

# LONDON AND ITS MINT *c.*880–1066: A PRELIMINARY SURVEY

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IN their classic survey *London 800–1216: the Shaping of a City*, Christopher Brooke and Gillian Keir began by stating both the importance of the period under consideration, and the problems it posed. As they put it,

during the[se] centuries . . . London again became, in the fullest sense of the word, a great city, and in some senses the political capital of England and the commercial capital of a large area of north-western Europe. Here is an exciting subject; but also a sharp challenge, for while some of the story has been told and retold, for the rest the material is unequal and often baffling and demands a long detective enterprise to make sense of it.<sup>1</sup>

Almost forty years of subsequent research have added a great many new clues to the detective's case-file, all of them building towards the same central point that Brooke and Keir had already advanced: that London's medieval 'foundations . . . were laid in the period between Alfred and Henry II.'<sup>2</sup> The lion's share of recent success in furthering this story can be credited to archaeologists, but already in the 1970s Brooke and Keir recognized the part coins had to play. They stressed the importance of collecting information on coin-finds from the city, and also London's gradual emergence in the course of the eleventh century as the focal point of England's complex web of mint-places. This part of their work, however, remained relatively brief, notwithstanding the provision of detailed notes by Lord Stewartby on London's numismatic history and representation among Scandinavian coin-collections, printed as an appendix.<sup>3</sup>

Work since the 1970s has made the need for a more detailed study of the late Anglo-Saxon mint of London increasingly apparent. 'Mint' in this context must be understood as shorthand for all the moneys operating more or less separately in London at one time: there is no indication that there was ever a single mint-building as such in early medieval London, or any other major Anglo-Saxon town. Mint-studies based on the total output of a location's moneys are now available for the three other leading mint-towns of the tenth and eleventh centuries (Lincoln, Winchester and York).<sup>4</sup> In these, all known surviving coins are brought together and used to reach important conclusions about the cities' roles and development. Minute study of how coin-production worked at major towns across England is therefore now feasible, as well as more detailed scrutiny of circulation at home and abroad, thanks to the ever-growing body of single-finds and hoard material.<sup>5</sup> As studies of these mint-towns and their place in the national administration and economy have progressed, the absence of comparable data for London has become conspicuous. Simple calculations based on major collections leave no doubt that overall London dwarfed the other English mint-towns. The first fifty-one volumes of the *Sylloge of Coins of the British Isles*, for example, list 2635, 2453 and 1143 coins of York, Lincoln and Winchester respectively, minted between *c.*973 and 1066. They list 4164 of London from the same period. Similar statistics can be reached by other means, all pointing to the same conclusion – that London was a powerhouse of coin-production in late Anglo-Saxon England. There can be no question about the value of a full understanding of how the

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<sup>1</sup> Brooke and Keir 1975, xiii.

<sup>2</sup> *Ibid.*, 361.

<sup>3</sup> *Ibid.*, 377–80.

<sup>4</sup> The data on productivity for the three are conveniently collected together in Lyon 2012.

<sup>5</sup> Metcalf 1998; Naismith 2013.

city came to hold such a position, and how its contribution to the coinage waxed and waned. Unfortunately, the scale of London's activity is also its undoing: the overwhelming number of surviving coins has so far been sufficient to deter comprehensive analysis.

The present paper in no way aims to take the place of such an investigation, and it is to be hoped that a more ambitious venture might one day complete a full mint-study of London. For the moment, the aim is to lay out some preliminary signposts for the course London's development followed in the period from Alfred's London Monogram coinage (and especially Edgar's *c.*973 reform) to the Norman conquest, using more immediately accessible statistics and tentative estimates extrapolated from samples. The criteria used here will be familiar to most students of Anglo-Saxon monetary history: representation among single-finds; the numbers of moneymen employed; and estimates of output in number of dies used. These suggest that the pre-eminence of London – for these purposes also embracing its suburb at Southwark<sup>6</sup> – was quite a sudden creation, belonging to the years after *c.*980. Prior to this it had been a major, but by no means dominant, player in the Anglo-Saxon monetary economy. During the last years of the tenth century and the first of the eleventh, however, London enjoyed a truly spectacular burst of activity. On this all the different means of analysis are in agreement, mutually supporting one another in compelling fashion. No less importantly, the date assigned to the inception of this period of frenetic monetary activity parallels that which archaeologists and historians have arrived at independently for the general growth of London: their evidence suggests that the decades leading up to the millennium were pivotal in the rise of the city's economic and political profile.<sup>7</sup> Later, however, the numismatic conclusions diverge from the prevailing account of the city's history. According to all other historical and archaeological assessments, London went from strength to strength over the eleventh century; certainly there is no evidence for diminution in its vitality or prestige. But from around 1040–50 London as a mint entered relative decline. At first it still remained superior to the other major English mint-towns; by the 1060s, however, London was again comparable in scale to Lincoln or York. Even so, there was never any question of London disappearing from among England's leading monetary centres. By 1066, London's place in the first rank of English mint-towns was secure.

### **Background: the history and archaeology of Anglo-Saxon London**

Minting never went on in an economic, cultural or administrative vacuum: its intensity and organization were at all times dictated by specific historical circumstances. The whys and wherefores of London's changing fortune as a mint must be understood in the context of its evolution as a city, and as part of a larger political and economic whole. Even in the Anglo-Saxon period London possessed a special status which went beyond its (often formidable) economic importance. The roots of this go back to ancient times, but the tenth and eleventh centuries were to prove especially crucial for London's rise as the hub of the new kingdom of England. As such, it is appropriate to begin with consideration of the setting in which the mint operated: that of the city of London itself.

#### *Early Anglo-Saxon London and Lundenwic*

The beginnings of London's settlement can be traced back to before the Roman conquest of Britain, but it was thanks to development after the invasion of AD 43 that the city first acquired great wealth, size and status. It became a provincial and (in the fourth century) diocesan capital. This early success – manifested in construction of walls and monumental buildings, and a position at the epicentre of the Roman road network – left a lasting impression even after the collapse of urban life in fifth-century Britain. London, like other cities, at this time stood

<sup>6</sup> Reasons for considering London and Southwark together are laid out on pp. 59–60.

<sup>7</sup> See below, pp. 48–9.

largely empty; however, early Anglo-Saxon settlements in the vicinity have been recorded, discounting earlier claims of a Romano-British enclave.<sup>8</sup>

When Christian missionaries from Rome, led by St Augustine and sent by Pope Gregory I the Great (590–604), arrived in Britain in 597, their original plan – doubtless founded on records of late Roman administrative geography – was for London to be the leading metropolitan see of Britain, with a second and subordinate northern province centred on York.<sup>9</sup> Political conditions in England made it expedient for Augustine instead to remain at Canterbury, but London was among the earliest bishoprics to be re-established: in 604 the Italian Mellitus was consecrated as its first incumbent, ministering to the kingdom of the East Saxons. St Paul's was founded at this time, under the aegis of the overlord of southern England, Æthelberht I of Kent (d. 616), but there is no clear evidence of any substantial settlement, production or trade yet taking place in London. Although never attaining the status first intended by Pope Gregory, London was to remain a prominent ecclesiastical centre until 1066 and after, and locations in the vicinity of London such as Brentford and Chelsea were favoured sites for Church councils between the seventh and ninth centuries.<sup>10</sup>

The first signs of anything approaching urban life in or near the city appeared in the course of the seventh century. By 679 it was a place where slaves could be sold to Frisian merchants, and a law-code issued by Hlothhere and Eadric, kings of Kent, in the years 673–c.685, refers to men of Kent buying property in London, where a port-reeve and a king's hall could be found.<sup>11</sup> Another charter of the 670s, issued by Frithuwald, *subregulus* of Surrey, mentions a grant of land adjacent to the *portus Lundoniae*.<sup>12</sup> Gold coins from earlier in the seventh century, some of them in the name of the Kentish king, Eadbald (616–40), named London as their mint-place.<sup>13</sup> Mint-names were at this time a great rarity, and so might suggest particular significance deriving from production in London. By the early eighth century, famously, the venerable Bede could describe London as a *civitas* ('city', usually of Roman background in Bede's usage) and 'a market for many peoples coming by land and sea',<sup>14</sup> and it was the point of departure for St Boniface in both 716 and 718.<sup>15</sup> Within the Roman walls of *Londinium*, however, archaeological traces of habitation remain slim: the regeneration of Anglo-Saxon London came on a site to the west of the old city, around what is now Covent Garden and along the Strand. The discovery of this major settlement since the 1970s has lent new weight to the testimony of Bede, the laws and the coins, and cemented conclusions about London's status in the Middle Saxon period.<sup>16</sup>

This large extramural settlement, which may have covered up to 50–60 hectares, has come to be known as *Lundenwic*: a term found in Hlothhere and Eadric's law-code and Willibald's *vita* of St Boniface, and perhaps alluded to with the Latin *vicus Lundoniae* used in charters and on the famous Coenwulf mancus (struck c.805–10),<sup>17</sup> though both terms could also refer to the whole of London (Roman and extramural) or specifically to the king's estate.<sup>18</sup> London at this time was a major political and economic concern, and over the seventh century it fell under the overlordship of Kentish, Northumbrian and West Saxon rulers. By the early eighth century it had definitively come within the sphere of the Mercian kings. Æthelbald, king of the Mercians (716–57), was able to issue to several churches exemptions from tolls his agents charged on ships in London,<sup>19</sup> and it became one of a select few royal mint-towns under Offa

<sup>8</sup> General surveys of London's history and archaeology from the Roman empire to the Middle Ages can be found in Haynes, Sheldon and Hannigan 2000; Vince 1989; Keene 2000.

<sup>9</sup> Bede, *HE* i.29 (Colgrave and Mynors 1969, 104–5).

<sup>10</sup> Cubitt 1995, 27–31; Whitelock 1974; Kelly 2004, 1–49.

<sup>11</sup> Bede, *HE* iv.22 (ed. Colgrave and Mynors 1969, 401–5); Hlothhere and Eadric, c. 16–16.2 (Liebermann 1903–16 I, 11).

<sup>12</sup> S 1165 (BCS 34). For context see Blair 1989.

<sup>13</sup> Sutherland 1948, no. 77 (and cf. nos 45–7).

<sup>14</sup> 'Multorum emporium populorum terra marique uenientium': Bede, *HE* ii.3 (Colgrave and Mynors 1969, 142–3).

<sup>15</sup> Willibald, *Vita Bonifatii*, c. 4 and 5 (Levison 1905, 16 and 20).

<sup>16</sup> On this settlement, see Maddicott 2005, 8–24; Cowie 2001; Vince 1989, 13–25.

<sup>17</sup> Naismith 2011, no. G2a.

<sup>18</sup> Naismith 2012, 114–16.

<sup>19</sup> Kelly 1992.

and his Mercian successors.<sup>20</sup> Already by this stage it seems to have rivalled Canterbury in the scale of its output. However, minting in London declined sharply around the year 800, possibly as a result of fires in the city.<sup>21</sup> By the 830s pennies from London were scarce. A temporary revival came under Berhtwulf (840–52), and a more secure restoration of the city's minting activity occurred in the reign of Burgred (854–74), during which London is presumed to have been the (or at least a principal) source of the prolific Lunettes coinage.<sup>22</sup>

### *Lundenburh c.880–1066*

The heyday of *Lundenwic* was in the eighth century; the ninth century witnessed a return to settlement within the Roman walls.<sup>23</sup> Already in 829–30 coins produced during Egbert's (802–39) brief conquest of the kingdom of Mercia advertised that they had been produced in LVNDONIA CIVIT[as], which is suggestive of production within the walled Roman city.<sup>24</sup> Maps of coin-finds from London also reveal a shift at this time: *sceattas* and pennies of Offa tend to be found in the area of the Strand settlement, whereas pennies of Alfred and his successors are more often found in the Roman city.<sup>25</sup> Archaeological excavations at Queenhithe and around St Paul's have produced evidence for riverside redevelopment in the reign of Alfred,<sup>26</sup> and substantial portions of the street system were probably laid between this time and the late tenth century.<sup>27</sup> Charters of Alfred's reign indicate episcopal and secular interest in the acquisition of holdings within London.<sup>28</sup> Most famously – and contentiously – the *Anglo-Saxon Chronicle* reports that in 886 Alfred *gesette* ('established') *Lundenburh*, after which all the English not living under Danish control gave him their allegiance, and Alfred assigned control over the city to Æthelred, ealdorman of the Mercians.<sup>29</sup> There can be little doubt that this was a momentous occasion, and again a link between mastery of London and wider claims to power is clear, but it is unlikely that the events of 886 really constituted a (re)conquest of London: Alfred had probably enjoyed power over the city since the mid-870s, albeit perhaps with some interruptions, for instance in 883 or a year around that time, when the Vikings within London were apparently besieged by Alfred.<sup>30</sup>

The revival of Alfred's reign was maintained if not much expanded upon during most of the tenth century. Queenhithe continued to be occupied and to provide a setting for international trade.<sup>31</sup> At Regis House (EC4) a group of sunken-featured buildings has been found, probably dating to the mid-tenth century, certainly to some point before more securely dated late tenth-century refuse pits.<sup>32</sup> The Burghal Hidage – probably to be associated with the early tenth century – provides the first mention of Southwark's existence, although no archaeological evidence for occupation on the south bank of the river at this time has yet been discovered.<sup>33</sup> Nevertheless, London was still a place of major significance: one of the most prominent and historically significant towns in the kingdom, if not yet its unrivalled leader in economic affairs. Æthelstan, Edmund and Edgar (the latter possibly multiple times) issued charters and law-codes in the city.<sup>34</sup> One law-code of Edgar stipulates that weight standards for coins were

<sup>20</sup> Chick 2010; Naismith 2010, 78–84.

<sup>21</sup> *Historia regum* s.a. 798 and 801 (Arnold 1882, II, 59 and 66; trans. Whitelock 1979, 275–6).

<sup>22</sup> Naismith 2012, 187–92.

<sup>23</sup> For the transition see Hopley 1988.

<sup>24</sup> Naismith 2011, no. L30a.

<sup>25</sup> Graphically shown by the maps in Stott 1991, 283–94.

<sup>26</sup> Ayre, Wroe-Brown and Malt 1996; Schofield 2011, 58–9; Wroe-Brown 1999, 13–14.

<sup>27</sup> Horsman, Milne and Milne 1988, 113. Cf. Tatton-Brown 1986. A stronger view of Alfredian involvement in the layout of London's streets is presented in Haslam 2010, 112–19.

<sup>28</sup> S 346 (BCS 561); S 1628 (BCS 577–8). See Dyson 1978; Keene 2003, 244–5.

<sup>29</sup> On Alfred and London see Dyson 1990; Keene 2003. A somewhat different view is presented in Haslam 2010.

<sup>30</sup> Keene 2003, 240–3; for more detail Keynes 1998, 12–25. For the case that the 883 annal is a misplaced reference to events associated with 886 see Dyson 1990; Vince 1989, 84–5.

<sup>31</sup> Wroe-Brown 1999, 13–14. For an older, more cautious assessment see Astill 1991, 108.

<sup>32</sup> Brigham, Dyson and Watson 2010.

<sup>33</sup> Hill 1996, 218–19. On this period and later development in Southwark see Watson 2009, esp. 148; Sharp and Watson 2011; also Dawson 2011 on defences; Carlin 1996, 13–18.

<sup>34</sup> Details summarized in Wormald 1999, 431–4; Keynes 1980, 271–2.

to follow those in use at Winchester and London, though London was probably an addition from the time of Wulfstan, and occurs in only one of three manuscripts.<sup>35</sup> A fire in 962 (which gutted St Paul's) was worthy of mention in the *Anglo-Saxon Chronicle*; another came in 982. Under Æthelstan (924–39) the city was home to a well-developed community of reeves and bishops who between them established a series of legal customs, recorded in the law-code VI Æthelstan. The concerns of this text are not obviously urban, however: the prime concern is theft, particularly of cattle, and its prosecution. Whatever the state of trade and commerce in the city, Londoners of the 920s and 930s still shared many of the cares and trappings of rural life.<sup>36</sup>

A range of archaeological and documentary sources combine to suggest that the last decades of the tenth century and the first of the eleventh saw great expansion in London,<sup>37</sup> as at many English towns.<sup>38</sup> In the case of London development went far enough at this time that it began to acquire *de facto* capital status.<sup>39</sup> The first wooden remains of London Bridge are from this period, and include timbers dendrochronologically dated to 987–1032; the earliest written references to the bridge can be found in *Heimskringla* and the *Anglo-Saxon Chronicle*, belonging to descriptions of 1014 and 1016 respectively.<sup>40</sup> Signs of habitation in the area around the northern end of London Bridge begin to emerge around the same time, and elsewhere in the city settlement increased in extent and intensity.<sup>41</sup> Much of medieval London's street system probably came into being during the late Anglo-Saxon period.<sup>42</sup> Development spilled over the river into Southwark for the first time: some of the timbers used for the settlement's formidable defences were felled as early as 953.<sup>43</sup> Sections of riverfront in various locations were reclaimed from the Thames and reinforced, using structural elements from a mid-tenth-century high-status building, pieces of a ship from the Low Countries and also a range of local timber, pieces of which have been dated to between the late tenth century and the 1040s.<sup>44</sup> A wrecked vessel found at Tiel in the Netherlands has been shown to have originated in the London area between 971 and 1008.<sup>45</sup> Finds of coins also start to mount up around this time, following a pattern seen across England.<sup>46</sup> In short, the city's sinews and muscles were beginning to form around an already robust underlying skeleton.

Some of the social and political context of this development can be fleshed out by turning to contemporary written sources, which tell of a city renowned already in the late tenth century for its size and wealth.<sup>47</sup> The burgeoning population of late tenth-century London was referred to quite casually by the hagiographer of St Dunstan known only as 'B', at some point in the period 996–1002.<sup>48</sup> His near contemporary, an anonymous author whose work is preserved in the C, D, E and F manuscripts of the *Anglo-Saxon Chronicle*, presents a famously detailed and lurid account of events in the reign of King Æthelred II (978–1016) within which London features prominently; so much so that Simon Keynes has suggested that the chronicler may

<sup>35</sup> III Edgar 8.1 (Liebermann 1903–16, I, 204–5); Wormald 1999, 189 and 314.

<sup>36</sup> VI Æthelstan (Liebermann 1903–16 I, 173–84).

<sup>37</sup> See in general Vince 1989, 26–37 and 1991b, 420–35; Hopley 1988, 73–80.

<sup>38</sup> Astill 1991, 103–12 and 2000, 38–42.

<sup>39</sup> Keynes 2001, 255.

<sup>40</sup> Keene 2000, 143–4; Watson 1999, 17–18; Watson, Brigham and Dyson 2001, 52–82. It should be noted that both sources were written somewhat later: the Chronicle probably c. 1020; *Heimskringla* in the thirteenth century, though incorporating poetry of much earlier date (including the passage on London).

<sup>41</sup> Hopley 1988, 76–7; Watson, Brigham and Dyson 2001, 52–7; Horsman, Milne and Milne 1988, 13–21 and 113; Milne 1992, 37; Steedman, Dyson and Schofield 1992, 23–9 and 123–8.

<sup>42</sup> Keene 2004, 32.

<sup>43</sup> Watson 2009, 149; Dawson 2011.

<sup>44</sup> Wroe-Brown 1999, 14–15; Steedman, Dyson and Schofield 1992, 48–57; Horsman, Milne and Milne 1988, 133–4; Hopley 1988, 77–8.

<sup>45</sup> Bihrer 2012, 61–2.

<sup>46</sup> Stott 1991, 288–300.

<sup>47</sup> One source commonly cited in support of London's burgeoning trade c. 1000 is the law-code known to modern scholarship as IV Æthelred (Liebermann 1903–16, I, 232–7). However, there is some reason to believe that the relevant part of the text dates to the twelfth century rather than the age of Æthelred II and Cnut, and the text's status remains uncertain. For different views see Wormald 1999, 325–6; Lawson 2004, 186–7; Keene 2008, 93–4.

<sup>48</sup> '... for the large population of that city' ('... quo plurimo ciuitatis illius populo'): 'B.', *Vita Dunstani*, c. 25.4 (Winterbottom and Lapidge 2012, 78–9).

have been a Londoner himself.<sup>49</sup> London was the target of Viking raids in 994, 1009 and 1016, and on all three occasions the city was, according to the chronicler, preserved through the staunchness of its defenders and the aid of God and His saints – although it was a close-run thing, especially in 1016. In that year the Vikings dug a ditch wide and deep enough to take their ships around Southwark and attack by river from the west. Eventually the whole city was enclosed by Cnut's ditches, but still held out. A collection of probably Viking axe-heads, spear-points and other metal artefacts (including a grappling hook) found at the north end of London Bridge might well be detritus from one of these attacks.<sup>50</sup> In Æthelred's reign it is clear that London became a focal point of national government and military organization.<sup>51</sup> It served as the base for naval campaigns in 992 and 1009, and the assembly-point for tribute payment in 1012. Royal assemblies took place in the city on at least three occasions during the 970s and four in the 980s.<sup>52</sup> By 1013 London was the king's personal base of choice, and the last major stronghold in the kingdom to submit to the invasion of Swein, king of the Danes (986/7–1014). Æthelred remained secure in London during his final days, plagued by ill-health, until his death on 23 April 1016. He rests in London still, buried with full dignity in St Paul's cathedral.

London's close association with Æthelred's regime won it an ambiguous position during the subsequent decades of Danish rule.<sup>53</sup> Some policies, especially under Cnut himself, suggest punitive measures against the city. In 1018 London was forced to pay £10,500 in tribute, in addition to the £72,000 owed by the kingdom at large. In 1023 the body of St Ælfheah (Alphege), the archbishop of Canterbury martyred by the Danes in 1012, was translated from St Paul's (whither it had been brought in the immediate aftermath of his death at Greenwich) to Canterbury, quite probably with Cnut's approval.<sup>54</sup> Yet there was no avoiding the prominent role the city had won in the kingdom. In the 1030s the London Husting's reckoning was the standard for silver across England,<sup>55</sup> while for the Flemish writer of the *Encomium Emmae reginae* in 1041/2, London was the 'most populous ... capital of the kingdom'.<sup>56</sup> Its prominence induced a certain measure of wariness in the new ruling dynasty. By 1035 London was home to the *scipmen*: hardened Scandinavian mercenaries in the service of the king whose presence helped secure the loyalties of the Londoners.<sup>57</sup> One of them may have been buried beneath a celebrated eleventh-century tombstone carved with Ringerike-style ornamentation and a Scandinavian runic inscription, found in the churchyard of St Paul's.<sup>58</sup> The *scipmen* – together with the other inhabitants of London – played a significant part in the complex politics of the mid-eleventh century. London featured in the succession of both of Cnut's sons, Harold I and Harthacnut, and of Edward the Confessor in 1042. During the latter's reign London again became a favoured royal haunt, and early in his reign the king confirmed the rights of the gild of English *cnihtas* in the city, as (allegedly) had been done under Cnut, Æthelred II and Edgar.<sup>59</sup> At a royal council in London in 1051 Robert of Jumièges was chosen as archbishop of Canterbury, and later that year, when a confrontation arose between those loyal to the king and those aligned with Earl Godwine and his sons, it was to London that Edward summoned the earl for arbitration. He and his offspring stayed at an estate (*mansio*)

<sup>49</sup> Keynes 1978, 232 and 1991, 95–8.

<sup>50</sup> Mortimer Wheeler 1927, 18–23.

<sup>51</sup> The rise of London's profile under Æthelred II is discussed in Keynes 2012, 137–44. For London's association with Æthelred's widow Ælfifu/Emma in 1016/17, see Stafford 1997, 22–3.

<sup>52</sup> Wormald 1999, 432–4; Keynes 1980, 271–2.

<sup>53</sup> Nightingale 1987.

<sup>54</sup> Keynes 2012, 146–7. It should be noted that the vivid account of Osbern of Canterbury's *Translatio sancti Ælfegi Cantuariensis archiepiscopi et martiris* (Rumble 1994), in which the translation is accomplished only with subterfuge on the part of Cnut's men and in the face of resistance from the Londoners, is not necessarily reliable.

<sup>55</sup> S 1809 (B 1060) and 1465 (K 745), with comment in Nightingale 1987.

<sup>56</sup> 'Metropoli[s] terrae ... populosissima': *Encomium Emmae reginae*, II.7 (ed. Campbell 1998, 22–3).

<sup>57</sup> As believed by the encomiast (*ibid.* II.7).

<sup>58</sup> Graham-Campbell 1980, 148; Stocker 2011, 257–9 (and 254–5 for a second gravestone of similar style found at an unknown location in the City of London by 1884).

<sup>59</sup> S 1103. See Brooke and Keir 1975, 96–8; Harmer 1952, 231–4 and 466–8.

they owned in Southwark.<sup>60</sup> Edward was in London again in 1052 when Godwine returned from exile: stealing up the Thames with more force and haste than had perhaps been anticipated, Godwine laid up in Southwark at low tide, soothed the citizens with promises, and then skilfully steered his ships through London Bridge as the tide rose. The earl won a strong enough position that he and his sons were reinstated without condition when another meeting was held with King Edward on the shores of the Thames.<sup>61</sup>

Edward's great personal project was of course the abbey of Westminster, very close to London, which was consecrated on 28 December 1065, and hosted the king's own burial just a few days later following his death on 6 January 1066. London continued to be a focal point throughout the well-known events of 1066. Harold gathered troops there before moving against William, and, after the English defeat at Hastings, the latter made for London, where surviving English leaders had proclaimed Edgar the Ætheling as king. Repulsed at Southwark in October, William took a more circuitous route to the city via Wallingford and the Chilterns.<sup>62</sup> London's siege in late 1066 drew several Norman chroniclers to comment on the standing and defences of the city. Just a few years after the Conquest, William of Poitiers wrote in the *Gesta Guillelmi* of Duke William's approach to London from the west:

he took up a position not far from London, where he heard that [the English elite] most often held their meetings. The river Thames flows past this city, carrying foreign riches from a sea port. Even when only its citizens are there, it has a large and famously warlike population. At that time, indeed, a crowd of warriors from elsewhere had flocked thither, and the city, in spite of its great size, could scarcely accommodate them.<sup>63</sup>

The *Carmen de Hastingae proelio*, probably written by Guy, bishop of Amiens (1049–74/5), goes into yet more detail on the stout defence of London, led by the grizzled veteran Ansgar the Staller: 'the king struck camp and directed his steps to where teeming London shines bright. It is a most spacious city, full of evil inhabitants, and richer than anywhere else in the kingdom. Protected on the left by walls and on the right by the river, it fears neither armies nor capture by guile'.<sup>64</sup> Duke William's eventual entry into London, and coronation by Archbishop Ealdred at Westminster on Christmas day 1066, was a major step in his conquest of the English.<sup>65</sup> These Norman writers had various axes to grind against the Anglo-Saxons, but what they say concerning London chimes with the message of other sources dating back to the end of the tenth century: that the city was outstanding for its size, belligerence, wealth and eminence in the kingdom as a whole.<sup>66</sup>

London's status as the heart of the kingdom of England was thus well established by the eleventh century. Since the seventh century it had enjoyed prominence and privilege, at least in part inherited from being the geographical and administrative linchpin of Roman Britain. The growth of *Lundenwic* in the period c. 650–850 restored the city's economic as well as symbolic importance, although between the reigns of Alfred and Æthelred the Unready it remained only one of several significant towns within England. Canterbury, Winchester and York in particular loomed at least as large in ecclesiastical, political and economic affairs respectively. But in the last years of the tenth century and in the eleventh, London's profile rose swiftly.

<sup>60</sup> *Vita Ædwardi regis*, I.3 (Barlow 1992, 34–5). Godwine and his sons had extensive property and strong support in London and Southwark: Fleming 1993, 10 and 13–14.

<sup>61</sup> The best modern account of these events (derived largely from details in the *Anglo-Saxon Chronicle*) is Barlow 1997, 104–25.

<sup>62</sup> Freeman 1867–79, III, 523–62; Mills 1996.

<sup>63</sup> '... ubi frequentiore audiuit eorum conuentum, non longe a Lundonia consedit. Praeterluit eum urbem fluius Tamesis, peregrinas e portu marino diuitias aduectans. Cum solos ciues habeat, copioso ac praestantia militari famoso incolatu abundat. Tum uero confluerat ad ipsam hospes turba propugnatorum, quam licet ambitu nimis ampla non facile capiebat': William of Poitiers, *Gesta Guillelmi*, ii.28 (ed. and trans. Davis and Chibnall 1998, 146–7). See also ii.34 (*ibid.*, 160–3): '[the king left] London while fortifications were being completed in the city as a defence against the inconstancy of the numerous and hostile inhabitants. For he saw that it was of the first importance to constrain the Londoners strictly' ('egressus e Lundonia ... dum firmamenta quaedam in urbe contra mobilitatem ingentis ac feri populi perficerentur. Uidit enim in primis necessarium magnopere Lundonienses coerceri').

<sup>64</sup> 'Rex ... tentoria fixare soluit; quo populosa nitet Londona uertit iter. Urbs est ampla nimis, peruersio plena colonis, et regni reliquis dicior est opibus a leua muris, a dextra flumine tuta, hostes nec metuit nec pauet arte capi': Guy of Amiens, *Carmen de Hastingae proelio* ll. 635–40 (ed. and trans. Barlow 1999, 38–9).

<sup>65</sup> On the sequence of events from Alfred to the Conquest, see Brooke and Keir 1975, 20–9.

<sup>66</sup> Cf. Stenton 1971, 538–41.

Soon it became the preferred place for royal coronations and, often, for the royal residence,<sup>67</sup> and outstripped other towns in size and economic importance. By 1066 it was without question the political hub of the kingdom.

### London's coinage c.880–973

The coins have a major part to play in illustrating London's development during the Anglo-Saxon period, but it must be admitted that their contribution is more limited for the first century considered here. The coinages issued between Alfred's London Monogram type and Edgar's reform remain some of the most problematic in the whole Anglo-Saxon series, above all where southern England is concerned. The majority of coins bear no mint-signature, raising obvious problems of attribution; most relevant hoards come from northern England, Ireland or Scotland, and contain few coins from the south; and single-finds, despite additions thanks to the activities of metal-detectorists, are still relatively few. For all these reasons it is impossible to present a coherent or detailed history of London's coinage during this time. However, this relatively nebulous and uncertain period is punctuated by three clearer episodes: Alfred's London Monogram coinage; and the Circumscription and Bust Crowned coinages produced under Æthelstan, and later under Edgar. Together, these coinages help to sketch the history of a substantial but by no means pre-eminent mint.

Alfred's attractive London Monogram coinage has been used to illustrate this extraordinary ruler's achievements since John Speed's *History of Great Britaine* (1611), which was adorned with a specimen from the collection of Sir Robert Cotton (1571–1631).<sup>68</sup> Attempts by numismatists to date this coin and others like it were constructed around the accepted historical narrative, which had London under Viking occupation between the early 870s and 886, and was complicated by the discovery in the Cuerdale hoard of a coin with the same reverse design seemingly in the name of the Viking ruler Halfdan:<sup>69</sup> consequently, scholars for a long time supposed that the London Monogram design originated under the Vikings, perhaps being revived by Alfred in 886.<sup>70</sup> In 1961 Michael Dolley and D.M. Metcalf reversed the order of the coins, so that the Halfdan specimen and other Viking imitations came instead to be seen as derived from pennies of Alfred. The latter were still thought to belong to 886.<sup>71</sup> Reassessment by historians and numismatists in the 1980s and 1990s has pushed Alfred's involvement with London back to an earlier date, however, thanks in large part to the evidence of coins. Several of the Cross and Lozenge coins of the 870s in Alfred's name probably belong to London, as do other rare issues of the same decade.<sup>72</sup> In other words, there is every reason to believe that the city had been under Alfred's control, at least intermittently, since approximately 874. The London Monogram coins are more likely to belong somewhat earlier than 886, and can be dated with some confidence to c.880, between the Cross and Lozenge and Two-Line types, as there are several moneyers whose careers span both issues.<sup>73</sup>

Despite their impressive design, which suggests a return to original Roman models for the bust, the surviving London Monogram pennies probably do not represent a large or long-lived issue.<sup>74</sup> Leaving Danelaw imitations to one side, the official issue is known to have consisted of two principal groups: one with the monogram occupying the whole of the reverse; the other bearing the name of the moneyer Tilwine. Four other coins survive with the names of different moneyers, but it is uncertain whether these represent official issues. Most surviving specimens clearly of the official types stem from a small number of hoards, including

<sup>67</sup> See above and also Biddle 1986, 56 and 69; also Mason 1991.

<sup>68</sup> Speed 1611, 384 (Cf. Harvey and Harvey 2003). On the interpretation of the coin, especially its monogram, see the important comments of Pegge 1772, 92–106.

<sup>69</sup> Now in the British Museum (Brooke 1925, no. 300); cf. Williams 2011, 48.

<sup>70</sup> Haigh 1870, 27–30; *BMC* II, xxxiv and xxxvii; Brooke 1950, 33–4 and 47.

<sup>71</sup> Dolley and Blunt 1961, 82–3 and 89–90.

<sup>72</sup> Blackburn 1998, 108–20.

<sup>73</sup> Blackburn 1998, 110–11 and 120–2; Archibald 1991, no. 265.

<sup>74</sup> Keynes 1998, 30.

Cuerdale, Stamford, a small nineteenth-century group from Kent<sup>75</sup> and two poorly-known finds from London. One of these, a hoard found at Bucklersbury in 1872, may have included as many as sixty coins of the Monogram type, although records are sketchy;<sup>76</sup> the other, still more poorly known, included some seventeen coins of Alfred.<sup>77</sup> Single-finds have proven relatively scarce, and only eight are known (five of them from London). Surviving specimens are quite closely die-linked, suggesting a relatively small, tight-knit original output: among a sample of seventy coins (of the regular and Tilwine types), 17 obverse and 27 reverse dies are represented.<sup>78</sup>

The continuation of moneyers from the London Monogram issue suggests that coins were also made there in the last two decades of the ninth century when the Two-Line type of Alfred prevailed. However, there is reason to believe that operations at London and Canterbury declined in the last years of the century, to the extent that at the beginning of Edward the Elder's reign Winchester was probably the dominant mint in southern England. Just one moneyer probably of London can be traced from Alfred's reign into the early phase of Edward's.<sup>79</sup> Stewart Lyon has proposed that this nadir in the fortunes of the southeast might be related to the plague that afflicted the kingdom in the years 893–6.<sup>80</sup> However, a modest revival had begun by *c.* 905–10. Three moneyers at this stage probably worked in London, and a significant expansion took place later in Edward's reign, *c.* 915 and after. By this point it is necessary to work backwards from the next period when mint-places are named: the Circumscription Cross and Bust Crowned types of Æthelstan (924–39). Eight moneyers named at London under Æthelstan are certainly known from dies of appropriate style late in Edward's reign; three others may, less certainly, also have been active at this time.<sup>81</sup>

The important changes to the coinage introduced in the decade after about 927 have been surveyed in detail by Christopher Blunt, and are complemented by the famous laws on minting in the text known as II Æthelstan.<sup>82</sup> London figures prominently in this document, with eight moneyers permitted to the city. Surviving coins suggest that this quota is broadly accurate. Eleven moneyers are known at London in Circumscription Cross and ten in Bust Crowned; seven moneyers are named in both. All eleven of the Circumscription Cross moneyers are certainly or probably recorded in earlier coinages; nine of the Bust Crowned moneyers in later issues (see Table 1). As discussed below, numbers of moneyers are not an infallible guide to the size or significance of a mint-place; nevertheless, by this reckoning London's likely complement of about eight moneyers at any one time placed it among the most active mints in the kingdom.

TABLE 1. Numbers of moneyers recorded at London in the reign of Æthelstan.  
Abbreviations: Æth Æthelstan, EdE Edward the Elder.

<i>No. of moneyers in II Æth</i>	<i>No. of moneyers recurring under EdE</i>	<i>No. of moneyers recurring in early Æth</i>	<i>No. of moneyers named in Æth CC</i>	<i>No. of moneyers named in Æth BC</i>	<i>Change CC–BC</i>	<i>No. of moneyers recurring in later issues</i>
8	11	11	11	10	–4; +3	9

<sup>75</sup> On the Kentish find (from Erith) see Grierson 1957, 480–1.

<sup>76</sup> This hoard is known solely from references in two nineteenth-century sale catalogues: see Blunt and Dolley 1959, 234–5.

<sup>77</sup> This find is known from notes in a manuscript of the collection of Thomas Bliss (d. 1914). Five of Bliss's twenty-three coins of Alfred were noted as having been 'found in Thames St., near London Bridge', and twelve others on the next folio may well also belong to the same find (although this is not explicitly stated). A further note in a section of the manuscript listing acquisitions and finds includes the entry 'Alfred pennies found at Fresh[?] Wharf, Thames Street' under November 1880 (which might refer either to the date of the find or the date of acquisition). The seventeen coins attributed to the find include six regular London Monogram pennies, six of Tilwine, four Two-Line pennies and a fragment of an *Ohsnaforda* (Oxford) penny. Details of this hoard are reproduced from notes gathered by Mark Blackburn, based on information supplied by Edward Besly and Hugh Pagan. See also Pagan 1983.

<sup>78</sup> These details also derive from unpublished notes made by Mark Blackburn.

<sup>79</sup> Blackburn 1998, 111–12.

<sup>80</sup> Lyon 2001, 75; Blunt, Stewart and Lyon 1989, 21.

<sup>81</sup> Blunt, Stewart and Lyon 1989, 30–2 and 48–9.

<sup>82</sup> Blackburn 1996. It is clear that the Grately provisions on minting and other matters connected with boroughs belong to an earlier text, though how much earlier is unclear: Molyneaux 2010, 111–25; Naismith forthcoming.

After the death of Æthelstan, London and most other English mint-places reverted for twenty years to coin-types which did not reveal where they were struck. Some impression of its continuing importance during this period is given by the strong London element in the Forum hoard, found in the House of the Vestal Virgins with inscribed tags indicating its *c.* 840 coins were a gift to Pope Marinus II (942–6).<sup>83</sup> Under Edgar, however, before the famous reform of *c.* 973, there was already a trend towards the revival of designs and practices instituted under Æthelstan, including use of mint-names. At London, this custom began especially early, with a unique and important coin of Eadwig (955–9), Edgar’s elder brother, whose rule over the whole kingdom was curtailed in 957 when the magnates from north of the Thames nominated Edgar as king to rule over the Mercians and Northumbrians.<sup>84</sup> London henceforward fell within Edgar’s territory. There is no firm evidence that Edgar’s rule was initially recognized on the coinage, so the Eadwig Bust Crowned coin may have been produced under Edgar’s auspices, foreshadowing his later revival of the type and of mint-names. In the earlier part of Edgar’s reign there was also a brief resurrection of the London Monogram type of Alfred, which appeared on the reverse of rare halfpennies, replacing the name of the moneyer.<sup>85</sup> However, it is equally possible that the spate of monetary innovations in the 950s and 960s began at a local level rather than with any specific royal initiative, for the return to Circumscription types started under Eadwig at mints in the southwest.<sup>86</sup>

In Edgar’s coinage as a whole, eight moneyers are known from London: six struck Circumscription coins, four Bust Crowned coins and two struck both. Just three of these moneyers are known in earlier coinages (Table 2), and only four are known to have survived into the Reform period.

TABLE 2. Numbers of moneyers at London under Eadwig and Edgar.

<i>No. of moneyers</i>				
	<i>No. of moneyers known in earlier coinages</i>	<i>No. of moneyers in Edgar CC</i>	<i>Change CC–BC</i>	<i>No. of moneyers in Edgar BC</i>
Eadwig	1			
Edgar	2 (3)	6	–4; +2	4

As in the reign of Æthelstan, London figures among the leading English mints, but nothing more. Chester, Winchester and York were home to as many or more pre-reform moneyers of Edgar: nineteen, fifteen<sup>87</sup> and eight respectively. On the eve of Edgar’s reform, London was – as far as both the coins and the other sources indicate – by no means the outstanding metropolis of the English kingdom.

### London as a die-cutting centre

In the period after Alfred’s London Monogram coinage (from *c.* 880), London seems to have already been one of at least four centres involved in the production and distribution of dies, along with Canterbury, Winchester and one or more centres in the west midlands. Coins were at this point rarely mint-signed, so it is only through the survival of securely attributed moneyers that dies can be associated with particular regions or centres. It should be stressed that this is a matter of die-cutting style rather than mint-attribution: London may have already been supplying multiple mint-places, so use of London-style dies need not denote presence at

<sup>83</sup> Naismith and Tinti forthcoming.

<sup>84</sup> Keynes 1999, 476–9; Jayakumar 2008; Winterbottom and Lapidge 2012, xxxiv–vii.

<sup>85</sup> Blunt, Stewart and Lyon 1989, 204.

<sup>86</sup> *Ibid.*, 172.

<sup>87</sup> Thirteen moneyers are named in the main catalogue of Biddle 2012, another at 55 (Marscalc), and a fifteenth has recently come to light (Leofric: EMC 2012.0123).

London.<sup>88</sup> Even so, the production and distribution of dies are an important gauge of London's importance across the tenth and eleventh centuries.

The beginning of this story is not so propitious, however. London declined as a die-cutting centre in the last years of the ninth century, its few moneyers probably receiving their dies from Winchester. But it recovered to a considerable extent by the latter part of Edward the Elder's reign: eventually London was entirely self-sufficient.<sup>89</sup> Research into die-distribution under Æthelstan by D.M. Metcalf reinforces this impression of London's prominence. It seems to have been one of just four or five places which supplied dies to eastern and southern England: other mints which received its products included Maldon and Hertford, and occasionally Canterbury and Rochester.<sup>90</sup> For the three decades after Æthelstan's reign, one can do little more than note that London was active on a scale comparable to other major mint-towns of the day, and presume that this was reflected in die-manufacture and -distribution.

Greater clarity emerges in the period *c.*973–1066. Indeed, for the latter year Domesday Book provides explicit evidence for the leading role played by London. In the lines devoted to Worcester in 1066, it states that 'when the coinage was changed each moneyer would give twenty shillings at London for receiving coin-dies'.<sup>91</sup> Further corroboration of London's special place in the late Anglo-Saxon and Norman monetary system comes in the form of two other sources. One is an exceptional archaeological find of four reverse coin-dies of the eleventh and early twelfth centuries, discovered during excavations on the 'Thames Exchange' site on the London waterfront, near Upper Thames Street. These might reasonably be accepted as part of the detritus associated with a die-cutting workshop or storehouse of some sort.<sup>92</sup> The four dies span the period from Cnut to Stephen and, importantly, not one is a die of the London mint: that of Cnut names Norwich; the others name Wareham, Southwark and Northampton. They provide tangible evidence that London was the centre where dies were, apparently by the first half of the eleventh century, being made and repaired for large tracts of the kingdom, as specified by Domesday Book.<sup>93</sup> The second source is, in a sense, the ghost of movements of dies like those implied by the Thames Exchange finds and the Domesday text for Worcester. Inter-mint obverse die-links have been found now in most late Anglo-Saxon coin-types.<sup>94</sup> Several circumstances could lie behind them. When die-links connect coins of the same moneyer operating at different locations, they can probably be explained as movement of the die along with a moneyer or his subordinates.<sup>95</sup> The same may also be true in the case of die-links between different moneyers at nearby mints, especially those which shared a persistent connection like Southampton and Winchester.<sup>96</sup> Yet there are also some die-links between very distant mint-places – for instance London and York, Huntingdon and Rochester or Exeter and Cambridge. Some of these could reflect long-distance movements of moneyers,<sup>97</sup> but many might derive from the peregrinations of dies sent out from a central die-cutting centre (often presumably London), returned after a period of use, then subsequently sent out again, perhaps after being repaired. It would be imprudent to assume that all such inter-mint die-links have been identified, or even that the selection of them known in all types is representative. Nonetheless, on the basis of a list compiled by Stewart Lyon and Bill Lean, London's centrality in the web of obverse die-links is striking, above all in those types (such as Æthelred II Long Cross) for which numerous die-links are known, and even links

<sup>88</sup> Blackburn 2011, 169–70 and 180–2; Dolley and Blunt 1961, 85.

<sup>89</sup> Blunt, Stewart and Lyon 1989, 30–2.

<sup>90</sup> Metcalf 1992, 83–9.

<sup>91</sup> 'Quando moneta vertebatur quisque monetarius dabat 20 solidos ad Lundeniam pro cuneis monetæ accipiendis': DB I, f. 172. For discussion see Grierson 1985.

<sup>92</sup> Allen 2012, 112–13.

<sup>93</sup> Archibald, Lang and Milne 1995.

<sup>94</sup> Selected references include Dolley and van der Meer 1959.

<sup>95</sup> As in the case of the moneyer Boiga, whose issues at London and Dover in Æthelred II's Helmet type share an obverse die: Dolley and van der Meer 1959.

<sup>96</sup> Lyon 2012, 15–16.

<sup>97</sup> One such case involving the moneyer Leofwine in Æthelred II's Last Small Cross coinage is discussed in Lyon 1970, 202–3.

which do not include a London mint-signature on the reverse may represent dies which passed through the city.<sup>98</sup>

An array of highly specific witnesses to London's development as a centre of die-cutting and die-distribution can thus be marshalled. To follow this story more widely requires careful and cautious use of stylistic analysis. Only select types have been examined in detail, though the outline is known for the whole period after Edgar's reform.<sup>99</sup> From c.973 until the middle of Cnut's reign arrangements for die-production took particularly flexible and complex form. A common pattern, seen in the initial Reform type and also in the Second Hand, Crux, Long Cross and Helmet types, saw relative centralization at the outset of a coinage gradually give way to more localized production. Initially, Winchester appears to have been the centre for 'national' distribution, but London apparently took up the bulk of this task by the beginning of Æthelred II's reign.<sup>100</sup> Dies of these 'national' styles were used alongside local or regional products at certain mints even before Edgar's death, and the trend towards localized die-production spread under Edward the Martyr and in Æthelred's First Small Cross coinage. In the latter issue two regional styles (in addition to the 'national' style) have been identified at a number of eastern mints which may have derived from London.<sup>101</sup>

Even by 978, therefore, London had probably come to occupy a leading position in the manufacture of coin dies. In subsequent coinages its role remained significant. During the First Hand type either it or Winchester was probably the source of dies distributed across much of southern England.<sup>102</sup> London and Winchester probably shared the duty of supplying the southern part of England with early Second Hand dies,<sup>103</sup> and both centres are likely to have played a prominent role in die-distribution at various times during the issue of the Crux, Long Cross and Helmet types.<sup>104</sup> A surprising deviation occurred in the Agnus Dei type of Æthelred II and in the earliest phase of the Last Small Cross type, both probably to be dated to 1009.<sup>105</sup> At this stage, London's role was apparently curtailed, and its earliest products were made using obverse dies supplied from a workshop tentatively associated with Gloucester. Viking incursions in the southeast of England in the late summer and autumn of 1009 may lie behind these difficulties. Whatever their cause, these problems were quickly overcome, and for the rest of the Last Small Cross coinage London was a significant regional source of dies for eastern England. Towards the end of the type it was especially dynamic, essaying one subtle variation on the Last Small Cross design,<sup>106</sup> and another much more radical one, in which the king's bust was adorned with a pointed helmet; this may later have served as a model for the Pointed Helmet issue of Cnut in the 1020s.<sup>107</sup> In Cnut's first (Quatrefoil) type London was home to multiple workshops which supplied numerous mints in the southeast, though the more regionalized pattern of Last Small Cross prevailed.<sup>108</sup> Significant changes came with the Helmet and Small Cross types of Cnut (usually dated c.1023–9 and c.1029–35 respectively), in which greater centralization based (it is reasonably presumed) on London became more standard.<sup>109</sup> During the Jewel Cross type of Harold I and Harthacnut die-production seems, unusually, to have been related to political divisions, with one die-cutting centre (cautiously associated with Winchester) initially supplying mint-towns south of the Thames, while at least two sources (one or both probably in London) provided all dies used north of the Thames save at Lincoln, and also gradually took over the supply of mint-places further south.<sup>110</sup> Work by

<sup>98</sup> The list (and an article discussing the implications of certain inter-mint die-links in the Last Small Cross type) has not yet been published: the author acknowledges the kindness of Dr Lyon and Mr Lean for permission to cite their work here.

<sup>99</sup> General comments include Blackburn and Lyon 1986, 223–5; Jonsson 1987, 86–7; Allen 2012, 115–16.

<sup>100</sup> Jonsson 1987, 87–9.

<sup>101</sup> *Ibid.*, 89–95.

<sup>102</sup> Dolley and Talvio 1977, 62–3.

<sup>103</sup> *Ibid.*, 64.

<sup>104</sup> Stafford 1978, 45–6 and 48. Intermediate Small Cross dies can more confidently be associated with Winchester.

<sup>105</sup> Lyon 1998, 21–2; Keynes and Naismith 2012, 192.

<sup>106</sup> Lyon 1962 and 1998, 28–30.

<sup>107</sup> *SCBI* 65, no. 1096. For comment see Lyon 1970, 201.

<sup>108</sup> Blackburn and Lyon 1986, 244–6.

<sup>109</sup> Jonsson 1994, 204–5. Two distinct national styles were identified in Cnut's Pointed Helmet type in Dolley and Ingold 1961.

<sup>110</sup> Talvio 1986.

Hugh Pagan and Tuukka Talvio on style and die-distribution in the coinages of Edward the Confessor and Harold II has suggested that one or more workshops in London generally provided the large majority of dies for the whole kingdom, as Domesday Book states was the norm.<sup>111</sup>

In the course of the two centuries from about 880 to the Norman Conquest, London went from being one among several significant centres for the making and distribution of dies, to the clear leader throughout the kingdom. Much remains uncertain about this process, especially before Edgar's reform. But there can be little doubt that in and after the 970s, London quickly emerged – initially along with Winchester – as one of the key nodes in the monetary system, and in the time of Cnut regional and local production declined in favour of centralization at London. Moneyers and their servants from as far afield as York, Lincoln, Chester and Exeter must have been regular customers of eleventh-century London's die-cutters, as they would continue to be for centuries.<sup>112</sup> Details of what these visitors found when they arrived, and of how London's monetary significance was reflected in actual output and contribution to the currency, must be approached by other means.

### **London and the English currency *c.*973–1066: the evidence of single-finds**

For the century between Edgar's major reform and the Norman conquest, the Anglo-Saxon coinage presents a picture of impressive cohesion and stability. Over a hundred mints, London among them, issued some twenty-six major sequential types, each lasting just a few years, and every coin bore the names of moneyer and mint-place as well as of the king. Generations of scholars have advanced understanding of this phase of the English currency to a very sophisticated level, and even without a complete corpus, it is nevertheless possible to examine several indices of London's changing profile.

The first is the newest source for the currency of the period: representation of London among single-finds discovered in England. As has recently been explored elsewhere, single-finds are a source of particular value for one aspect of the Anglo-Saxon monetary economy: the level of coin-use in domestic circulation.<sup>113</sup> London's representation in single-finds might be taken as some gauge of its importance specifically within England, with the caveat that single-finds do not reflect the potentially large proportion of output which may have left England or been reminted,<sup>114</sup> and of course that the precise figures will of course change as additional coins are found.<sup>115</sup> At this stage, however, the coin finds of various mints, types and regional locations have become numerous enough that the overall conclusions are unlikely to be shaken.

Table 3 gives the number of coins of London (and Southwark)<sup>116</sup> found in each type, and the percentage they represent of the total number of known finds of that type, as of March 2012 (when the sample stood at 1329 finds, based on the coins recorded in EMC and PAS). For comparison, the numbers of finds of coins from the four other leading mints are given – Lincoln, York, Winchester and Stamford – along with the amalgamated total from all other mints. Figure 1 illustrates the changing percentage of all finds accounted for by these mints in each type. It should be stressed that these totals are based on all finds from within the bounds of medieval England; no attempt has been made here at analysis of the geographical distribution of London's output, as this has recently been considered elsewhere.<sup>117</sup> To summarize, its coins were numerous and widespread in circulation. London and Southwark contributed

<sup>111</sup> Talvio forthcoming; Pagan 1990, 181–3 and 2011, 20–3.

<sup>112</sup> For a survey of later developments see Allen 2012, 116–30.

<sup>113</sup> Naismith 2012, 199–202 and 2013; Metcalf 1998.

<sup>114</sup> These and other meaningful imbalances in the Scandinavian material are discussed in Metcalf 2006; Moesgaard 2006.

<sup>115</sup> For earlier discussion see Metcalf 1998, 53 and 223–6.

<sup>116</sup> Here and for other purposes London and Southwark are treated as a single unit. Reasons for doing so are discussed below, pp. 59–60.

<sup>117</sup> Naismith 2013; Metcalf 1998, 21–3.

25–30 per cent of all known single-finds, and account for 30–45 per cent of finds even in regions as distant as the Danelaw and Wessex.

TABLE 3. Representation of mints among English single-finds, arranged by type, number of finds and percentage within each type.

Type	London		Lincoln		York		Winchester		Stamford		Others	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Reform	11	12	10	11	24	26	2	2	14	15	32	34
Hand	40	37	8	7	18	17	6	6	1	1	35	32
Crux	18	21	17	20	6	7	5	6	2	2	37	44
Long Cross	43	40	14	13	15	14	1	1	4	4	31	29
Helmet	12	35	6	18	2	6	0	0	1	3	13	38
Last Small Cross	12	27	7	16	3	7	6	13	2	4	15	33
Quatrefoil	5	10	13	27	4	8	5	10	0	0	22	45
Pointed Helmet	18	40	4	9	7	16	5	11	0	0	11	24
Short Cross	44	25	33	19	24	14	5	3	15	9	52	30
Jewel Cross	15	20	10	13	11	14	0	0	4	5	36	47
Fleur de Lys	9	29	5	16	1	3	1	3	2	6	13	42
Arm & Sceptre	4	33	3	25	0	0	0	0	1	8	4	33
Pacx	4	20	4	20	3	15	0	0	2	10	7	35
Radiate/Small Cross	10	20	9	18	2	4	1	2	6	12	21	43
Trefoil/Quadrilateral	8	38	4	19	1	5	3	14	1	5	4	19
Small Flan	15	24	3	5	6	10	6	10	5	8	27	44
Expanding Cross	23	28	10	12	3	4	2	2	4	5	39	48
Pointed Helmet	7	16	8	18	4	9	5	11	1	2	20	44
Sovereign/Eagles	5	15	2	6	3	9	1	3	2	6	21	62
Hammer Cross	3	7	5	11	7	16	1	2	0	0	29	64
Facing Bust	4	8	8	16	9	18	2	4	0	0	28	55
Pyramids	6	22	3	11	2	7	1	4	0	0	15	56
Pax	5	14	4	11	3	9	1	3	1	3	21	60
TOTAL	321		190		158		59		68		533	
% of all 1329 finds		24.2		14.3		11.9		4.4		5.1		40.1

London's share of the coinage was, with relatively few exceptions, higher than that of any other individual mint. At times – for instance during the currency of Long Cross (*c.*997–1003), Pointed Helmet (*c.*1023–9) and Trefoil/Quadrilateral (*c.*1046–8) – it accounted for about 40 per cent of all coins lost in England. Also instructive are the types in which it was surpassed by other mints. In the Reform type (*c.*973–9) London's share of the currency was noticeably small: Stamford and York contributed substantially more, and Lincoln was almost level with London. A dramatic step-up in London's contribution came in the Hand types (*c.*979–91), though it should be noted that for these purposes the First, Second and Benediction Hand types have all been amalgamated, and, as is well known, York and Lincoln produced virtually no Second Hand coins.<sup>118</sup> Yet London's surge at this time was no fluke, and the mint retained a very high share of the currency for much of the period down to the end of Expanding Cross (*c.*1053).<sup>119</sup> Thereafter, it put in a strong showing compared to the other major individual mints, but all of them were less dominant than in the past. By the last years of the Anglo-Saxon kingdom, London was again comparable in contribution to the other leading mints of the kingdom.

The critical feature of the latter part of the period is the collective decline of the major mints after Trefoil/Quadrilateral (*c.*1046–8). During the two decades before the Conquest, the lesser mints came to account for a consistently larger share of the currency circulating in England. This trend might be related to a tendency, observed at Lincoln, Winchester and York, for the ratio of single-finds to estimated output to increase during the same period.<sup>120</sup> In

<sup>118</sup> Petersson 1969, 81–4; Lyon 1976, 197–200; Stewart 1990, 471–4.

<sup>119</sup> For the possible reasons behind this, see below, p. 69.

<sup>120</sup> Naismith 2012, 13–15.

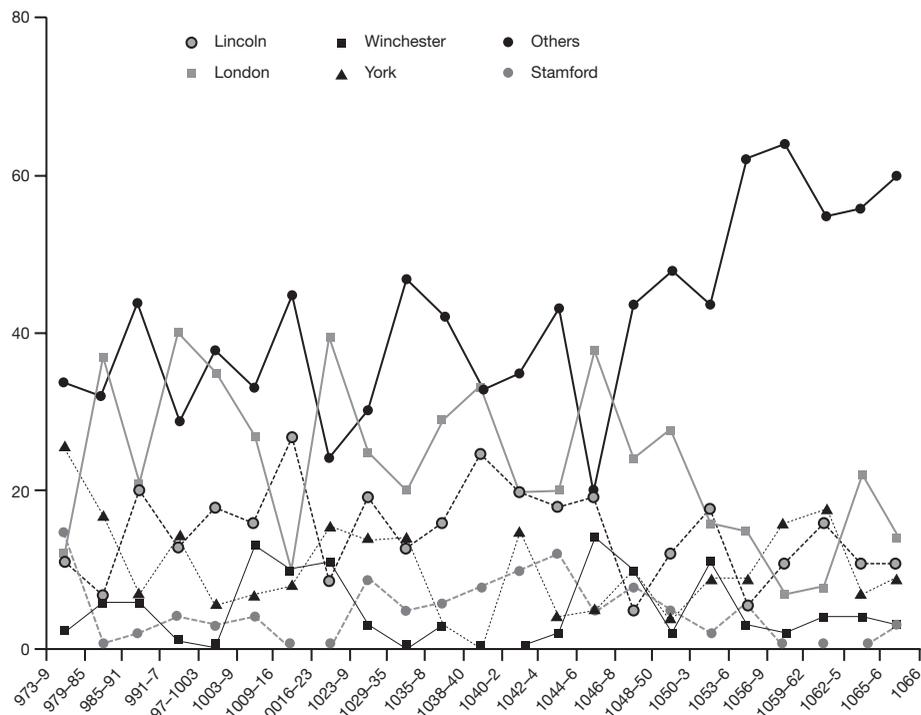


Fig. 1. Representation of mints among English single-finds, arranged by type and percentage.

other words, the major mints produced less, and more of the coins they made perhaps went into domestic circulation. As output perhaps came to be focused more on local than on international needs, the small and mid-size mints came to provide a collectively larger share of the currency.<sup>121</sup> This shift coincides broadly with eleventh-century urban expansion at a number of locations, as indicated by archaeological excavations.<sup>122</sup> Corroborative studies of production at small and mid-size mints are now needed, to determine how widely production may have changed in relation to the rising share of domestic currency the lesser mints now provided.<sup>123</sup> These will equip scholars to approach with greater confidence the question of what wider economic changes might lie behind this shift in the makeup of the currency.<sup>124</sup>

### London, Southwark and their moneys

An important characteristic of Anglo-Saxon mint-towns from the mid-eighth century onwards was their basis not in a single mint building, but in a number of moneys: craftsmen, officials and entrepreneurs who each oversaw an individual minting operation. The best evidence for how Anglo-Saxon moneys operated comes from Winchester in the eleventh century, yet there is good reason to believe that its model of moneys dotted in separate premises across the city applied to other Anglo-Saxon mints,<sup>125</sup> London among them.<sup>126</sup> Several locations of Norman mint-buildings and die-cutting workshops in London have been suggested;<sup>127</sup> whether these bear any relation to earlier arrangements is uncertain.

<sup>121</sup> See below, pp. 68–70, for the changing role of London as a mint in the eleventh century.

<sup>122</sup> Blair 2000, 256; Astill 1991, esp. 104–14, 2000, 41–2; Hall 2011, 613–15.

<sup>123</sup> Numbers of moneys under Edward the Confessor do indeed suggest little or no decline within small and mid-size mints in the midlands, southeast and East Anglia: Stewart 1992, 73; Freeman 1985, 55–8 and 531–4. For one case-study of a mid-level mint marked by relative stability under Edward, see Eaglen 1999 (Huntingdon).

<sup>124</sup> For further discussion of how tribute payments may have affected London's coinage, see below, pp. 68–9.

<sup>125</sup> Biddle and Keene 1976, 396–422; Metcalf 2001. See now Biddle 2012.

<sup>126</sup> For an attempt to draw links between late Anglo-Saxon moneys in London and figures surviving into the early Norman period, see Nightingale 1982, 39–43.

<sup>127</sup> Allen 2012, 112–13 and 117; Vince 1989, 116.

The frequent changes of type in late Anglo-Saxon England mean that it is comparatively straightforward to construct a list of the moneyers active at any mint-place during a period of just a few years. Among the dozens of places coins were made *c.* 973–1066, there was massive variation in number of moneyers, and London was – in most late Anglo-Saxon coin-types – home to more of them than any other individual location, although Lincoln and York, and at times Winchester, Stamford and other towns, housed an impressive number of moneyers as well.<sup>128</sup> London was also unique among late Anglo-Saxon mints in having a second mint quite literally a few hundred yards away at Southwark, on the southern end of London Bridge. Southwark was at this time a series of islands surrounded by marsh which had, since the early tenth century, served as a *burh*. Signs of extensive habitation can only be detected archaeologically from about the late tenth century: its growth was closely connected to revival on the opposite shore of the Thames and the reconstruction of London Bridge.<sup>129</sup> It is hardly surprising, therefore, that Southwark's first identifiable coin-issues belong to this period (the Crux type, conventionally dated *c.* 991–7).<sup>130</sup> Minting continued at Southwark into the twelfth century. Its activity in the late Anglo-Saxon period was erratic. No coins are known to survive of Southwark for several substantive types (Æthelred II's Helmet type and Harold I's Fleur de Lys type),<sup>131</sup> and the number of moneyers rose and fell dramatically: seventeen are recorded in Crux and three in the subsequent Long Cross type; twenty-three in Quatrefoil and seven in Pointed Helmet, for example. Under Edward the Confessor greater stability was the rule, albeit with a small complement of between one and three moneyers per type.

There can be little question that this unusual pattern reflects Southwark's status as essentially an appendage of London. It may at times have served a supplementary role when demand was especially great, such as during the great surges of activity in Crux and Quatrefoil. The evidence of die-distribution under Cnut is particularly suggestive. In the Quatrefoil type, Southwark moneyers are not known to have used any dies of 'London C' style, but solely those of 'London A' and 'London B', which were associated with the early stages of the coinage.<sup>132</sup> In other words, Southwark's activity had fallen off by the latter part of the type. Otherwise its role seems generally to have been as an outpost of London. Relations with London were always close, and frequently extended to the exchange of obverse dies. At least five dies crossed the river in Quatrefoil, which (as discussed below) was researched in detail during the preparation of this paper. Bill Lean and Stewart Lyon have noted further die-links between London and Southwark in Crux (eight dies), Long Cross (nine dies), Last Small Cross (one die), Pointed Helmet (one die) and Jewel Cross (two dies). Closely related to this was regular interchange of moneyers across the Thames. Moneyers made this trip freely, such that during all types issued *c.* 991–1066 at least half and often all of Southwark's moneyers were also known at London in either the same or an adjacent type.<sup>133</sup> Southwark's total complement of moneyers, and the number also known at London, are shown below in Table 4. Anthony Freeman, after close examination of the mint's relationship with London under Edward the Confessor, was able to suggest certain developments in its status. His conclusion was that Southwark began the reign as little more than a supplementary part of London, where moneyers from the larger mint would work briefly and in swift rotation. Such seems to have been the case long before 1042. Most moneyers were Londoners who worked temporarily south of the river. Even those few moneyers from the 990s onwards who seem to have

<sup>128</sup> Stenton 1971, 537.

<sup>129</sup> Above, n.43.

<sup>130</sup> Southwark's burst of activity in this type can be paralleled at other mints in the vicinity of London, such as Colchester, Maldon and Hertford – though London itself experienced no major change at this time. Details and possible explanations are discussed in Lyon 1976, 197; Blackburn 1991, 162.

<sup>131</sup> Historically there have been difficulties in distinguishing products of Southwark and Sudbury, though these have now been largely resolved: Dolley 1955–7.

<sup>132</sup> Blackburn and Lyon 1986, 248–9. There are reasons, discussed by Blackburn and Lyon, against seeing 'London B' as a product of a Southwark-based die-cutter.

<sup>133</sup> Freeman (1985, 185–90) notes that out of twelve moneyers named at Southwark under Edward the Confessor only one did not also work at London – and even this case is contentious (see also Byde 1967).

worked solely at Southwark were, with precious few exceptions,<sup>134</sup> known only in one type, implying that the mint had relatively little persistent identity or coherence of its own. This was to some extent rectified in the decade or so before the Norman Conquest. From Edward's Pointed Helmet type of the early 1050s a moneyer Osmund was persistently named at Southwark, sometimes joined by other moneyers, but providing a strand of continuity. In all types he was also named on coins of London.<sup>135</sup>

It has therefore seemed reasonable to consider London and Southwark as a single unit for most purposes. Finds of coins from the two mints were considered together above, and in Table 5 a figure has been provided which factors in the combined total of London and Southwark moneyers in any given type (though moneyers known from both mints are only counted once).

TABLE 4. Numbers of moneyers recorded at Southwark *c.*991–1066.

<i>Type</i>	<i>No. of moneyers</i>	<i>No. of new moneyers</i>	<i>No. of moneyers continuing into next type</i>	<i>Maximum continuity into next type(s)</i>	<i>Moneyers also known at London in same type</i>	<i>Moneyers also known at London in adjacent types</i>	<i>%</i>
Crux	17	17	3	4	13	1	82.4
Long Cross	3	0	0	2	3	0	100
Helmet	0	0	0	2			
Last Small Cross	4	2	3	3	2	0	50
Quatrefoil	23	19	2	4	14	1	65.2
Pointed Helmet	7	5	2	4	7	0	100
Short Cross	3	0	1	3	3	0	100
Jewel Cross	3	1	0	1	3	0	100
Fleur de Lys	0	0	0	1			
Arm and Sceptre	4	3	3	3	1	1	50
Pax	5	2	3	3	2	3	100
Radiate/ Small Cross	3	0	0	0	1	2	100
Trefoil/Quadrilateral	1	1	1	1	1	0	100
Small Flan	2	1	0	0	2	0	100
Expanding Cross	1	1	1	1	1	0	100
Pointed Helmet	3	2	1	2	3	0	100
Sovereign/Eagles	2	1	1	2	1	1	100
Hammer Cross	2	0	1	1	1	1	100
Facing Bust	2	1	1	1	2	0	100
Pyramids	1	0	1	1	1	0	100
Pax	1	0	1	1	1	0	100

The number of moneyers recorded in London itself during each type is listed in Table 5 below. The 'maximum continuity' column found in Tables 4 and 5 supplements the number of known moneyers continuing into the next type with those who recur (before 1035) after a gap of one type or (after 1035) two types, and who might have continued to operate in between. Note that this figure may therefore sometimes exceed the number of known moneyers in one or both adjacent types.

London's status as the largest minting establishment in England is brought home when these totals are put alongside those from other leading mints of the period in Figure 2.<sup>136</sup> Its development can be broken down into four phases. The first of these is the shortest, and consists solely of the Reform type (*c.*973–9). At this time London did not possess an exceptional number of moneyers, at least compared to other major mint-places – indeed, of the four mints shown in Figure 2 London had the fewest moneyers in this type. In terms of moneyer activity, London in the 970s essentially followed the same trajectory as it had earlier in the tenth century: that of significance, but hardly pre-eminence. This was to change dramatically in the Hand

<sup>134</sup> One exception to this rule is the moneyer Tunman, who appeared at Southwark (not London) in both Crux and Last Small Cross.

<sup>135</sup> Freeman 1985, 185–92.

<sup>136</sup> Figures for numbers of moneyers at Lincoln, Winchester and York are drawn from Lyon 2012, 44–5.

TABLE 5. Number of moneys recorded at London in each type c.973–1066.

Type	London and Southwark	Total no. of London moneys	No. of new moneys	No. of moneys continuing into next type	Maximum continuity into next type
Reform	10	10	7	6	8
First Hand	31	31	23	20	28
Second Hand	27	27	16	22	30
Crux	54	50	21	25	39
Long Cross	38	38	12	23	40
Helmet	36	36	7	28	43
Last Small Cross	68	66	22	47	58
Quatrefoil	79	69	22	44	50
Pointed Helmet	70	69	23	40	41
Short Cross	56	56	13	26	33
Jewel Cross	47	47	19	21	31
Fleur de Lys	26	26	3	15	23
Arm and Sceptre	28	25	5	18	21
Pax	32	29	7	21	23
Radiate/Small Cross	42	41	20	24	33
Trefoil/Quadrilateral	35	35	7	24	37
Small Flan	40	40	11	22	33
Expanding Cross	34	34	7	22	28
Pointed Helmet	34	34	6	16	22
Sovereign/Eagles	32	31	2	12	16
Hammer Cross	18	17	5	7	11
Facing Bust	12	12	6	9	10
Pyramids	11	11	1	7	9
Pax	8	8	1	6	8

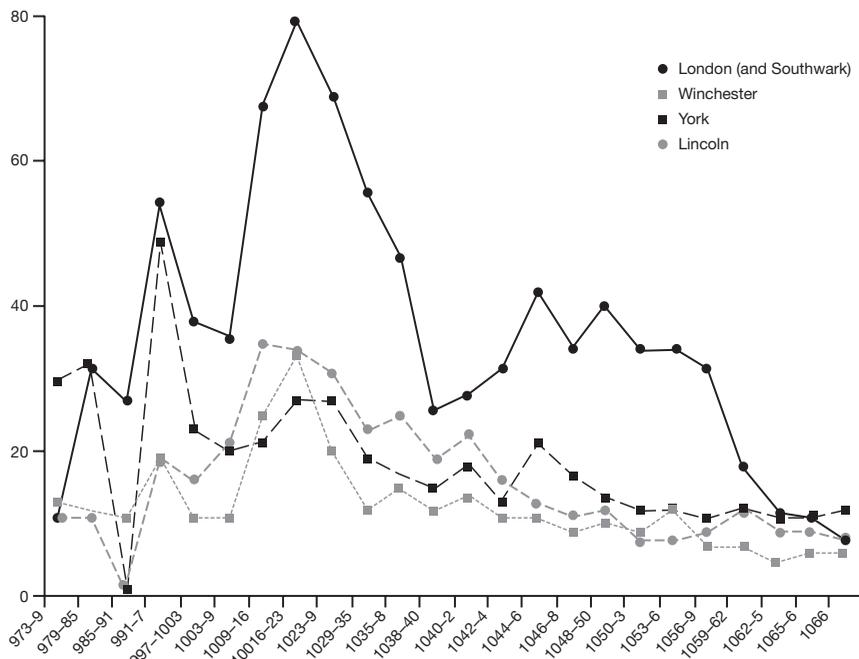


Fig. 2. Numbers of moneys at Lincoln, London, Winchester and York.

types (c.979–91).<sup>137</sup> While the other three leading English mints stayed more or less static in their complement of moneys between Reform and First Hand, London soared from ten to thirty-one moneys. Only York (with thirty-two) retained a slight lead. By the time of Crux, however, London was beginning to set itself apart as in a different league even compared to

<sup>137</sup> Metcalf 1998, 224.

the next three mints down. From Crux to Jewel Cross (c.991–1038) it far outstripped them, peaking in Quatrefoil with a total of seventy-nine moneyers.<sup>138</sup> This is more than double the number at the next best represented mint (Lincoln, with thirty-four). Even in Jewel Cross it was home to forty-seven moneyers, although from the middle of Cnut's reign there was a significant decline in the overall number of moneyers at London and elsewhere.<sup>139</sup>

The third phase highlighted by London's changing profile of moneyers was in essence a limited continuation of the second: a period of some two decades from the Fleur de Lys type of Harold I (c.1038–40) to Edward the Confessor's Sovereign/Eagles type (c.1056–9) during which London remained clearly the leading mint in the kingdom, albeit by a significantly smaller margin. Low points in this phase came in the Fleur de Lys and Arm and Sceptre types, when fewer than thirty moneyers per type are recorded for the first time since the 970s; thereafter the number of moneyers in each type revived somewhat. The plateau London reached at this time can be paralleled at the other major mints, suggesting that the downturn was a national phenomenon, probably associated on some level with the changes in the domestic currency discussed above.<sup>140</sup> The balance of production and contribution to the currency in England had begun to shift away from the major mints.

The final few coin-types before the Norman Conquest saw the number of moneyers at London fall sharply. Between Sovereign/Eagles and Hammer Cross (c.1059–62) the total almost halved, from thirty-two in a type to eighteen. By Harold II's brief reign London and Southwark were apparently home to only eight moneyers. This last decline brought the city full circle to the position it had occupied in the 970s and before: that of one among several significant English mints, all comparable in size. York had more moneyers than London in 1066; Lincoln the same number. At these other mints (together with Winchester) there had been a more steady long-term decline than at London, though with a similar conclusion. This national trend away from having very many moneyers – and by implication great demand and output – at just a few major mints is matched by relative stability and even modest expansion at smaller mints, particularly in the vicinity of London.<sup>141</sup> Again, the mid-eleventh century emerges as a time of significant change in the monetary economy, with a shift towards a more geographically dispersed currency. One is reminded that minting activity should in no way be read a straightforward reflection of economic status, for there is no indication that London (or indeed any of the other major towns) experienced a noticeable contraction in population or business at this time; if anything quite the opposite. The coinage, in other words, answered to a wider range of demands.

### The output of the London mint c.973–1066

The number of London's moneyers and their contribution to English single-finds provide two valuable indices of the city's standing within the kingdom relative to other mints. A further, and in many ways more penetrating, insight would be derived from a full die-study, of the sort now available for Lincoln, Winchester and York. The sheer volume of the surviving material, however, is a severe obstacle: the projects on Lincoln, Winchester and York all required many years of dedicated effort to complete, and broad estimates suggest that London and Southwark were responsible for about twice as many surviving coins as even the largest of these three other major mints. The present paper uses selective analysis of a few types, combined with statistical calculation, to reach an estimate of London's overall output. The results obtained by these estimates are, it should be noted, projected numbers of dies used, not actual coins produced. Great uncertainty still surrounds the average number of coins a pair of early medieval

<sup>138</sup> Numbers of moneyers under Cnut are also tabulated in Jonsson 1994, 219–22.

<sup>139</sup> It could be argued that this reflects a general policy of reducing the number of moneyers: such is demanded in IV Æthelred, c. 9 (Liebermann 1903–16, I, 236), though London and other major mints evidently still kept many more than the three moneyers permitted to each *summus portus*. This section of the code (which, it should be stressed, is not part of the passage possibly dating to the twelfth century: see above n.47) has been assigned to the reign of Cnut by Michael Lawson and others: Lawson 2004, 186–7; Seebohm 1902, 337–44; Kinsey 1958–9, 19–22.

<sup>140</sup> See above, pp. 57–8.

<sup>141</sup> Freeman 1985, 55–8 and 182–5.

or ancient dies could be expected to produce, and there is of course no guarantee that all dies were used to capacity.<sup>142</sup> That said, at major mint-towns such as London there was more chance of high and comparatively constant demand for coin.<sup>143</sup> Consequently the relative measure of number of dies between mints retains some value, even if the results must be used with care.

Work by Kenneth Jonsson and Hugh Pagan has already made available die-studies for two late Anglo-Saxon coin types including London (Reform and Pacx).<sup>144</sup> These offer important glimpses of London's activity at either end of the late Anglo-Saxon period, and to augment the picture of the middle – the peak of London's contribution – this author has conducted a die-study of over 1,200 pennies of London and Southwark in the Quatrefoil type.<sup>145</sup> The total numbers of coins, dies and singletons in these types are given in Table 6, along with the results of calculations of obverse and reverse output using the equations of Warren Esty.<sup>146</sup>

TABLE 6. Estimated output at London and Southwark in Reform, Quatrefoil and Pacx types.

	<i>Reform (c.973–9)</i>		<i>Quatrefoil (1016/17–c.1023)</i>		<i>Pacx (1042–c.1044)</i>				
	<i>34 coins</i>	<i>25 obv. dies (18 singletons)</i>	<i>26 rev. dies (21 singletons)</i>	<i>1233 coins</i>	<i>532 obv. dies (257 singletons)</i>	<i>634 rev. dies (328 singletons)</i>	<i>187 coins</i>	<i>131 obv. dies (111 singletons)</i>	<i>132 rev. dies (103 singletons)</i>
Est. coverage		0.47	0.38	0.79	0.73		0.406	0.449	
Point estimate		72	95	834	1087		459	413	
(95% lower estimate)		39	49	781	1008		334	306	
(95% upper estimate)		141	205	892	1173		632	559	

These figures in themselves prove instructive when compared with those of other mints; importantly, they broadly corroborate the level of activity suggested by the number of moneys. Figure 3 puts the London figures alongside similar (reverse) point estimates for Lincoln, Winchester and York.<sup>147</sup> In both Quatrefoil and Pacx, London seems to have been more than twice as productive as the next most active mint-town in the kingdom.

On the (relatively) reliable basis of estimates grounded in formal die-studies, this is as far as the evidence from London may be taken at present. What follows is an attempt to quantify London's output in other phases of the coinage based on the numbers of moneys.

Totals of moneys have often been used as a rough gauge for the activity of Anglo-Saxon mints,<sup>148</sup> but the limitations these numbers hold as a measure of minting activity, let alone for the economic standing of a town, are well known.<sup>149</sup> In particular, there is no way to be sure that all moneys in all types are known. There might also be uncertainties caused by ambiguity in the names of some individuals. Furthermore, even once a provisional total for a type has been arrived at, there is no means of determining how many of those moneys were active at

<sup>142</sup> For comment on techniques and a survey of relevant literature see Naismith 2012, 184–8.

<sup>143</sup> Demand for minting surely fluctuated significantly across the year: later medieval evidence from England and Venice suggests that spring and summer, when travel was easiest, were probably peak times (Cassidy 2011, 110–12; Stahl 2000, 99). Smaller mint-towns were probably only active during periods of recoinage.

<sup>144</sup> Jonsson 1987; Pagan 2011. Pagan (1990) has also published details of Harold II's Pax type, although because precise details of die representation are not given, it has not been included here. Out of 69 die-checked coins of this type from London and Southwark, some 42 obverse and 51 reverse dies are known.

<sup>145</sup> This sample includes all coins in the systematic collection of the Royal Coin Cabinet in Stockholm, as well as those from SCBI (including the forthcoming Norwegian volumes by Elina Screen), the British Museum, the Fitzwilliam Museum, the Lyon collection, EMC and major auction catalogues. The total cannot be described as definitive, but probably constitutes a large enough portion of surviving coins to provide a representative view. For similar estimates, in relation to the surviving material from other mints, see Jonsson 1994, 216–19.

<sup>146</sup> Esty 2006. General discussion of methodology and a summary of previous research is available in Allen 2012, 295–304; see also Lyon 2012, 12–13.

<sup>147</sup> A concise table of estimated output from these three mints is available in Lyon 2012, 46–7.

<sup>148</sup> Hill 1981, 130.

<sup>149</sup> Metcalf 1978, 165.

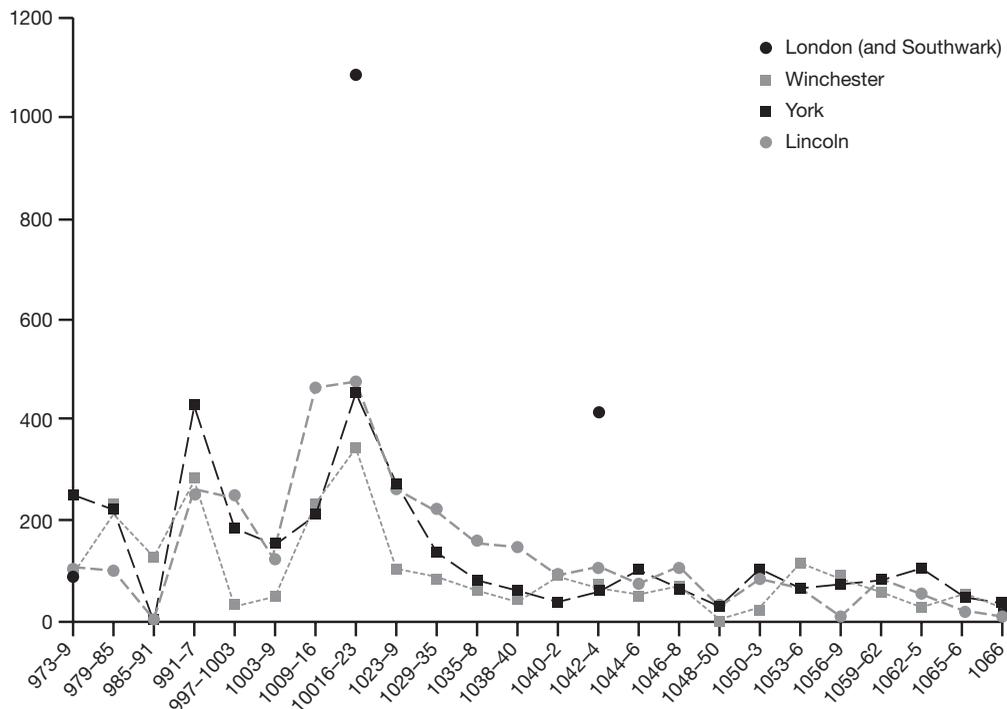


Fig. 3. Point estimates of reverse dies used at Lincoln, London/Southwark, Winchester and York.

any one time; many, even in large mints, might have worked part-time or only during periods of great demand. Some guide to the complement of moneyers active at the start or end of a type might be provided by those surviving from a previous issue or continuing into the next, but this may underestimate the impact of intervening spurts of production. On average, 31 per cent of London and Southwark moneyers in any one type were new, and an average of 61 per cent of moneyers in any type continued into the next period of coinage (82 per cent if one includes likely continuity across one or (after 1035) two types). Finally, one should not assume that output was constant between moneyers or between types. Die-studies of Lincoln, Winchester and York have demonstrated wide disparities in moneyer output.<sup>150</sup> Some simply produced far more than others, regardless of longevity.

In short, the number of moneyers can never be expected to provide an exact measure for the size of a mint, but it still retains value as a broad and relative indicator of activity. Comparison of Figures 2 and 3 shows that at London and elsewhere there was a general correlation between periods of high output and periods of numerous moneyers. Scrutiny of the number of moneyers at London might, therefore, provide the basis for a tentative estimate of productivity, and there are ways to offset some of the difficulties laid out above. In particular, variation in average output per moneyer between types can to some extent be overcome with reference to the data for productivity at Lincoln, Winchester and York. The average number of projected reverse dies per moneyer varied considerably between types but, significantly, tended to go up or down at approximately the same time at all three mints. The fluctuation is given in Table 7 and Figure 4.

One may provisionally assume that the common trend of Lincoln, Winchester and York, at opposite ends of the kingdom, was also characteristic of London.<sup>151</sup> By averaging the number of estimated reverse dies per moneyer at these other major mints, postulated high and low output multipliers (based on 95 per cent confidence intervals) are reached. One can then apply these to the number of moneyers known at London and Southwark to obtain an estimate of output. An additional margin of  $\pm 15$  per cent is used to take some account of vagaries of moneyers, modelled on the overall average proportion of new and continuing moneyers per

<sup>150</sup> Biddle 2012; Mossop 1970; Freeman 1985, 40–2.

<sup>151</sup> However, see below, p. 68.

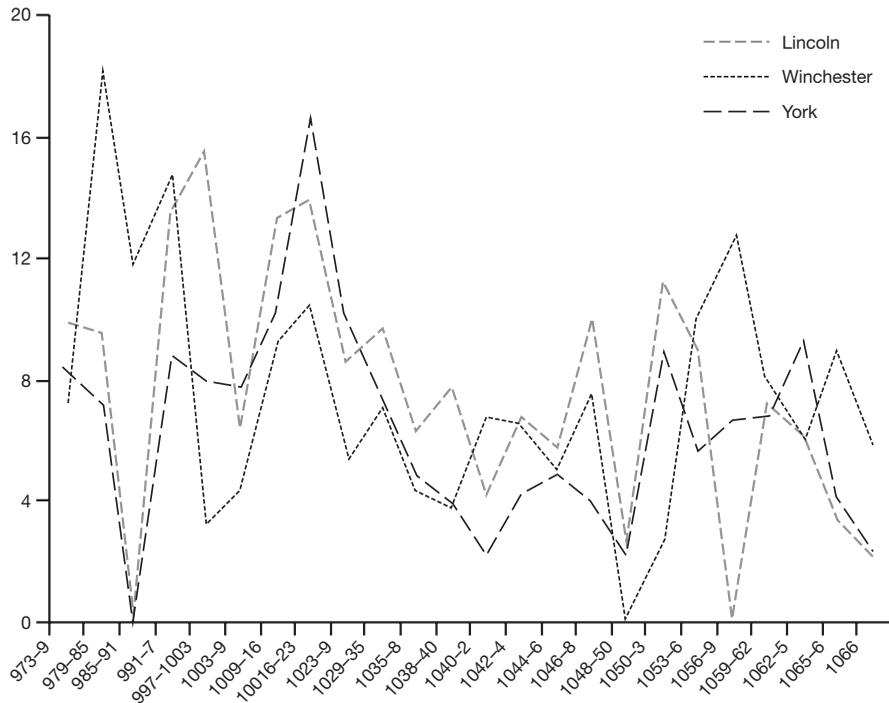


Fig. 4. Average number of reverse dies used per moneyer at Lincoln, Winchester and York; note that for the sake of clarity this graph uses the point estimate of reverse die output, not the 95 % confidence intervals.

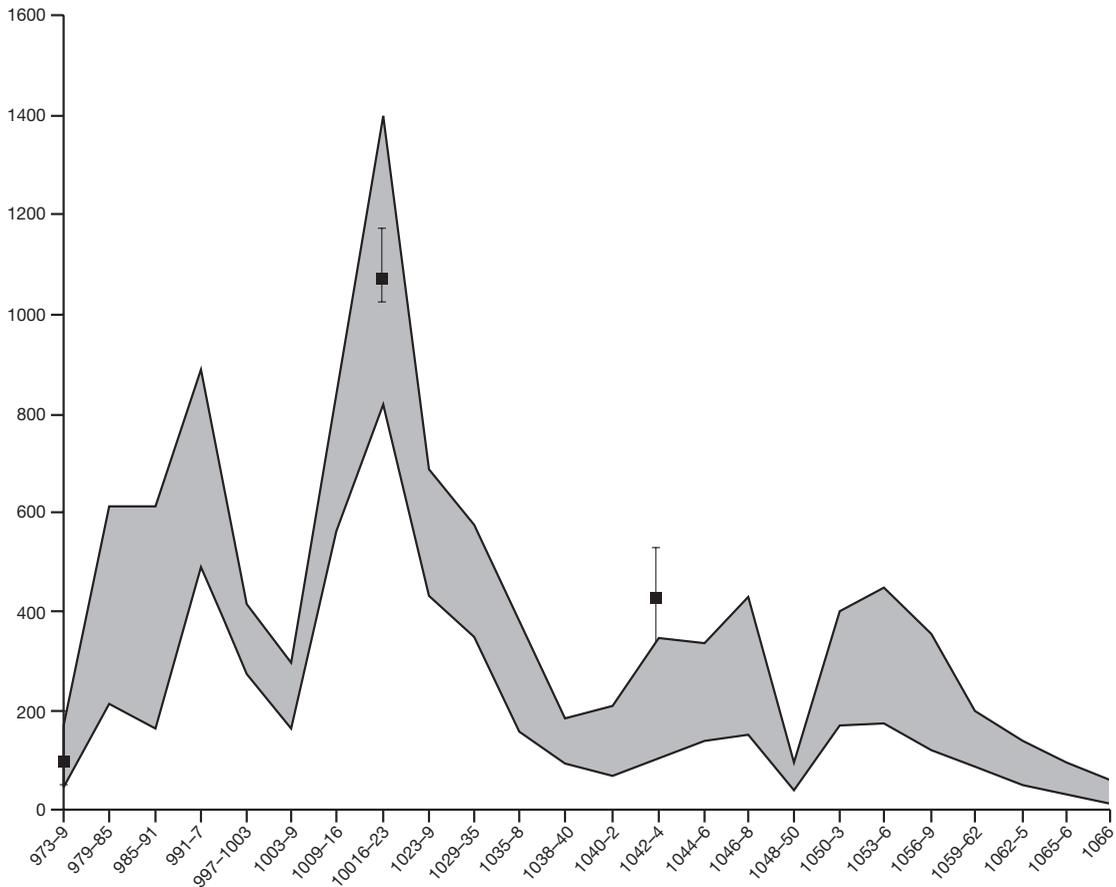


Fig. 5. Estimated output (in reverse dies) of London c.973–1066 as extrapolated from number of moneys. Estimates derived from die-studies in Reform, Quatrefoil and Pacx (with 95 % confidence spreads) are included for reference.



type at London and Southwark. The results are presented in Figure 5. These calculations must remain highly speculative and provisional,<sup>152</sup> but command a certain amount of confidence, as – in all three cases for which die-studies are available – the estimate embraces the actual results suggested by Esty's formulae. In particular, the upper and lower estimates for Quatrefoil (which has the highest estimated coverage) lie entirely within the postulated output as extrapolated from the number of moneys. That for Reform mostly does so, though the Pacx estimate is somewhat less close: it only falls within the spread suggested in Figure 5 by a small margin, and if anything suggests that the moneys-based estimate is too low. It serves as a reminder that the number of moneys surely does not allow reconstruction of the full picture of minting activity at London, and additional work will doubtless refine the results presented here.

These estimates per type embrace issues of different duration; in particular, those produced before 1035 are likely to have lasted for approximately six years each, as opposed to two or three years for most issues thereafter. The absolute chronology of late Anglo-Saxon coin types in most cases remains a mystery, but it is nevertheless valuable to illustrate the estimated output in reverse types *per annum* in each type based on the received estimate of the chronology (Figure 6).

Figure 6 illustrates that the apparent surge of output in the period after *c.* 980 may not have given way to real decline until significantly later than the number of moneys and the proportion of single-finds would apparently suggest. Indeed, the decade *c.* 1040–50 seems to have seen a peak in productivity and a revival relative to the preceding twenty or so years – though there was a marked reduction thereafter. The significance of these results is, however, limited by the very nature of late Anglo-Saxon currency. If (as is generally believed) the majority of new types were effectively recoinages intended to re-mint most or all of the circulating medium, one

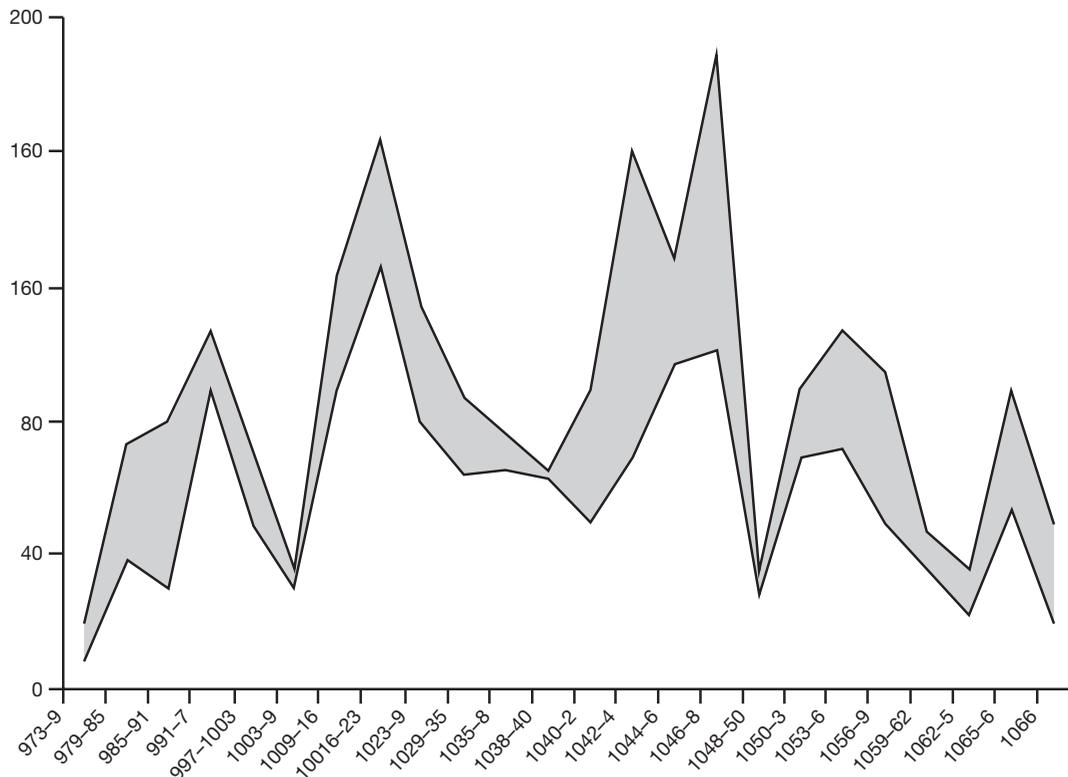


Fig. 6. Estimated output of reverse dies *per annum* at London and Southwark. The central line represents an average between the upper and lower estimates from Table 7 – not a statistically calculated point estimate.

<sup>152</sup> This technique should not necessarily be applied to smaller mints, although one might cautiously presume a broadly similar overall rate of activity during any one type at other major mint-towns such as Lincoln, Stamford, Winchester and York.

would expect a recurring and substantial burst of production during the opening year or so of a type. For this reason, even coinages of relatively brief duration will enjoy comparatively high output if viewed on a *per annum* basis. Figure 6 must therefore be read with some caution.

If the pattern of Figures 5 and (to a lesser extent) 6 are accepted as broadly indicative of the actual level of London's activity c.973–1066, the key point that emerges is the enormous scale on which it operated, above all c.980–1035/40 (and perhaps until as late as c.1050). During this period its moneys often worked their way through the equivalent of well over 100 reverse dies *per annum*, which was double or more the usage of any other English mint, and probably not to be matched or surpassed anywhere until the end of the twelfth century.<sup>153</sup> London's burgeoning output was, in many respects, subject to the same developments as seen elsewhere. Like Lincoln, Winchester and York, it apparently experienced a relative decline in output during the decade or so around 1000 followed by a resurgence c.1010–25 and a more lasting contraction after c.1050.<sup>154</sup> A temporary fall to an especially low level of productivity apparently came in the Small Flan type (c.1048–50), as at all the other major mints. In the years which followed, leading up to the Conquest, London's output apparently continued to fall gradually until, by 1066, it had lost its former prominence. In most ways, London was a full participant in the ebbs and flows of the broader English monetary economy. The major difference in London's development relative to other major mint-towns was a greater step up in productivity early in the period, and a steeper decline in later decades. It followed a sharpened variant of the wider national trends in output during the years c.973–1066.

## Conclusions

London's moneys and die-cutters were assuredly a major element of its importance in late Anglo-Saxon government and economic life. The coins, to an impressive degree, speak for themselves; but when placed alongside the archaeological and historical evidence for London's central importance to the late Anglo-Saxon kingdom, they truly speak volumes. At its peak London accounted for up to 40 per cent of all the circulating currency, and supported more than twice as many moneys as anywhere else. This high-point in its activity came in the years c.980–1035/40: essentially the reign of Æthelred II and the years of the 'Anglo-Danish' regime. Prior to this, and in the last decades before the Conquest, London did not particularly stand out as a mint beyond other leading cities in the kingdom. Crucially, a mutually supportive story is told by all the forms of evidence considered here: die-cutting, single-finds, moneys and estimates of output. Together they do seem to indicate the general trajectory of London's minting activity in the years c.880–1066; what remains is to consider the forces which affected the city's production and contribution to the currency.

It is unlikely to be coincidence that the extraordinary surge in London's activity after about 980 was a time of intense Viking aggression against England, frequently countered by payments of tribute.<sup>155</sup> Occasional handovers of thousands of pounds in *gafol* to the Vikings took place between 991 and 1018, and from 1012 until at least 1051 there were also annual payments of *heregeld* to support Scandinavian mercenaries.<sup>156</sup> Precisely what form these payments took is not usually stated – though they certainly included some gold as well as silver – and neither is there any guarantee that all of the many finds of Anglo-Saxon pennies from Scandinavia represent the proceeds of such payments. Nevertheless, it is very probable that tribute and *heregeld* stimulated minting activity in England for several decades in the late tenth and early eleventh centuries.<sup>157</sup> During this period London was one of the most promi-

<sup>153</sup> Allen 2004 and 2012, 295–316 and 404–24.

<sup>154</sup> Patterns noted in Allen 2012, 299–300.

<sup>155</sup> It was also noted in Vince 1989, 115–16.

<sup>156</sup> Keynes 1980, 1991, 98–102 and 1997, 78.

<sup>157</sup> Metcalf 1998, 22–7, 1990a and 1990b. For historical context see Keynes 1991; the scale and reliability of the payments was discussed in Lawson 1984, 1989, 1990; Gillingham 1989 and 1990. On directions and causes of export from England (tending towards a more commercial than tributary explanation) see Metcalf 2006; Moesgaard 2006, esp. 412–19; Jonsson 1993; Gullbekk 1991.

ment royal strongholds in the kingdom, and played a central part in funding and rallying resistance to the Vikings.<sup>158</sup> If any city might have experienced a boost in mint-output as a result of the tribute payments, it was London. The city's status was shaken but ultimately not diminished by the conquest of Swein and Cnut, and indeed the *liðsmen* who received payments of *heregeld* were based in the city, perhaps creating one significant need for cash in London until at least the middle of the eleventh century.<sup>159</sup> Finds of English coins in Scandinavia remained numerous for the duration of these Viking payments (c.990–1050),<sup>160</sup> and one might add that the type with the most moneyers and highest output of all – Quatrefoil – was a low point in London's share of English single-finds. During the currency-period of this coinage, when London alone was forced to pay £10,500 in tribute, most of the city's output may well have been directed towards Scandinavia. Conversely, decline in the number of moneyers and single-finds accounted for by London and (to a lesser extent) other major mints in the mid-eleventh century could be linked to the fall-off of English finds in Scandinavia, and perhaps also the hiatus in payments of *heregeld* signalled by the *Anglo-Saxon Chronicle* in 1051.

Yet military and political circumstances cannot by themselves straightforwardly explain the changing levels of minting activity at London.<sup>161</sup> The *heregeld* was probably reinstated soon after 1051 (later becoming known as *Danegeld*), and it is not clear whether payments of *heregeld* and *gafol* before or after that year were regularly shipped back to Scandinavia.<sup>162</sup> It is, in other words, simply not helpful to see the currency simply as a mechanism for extracting and paying large-scale tributes. A role in furnishing cash for tribute payments could have indirectly galvanized more intense domestic exchange, for example, which may in part explain why, during the period c.980–1035/40, London also accounted for such a sizeable proportion of the domestic currency. Other developments, for instance in overseas trade, mechanisms for recoinage and local trade and urbanization, undoubtedly also shaped the changes which took place in the tenth and eleventh centuries. London's burst of productivity coincides closely with the era when Rammelsberg silver was most plentiful (c.990–1040), and a strong and steady flow of bullion from overseas was surely one contributory factor to the port-city's success as a mint.<sup>163</sup> It is also worth recalling that London's profile had begun to rise already in the 980s, before Viking tribute could have been a consideration, and when supplies of German silver were still picking up in volume. At this stage much of the moneyers' activity must have stemmed from the renewal of large-scale urban life in London.<sup>164</sup> New habitations were being erected, trade was quickening and London Bridge was being rebuilt. Other towns large and small show similar signs of expansion at much the same time. Boom at the mint was part and parcel of this regenerative process, and it was doubtless one of the principal factors behind London's truly outstanding level of productivity c.980–1035/40.

The key point is that not one of these factors by itself can suffice as an explanation for London's surge in minting activity. A broader, multi-causal view of the various forces at work, and of vicissitudes within the city's history, is essential. London's heyday of frenetic productivity embraced a period of some fifty or sixty years. Even within this there were ups and downs, and times when indices of its activity diverge. Outside its era of outstanding activity, London was still a mint-place of some significance, but by no means as impressive in the scale of its contribution. Under Alfred and his successors down to the 970s this doubtless reflected the city's status as just one among several important towns housing numerous moneyers. More interesting in many respects is the later phase of London's development, between about 1035/40 and the Norman Conquest. At first it retained its status as the pre-eminent mint, and was certainly in no state of general urban decay. Even in the years after 1066 it was acknowledged by Norman observers as the dangerous but wealthy epicentre of the kingdom, just as

<sup>158</sup> See above, pp. 48–9.

<sup>159</sup> Nightingale 1987, 566–70.

<sup>160</sup> Blackburn and Jonsson 1981, 153.

<sup>161</sup> Cf. Metcalf 1978, 171–3.

<sup>162</sup> See above, n.156.

<sup>163</sup> Spufford 1988, 95–7. On the wider economic ramifications see Sawyer 1965, esp. 159–64; Jones 1991, 599–604.

<sup>164</sup> Metcalf 1978, 183–4.

it had been decades earlier. Moneyers from across England looked to London for supply of dies, and it continued to house a relatively large complement of moneyers. But its special standing within the kingdom's monetary system had weakened considerably. London's relative decline as a mint was part of a general downturn in output and contribution to the currency seen at all the major mint-towns, but on the banks of the Thames the process was especially severe, and eventually brought London back to parity with Lincoln, York and Winchester. By the mid-eleventh century, London's status as a mint was, if anything, probably only partially bound to its standing as a centre of commerce, government and population. Developments in minting thus were closely but not inseparably tied to the economic wellbeing of the city, and must be seen as the nexus of a complex host of demands: military, fiscal, domestic, foreign and others.

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