable. Rivers were expected to have all manner of uncertainties, gaps and crossing points. For example, when the Enns river was invoked as the 'definite boundary' between Avars and Carolingians, people knew full well where its fords lay, for they named their locations.⁵⁰ In the case of the 'borders of the Northmen', or Danes, the Eider river is repeatedly mentioned as a significant dividing line, and the *Annals of Fulda* identify it as the feature which divides Danes and Saxons. But here, too, early medieval people avoided placing too much emphasis on the 'natural' line of division, perhaps recognizing its unreliability. Indeed, the boundary and the river are distinguished

(n. 47 cont.)

Scandinavia between Sacral and Political Power', in P. O. Nielsen, K. Randsborg and H. Thrane (eds.), *The Archaeology of Gudme and Lundeberg* (Copenhagen, 1994), 178.

⁴⁸ Both Febvre and Sahlins remind us of the fragility and contextuality of objective, 'natural' boundaries. It is much harder to know where a river or mountain is, even with maps, than nineteenth-century geographers imagined. Febvre, 'Frontière', 40; Peter Sahlins, *Boundaries: The Making of France and Spain in the Pyrenees* (Berkeley, 1989).

⁴⁹ Einhard, *Vita Karoli*, VII (ed. Georg Waitz, MGH, *Scriptores Rerum Germanicarum in Usus Scholarum*, Hanover, 1911, 9): 'termini videlicet nostri et illorum poene ubique in plano contigui, praeter pauca loca, in quibus vel silvae majores vel montium juga interjecta utrorumque agros certo limite determinant'. Nature, for Einhard, removes the social context that makes rigid lines necessary. 'Termini' usually meant districts, but could also mean boundary markers. See Werkmüller, 'Recinzioni, confini, segni territoriali', 650–1. For a summary of early medieval linearity, see R. Schneider, 'Lineare Grenzen: Vom frühen bis zum späten Mittelalter', in R. Schneider and W. Haubichs (eds.), *Grenzen und Grenzregionen* (Saarbrücken, 1993), 51–7.

⁵⁰ Walter Pohl, 'Soziale Grenze und Spielräume der Macht', in Pohl and Reimitz (eds.), *Grenze und Differenz*, 17–18.

as two separate entities, showing again that the 'boundaries' were zonal, not linear, rather as happened along the classical Roman *limes*.⁵¹ It is not surprising, in the end, that there was no early medieval Latin word equivalent to 'border'.

Both the naturally occurring, spatially diffuse, land forms, and the string of pillars which the Bulgarians used, belong with the open-edged, vague territoriality to which early medieval potentates were accustomed; they are unlike the great artificial fosses, whose firm and static lines, extending over many kilometres, were anomalous among early medieval Europe's normal delimitation systems. Post-classical rulers ruled territory that was not very crisply defined, and even the greatest polities of the early Middle Ages petered out on their margins rather than reaching well-guarded, obvious limits.⁵² The triumphant Bulgaria of the early 800s can be cited here, owing to the fortuitous survival of a description of the Thracian border with Byzantium, which is almost contemporary with the construction of the Great Fence. The lack of correlation between the clear line of the fosse and the foggy terms in which diplomats expressed Bulgaria's limits is striking.⁵³ Khan Omurtag's peace treaty of 816 lists a series of

⁵¹ *Annales Regni Francorum*, s.a. 828 (ed. Kurze, 175), speak of 'confinibus Nordmannorum' as inhabitable places, and associate the 'marcam' with the 'bank of the Eider river' whose surprise crossing by the Danes led to a Frankish reverse. The entry for 815 claims that the Northmen's land lay across the Eider (142). The *Annales Fuldenses*, s.a. 873 (ed. Kurze, 78), mention a request for peace 'in terminis inter illos et Saxones positus', and records the August meeting of ambassadors at 'fluvium nominem Egidoram qui illos et Saxones dirimit' to confirm the peace. Adam of Bremen, *Gesta Hammaburgensis Ecclesiae Pontificum*, I. 57 (ed. Bernhard Schmeidler, MGH, *Scriptores Rerum Germanicarum in Usus Scholarum*, Hanover and Leipzig, 1917, 57), describes a creation of 'regni terminos' in the early 900s at the site of Schleswig, and justifies Otto's transgression of the 'terminos Danorum apud Sliaswig olim positos' because earlier the Danes had raided Schleswig (II. 3, ed. Schmeidler, 63). Helmold of Bosau, *Chronica Slavorum*, I. 8, who repeats this version, also says that the Danes had first ruled south of the Eider, then up to the Eider (I. 3). C. R. Whittaker, *Les Frontières de l'empire romain* (Paris, 1989) challenged the traditions of *Limesforschung* and redefined Roman frontiers as spaces.

⁵² Smith, 'Fines Imperii', 176–9; Thomas F. X. Noble, 'Louis the Pious and the Frontiers of the Frankish Realm', in Peter Godman and Roger Collins (eds.), *Charlemagne's Heir* (Oxford, 1990), 337. Goetz, however, dissents: Hans-Werner Goetz, 'Concepts of Realm and Frontier from Late Antiquity to the Early Middle Ages', in Pohl, Wood and Reimitz (eds.), *Transformation of Frontiers*, 76–81.

⁵³ *Die protobulgarischen Inschriften*, ed. Beševliev, 190, no. 41; see Soustal, 'Bermerkungen zur byzantinisch-bulgarischen Grenze', 150–2; Soustal, *Thrakien*, 262; Bury, 'Bulgarian Treaty of 814', 276–7. On correspondences between the Erkesia and the Suleyman Koy inscription, see Rašev, *Starobalgarski Ukreplenija*, 60. Omurtag worried about frontiers; he sent messages to Francia 'de terminis ac finibus inter Bulgaros ac Francos constituendis': *Annales Regni Francorum*, s.a. 825, 826 (ed. Kurze, 167, 168).

sites, including towns, rivers, and mountains, only tenuously related to the course chosen for the Erkesia. It is also quite different from the earthwork in its approach to space and to communicating control over it, for the treaty applies standard early medieval point-to-point delimitation, while the ditch leaves nothing to the imagination. That there was only slight development in early medieval conceptions of territoriality as opposed to jurisdiction has attracted attention, and sometimes features in discussions of early medieval statehood as evidence that there were no proper states before the Renaissance.⁵⁴

The lack of interest demonstrated by rulers and writers from the era before 1200 for the territorial definition of kingdoms may be related to the greater importance of controlling people rather than land. However, their indifference also derived from their understanding of space. Early medieval geographers, like the notaries and scribes who drew up contracts describing topography, and, presumably, like the powerful people who benefited from the activities of both geographers and notaries, conceived of space hierarchically, with significance radiating outwards from a central point, perhaps a town, a castle, a shrine, or a monastery. Early medieval space had a central focus and orbital zones of diminishing importance. In this way of conceptualizing space, the precise line beyond which the 'magnetic field' of the central point ceased to exercise its pull was ambiguous. For the geographers, notaries, and users of their texts, space was self-evidently a series of contiguous zones, each with its focal point, each with its vague fringes.⁵⁵ In the early Middle Ages, therefore, states lacked

⁵⁴ Recent works addressing early medieval statehood and territoriality include Karl Ferdinand Werner, 'L'Historien et la notion d'état', *Académie des inscriptions et belles-lettres: comptes rendus des séances de l'année* (Paris, 1992); Matthew Innes, *State and Society in the Early Middle Ages: The Middle Rhine Valley, 400–1000* (Cambridge, 2000), 5–11, 93; Susan Reynolds, 'The Historiography of the Medieval State', in Michael Bentley (ed.), *Companion to Historiography* (London, 1997); Daniel Power, 'Frontiers: Terms, Concepts, and the Historians of Medieval and Early Modern Europe', in Power and Standen (eds.), *Frontiers in Question*, 2–5.

⁵⁵ On the early medieval sense of space, see Alain Guerreau, 'Quelques caractères spécifiques de l'espace féodal européen', in Neithard Bulst, Robert Descimon and Alain Guerreau (eds.), *L'État ou le roi* (Paris, 1995), 85–95; Mailloux, 'Perception de l'espace chez les notaires de Lucques', 24; Patrick Gautier-Dalché, 'Tradition et renouvellement dans la représentation de l'espace géographique au IX^e siècle', *Studi medievali*, xxiv (1983); Patrick Gautier-Dalché, 'De la liste à la carte: limite et frontière dans la géographie et la cartographie de l'Occident médiévale', *Castrum*, iv (Rome and Madrid, 1992), 20–1; Patrick Gautier-Dalché, 'Perception et description du paysage rurale dans les actes notariés sud-italiens (IX^e–XII^e siècles)', *Castrum*, v (Madrid, 1999), 119–26; Wendy Davies, '“Protected Space” in Britain and Ireland

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borders. Their liminal areas where sovereignty petered out were sometimes called marches, as the *Royal Frankish Annals* called the region of the Eider river or the area where Carolingian and Avar authority met.⁵⁶ These borderlands resembled the rest of the kingdom, containing a series of points where state functions were intensified, but fading into zones of little or no state presence. In the borderlands, as in the heartlands, there would be single sites where rulers asserted their rule more strenuously: such were the Franks' forts south of the Eider and, during the Saxon wars, on the Elbe; or the toll stations where ninth-century Bulgarian khans inflicted draconian punishments on smugglers or other challengers to their authority; or perhaps places like Hereford in western Mercia.⁵⁷ Actual linear boundaries, on one side of which rulers asserted authority, were abnormal. Even the Lombard kings, who seem to have been able to stop visitors at the border of their kingdom, did so by preventing access at the *clusae*, thus exploiting Alpine geography and roads through the passes; and the *clusae* were closed only at specific, limited, times.

(n. 55 cont.)

in the Middle Ages', in Barbara E. Crawford (ed.), *Scotland in Dark Age Britain* (St Andrews and Aberdeen, 1996), 4–10; Lagazzi, *Segni sulla terra*, 48–9; Michel Foucher, *L'Invention des frontières* (Paris, 1986), 61–76, 82–3; Dick Harrison, 'Invisible Boundaries and Places of Power: Notions of Liminality and Centrality in the Early Middle Ages', in Pohl, Wood and Reimitz (eds.), *Transformation of Frontiers*, 85–90. Southern Italy seems to have been an exception, since geographically precise state borders were drawn there: Smith, '*Fines Imperii*', 177–8; Martin, 'Les Problèmes de la frontière en Italie méridionale'.

⁵⁶ *Annales Regni Francorum*, s.a. 788 (ed. Kurze, 84) mentions 'fines vel marcas Baioariorum'.

⁵⁷ On Carolingian strongholds in southern Jutland, see *ibid.*, s.a. 808 (ed. Kurze, 127, 175 — presumably the site of the surprise attack of 828); H. Hellmuth Andersen, 'Machtpolitik um Nordalbingen zu Anfang des 9. Jahrhunderts', *Archäologisches Korrespondenzblatt*, x (1980). For the Elbe, see Matthias Hardt, 'Linien und Säume, Zonen und Räume an der Grenze des Reiches im frühen und hohen Mittelalter', in Pohl and Reimitz (eds.), *Grenze und Differenz*, 43–5. Hedeby, which King Alfred the Great knew to lie on the border between various peoples (Randsborg, *Viking Age in Denmark*, 16–17), was another such royal centre. Although often seen as applying to the entire border, the evidence of Bulgar 'intensification' on the borderlands c.850 (as in Lombard Italy, c.750: see Walter Pohl, 'Frontiers in Lombard Italy', in Pohl, Wood and Reimitz, eds., *Transformation of Frontiers*, 131–2, 138–40) must apply to specific crossing points where main roads penetrated Bulgaria: see *Liber Pontificalis*, CVII. 71–2 (ed. Duchesne, ii, 165); Nicholas I, *Epistulae*, XCIX (ed. Ernst Perels, MGH, *Epistulae*, vi, Berlin, 1925, 579). On Hereford (whose fortification is dated to c.850) and similar sites on Mercia's border, see Gelling, *West Midlands in the Early Middle Ages*, 117–18, 121, 163; Ann Williams, *Kingship and Government in Pre-Conquest England* (London, 1999), 68; Jeremy Haslam, 'Market and Fortress in the Reign of King Offa', *World Archaeology*, xix (1987).

Hence it is not surprising that archaeological surveys conducted in the areas around the monumental ditches have revealed no major cultural fissures along them, whether in the Welsh borderlands, or Thrace, or the southern Jutland peninsula. In the early twentieth century Sir Cyril Fox discovered people in the Welsh borderlands who were indignant at the suggestion that they had been born 'on the wrong side' of Offa's Dyke, and indeed in the high Middle Ages some English writers presented the dyke as a major cultural divide.⁵⁸ But the situation was different in the early Middle Ages, when the dyke had not yet polarized human identities. In early medieval times, both to the west and to the east of Offa's Dyke there were English-style agricultural settlements, and Welsh was spoken by people who lived on the Mercian side of this 'barrier'. The dyke likewise did not separate ecclesiastical jurisdiction and organization, nor religiosity: the shape of churchyards, for instance, was quite similar west and east of it, and the dyke bisects some parishes, like Llandysilio.⁵⁹ Similar patterns of continuity prevailed in ninth-century Thrace, where Byzantine seals from the 830s have been found at Debelto and ninth-century Byzantine coins at Anchialos, while Mesembria continued to function as an entrepôt for goods being shipped to Constantinople, though these centres were on the Bulgar side of the ditch (see Map 4). Agricultural equipment on both sides of the Erkesia was uniform, as were settlement patterns.⁶⁰ Equal

⁵⁸ Fox, *Offa's Dyke*; Fox, 'Boundary Line of Cymru', 277. John of Salisbury, *Policraticus*, VI. 6, gloated over the amputation of the right hand suffered by any Welsh person found bearing weapons east of the dyke. See Noble, *Offa's Dyke Reviewed*, 76; John Edward Lloyd, *A History of Wales from Earliest Times to the Edwardian Conquest*, 2 vols. (London, 1911), i, 201.

⁵⁹ Davies, *Wales in the Early Middle Ages*, 113; Gelling, *West Midlands in the Early Middle Ages*, 106, 118; Noble, *Offa's Dyke Reviewed*, 49; Diane Brook, 'The Early Christian Church East and West of Offa's Dyke', in Nancy Edwards and Alan Lane (eds.), *The Early Church in Wales and the West* (Oxford, 1992), 82–7; S. C. Stanford, *The Archaeology of the Welsh Marches* (London, 1980), 177, 189, 193–7; Hooke, *Landscape of Anglo-Saxon England*, 43, 59; Higham, *Origins of Cheshire*, map 4.1, showing that hidation and geld payment did not stop at the dyke, despite comments (101); Frank Merry Stenton, 'Pre-Conquest Herefordshire', in Doris Stenton (ed.), *Preparatory to 'Anglo-Saxon England'* (Oxford, 1970), 196; Patrick Sims-Williams, *Religion and Literature in Western England, 600–800* (Cambridge, 1990), 45–7, 370.

⁶⁰ Joachim Henning, *Südosteuropa zwischen Antike und Mittelalter: Archäologische Beiträge zur Landwirtschaft des 1. Jahrtausends u. Z.* (Berlin, 1987) suggests cultural uniformity through analysis of implements. See also Vasil Gjuzelev, 'Anchialos zwischen der Spätantike und dem frühen Mittelalter', in R. Pilliger et al. (eds.), *Die Schwarzmeerküste in der Spätantike und dem frühen Mittelalter* (Vienna, 1992), 23–5; Nicolas Oikonomides, 'Tribute or Trade? The Byzantine–Bulgarian Treaty of 716', in *Studia Slavico-Byzantina et Medievalia Europensia: In Memoriam Ivan Dujčev*,

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lack of cultural differentiation on both sides of the Danevirke emerges from analyses of agricultural practices and burials (or the lack of them).⁶¹ If the dykes had represented an absolute divide, or borders between polities, we might have expected them to separate Bulgar from Byzantine cultural areas, or Welsh from Anglo-Saxons, or Danes from Slavs and Saxons. Instead of separating distinguishable cultural areas, the dykes bisect coherent ones. In the end, the dykes do not appear to have been the kind of border-delimitation sometimes erected by modern states, in which military, administrative, and cultural boundaries all align perfectly, with barbed wire to reinforce the point. Nor did they match the prevalent boundary-marking practices, or correspond to the early medieval spatial mentality. Also, they did not respond to, or even create in the short term, noticeable differences in the social use of the landscapes they traversed. Although the dykes were all constructed in borderlands, and may have been related to the assertion of territoriality, this seems not to have been their only object.

III

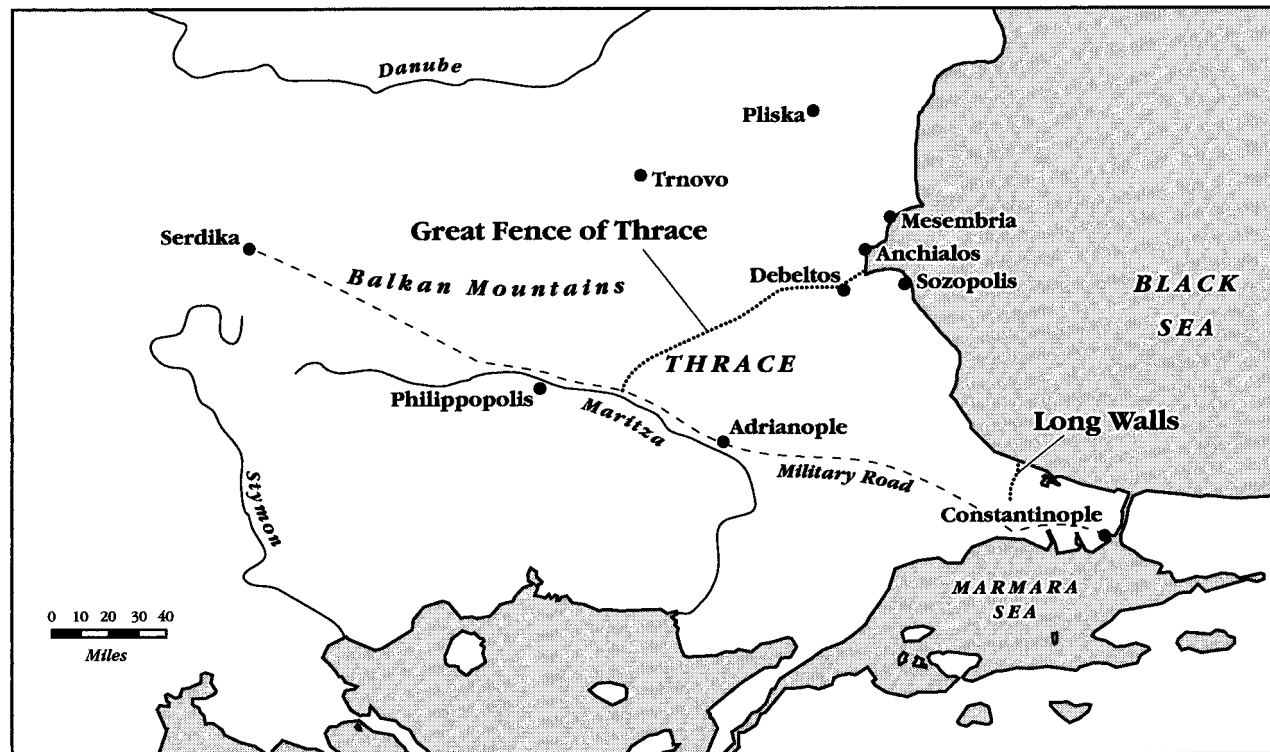
Thus there are enough puzzles surrounding the two main ways of explaining the practice of digging enormous ditches to allow for further, perhaps complementary, models. Indeed, without the existence of some ulterior buttressing motives for the great effort that early medieval communities expended upon their ditches, neither a strategic nor a territorial reading of the structures is entirely satisfactory. Far more satisfactory is a comparative analysis of early medieval ditch-digging which allows the Karlsgraben, the Erkesia, the Danevirke, and Offa's Dyke to be seen as related phenomena, part of a similar dynamic. What these

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2 vols. (Athens, 1988), i, 31; Nicolas Oikonomides, 'Mesembria in the Ninth Century: Epigraphic Evidence', *Byzantine Studies*, viii–xii (a single volume, 1985, for 1981–5), 271–2.

⁶¹ Nissen Jaubert, 'Systèmes agraires dans le sud de la Scandinavie'; Sawyer and Sawyer, *Medieval Scandinavia*, 27, 31–3; Randsborg, *Viking Age in Denmark*, figure 7A, 51–2, 64–9; Morten Axboe, 'Danish Kings and Dendrochronology: Archaeological Insights into the Early History of the Danish State', in G. Ausenda (ed.), *After Empire: Toward an Ethnology of Europe's Barbarians* (San Marino, 1995), 224; Fabech, 'Reading Society from the Cultural Landscape', 178. All the above suggest that southern Scandinavian culture, ecology, and agrarian systems were similar on both sides of the dyke. Unverhau shows medieval parishes ignored the Danevirke: Unverhau, *Untersuchungen zur historischen Entwicklung*, map 14.

MAP 4
THE BALKAN AREA IN THE EARLY MIDDLE AGES



ditches share, apart from their huge proportions and the amount of digging that they all involved, is intimate ties with a ruler, whether it be Charlemagne, king of the Franks and duke of the Bavarians, Offa, king of Mercia, Khan Omurtag, or the more shadowy Danish potentates who preceded King Godfrid. Construction of the great fosses happened at roughly the same time, in that 'long' eighth century during which central control, the assertion of rulers' authority, or state formation, all found new means of expression. Early medieval kings and khans had enormous difficulty in taxing their subjects and did not even attempt to monopolize violence, but they proved highly creative in devising other ways to obtain respect for their authority and to impart a local efficacy to their will.⁶² This is surely the best context within which to understand the ditches. Digging ditches or, to be more exact, having others dig ditches, was far too important to be overlooked by rulers whose capacity to coerce and to build support and consensus was always fragile, and open to question. Ditches were a project the ruler defined and whose execution he organized. Digging was a task over which thousands of peasants could be asked to sweat and toil, and for which their lords would allocate time. For these reasons, during the eighth and ninth centuries the strategic qualities of the ditches, their engineering, siting, defensibility, even their completeness, were not as relevant as the act(s) of power which digging the ditches made possible. For the same reasons, the accuracy of the dykes' location at the very point where a claim to sovereignty ended was a secondary consideration. It was not the finished product — the ditch as artefact which scholars contemplate today — that most concerned the powerful in the early Middle Ages. Rather, it was the event of construction that mattered.

If the actual excavation — the *histoire événementielle* of ditch digging — was the deeper purpose of the grand earth-moving projects, then the details of their construction take on significance and deserve analysis. Such an analysis suggests how work on this scale could affect early medieval societies. It should be borne in mind that a modestly motivated and simply equipped human

⁶² Rosenwein and Innes suggest ways of re-evaluating early medieval rulership without modern statist expectations: Barbara H. Rosenwein, *Negotiating Space: Power, Restraint and Privileges of Immunity in Early Medieval Europe* (Ithaca, 1999), 6–8, 12–14; Innes, *State and Society in the Early Middle Ages*, 5–7, 9–11. Roman statist expectations suited early medieval rulers better.

excavator seldom shifts more than 1.5 cubic metres of earth in a working day of digging.⁶³ This means that a huge amount of manpower and a considerable number of hours must have been invested in each of the early medieval excavation projects. In the case of the Karlsgraben, for which contemporary Frankish sources indicate how much time was spent on digging, a calculation of the volume of soil which was moved out of the ditch and onto the two high mounds parallel to it implies that between 4,700 and 6,000 diggers toiled for Charlemagne during the autumn of 793.⁶⁴ A very ingenious use of the early tenth-century 'Burghal Hidage' has permitted an estimate of the number of hides at the disposal of Offa (more than 150,000), and therefore of the number of diggers he might rely upon (many thousands) and the amount of their time that he demanded (two springs).⁶⁵ Similar calculations of the quantity of earth which was shifted in Thrace and Jutland, together with considerations of the digging styles and the unitary design of each dyke (which suggest rapid completion for both projects), leave little doubt that the organizers of these ventures also mobilized thousands of workers.⁶⁶

Nor did the work entailed in digging ditches on this scale end when the first construction effort had subsided. The monumental

⁶³ Caesar, *Gallic War*, v. 42, claimed a three-mile trench, with a rampart three metres high, could appear in three hours, but surely this is just another reflection of his famous 'celeritas'. Brian Hopley, 'An Experimental Reconstruction of a Roman Turf Rampart', *Roman Frontier Studies*, 1967 (Tel Aviv, 1971), 28, writing from experience, noted that efficiency in digging was hampered by concentrating too much manpower into a small area (he used British convicts, 'on loan' from a local jail, to erect a model rampart). Soil type, weather, availability of cartage and supplies are some factors affecting how fast and how much one digs. Vulpe saw Romanian diggers in the 1930s move 1.5 cubic metres of soil every eight hours, on average: Radu Vulpe, *Le Vallum de la Moldavie inférieure et le 'mur' d'Athanasius* (The Hague, 1957), 49.

⁶⁴ If the Fossa Carolina had been completed from Altmühl to Rezat, at least 750,000 cubic metres of earth would have been shifted. As the banks of the Fossa are very high, the work was especially difficult and labour-intensive, so a labour force of six thousand is likeliest. See Hofmann, 'Fossa Carolina', 446.

⁶⁵ Hill, 'Construction of Offa's Dyke', 141–2; Richard Hodges, *The Anglo-Saxon Achievement* (London, 1989), 144; Wormald, 'Age of Offa', 122, speaks of 'tens of thousands'. On the Burghal Hidage, see Nicholas Brooks, 'The Administrative Background to the Burghal Hidage', in David Hill and Alexander R. Rumble (eds.), *The Defence of Wessex: The Burghal Hidage and Anglo-Saxon Fortifications* (Manchester, 1996).

⁶⁶ For considerations on the large size of the workforce, wisely without precise numbers, see Rašev, *Starobalgarski Ukrepnija*, 124–5; Rašo Rašev, 'Zemlenata Ukrepitelna Sistema na Parvoto Balgarsko Carstvo', *Pliska-Preslav*, ii (Sofia, 1981), 102; Axboe, 'Danish Kings and Dendrochronology', 221; Andersen, 'Das Danewerk als Ausdruck', 10. For examples of large-scale, labour-intensive projects in the 700s,

(cont. on p. 42)

trenches needed maintenance just as drainage ditches do. The effects of rain, wind, root growth, and animals' activities could be disastrous if they were not countered. In the seventh century Isidore of Seville knew this well, and cited certain African and Spanish earthworks as marvels because of their exceptional endurance without upkeep.⁶⁷ Of course not every furrow was built to last, or with the expectation that maintenance would be available, but the monumental dykes in question here were not made as ephemera. The best evidence that the rampart designers built to last comes from Denmark, for the Danevirke had extensive sections with a turf shell overlying the bank of fill removed from the ditch, a refinement intended to give the dyke greater solidity.⁶⁸ Also, the berms (features which normally offered attackers secure footholds across the ditch, and which, therefore, were militarily ill-advised) are explicable as attempts to control erosion and runoff, and to impart more durability to the ditch-sides and banks. Likewise the form of the ditches, with sloping sides, offered increased strength to the structure at the expense of defensibility (which flat-bottomed, vertical-sided ditches improve).⁶⁹ But even the most cunning ditches silted up and soon filled with detritus if not cleaned out; late antique Roman fighters recognized this problem and sought a solution by obliging the local population to clear town moats in anticipation of sieges.⁷⁰ Danish and German

(n. 66 cont.)

see Theophanes, *Chronographia*, AM 6258 (ed. C. de Boor, i, Leipzig, 1883, 440), with a total of 6,900 workers, including specialized craftsmen; Eigil, *Vita Sturmii Abbatis Fuldensis*, XXI, in *Die Vita Sturmii des Eigils von Fulda: Literarkritische-historische Untersuchung und Edition*, ed. Pius Engelbert (Marburg, 1968), 156.

⁶⁷ Isidore of Seville, *Etymologiae*, XV. 9. 5.

⁶⁸ On the turf, see Andersen, 'Das Danewerk als Ausdruck', 191, 195; Stark, *Haithabu-Schleswig-Danewerk*, 119. Jankuhn, *Haithabu*, 72–3, records the multiple restorations of the Danevirke after ditch-clogging and mound-collapse. For comparative data on weathering, see Brian Hobley, 'A Neronian-Vespasianic Fort at "The Lunt", Baginton, England', in Eric Birley, Brian Dobson and Michael Jarrett (eds.), *Roman Frontier Studies, 1969* (Cardiff, 1974), 79–81. Hooke notes that, since most dykes known from texts are no longer discernible, they must have been perishable, and subsided as soon as their perceived utility ended: Hooke, *Anglo-Saxon Landscapes of the West Midlands*, 255. Cane claims Wat's Dyke was 'not planned to last': J. Cane, 'Excavations on Wat's Dyke at Pentre Wern', *Shropshire Hist. and Archaeology*, lxxi (1996), 18–19.

⁶⁹ Napoli, *Recherches sur les fortifications linéaires romaines*, 7–9, considers ditch-and-bank stability, and figure 1 offers a valuable typology of ditch shapes (11).

⁷⁰ Ammianus Marcellinus, *Rerum Gestarum Libri*, XXIX. 6. 11, describes the 'obrutus fossas' of Sirmium. He did not specify that Probus, the praetorian prefect during a Quadi insurrection there, made the Sirmians do the work, but see *Codex Theodosianus*, XI. 17. 4.

sources, which furnish the clearest evidence of the use of early medieval dykes, suggest that times of crisis were the commonest occasions for restoration and repair work on them: war or fear of it provided rulers with the pretext to mobilize crews of labourers on the Danevirke.⁷¹ But by the 1200s Denmark's kings charged communities near to the Danevirke, in North Friesland, the North Sea islands, and the coastlands of Schleswig-Holstein with its regular upkeep; so such structures could become an ongoing burden for diggers, as well as an ongoing means of commanding labour for kings.⁷² There is no evidence that Charlemagne planned regular dredging of his canal, nor that the upkeep of the Erkesia or of Offa's Dyke preoccupied the designers of those structures, but each of these trenches would have required maintenance if they were to remain standing. Also, in each case, whether occasional or at regular intervals, repairs provided the opportunity of conscripting workers. Monumental ditches, in other words, could become a long-term commitment for those wielders of digging tools unlucky enough to live close by.

Despite northern Europe's pedological stability, early medieval Europe's earth was not static. Earth *could* move on its own, eroded by heavy rain or gusts of wind or, even more marvellously when supernatural forces intervened, piling up overnight to form an embankment, as happened near Magdeburg in 822.⁷³ Nevertheless, human cultural interventions contributed most to making earth change place during the early Middle Ages, for Europe's was a soil-moving society. Although enormous excavations like the ones discussed here remained exceptional, they traversed territories whose inhabitants were accustomed to shifting soil around, sometimes large quantities of it.

Ditch-digging was, after all, an everyday agricultural operation, one which the manual for farm overseers of tenth century England, *Gerefa*, advised should be done on a regular, seasonal

⁷¹ Saxo, *Gesta Danorum*, x. 3, XIII. 8. 5 (ed. Olrik and Ræder, i, 272, 359), places rebuildings in war contexts. Thietmar of Merseburg, *Chronicon*, III. 6 (ed. Holtzmann, 104), says 'ad defensionem patriae parata est [foveam]' in 975, with Otto II looming on the horizon.

⁷² *Liber Census Daniae: Kong Valdemar den Andens Jordebog*, ed. O. Nielsen (Copenhagen, 1873), 15, 17, 19. This rare Danish evidence of how work on the Danevirke might be organized dates to 1231.

⁷³ *Annales Regni Francorum*, s.a. 822 (ed. Kurze, 157).

basis.⁷⁴ Small trenches carried water away from one field or onto another one, or channelled run-off into streams. Earthen banks, the product of digging, occasionally separated fields or surrounded woods, especially in England.⁷⁵ But these were small-scale digging operations, compared to an Erkesia or a Danevirke. Somewhat grander were certain excavations carried out in early medieval Europe in order to improve navigability. The seventh-century Byzantine stronghold of Heraclea, in the marshy zone north of Venice, boasted a watercourse created by straightening a natural channel, which clearly required a lot of digging.⁷⁶ Slightly later were the surprisingly ambitious canal constructions of early medieval Denmark. Though inexplicable as improvements to navigation, these still involved much digging.⁷⁷ In both western England and southern Denmark there are also several short dykes, unrelated to Offa's Dyke or the Danevirke — further evidence of the desire to dig up the earth, even if on a scale more modest than that of the great dykes.⁷⁸ In the early Middle Ages, earthworks sometimes encircled settlements, as at the Bulgar capital, Pliska, or Hamwic (Southampton), or Hedeby.⁷⁹

Another occasion for turning over the soil was the disposal of the dead. A few prominent people received burial in barrows or

⁷⁴ *Die Gesetze der Angelsachsen*, ed. F. Liebermann, 3 vols. (Halle, 1903–16), i, 454 (*Gerefa*, XII), suggested that scooping out ditches was one of the occupations undertaken in the spring.

⁷⁵ On earthen banks, see Oliver Rackham, *The History of the Countryside* (London, 1986), 98–100; Rackham, 'Trees and Woodland in Anglo-Saxon England', 9; Hooke, *Anglo-Saxon Landscapes of the West Midlands*, 255–60. See also Isidore, *Etymologiae*, xv. 13. 2.

⁷⁶ Pierluigi Tozzi and Maurizio Harari, *Eraclea Veneta: immagine di una città sepolta* (Parma, 1984), 101–3.

⁷⁷ Axboe, 'Danish Kings and Dendrochronology', 222, 241; Olsen, 'Royal Power in Viking-Age Denmark', 29–31.

⁷⁸ Randsborg, *Viking Age in Denmark*, 48; Axboe, 'Danish Kings and Dendrochronology', 223–4; Olsen, 'Royal Power in Viking-Age Denmark', 28; Fox, *Offa's Dyke*, 114; N. P. Brooks, 'England in the Ninth Century: The Crucible of Defeat', *Trans. Roy. Hist. Soc.*, 5th ser., xxix (1979), 10–11.

⁷⁹ Harald Bluetooth's elegant earthen forts in North Denmark were 'pretty impractical': see Roesdahl, 'Prestige, Display and Monuments in Viking Age Scandinavia', in Galinié (ed.), *Les Mondes normands*, 22–3. On Hedeby, see Randsborg, *Viking Age in Denmark*, 72; Jankuhn, 'Die Befestigungen um Haithabu'; Sawyer and Sawyer, *Medieval Scandinavia*, 147. Brisbane thinks Hamwic's barrier was indefensible: Mark Brisbane, 'Hamwic (Saxon Southampton): An Eighth-Century Port and Productive Centre', in Richard Hodges and Brian Hobley (eds.), *The Rebirth of Towns in the West* (London, 1987), 103. On Pliska, see Rašo Rašev, 'Zemlenoto Ukrepnenie na Pliska', *Pliska-Preslav*, iv (Sofia, 1985); Rašo Rašev, 'Pliska: The First Capital of Bulgaria', in A. G. Poulter (ed.), *Ancient Bulgaria*, 2 vols. (Nottingham, 1983), ii, 259.

big piles of earth (tumuli), both of which necessitated much diligent digging: Sutton Hoo's mound is only the most famous. As the first millennium waned, this practice became less common, and even in Late Antiquity people consistently preferred to recycle prehistoric barrows rather than make new ones: but still much soil changed place.⁸⁰ In Bulgaria, mounds large enough for their creation to have occupied more than the immediate family of the deceased were in use quite late, and the largest and most famous burial mounds of Denmark, at Jelling, date to the mid tenth century: they clearly kept many workers busy for a long time. The mysterious, perhaps cosmological 'tumba' created by Khan Omurtag to mark the geometric midpoint between two meaningful places — khalal residences — was not a tomb but was 'magnificent' enough that it, too, must have required the labour of many diggers.⁸¹

In sum, from these exalted religiously motivated monuments to the humblest homespun drainage ditch, early medieval people had many occasions to turn over the earth, excavate it, shape it, and reconfigure it according to their needs. Digging was wearisome but not technically demanding work. The equipment it required was available to most; many were agriculturalists for whom hoes, spades, baskets, carts, and beasts of burden were familiar, even if the specialized iron digging tools which Charlemagne's army on campaign in the Elbe region expected to have on hand, were not widely available.⁸² Unlike other types of construction work, which call for specialists and special materials, it was an optimal occupation for the ordinary workforce. It also

⁸⁰ Jankuhn, *Haithabu*, 87–8; Sims-Williams, *Religion and Literature in Western England*, 65–75, 343; Dark, *From Civitas to Kingdom*, 116; Magdalena S. Midgley, *The Origin and Function of the Earthen Long Barrows of Northern Europe* (Oxford, 1985); Ivan Dujčev, 'Le Problème des tumuli et des sanctuaires slaves en Bulgarie', in his *Medioevo bizantinoslavo*, 3 vols. (Rome, 1965–71), iii; R. van der Noort, 'The Context of Early Medieval Barrows in Western Europe', *Antiquity*, lxxvii (1993).

⁸¹ *Die protobulgarischen Inschriften*, ed. Beševliev, 247, no. 55, with useful commentary (255–60). Omurtag called the tumulus 'panphumon', the same term that he applied to his palaces. There are a few instances in Anglo-Saxon and Bulgar culture where earth has religious overtones rather like the Roman Tellus, but earth-moving does not seem a sacral activity.

⁸² This makes dykes unlike pyramids, to which they sometimes are compared (see, for example, Hart, 'Kingdom of Mercia', 56), and unlike royal residences or Byzantine aqueducts, because their construction did not call for specialized craftspeople or building materials. Charles's letter to a retainer, datable to the period of the Danish campaigns, asks that carts contain 'fosorios, palas ferreas et cetera utensilia que in hoste sunt necessaria': *Capitularia Regum Francorum*, LXXV (ed. Alfred Boretius, MGH, Legum Sectio II, i, Hanover, 1883, 168).

did not call for great investment on the part of the powerful. Perhaps for these reasons they espoused it, in its most monumental form.

For the immensity of the Danevirke, of Offa's Dyke, of the Karlsgraben, and of the Erkesia made them exceptional. No matter how much soil was shifted in early medieval communities, these structures represent a gigantic, concentrated amount of work, unequalled by other diggings. How rulers extracted this extraordinary effort from such large numbers of their subjects is not clarified even by the few texts that are contemporary with the work and describe the actual digging. In fact, who did the digging was not a question asked by early medieval writers. However, obtaining corvée labour was one of their prerogatives which eighth-century rulers took seriously. Indeed, at a time when the requirement of labour services by landlords was on the rise, rulers appear to have become more exacting on the muscle power of their subjects, and to have asked for more bridge maintenance and other unremunerated construction work than had been usual.⁸³ Although much of the evidence for corvées in 'public works projects' dates from after 850, later than the excavations dealt with here, it is clear that it was no innovation at that time. Indeed, it seems that when Mercia's eighth-century kings affirmed their right to make subjects who owned land provide labour on bridges and fortifications, they were only being more vigorous than their predecessors. This right was older, but had tended to lie dormant. Strident ecclesiastical complaints against this kind of imposition might suggest such exactions were not yet customary, and that recipients of royal gifts of land had yet to digest the fact that such gifts came with strings attached. Indeed, Mercian diplomas from Offa's reign are the earliest extant ones explicitly to reserve the triple royal prerogative (the *trimoda necessitas*) and spell out that gift lands were not immune from obligations to supply kings with three kinds of labour service. Yet there are so few surviving earlier charters of any sort that we may wonder whether what was new was the intransigence of Offa and his predecessor Aethelbald, rather than the right itself. In the eighth century, royal grants of land, and the consequent need to specify which royal rights remained in force on granted land, gained novel prominence. The need to reiterate the fact

⁸³ Wendy Davies, 'On Servile Status in the Middle Ages', in M. T. Bush (ed.), *Serfdom and Slavery* (London, 1996), 234–5.

that no one was exempt from *corvées* for maintenance work on infrastructures shows how unpopular this obligation was in all sectors of Anglo-Saxon society, and how tempting it was, for those who could, to forget about it unless frequently reminded. But by the later ninth century Anglo-Saxon kings expected the burden for the upkeep of bridges and boroughs to rest on local landowners' shoulders.⁸⁴

Elsewhere in the Carolingian world similar requirements existed. Constructing the famous Leonine wall built in the mid-800s around St Peter's in Rome was the responsibility of rustics recruited from nearby papal estates, with each community being responsible for a section of wall and the inscription to commemorate its efforts.⁸⁵ *Mauerbaupflicht* (wall-building duty), of which there is an interesting example from Carolingian Worms, was imposed on villages around the metropolis, with groups of villages obligated to build and patch up specific stretches of the town's defensive circuit.⁸⁶ Something similar appears to have transpired in West Francia in the mid ninth century. The *Annals of St Bertin* describe the almost feverish pace at which Charles the Bald conducted his pet project of erecting fortifications 'of stone and wood' at Pitres in the 860s. According to this account, Charles surveyed the site himself, then assigned obligations to work on specific measured lengths of wall to the inhabitants of his realm in proportion to their wealth. Naturally, most of those

⁸⁴ W. H. Stevenson, 'Trimoda Necessitas', *Eng. Hist. Rev.*, xxix (1914); Abels, *Lordship and Military Obligation*, 52–7, 77; P. H. Sawyer, *From Roman Britain to Anglo-Saxon England* (New York, 1978), 109; Nicholas Brooks, 'The Development of Military Obligation in Eighth- and Ninth-Century England', in Peter Clemoes and Kathleen Hughes (eds.), *England before the Conquest* (Cambridge, 1971), 69–76, 82–3; Brooks, 'Administrative Background to the Burghal Hidage', 129; C. Warren Hollister, *Anglo-Saxon Military Institutions* (Oxford, 1962), 59–62; Fox, *Offa's Dyke*, 79–81. For Boniface's scandalized letters, see Boniface, *Epistulae*, LXXIII, LXXVIII, in *Die Briefe des heiligen Bonifatius und Lullus* (ed. Michael Tangl, MGH, *Epistolae Selectae*, i, Hanover, 1916, 152, 169); Sims-Williams, *Religion and Literature in Western England*, 136.

⁸⁵ For the inscriptions, see *Liber Pontificalis*, CV. 68–9 (ed. Duchesne, ii, 123, 137 n. 47; i, 518 n. 52). Sheila Gibson and Bryan Ward-Perkins, 'The Surviving Remains of the Leonine Walls', *Papers Brit. School at Rome*, xlvii (1979), 31–3, mention the unpopularity of the obligation among peasants, and the fact that some supplies must have been provided by the project's patrons.

⁸⁶ See the 'Wormser Mauerbauordnung', *Quellen zur Geschichte der Stadt Worms*, ed. Heinrich Boos, 4 vols. (Berlin, 1886–95), iii, 223–4; Alfons Schäfer, 'Mauerbaupflicht fränkische Königsleute zu Ladenburg und an der karolingerzeitlichen Ringwallanlage "Heidenlöcher" bei Deidesheim', *Zeitschrift für der Geschichte der Oberrheins*, lxxiv (1965).

thus taxed would send ox carts and labourers rather than work themselves. Yet the *Annals* leave little doubt that considerable numbers of workers could be obtained in this way, despite the inevitable attempts to prevaricate (Charles could not get people near Pitres to work on local bridges and, in order to get the job done, he had to recruit from those who had arrived from further afield to build fortifications on the Seine against Norse raids).⁸⁷ The same military crisis which justified Charles the Bald's demands for his subjects' co-operation on his building projects in this case seems also to have justified his subjects' evasion of such work, giving them the excuse that the times were too unsafe for unarmed work parties to be abroad. This is not quite the same image of relentless commitment and unfailing obligation to work on public service tasks which contemporary laws display; though of course the laws present the world as Carolingian rulers would have liked it to be, and the capitularies mention the (unpopular) obligation of some peasants to load marl and transport it by cart to royal centres.⁸⁸

These different kinds of evidence all suggest that during the 'long' eighth century, rulers could demand construction work from their subjects without having to recompense them. It seems that on some occasions, at least, rulers succeeded in obtaining what they wanted, and that episodically they could muster many workers. Despite the apparent ability of Charles the Bald to gather workers from remote places at a central location to work for him, the evidence also suggests that *corvées* were imposed and carried out locally. The major earth-moving operations of the eighth and ninth centuries would therefore have had a predominantly local impact — usually on the rural communities, through whose territory the ditches ran, whose labour the ditches absorbed, and for whom the event of ditch-making was most significant. The construction of the ditches is best understood in a localized, regional landscape, not only because the catchment area of the workforce involved was local and regional, but also because each region of early medieval Europe in which a

⁸⁷ *Annales Bertiniani*, s.a. 862, 865 (resistance to bridge work), 866, 868, 869 (ed. G. Waitz, MGH, *Scriptores Rerum Germanicarum in Usus Scholarum*, Hanover, 1883, 58, 79, 82, 96, 98). See Nicholas Brooks, 'European Medieval Bridges', in his *Communities and Warfare, 700–1400* (London, 2000).

⁸⁸ For example, the 'Edict of Pitres', XXIX, in *Capitularia Regum Francorum*, CCLXXIII. 29 (ed. Alfred Boretius and Victor Krause, MGH, *Legum Sectio II*, ii, Hanover, 1897, 323). This involved the kinds of work also required by ditch-digging.

monumental trench lay had peculiarities which gave each ditch a slightly different significance.

For instance, the land across which the Great Fence of Thrace extends was a recent addition to the khans' domains. It was inhabited by a heterogeneous population whose culture was Greek and Slavic. As the khans seldom required military service from non-Bulgars (except in great emergencies), what they could best extract from those was logistical service. The rural inhabitants of northern Thrace, most of whom were not Bulgars, are the likeliest candidates for doing the digging necessary for an Erkesia. The task of supervising the diggers, and ensuring that they carried out the work as required, would fall to the Bulgar troops and khal officials.⁸⁹ In this case digging the ditch became a moment, however brief, of khal triumph. It was a fleeting episode during which the khan was able to appropriate the work and resources of his subjects, both Bulgar and others, on a scale unequalled by even the most ambitious military campaigns. Digging the Erkesia would thus have been an enactment of the social and ethnic relations upon which khal ideology rested. The enactment took place in a contested territory, and required the participation of numerous people for whom the khan's overlordship was new and alien. These circumstances added to the usefulness of the exercise of digging the long furrow.

When Charlemagne's host descended on the valley of the Altmühl with the intention of opening a passage for its waters to the Rezat, a tributary of the Regnitz that flows into the Main near Hallstadt, Bavaria had not been part of the Carolingian hegemony for long. Indeed, under its enterprising Duke Tassilo the independent duchy of Bavaria had given Francia much to worry about until 788. Only with the deposition of the local duke,

⁸⁹ Omurtag was sensitive to ethnicity, as evinced from *Die protobulgarischen Inschriften*, ed. Beševliev, 191, no. 41. The Byzantine custom of settling eastern Christians in Thrace (attested by Theophanes and Patriarch Nikephoros) furthered the cultural mixing: see Ostrogorski, *History of the Byzantine State*, 192–5; Dimitur Angelov, *Die Entstehung des bulgarischen Volkes* (Berlin, 1980), 97–8. Hostages and prisoners added further heterogeneity. On the Greek speakers of the area, see Mark Whittow, *The Making of Byzantium* (London, 1996), 273–4, 279–81. The classic work by Ivan Dujčev, 'Protobulgares et slaves', in his *Medioevo bizantinoslavo*, i, discusses Bulgar–Slav relations. In emergencies, as in AD 716 or 812, the khans did summon Slavic soldiers, but otherwise recruited Bulgars: Beševliev, *Die protobulgarische Periode der bulgarischen Geschichte*, 244, 280, 347–54; Browning, *Byzantium and Bulgaria*, 132–5. A papal text of AD 866 suggests Bulgar levies were unenthusiastic, and the penalties inflicted on foot-draggers shocked the pope: Nicholas I, *Epistulae*, XCIX (ed. Perels, 579, 582).

the assumption of his title and prerogatives by the king of the Franks, and the introduction there of Frankish institutions and magnates did the incorporation of this new province of the nascent Carolingian empire begin. Thus the construction of the canal in 793 was an anomalous event for the Bavarians who witnessed it, both because of its inherent nature (Tassilo, whom Charlemagne exiled to a monastery, tried many imaginative things, but did not dig ditches), and because of who inspired it, namely a new, as yet untested authority. As with most places annexed by the Carolingians, the transition into the Frankish fold went smoothly and there was much intermarriage of Franks and Bavarian landowners.⁹⁰ Still, in 793 in northern Bavaria the people who had so recently attained supremacy had use for exemplary exercises of power such as making others dig ditches. Neither Charlemagne's immediate followers nor his household troops were numerous enough to make the great trench in a few months of autumn, so conscripted peasants, and perhaps captives from the Avar campaigns were most probably responsible for the bulk of the work.⁹¹ Some of the manpower must have come from former ducal farms. Other diggers probably came from neighbouring settlements where other landlords held sway.⁹² The ownership of land did not change much under the Carolingians, but the peasants' presence at the excavation site testified to a new capacity of the dukes (and Frankish kings) to win compliance from many for the new

⁹⁰ This is the conclusion of Kathy Roper-Pearson, *Conflicting Loyalties in Early Medieval Bavaria: A View of Socio-Political Interaction, 680–900* (Aldershot, 1999). See also Stuart Airlie, 'Narratives of Triumph and Rituals of Submission: Charlemagne's Mastery of Bavaria', *Trans. Roy. Hist. Soc.*, 6th ser., ix (1999), 101–3, 116; Collins, *Charlemagne*, 77–87.

⁹¹ Hofmann, 'Fossa Carolina', 447, claims Frankish troops and Avar prisoners did the digging. It is more likely to have been the latter. Early Roman legionaries had dug ditches, but by Late Antiquity digging, especially of trenches unrelated to their forts, was one of the 'sordida munera' that troops resented: Valens' ability to have troops make ramparts without mutiny was a feat (Themistocles, *Oration*, x. 12), in contrast to earlier evidence: for example, *Année Epigraphique* (1983), no. 927. The task, thrust upon civilians, created attempts to avoid it: *Codex Theodosianus*, xi. 17. 4, xv. 1. 34, xv. 1. 49. See Nicholas Brooks, 'Church, Crown, and Community: Public Work and Seigneurial Responsibilities at Rochester Bridge', in Timothy Reuter (ed.), *Warriors and Churchmen in the High Middle Ages* (London, 1992), 16. The project enabled Charles to use new rights and resources from the royal estate at Weissenburg: Hofmann, 'Fossa Carolina', 449.

⁹² Population was low in the area of the ditch in the early Middle Ages, judging from the slim archaeological traces. A twelfth-century source represented 'a multitude of Bavarians and Franks and Swabians' (i.e. ethnic groups) making the ditch: *Auctarium Codicis Monacensis* (ed. W. Wattenbach, MGH, *Scriptores*, xiii, Hanover, 1881, 237).

order of things.⁹³ In this freshly conquered area, the Karlsgraben gave Charlemagne a chance to exercise his ruler's rights and to test the loyalty of Tassilo's former followers by demanding their labourers' work. For a ruler as frenetically itinerant as Charlemagne was before 800, the three or four months of immobility in a remote corner of rural northern Bavaria in 793 were well worth while, even if they reduced his ability to disseminate the royal presence and produced no canal by which to penetrate Avar lands. Those months gave the new Frankish lord the opportunity to choreograph an event in which Bavarian potentates and subalterns had to show obedience and support. They also allowed Charlemagne to leave his mark on the countryside in the form of the vestigial trench still visible at the hamlet of Graben.⁹⁴

The eighth century in general, and Offa's later reign in particular, were successful times for the Mercian monarchy. During the 700s Mercia grew in power and status until it overshadowed the other kingdoms of Britain. This hegemony had its setbacks, and was always contested by other Anglo-Saxon kings, but Offa was by far the most successful English ruler of his age. Nevertheless, like other English rulers, Offa depended heavily on the consent and support of magnates. His willingness to give the loyal ones gifts of farmland (a precious commodity), betokened his need for friends and allies. In this context of ongoing, much-reaffirmed mutual dependence, digging Offa's Dyke had special resonance. As was noted earlier, Offa was one of the first English rulers to bind land ownership tightly to the duty of building or rebuilding a specified length of fortification (earthworks, for the most part). If, as David Hill plausibly suggested, Offa's Dyke was built using the same recruitment methods that Mercia's rulers theoretically applied to the smaller, more defensible town ramparts in the realm, then Mercia's landowners would have suffered a considerable loss of manpower, supplies, and time which could have been devoted to agriculture.⁹⁵ Offa demanded and, judging from the

⁹³ The disapproval of the 'big dig' mentioned in the *Einhard Annals* may stem from Charlemagne's inclusion of churches among the landlords whose workforce he co-opted.

⁹⁴ Geertz acutely noted kings' desire to travel their countryside and 'mark it like some wolf or tiger spreading his scent through his territory': Clifford Geertz, 'Centers, Kings, and Charisma: Reflections on the Symbolics of Power', reprinted in Sean Wilentz (ed.), *Rites of Power* (Philadelphia, 1985), 16. Charlemagne's retinue was in need of such edification after a major rebellion.

⁹⁵ Welsh subjects may have been forced to dig, but see Hill, 'Construction of Offa's Dyke', 141–2; Brooks, 'Development of Military Obligation', 84. Abels, *Lordship and*

(cont. on p. 52)

surviving remains, received the sacrifice of resources and work on an unprecedented scale. To the extent that Mercians participated, therefore, digging the long trench through the western borderlands was an important, if momentary, imposition of normally dormant royal rights on Mercia's aristocracy and their rural dependants. With respect to the relationships among the powerful, digging Offa's Dyke was a short but sharp and instructive actualization of the kings' claims over men whom they could not afford to alienate, but whose rural workers they nevertheless appropriated for a short time.

No single Danish lord is known to have enjoyed supremacy over the Jutland peninsula in the early 700s, when the earliest linear earthwork was built near the Eider river. By 800 outside observers perceived a unified state under Godfrid, but the earlier phase of Danevirke digging cannot be assigned to a similar ruler. Still, this second phase of construction, which the Frankish chroniclers associated with a fearsome enemy, indicates that major ditch-and-bank features came out of royal initiatives in this period. It is therefore feasible for the earlier Danevirke to belong in a context of aggrandizing chiefdoms and state formation. In each of its first millennium guises, the Danevirke gave overbearing rulers a task through which they could co-opt unusual numbers of people. The dyke was surely the biggest 'public works project' in early Danish history and whoever organized its construction, whether in the early 700s or early 800s or 960s, demonstrated unprecedented control over manpower, equipment, and logistics.⁹⁶

The extant sources do not provide many details about this organizational effort, but the *Royal Frankish Annals* maintain that, upon returning to Denmark from a successful campaign in Saxon and Obodrite lands, Godfrid's commanders received a

(n. 95 cont.)

Military Obligation, 45–6, 52–3, points out that the third 'necessitas', military service, appeared later than the other two: bridge work and fortification repair. Brooks, 'England in the Ninth Century', 19, notes that only with universal conscription in the 1900s did English kings' appropriations of subjects' labour reach these levels. What a burden building Offa's Dyke could be was shown on a BBC television programme where none of the companies involved in British public works projects could be persuaded to attempt the reconstruction of something like the dyke: K. Smith, *Free is Cheaper* (Worcester, 1988), 26. My thanks to Luisa Squatriti for this reference.

⁹⁶ On early Danish state formation, Hedeager, 'Kingdoms, Ethnicity and Material Culture'; Axboe, 'Danish Kings and Dendrochronology', 217–38; Simon Coupland, 'From Poachers to Gamekeepers: Scandinavian Warlords and Carolingian Kings', *Early Medieval Europe*, vii (1998).

share of the task of construction from an impatient king. The annalist did not claim that the wily leader ordered his combat-tested, loyal retainers to take up spades and dig the trench, however; since Late Antiquity at least, that was work warriors did not like to do. More vaguely, the Carolingian writer said that different units of the army had responsibility for ensuring that a given sector of the ‘vallum’ was finished. The implication is that the warriors’ work was enforcement of the king’s will on the locals, with peasants doing the digging.⁹⁷ Since no such account of the construction of the first Danevirke exists, we cannot know how it was created. Yet later sources, like the *Liber Census Daniae* and the legendary account of how the Danes created their Danevirke by Sven Aggesen, suggest ordinary local civilians, inspired or obligated by kings, built the structures.⁹⁸ Each of the Danevirke’s pre-1000 construction phases took place when leadership of the Jutlanders was contested, whether by the various chiefs of the early eighth century, by Godfrid’s Carolingian-sponsored relatives, or by the many lords whom overseas expeditions had enriched in the tenth century.⁹⁹ The immediate semiotics of the large effort represented by digging the dykes would reverberate among the various Danish leaders *not* involved in it. Indeed, a ditch-digging lineage was established, with Godfrid being the moral perpetuator of the unknown first creator of the fosse and Harald Bluetooth, the king behind the tenth-century overhaul of the structure, as the culmination of the tradition. For

⁹⁷ *Annales Regni Francorum*, s.a. 808 (ed. Kurze, 126): ‘Ibi per aliquot dies moratus limitem regni sui, qui Saxoniam respicit, vallo munire constituit, eo modo, ut ab orientali mari sinu, quem illi Ostarsalt dicunt, usque ad occidentalem oceanum totam Egidorae fluminis [the Eider] aquilonamlem ripam munimentum valli praetexeret, una tantum porta dimissa, per quam carra et equites emitti et recipi potuissent. Diviso itaque opere inter duces copiarum, domum reversus est’.

⁹⁸ *Liber Census Daniae*, ed. Nielsen, 15, 17, 19. Sven Aggesen, *Brevis Historia Regum Dacie*, v–vi, in *Scriptores Minores Historiae Danicae Medii Aevi*, ed. M. Cl. Gertz, 2 vols. (Copenhagen, 1917–20), i, 108–15, gives a full account, perhaps based on oral sources, with details of a *levée en masse* of diggers (excluding infants and the decrepit), pay for the indigent, and recognition that it cost much sweat. Aggesen placed construction in the mid-900s. H. H. Andersen, ‘Opus Danorum’, *Archäologie in Deutschland*, ix (1992), associates the digging of the 730s with the King Ongandus who met St Willibrord. Unverhau, *Untersuchungen zur historischen Entwicklung*, 37, 41–52, stresses that after 1100 royal fisc and rights were linked to the Danevirke.

⁹⁹ On tenth-century statesmanship, see Niels Lund, ‘“Denemearc”, “Tanmarkar But”, and “Tanmaurk Ala”’, in Ian Wood and Niels Lund (eds.), *Peoples and Places in Northern Europe*; Hedeager, ‘Kingdoms, Ethnicity and Material Culture’, 297–8; Olsen, ‘Royal Power in Viking-Age Denmark’, 28; Sawyer and Sawyer, *Medieval Scandinavia*, 54–6.

each of the rulers involved with the Danevirke, digging asserted both primacy among their peers and rights over labourers' time. In the competitive and unstable politics of early medieval Denmark, initiating, managing, and completing a massive ditch-and-bank line was a reward in itself, regardless of whatever (minimal) tactical benefits the embankment could deliver to the state. By their toil, borderlanders showed allegiance or at least compliance, while competitors received an ominous warning.

IV

If this analysis is valid, then the process of digging the dykes, the days protracted into weeks spent patiently breaking the topsoil and piling up the subsoil on the lip of the long trench, was as important, at least in the early Middle Ages, as the finished dyke after the tired labourers had gone home. Such digging mobilized more people than any other known royal activity, in Bavaria or Bulgaria or elsewhere. Once a trajectory had been established, probably by tracing a furrow or by setting up a string of landmarks,¹⁰⁰ the digging exercise could be justified by appeals to ancient customs whereby certain community projects were a shared burden that kings could ask communities to bear. Some sort of military 'necessity', like a rumoured imminent invasion, no doubt helped to render the kings' demands more palatable in the marginal zones where the digging occurred. In such a case the early medieval monumental digs would have acted rather like the ancient Roman ditches 'made for the sake of discipline', trenches dug in the knowledge that they would not serve any purpose beyond illustrating hierarchies and toughening the diggers.¹⁰¹ Constructing a futile barrier enacted appropriate social relations even when no one had delusions about the dyke's defensibility or the accuracy of its positioning on the edge of a dominion.

The linear earthworks of Thrace, Jutland, Mercia, and even the Karlsgraben in Bavaria emerge from this discussion as defining episodes in the history of early medieval state formation. But

¹⁰⁰ Beneath many of the sixty-eight excavated sections along Offa's Dyke, archaeologists found a marking-out bank: Hill, 'Offa's and Wat's Dykes', 22. Fox, 'Boundary Line of Cymru', 279, 286, thought outcrops also oriented the diggers.

¹⁰¹ Pseudo-Hyginus, XLIX, in *Pseudo-Hygin des fortifications du camp*, ed. Maurice Lenoir (Paris, 1979), 20, mentions 'fossa . . . causa disciplina' made in safe, peaceable places by legionaries. Tacitus, *Annals*, XI. 20. 1, XIII. 53, describes the desire to prevent sloth motivating some consular excavation projects.

after the event of construction, with its attendant context of consensus and coercion, and the acting out of political and social roles for rulers, magnates, and peasants, the ditches lived on. Indeed, among human structures few have the capacity of giant dykes to survive over the *longue durée*. The early medieval ones are still visible, after all, obtrusive and unmistakable landscape features even today. They were still more evident and ostentatious when the digging was fresher, when vegetation had not yet engulfed their slopes and rabbits and badgers had not burrowed through them, before erosive rains had shorn off their edges and clogged their trenches with soil washed from their flanks and berms. As each of the dykes occupied extensively populated terrain where agriculture had reduced the obscuring presence of woodland, the banks caught the eye from a distance.¹⁰² Prehistorians concerned with the emergence and use of earthen long barrows in north-western Europe postulate that Neolithic people's interest in great earthworks depended on the durability and visibility such monuments enjoyed.¹⁰³ Not only did the earthworks orchestrate human movement around them, and thus shape the experience of the Neolithic landscape, but by standing out in an impermanent material world the earthen barrows also forged a new sense of history. Both the exceptional endurance of earthworks and their constant exposure to scrutiny created a novel sense of time and of the community's past. Awareness of an age-

¹⁰² Fox, *Offa's Dyke*, 207, 270, thought much primeval forest occupied western England and explained the gaps in the dyke, but Noble, *Offa's Dyke Reviewed*, 8, 31, corrected him. On woodland in the region, see Gelling, *West Midlands in the Early Middle Ages*, 6–19; Davies, *Wales in the Early Middle Ages*, 11–12. Pollen samples suggest a stable agrarian landscape: see S. P. Dark, 'Palaeoecological Evidence for Landscape Continuity and Change in Britain, c.400–800', in K. R. Dark (ed.), *External Contacts and the Economy of Post-Roman Britain* (Woodbridge, 1996), 32–3, 37–8, 40–4, 46–7, 50. The equipment people used indicates an agrarian landscape in Bulgaria: Henning, *Südosteuropa zwischen Antike und Mittelalter*, 35–40, 51–3; Browning, *Byzantium and Bulgaria*, 86–7; Beševliev, *Die protobulgarische Periode der bulgarischen Geschichte*, 412–13; J. D. Howard Johnston, 'Urban Continuity: The Balkans in the Early Middle Ages', in Poulter (ed.), *Ancient Bulgaria*, ii, 242–3. For the Danish landscape, see Nissen Jaubert, 'Systèmes agraires dans le sud de la Scandinavie', 81–2; Sawyer and Sawyer, *Medieval Scandinavia*, 32–3, 40–1; Randsborg, *Viking Age in Denmark*, 51–2; Näsman, 'Exchange and Politics', 60. Hedeby's name derives from an Old Danish word for 'heath', again suggesting deforestation in the eastern sector of the Danevirke. Unverhau, *Untersuchungen zur historischen Entwicklung*, 21, thinks some woods existed in the 860s, despite clearances (57).

¹⁰³ See Richard Bradley, *The Significance of Monuments* (London, 1998), 17–18, 51–3, 71–6, 161–2; Richard Bradley, *Altering the Earth: The Origins of Monuments in Britain and Continental Europe* (Edinburgh, 1993), ch. 3.

old, ancestral presence in a landscape implied an entitlement to local resources and a justification for local activities. But the monuments' implications were not static. On the contrary, the extraordinary longevity of the earthen barrows enabled successive generations of people to interpret the structures and use them accordingly. Obtrusive and enduring, earthworks are ideally suited to an ongoing contextualization in different histories.

Perhaps for this reason early medieval people took note of the presence of the monumental ditches dug in the eighth and ninth centuries. As a consequence, the ditches all developed layers of significance, added on to the raw fact of their impressive physicality. Each of the earthen structures became a 'site of memory' for medieval people. The origins of the memory attaching to the trenches are impossible to trace, though an early, grudging layer of oral memorialization may well have developed among those who did the digging. Various shreds of evidence suggest that when people saw, wondered at, and (thankfully for historians) wrote about the ditches, it was a triumphal memory of glorious rulership that most tenaciously clung to these structures. The afterlife of ditches thereby proved as useful to kings and their states as those few months during which spades and hoes redesigned landscapes in various corners of Europe. A parallel fate befell China's famous 'Great Wall', which has many similarities with Europe's post-classical diggings. Just as the Karlsgraben became the occasion to celebrate a king's omnipotence or chastise his imprudence, as Offa's Dyke came to stand for contested versions of the past among Welsh and English, as the Erkesia became a tribute to khans' competence, and as the Danevirke grew into a memorial to royal Danish ability and martial spirit, so the 'Great Wall of China' has carried meanings according to the needs of those who wrote and spoke about it. The many minor 'earth dragons' of pre-Ch'in China, and the occasional earthworks thrown up by the Ch'in's successors, became a stone wall under the Ming and a symbol of Chinese civilization in the tales of both literate and illiterate people, both Chinese and others. The mythical barrier was far more effective than the real one. In the Chinese borderlands, and in the early medieval European ones, the superinvestments of states bore fruit for generations to come.

Among the early medieval rulers whose names became associated with dykes and their construction, Khan Omurtag enjoys

the distinction of having sought the identification of his rule with the ditch himself. The Suleyman Koy inscription, an official document carved on a pillar and probably kept at his main residence, Pliska (close to the village of Suleyman Koy where archaeologists found the inscription in the early 1900s), was a permanent proclamation of his success.¹⁰⁴ In it the khan recorded how he had 'established' the border with the Byzantines. Although the border as it was described in stone corresponds only tenuously to the line of the Erkesia in the southern foothills of the Haemus, the inscription associated the successes of Omurtag with the creation of a border and hence with the new artificial landscape that the ditch established. Perhaps an even more interesting instance of the will to change the appearance of a place by digging it, piling up its earth and then associating oneself and one's name with the new lie of the land, emerges from another Omurtagan inscription, datable to 822.¹⁰⁵ The khan erected a tumulus somewhere north of the Haemus range. Even though archaeologists dispute the exact location of this curious mound, its existence is proved by the exuberant inscription Omurtag had carved onto a pillar to record its completion, and which now supports the church of the Forty Martyrs in Trnovo. This remarkable inscription, which urges the reader to remember Omurtag, and which wishes a hundred years' life upon the khan, credits Omurtag himself with piling up the soil for the earthen protuberance, and with surveying the land where it lay. The significance of the position of the tumulus '20,000 orgyes' (a Bulgar measure, variously calculated at between 1.78 and 2.13 metres) from one of Omurtag's residences and 20,000 from another eludes us. What is clear is that measuring the land and marking it by making others dig up the countryside to create earthen memorials was prestigious in the early ninth century in Bulgaria. The khan did it and wanted the literate, Hellenophone inhabitants of the area to know exactly what had transpired. This inscription shows that for Omurtag moving soil was a royal act

¹⁰⁴ The khan's name is missing from the preserved part of the inscription, but reference to the Thirty Years Peace of 816, which Byzantine historians record, makes Omurtag the likeliest candidate: Shepard, 'Byzantine Relations with the Outside World', 171–2; Soustal, *Thrakien*, 84, 261–2; Soustal, 'Bemerkungen zur byzantinisch-bulgarischen Grenze', 150; Warren Treadgold, 'The Bulgar Treaty with the Byzantines of 816', *Rivista di studi bizantini e slavi*, iv (1984), 220; Bury, 'Bulgarian Treaty of 814', 276–7.

¹⁰⁵ *Die protobulgarischen Inschriften*, ed. Beševliev, 247, no. 55.

necessitating the exclusion of all other actors in his official account of it. Together with the Suleyman Koy inscription, it demonstrates the direct bond between himself and major changes in the landscape which the khan sought to create.

Nevertheless Omurtag failed in the long run to associate himself with the ditch, and his effort to determine how it would be remembered did not prevent other interpretations. In the tenth century both Byzantine and Arab writers noticed Bulgaria's monumental earthworks, and thought them an expression of Bulgarian culture, but they did not mention Omurtag in this context.¹⁰⁶ In the early eleventh century, once Bulgarians had begun to write their own history, they too listed ditches among the achievements of the early khans. Not Omurtag but Asparuch, the khan credited with first leading the Bulgars across the Danube into their definitive homeland, was remembered as the digger of trenches (and builder of cities and expeller of non-Bulgars).¹⁰⁷ Even the folklore about ditches which had developed and circulated by Ottoman times gave Omurtag no place among the ditch-makers. In the early modern Balkans, devils and giants and Roman emperors were considered to be the builders of the mysterious linear fosses, and Omurtag was forgotten. A story told about the redundant loop which the Thracian earthwork makes near Ljulin ascribed this 'error' to the unsupervised digging by gypsies, and again gave no name to the ruler whose supervision had faltered.¹⁰⁸

King Offa was luckier with 'his' dyke. Indeed, Offa's Dyke is unique among the medieval earthworks of the British Isles in

¹⁰⁶ Skylitzes, in his *Synopsis Historiarum*, first introduced the Erkesia into texts in which he described the events of AD 967. The Arab polymath al-Masudi knew Bulgaria's barriers: *Le Livre de l'avertissement et de la revision d'al-Masudi*, ed. and trans. B. Carra de Vaux (Paris, 1896), 248; Joseph Marquart, *Osteuropäische und ostasiatische Streifzüge* (Leipzig, 1903), 205. This might be an example of a 'failed ritual': Buc, *Dangers of Ritual*, 8–9.

¹⁰⁷ An eleventh-century text mentioned Asparuch's ditch 'from the sea to the Danube': *Visio Isaiae*, III, in *Bogomilski Knigi i Legendi*, ed. Jordan Ivanov (Sofia, 1925), 282.

¹⁰⁸ On the 'Gypsy Erkesia', see J. B. Bury, *A History of the Eastern Roman Empire, 802–867* (London, 1912), 363; Soustal, *Thrakien*, 262. Rašev, *Starobalgarski Ukreplenija*, 62, thinks it was strategic. For Balkan dyke-folklore, see Fiedler, 'Zur Datierung der Langwalle', 458; Soproni, *Die spätromische Limes*, 113; Grigore Tocilescu, *Fouilles et recherches archéologiques en Roumanie: communications faites à l'Académie des inscriptions et belles-lettres de Paris, 1892–1899* (Bucharest, 1900), 118. Stories about the dykes which survived into modern literature are quite consistent across Europe and beyond. In China, peasants called earthworks 'earth dragons', and devils also had a big role in Danish and English dyke-lore.

preserving the name of a historical figure, and thus identifying its creator.¹⁰⁹ There may be a trace of Offa's reputation as a dyke-maker in the Old English poem *Widsith*, which celebrates a King Offa of the Danes who heroically 'enlarged . . . his bounds' against the Myrgings, somewhere near the estuary of the Eider river.¹¹⁰ It seems that from quite early on the name of Offa came to be associated with dyke-construction and the imposing of new shapes on the political and geographic landscape. Certainly long before the Normans reached it the fosse had become Offa's in both English and Welsh.¹¹¹ This unanimity is important even if the Welsh and English stories about the ditch differed radically. In the twelfth and thirteenth centuries what the dyke told its observers about Offa depended very much on their point of view. A Welsh historian, noting the many gaps and interruptions along Offa's Dyke, determined that these marked the places where victorious Welsh raiders had demolished the structure, an affront against Offa and later English rulers and a demonstration of Welsh power and independence.¹¹² Writers who lived in England instead discovered the true reason for the gaps in massive, humiliating defeats the Welsh had suffered: pious Offa had found it necessary to bury their countless bodies in the ditch and cover them with earth from the bank, thereby obliterating sectors of the dyke but winning merit before God.¹¹³ In the end, regardless

¹⁰⁹ Fox, 'Boundary Line of Cymru', 294.

¹¹⁰ *Widsith*, ll. 35–43, ed. Kemp Malone (London, 1936), 22; see Sims-Williams, *Religion and Literature in Western England*, 367–8, on connections between the poem and Offa's Dyke.

¹¹¹ 'Clawdd Offa' and 'Offan dic' entered toponymy early: see Eilbert Ekwall, *The Concise Oxford Dictionary of English Place-Names* (Oxford, 1940), 332; Stenton, 'Pre-Conquest Herefordshire', 196; on 'glaud Offa', see also *Brenhinedd y Saesson*, ed. and trans. Thomas Jones (Cardiff, 1971), 11 (s.a. 783). *Cartularium Saxonicum*, ed. Walter de Gray Birch, 3 vols. (London, 1885–93), ii, no. 475 (AD 854), which refers to 'offan dic', has bounds which were tampered with later, probably in the tenth century, but see Hooke, *Anglo-Saxon Landscapes of the West Midlands*, 255.

¹¹² *Brut y Tywysogion: The Gwentian Chronicle of Caradoc*, s.a. 776, 784, ed. A. Owen (Cambridge, 1863), 8; Fox, *Offa's Dyke*, 207.

¹¹³ Matthew Paris did state that a duplicitous, sacrilegious attack from Wales had filled in a sector of the dyke, but stressed the burials of the defeated Welsh: *Vitae Duarum Offarum*, in *Matthaei Paris Chronica Maior*, ed. William Wats (London, 1684), 976–7. John of Salisbury, *Policraticus*, vi. 6, saw the dyke as expressing English power; so did Walter Map, *De Nugis Curialium*, ii. 17 (ed. M. R. James, Oxford, 1983, 166–8), and Gerald of Wales, *Descriptio Kambriae*, ii. 7, in *Giraldi Cambrensis Opera*, ed. J. S. Brewer, James F. Dimock and George F. Warner, 8 vols. (Rolls ser., London, 1861–91), vi, 217.

of the version they favoured, the high medieval writers acknowledged in Offa's Dyke the presence of royal power, which could be challenged or magnified, but not ignored.

Mercia's star declined in the wake of the Viking incursions after 793, and Offa's successors did not enjoy his supremacy. About a century after the digging, in the 890s, the Welsh cleric Asser was serving the then hegemonic kings of Wessex. Asser was the first to claim that Offa built the dyke 'from sea to sea', or from the Irish Sea to the estuary of the Severn river, graciously overlooking the long stretches of terrain between the seas where Offa's Dyke was never built.¹¹⁴ Asser and his Welsh audience were particularly sensitive to the origin and meaning of the earthwork, and at King Alfred's court his negativity towards Mercia, its past, and its women had a specific objective, namely to wrest Wessex's politics from the grasp of a Mercian clique.¹¹⁵ But the celebratory, or at least neutral, tone Asser adopted to describe the dyke, in this hostile context, is a potent tribute to the capacity of great ditches to evoke power and win admiration. Thus the destruction of Mercian records in the period after Offa, together with the enmity of writers like Asser, ensured a virtual *damnatio memoriae* for Offa.¹¹⁶ Yet through his ditch Offa made as deep an impression on the medieval imagination as he had on the borderland soil. Anglo-Saxon charters refer to property located above the dyke near Kingston with the easy familiarity reserved for famous, accepted landmarks.¹¹⁷ Nor were the literate alone in taking stock of the great earthwork. Several Offan place-names

¹¹⁴ The phrase 'from sea to sea' was much used in England to mean completeness: for example, *Historia Brittonum*, IX (ed. Theodor Mommsen, MGH, Auctores Antiquissimi, xiii, Berlin, 1897, 148); see also Nicholas Howe, *Migration and Mythmaking in Anglo-Saxon England* (New Haven, 1989), 157. Asser, *De Rebus Gestis Alfredi*, ed. William Henry Stevenson (Oxford, 1904), 12. Other Wessex-inspired accounts, like the *Anglo-Saxon Chronicle*, ignored Offa's building activities.

¹¹⁵ Simon Keynes, 'King Alfred and the Mercians', in Mark A. S. Blackburn and David N. Dumville (eds.), *Kings, Currency, and Alliances* (Woodbridge, 1998), 39–45; Kathleen Davis, 'National Writing in the Ninth Century: A Reminder for Postcolonial Thinking about the Nation', *Jl Medieval and Early Modern Studies*, xxviii (1998), 611, 614–16, 619–22; Wormald, 'Age of Offa', 111.

¹¹⁶ The *Anglo-Saxon Chronicle* curtly lists Offa's campaigns and pious gifts. That Offa (a patron of learning according to Alcuin) cared about his reputation in posterity emerges from his support of history-writing in Mercia: see Kenneth Jackson, 'On the Northern British Sections of Nennius', in Nora K. Chadwick (ed.), *Celt and Saxon: Studies in the Early British Border* (Cambridge, 1963), 23.

¹¹⁷ *Anglo-Saxon Charters*, ed. A. J. Robertson (Cambridge, 1939), no. 109, AD 1050, refers to land 'bufan dic' near Kingston (= *Cartularium Saxonicum*, ed. Birch, iii, no. 928).

along the trajectory of Offa's Dyke show how this construction reminded people of Offa after it was completed. These place-names appear to be pre-Norman and suggest that in early medieval times the popular association of formidable kingship and imposing ditches was strong.¹¹⁸ In effect Offa's Dyke inscribed royal authority into the very topography of the Welsh borderlands, and even if the custodians of memory in Wessex and Wales purposefully excluded Offa from the annals, the ditch and the names it gave to nearby features made him and kings' power indelible. Indeed, the Mercian fringes became Offan country thanks to the ditch, so that even modern poets consider Offa a kind of local spirit, a 'presiding genius of the West Midlands'.¹¹⁹

In the high Middle Ages, certainly by the twelfth century, the fosse between the Baltic and the North Seas, across southern Jutland, emerged from obscurity into written culture as the 'work of the Danes', or 'Danaewirchi' in Old Danish. The fosse had become a national monument, an attestation of Danish prowess and pugnacity, something about which Danish writers wrote with pride, describing it as a great achievement of past generations.¹²⁰ Yet the same writers also left no doubt that the dyke was a royal creation and told no stories about it in which kings were not protagonists. Indeed the thirteenth-century *Annals of Rūde* considered the creation of the Kovirke to have been the crucial event in the formation of the Danish monarchy.¹²¹ Already much earlier than the thirteenth century, closer to the time of the original 'work of the Danes', powerful men had found the dyke useful, associating themselves and their heroic deeds with the Danevirke. King Godfrid, whom Frankish authors could imagine ordering his officers to oversee the fosse's construction before he retired northwards to rest, was only the first to succeed in appropriating

¹¹⁸ David Hill, 'The Inter-Relations of Offa's and Wat's Dykes', *Antiquity*, xlviii (1974), 312; Fox, *Offa's Dyke*, 55, 86, 108, 233, 275.

¹¹⁹ Geoffrey Hill, *Mercian Hymns* (London, 1971).

¹²⁰ Aggesen, *Brevis Historia Regum Dacie*, VI, stressed grandeur ('ingentis valli molem'), strength ('firmitudo'), and aesthetics ('elegantissimum') in the 'ingeniosi operis structura'. Saxo, *Gesta Danorum*, X. 3 (ed. Olrik and Ræder, 272), thought it strong but imperfect because it was conceived by a woman (Thyra); it is called 'vallo quod Danorum opus vocamus' (XIII. 2. 8; 345), and 'Danorum structuram' (XIV. 17. 1; 399). Southern writers like Adam of Bremen or Thietmar were noncommittal, but Helmold of Bosau, *Chronica Slavorum*, I. 50 (ed. Stoob, 192), admitted its fame ('vallum illud notissimum Dinewerch').

¹²¹ *Annales Ryenses*, I (ed. I. M. Lappenberg, MGH, Scriptores, xvi, Hanover, 1859, 392).

the 'work of the Danes'.¹²² The description in the *Royal Frankish Annals* has troubled archaeologists, for not much of the surviving dyke corresponds to this earliest literary reconstruction of it; but the true importance of the Frankish account lies in the early royal myth-making it betrays.¹²³ Early medieval writers, like high medieval ones, thought ditches and heroic, somewhat intimidating, rule went together.

In the 960s, once a royal authority had managed again to assert its leadership in southern Scandinavia, Harald Bluetooth began to pay attention to the Danevirke. This he restored and extended.¹²⁴ King Harald, who invested resources in reburying his ancestors under giant earthen mounds at Jelling, proclaimed he had 'won all Denmark for himself'.¹²⁵ Although Harald Bluetooth's twin mounds were burials, unlike Omurtag's landmark, they too were sited symmetrically, with a rune stone exactly halfway between them, and they too were the result of much digging.¹²⁶ In tenth-century Denmark, as in ninth-century Bulgaria, piles of soil and inscriptions worked together to communicate messages. But as a sign of his victory against countless competing warlords whom seaborne raiding had cut loose from royal control in the preceding century, Harald found patching up

¹²² See n. 97 above. Coupland, 'From Poachers to Gamekeepers', 89–90, and Collins, *Charlemagne*, 164–9, explain Franco-Danish relations, c.800.

¹²³ *Annales Regni Francorum*, s.a. 808 (ed. Kurze, 126), placed Godfrid's ditch on the Eider, south of the Danevirke. No trace of it has been found. Researchers take the Kovirke (dendrochronologically dated eighth–ninth century) to be Godfrid's contribution to the barrier. H. Hinz, 'Danewerk', *Lexikon des Mittelalters*, iii (Munich, 1986), cols. 534–5, however, thinks Kovirke too good a dyke for the times. Although the Franks had poor information, or preferred an inaccurate story, and although the archaeological remains do not match the Frankish version of events, as Randsborg notes (*Viking Age in Denmark*, 14), there is no reason not to ascribe the Kovirke, at least, to Godfrid.

¹²⁴ Andersen, Madsen and Voss, *Danevirke*, ii, 102–3; Andersen, 'Das Danewerk als Ausdruck', 195–7; Axboe, 'Danish Kings and Dendrochronology', 219–20; Stark, *Haithabu–Schleswig–Danewerk*, 119; Olsen, 'Royal Power in Viking-Age Denmark', 28.

¹²⁵ From a sepulchral inscription: see Roesdahl, 'Prestige, Display and Monuments in Viking Age Scandinavia', 19–21; Lund, '“Denemearc”, “Tanmarkar But”, and “Tanmaurk Ala”', 163–9, has exegesis of the inscription. See Hedeager, 'Kingdoms, Ethnicity and Material Culture', 297–8, on Harald's reassertion of kingship. Aggesen, *Brevis Historia Regum Dacie*, vi (ed. M. Cl. Gertz, i, 116–17), gives an early notice of the Jelling reburial, which was seen as pagan.

¹²⁶ Roesdahl, 'Prestige, Display and Monuments in Viking Age Scandinavia', 19–21; Randsborg, *Viking Age in Denmark*, 49; Sawyer and Sawyer, *Medieval Scandinavia*, 14–15; Steen Hvass, 'Jelling from Iron Age to Viking Age', in Wood and Lund (eds.), *Peoples and Places in Northern Europe*, 149–52.

an earthwork satisfactory. In fact his memory intertwined itself with the Danevirke, so that high medieval historians could not mention the dyke without also naming Harald and his family. Harald's mother Thyra, in one of Sven Aggesen's rare moments of narrative playfulness, actually became a hero through the dyke, overcoming her gender by employing its standard attributes, sexuality and guile.¹²⁷ According to Aggesen, when the Saxon emperor Otto demanded Denmark's submission and Thyra's sexual services, she hoodwinked him into waiting for a more favourable occasion to obtain both. But Thyra cleverly used the interlude, and money she wheedled from Otto as a sort of anticipated *Morgengabe*, to have the Danevirke dug. By the time the emperor appeared to collect on Thyra's promises, Denmark was safe, as was the queen's virtue.

Despite its name and a tendency, visible even in Aggesen's text, to represent the Danevirke as a popular artefact, a result of a collective, community-based effort, the workers whose exertions produced the Danevirke were not, in the long run, its makers. The 'work of the Danes' was, from the early Middle Ages onwards, very much the work of the *kings* (and queens) of the Danes.¹²⁸ Rulers, and those who wrote about them, recognized the Danevirke for what it was, namely the supreme expression of royal Danish ambitions and accomplishments, a sign of rulers' ability, authority, and supremacy. The dyke was a landmark along which royal control over peasant diggers and aristocratic acceptance of this control were discernible. By early modern times, when the Danevirke entered cartography, Danish maps 'exaggerated' it, endowing it with battlements and turrets and a prickly appearance that expressed an altogether imaginary impregnability as well as the martial ferocity of its builders.¹²⁹ Graphic renderings of the dyke added to the myth-making which elevated the simple structure's meaning.

¹²⁷ Aggesen, *Brevis Historia Regum Dacie*, v–vi (ed. M. Cl. Gertz, i, 110–15). Saxo, *Gesta Danorum*, X. 3 (ed. Olrik and Ræder, i, 272), was less fulsome in praise of Thyra. *Annales Ryenses*, I (ed. Lappenberg, 89, 399), claimed that Harald built the 'real' barrier, but that Thyra had advised him.

¹²⁸ Aggesen, Saxo, and especially the *Annales Ryenses*, present building the dyke in terms of royal agency, despite its name.

¹²⁹ Dagmar Unverhau, 'Das Danewerk in der "Newen Landebeschreibung" (1652) von Caspar Denkwerth und Johannes Mejer', in Dagmar Unverhau and Kurt Schnietzel (eds.), *Das Danewerk in der Kartographiegeschichte Nordeuropas* (Neumünster, 1993), 241–3.

The tiny hamlet at the site of Charlemagne's 'big dig' of 793 is today called Graben ('ditch'). This gives medieval evidence of the evocative pull exercised by great excavation projects, and their remains. One twelfth-century chronicler, Ekkehard of Altaich, knew the place, its name, and its Carolingian associations well.¹³⁰ For Ekkehard the tall embankments on either side of the artificial depression were Charlemagne's canal, and the Latin name he applied to it, 'vallis Karoli Magni', may represent a learned translation of a vernacular toponym (Karlsgraben) already in general use by Ekkehard's time. The learned tradition, beginning with the Carolingian chroniclers, identified Charlemagne very closely with the ditch. Whether they disapproved of the project or were noncommittal, writers of the ninth century considered it a quintessentially royal artefact. So did Regino of Prüm, slightly later.¹³¹ The stories about it which they circulated, like the popular toponymy, preserved for future generations Charlemagne's grand gesture: his attempt to connect the Rhine and the Danube valleys by waterways. Even the anonymous twelfth-century writer who embellished Salzburg's annals and claimed outright what the Carolingian authors had only insinuated — that God disapproved of the canal — and who specifically connected the strange nocturnal noises which could be heard around the ditch with this divine disapproval, contributed to Charles's firm linkage with the project and the place.¹³² Roman emperors like Constantine had also inscribed their names on the landscape by means of vast construction projects, and some Roman leaders' achievements in canal-building may still have been known in northern Europe.¹³³ But for Charlemagne the ditch and twin embankments were a unique case; only here was his memory retained in the name of his creation, something even

¹³⁰ Ekkehard, *Auctarium Altahense*, s.a. 792 (ed. Philippe Jaffé, MGH, Scriptores, xvii, Hanover, 1861, 362).

¹³¹ See, for example, *Annales Fuldenses*, s.a. 793: 'Fossa a rege facta est inter Radantiam et Alcmomam fluvios'. The royal connection is visible also in *Chronicon Moissiacense*, s.a. 793 (ed. Pertz, 300); *Annales Laureshamenses* (ed. Pertz, 26, 35); *Annales Mosellani*, s.a. 792 (ed. Lappenberg, 498); Poeta Saxo, *Annalium de Gestis Karoli Magni*, III (ed. de Winterfeld, 35); Regino of Prüm, *Chronicon*, s.a. 793 (ed. Friedrich Kurze, MGH, Scriptores Rerum Germanicarum in Usus Scholarum, Hanover, 1890, 58).

¹³² *Auctarium Codicis Monacensis* (ed. Wattenbach, 237).

¹³³ Carolingian-era popes emulated Constantinople by renaming settlements after themselves. Such 'toponymy of power' was customary propaganda. On the Roman precedents for Charles's canal, see Hofmann, 'Fossa Carolina', 443.

his famous palaces and churches never achieved. Bavaria's malleable landscape absorbed the imprint of Charlemagne's audacity, ingenuity, and control over resources, and transmitted the king's accomplishments to future generations. This allowed the canal project to live on as a glorious episode, despite the fact that some of the chief commentators on Carolingian affairs thought it misguided.

Emblazoned, as they were, on the land, early medieval Europe's great trenches called attention to themselves. They were too flagrant to be overlooked. Naturally, medieval people did not overlook them but, having noted their presence, also endeavoured to explain it. Thus, long after the diggers had left the scene, the ditches embarked on a second phase of their careers as signifiers. Offa's Dyke and the Danevirke most obviously, but also the Erkesia and the Karlsgraben, reminded all who contemplated them of the fantastic achievements of past rulers of the community. In their afterlife these structures fused land and kingship. As they became monuments where royal solicitude for the general welfare or for the strength of the state aroused wonder and pride, the ditches contributed to a new type of solidarity quite beneficial to royal dynasties. After the tenth century the embankments helped to anchor local identities to the ship of state because of the commitment to place and the sheer power, ancient and traditional, they revealed. And if the finished ditch was so highly expressive, the activity of ditch-digging too was a koine, an ancient and enduring system of communication everybody could understand, and a part of the early medieval method of communicating political facts by gestures and acts. Digging gigantic ditches was a special kind of 'miniaturization' that altered landscapes but also redesigned social relations for a time. Both during the construction and in its aftermath, digging the earth transcended the military and geopolitical functions often associated with this far from humble post-classical occupation.