KING ALFRED'S NAVAL ENGAGEMENT WITH THE DANES IN 885: WHICH RIVER STOUR?

CHRISTINE GRAINGE

During the reign of King Alfred, 871-899, the *Anglo-Saxon Chronicle* records only three accounts of Anglo-Saxon forces engaged in naval activity against Scandinavian ships before the advent of his newly designed warships in 896. In 875 and 882 King Alfred went out to sea 'with a naval force' or 'with ships'. On the first occasion he engaged seven Danish ships, captured one and put the rest to flight, on the second occasion he fought against four Danish ships eventually capturing all four. The brief accounts of these two unlocated naval actions suggest that these were small defensive operations in response to raids by small numbers of ships and this would be in keeping with Alfred's response to any naval threats to the Kingdom of Wessex, for his expertise seems to have been on land rather than at sea and his general military strategy defensive rather than offensive. Thus, the traditional interpretation of King Alfred's third naval action, in 885, as described briefly in the *Chronicle* and more fully by the late tenth-century chronicler Æthelweard, which has been understood to mean that King Alfred sent a fleet into enemy territory, into Danish-held East Anglian waters near the modern port of Harwich, seems out of keeping with what little we know about his previous naval activities. Yet no early medieval historian has questioned the traditional interpretation.

The written sources

The earliest surviving manuscript of the *Anglo-Saxon Chronicle*, Manuscript A, records that in the year 885 King Alfred, after bringing levies by land, rather than by sea, to relieve the Danish siege of Rochester on the river Medway, the enemy having made fortifications round themselves and been deprived of their horses, the enemy left and went back 'across the sea'. It was immediately after this that King Alfred sent a naval force to *Eastengle*. After an initial victory over sixteen Danish ships, the naval force was defeated by another 'large naval force of Vikings':

> 7 þy ilcan geare sende Ælfred cyning sciphere on Eastengle. Sona swa hie comon on Stufe muþan, þa metton hie .xvi. scipu wicenga 7 wiþ ða gefuhton 7 þa scipo alle gerẹhton 7 þa men ofslogon. Þa hie þa hamweard wendon mid þære here hyþe, þa metton hie micelne sciphere wicenga 7 þa wiþ þa gefuhton þy ilcan dæge, 7 þa Deniscan ahton sige.
>
> [That same year King Alfred sent a naval force into East Anglia. Immediately they came into the mouth of the Stour, they encountered sixteen ships of Vikings and fought against them, and seized all the ships and and killed the men. When they turned homeward with the booty, they met a large naval force of Vikings, and fought against them on the same day, and the Danes had the victory.][1]

Chronicles B and C tell us that King Alfred's fleet was sent *of caent* 'from Kent' and the later manuscripts D and E agree, so we might, perhaps, presume that the fleet left from a harbour in Kent although this place is not named. [2]

The Latin Chronicle of Æthelweard written in the late tenth century tells us rather more about the events of 885. Æthelweard wrote his *Chronicon* [3] for his cousin Matilda, abbess of the monastery of Essen which was situated on the river Ruhr. He tells us that Matilda was descended from King Alfred and that he was descended from Alfred's brother Æthelred. Matilda was the granddaughter of the German Emperor Otto I and his English queen.[4] Æthelweard, a Wessex ealdorman, termed *Occidentalium provinciarum dux*,[5] may, it has been suggested, have had access to an earlier manuscript of the *Anglo-Saxon Chronicle*, now lost,[6] perhaps written in Kent. Æthelweard was not writing in his vernacular Old English but in a rather pretentious, pompous Latin and the purpose of his *Chronicon* was to relate the family history, as he knew it, to a cousin living abroad. His experience as an ealdorman may have given him access to wide-ranging oral sources concerning events from the reign of King Alfred. Æthelweard, who records King Alfred's naval activity in 875 and 882 similarly to the *Chronicle*, records the events of 885 in much more detail. He tells us that at the time of the siege of Rochester when the enemy had built fortified camps (*castra*) for themselves, only some of the enemy left, others stayed on. He then tells us that on two occasions these people raided the forested areas adjacent to the southern shores of the Thames (i.e. Kent and Surrey). Danes from King Guthrum's East Anglian kingdom then made an expedition outside their kingdom to Benfleet (in the Thames estuary) to support them. There was a quarrel between the different groups, some stayed in Benfleet and some left. This happened immediately before King Alfred's fleet was sent *in orientales partes anglorum*:

> Itaque classem mittit in eodem anno in orientales partes Anglorum rex prefatus, etiam Ælfred, statimque aduectu in eorum occursum fuere in

> loco Stufemuðan sexdecim scilicet numero karinæ; uastantur quidem armis, ferro truncantur magistri. Cætera classis piratica cursu obuia uehitur illis; insistunt remis; deponunt scarmos; unda coacta rutilant arma; post gradum barbari uictoriæ scandunt.
>
> [And in the same year the above-mentioned King Alfred sent a fleet to East Anglia, and as soon as they arrived, ships sixteen in number met them at the mouth of the Stour. These were cleared by force of arms and the officers were put to the sword. The rest of the pirate fleet came on its course in their way. They plied their oars, and then dropped their rowing-gear. The clashing weapons shone on the sea. Finally the barbarians achieved victory.][7]

What did the author of this section of the *Anglo-Saxon Chronicle* mean by *Eastengle*? It means literally '(the) East English'. In the *Chronicle* the term seems to be used exclusively for those whom modern historians term 'the East Angles'. There was no distinction made in Latin or Old English between 'Angles' and 'English'. Bede's use of *orientales Angli* was similarly consistent. The common stock of the *Chronicle* uses *East Engle* about a dozen times and it has been thought to refer to the East Angles or to East Anglia, not to eastern England. Indeed the use of the term 'England', so familiar to us, was only just and hesitantly beginning to be used in the 890s (when this section of *Chronicle* A was written) for the regions where Old English was spoken.[8] However, there was nothing English about the Danish Guthrum's kingdom of East Anglia and it is likely that the meaning of *Eastengle* was changing, that it could refer to 'Eastern England'. The sources reflect a growing idea of 'Englishness' emerging in the second half of the ninth century which King Alfred harnessed to his own particular ends.[9] This idea, suggesting one English realm, would be encouraged by the growing control by Wessex over the former Mercian London from the late 870s and its complete control by Wessex in 883.[10]

By the time that Æthelweard was writing, a century later, the idea of 'England' and 'English people' was well established. Yet Campbell translated *Itaque classem mittit in eodem anno in orientales partes Anglorum rex prefatus, etiam Ælfred*, as 'And in the same year the above-mentioned King Alfred sent a fleet to East Anglia' instead of 'to the eastern regions of the English' and his translation has not been queried. He could have taken *Anglorum* with *rex* to read 'King Alfred of the English sent a fleet to eastern regions' for later in the same annal Æthelweard, writing about Alfred's father Æthelwulf, describes him as *rex Adulfus Anglorum*, 'Æthelwulf, king of the English'. In spite of this the traditional interpretation of the 885 annal as 'That same year King Alfred sent a ship-army to East Anglia' – or more literally '... to the East Angles' has been seen as definitive. It was thought that King Alfred was seeking to move offensively against Guthrum's kingdom, presumably to

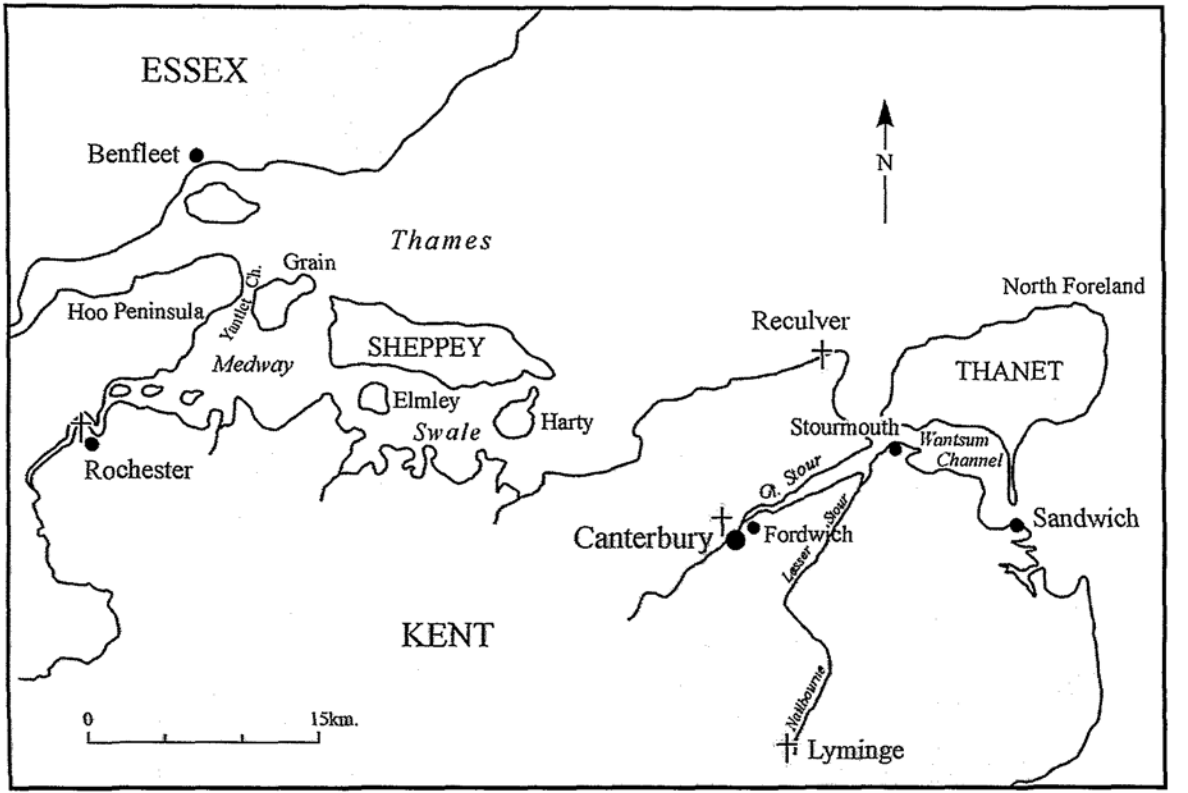

Fig. 1 Thames Estuary showing the early medieval coastline (map drawn by the Canterbury Archaeological Trust).

punish them for (or warn them off from) involvement with enemies at Rochester and Benfleet. It has followed, therefore, that *on Stufe/Sture muþan* refers to the estuary that separates the East Saxons from the East Angles and not to Stourmouth and the Kentish river Stours.

Stourmouth

Æthelweard writes that sixteen Viking ships met King Alfred's fleet *in loco Stufemuðan* 'in the place (called) Stourmouth'. Only *Chronicle* A and Æthelweard read *Stufe*. Later compilations of the *Chronicle* and the Medieval life of King Alfred attributed to Asser read *Sture*. This may be a scribal error in Manuscript A and its precursor, copied by Æthelweard or it may refer to another river. It is tempting to think that *Stufe* may have been a vernacular term to distinguish the two Kent rivers, the Lesser river *Stufe* from the Greater river *Sture* but there is no evidence to support this. There are several rivers named Stour in England. There is, however, only one place called Stourmouth, once at the common mouth of both the Stours, located on the Wantsum Channel in Kent (**Fig. 1**).[11] This evidence alone suggests that the idea that the first engagement took place off Stourmouth in the Wantsum Channel should be taken seriously, together with the fact that Chronicles B, C, D and E all state that King Alfred's fleet left from somewhere in Kent.

The nature of the Danish fleet engaged by Alfred

Æthelweard goes on to tell us that King Alfred's fleet dealt with these sixteen ships *vastantur quidem armis* 'clearing them by force of arms', then Æthelweard records that the rest of the Viking fleet 'came on its course so as to meet them'. This seems to mean that further Viking ships, presumably having entered the Wantsum Channel at Reculver from the Thames estuary (perhaps from Benfleet, Essex), followed a little way behind the sixteen defeated Viking ships, to confront King Alfred's smaller fleet. Campbell's translation then becomes even stranger. In describing the actions of the Viking fleet, he translates Æthelweard's two short stylistic sentences of verb and objects, perhaps written to emphasize that two things happened consecutively, *insistunt remis; deponunt scarmos* – as 'they plied their oars, and then dropped their rowing-gear'. This does not make any sort of sense, as the last thing sailors on ships entering a naval skirmish would do, would be to drop their 'rowing-gear'[12] for that would be to discard their means of making a quick retreat. The realities of early medieval naval skirmishes, which usually occurred in confined conditions such as river estuaries, suggest that the Viking fleet, having sneaked into the Wantsum Channel, would row as fast as possible, then use their oars together with weapons to

fend off enemy ships and continue on their planned passage. Campbell says that *scarmos*[13] was a corruption of *scalmos* 'already established in glossarial literature'.[14] He implies in his translation that *scarmos* referred to thole pins to which the oars are fixed, noting that Æthelweard used the word *pars pro toto*.[15] *Scarmos* may have referred to thole pins. Oarsmen certainly need something to push the oar against in order to propel the boat forward and they would not have dropped them overboard just before a naval skirmish had that, indeed, been practical.

The very large size of fleets that transported the main Danish armies, generally between 50-350 ships, has been much studied, and it is generally thought that they have been recorded with a fair degree of accuracy.[16] On the other hand, trading fleets were much smaller. The 16 Viking ships first encountered and defeated by King Alfred's fleet suggests that it was such a one. What trade commodities were on board these Viking ships? The *Dictionary of Medieval Latin from British Sources* includes the word '*scarmus*, masculine, thole-pin, a late form of *scalmus*' but the editor (who was kind enough to send the author the relevant slips before publication) notes that 'in this author (Æthelweard) the sense cannot be regarded as certain'. There is a word *scalmus* meaning 'heel (shovel), from the Greek word meaning 'knife, sword', but the earliest occurrence noted is 1570. The word occurs in *Manipulus Vocabulorum*[17] and it is possible that *scarmos* referred generally to a cargo of knives, swords and ploughshares.

Alfred's port of embarkation

What value can we place on the naming of Kent in some versions of the *Chronicle* as the fleet's place of embarkation? If it left from Kent, from where? It is unlikely to have been Rochester, for, as already mentioned, earlier in 885 King Alfred had chosen to take an army overland to relieve the besieged town of Rochester. To anyone who has sailed in the Medway estuary, the near impossibility of entering the river with an enemy force encamped around Rochester (and on Sheppey also probably) is very obvious.

It is much more likely that King Alfred's fleet assembled at and left from, *Sandwic*, the trading *wic*[18] at the eastern end of the Wantsum Channel which by the middle of the seventh century had superseded Richborough (Fig. 1).[19] Its proximity to Stourmouth is very relevant in the context. Sandwich was becoming the major point of entry into east Kent,[20] and was the only port on the Wantsum Channel to survive through the second half of the ninth century, perhaps because, as far as we know, there was no minster there to be looted.

Early medieval sources record the use of the Wantsum Channel from the sixth century onwards. Bede records under the year 597:

> Est autem ad orientalem Cantiae plagam Tanatos insula non modica, id est magnitudinis iuxta consuetudinem aestimationis Anglorum familiarum sexcentarum, quam a continenti terra secernit fluvius Uantsumu, qui est latitudinis circiter trium stadiorum, et duobus tantum in locis est transmeabilis; utrumque enim caput protendit in mare. In hac ergo adplicuit servus Domini Augustinus et socii eius, viri ut ferunt ferme XL.
>
> [Over against the eastern districts of Kent there is a large island called Thanet, which, in English reckoning, is 600 hides in extent. It is divided from the mainland by the river Wantsum, which is about three furlongs wide, can be crossed in two places only, and joins the sea at either end. Here Augustine, the servant of the Lord, landed with his companions, who are said to have been nearly forty in number.][21]

And he records that on the death of Archbishop Theodore in 690:

> Successit autem Theodoro in episcopatum Berctuald, qui erat abbas in monasterio, quod iuxta ostium aquilonale fluminis Genladae positum Racuulfe nuncupatur.
>
> [Berhtwold succeeded Theodore as bishop, having been abbot of the monastery at Reculver, which is next to the northern mouth of the river Yantlet.][22]

There is an early reference to the port of Sandwich in Stephanus' *Life of Bishop Wilfrid*.[23] In 666 Wilfrid, having been consecrated bishop in Gaul, was shipwrecked in a storm with his companions on a Sussex shore. After various adventures there with pagans the ship floated off and with a following south-west wind *in portum Sandwicae salutis pervenerunt* 'reached a port of safety at Sandwich'.

Until recently, inaccuracies surrounding the Wantsum Channel have been legion. It has now been established that it did not have a double tide[24] and that it was the much frequented, sheltered route, with creeks in which ships could be beached, particularly cargo ships carrying heavy freight from the Continent to the early medieval port of London, which in 885 was probably still the Strand and the trading *wic*, Aldwych. The natural haven for ships was the large area west of the Stonar Bank called Ebbsfleet by Bede, opposite Sandwich. In the eighth century ships were required to call at Sarre or *Fordwic* to pay tolls to whichever king had control of the Wantsum Channel at that particular time, unless the owner of the ship had received the privilege of remission of toll for his ship and its cargo.[25]

Nearer to the year 885 the *Chronicle* records that in 851 a Scandinavian fleet arrived at Sandwich:

> 7 þy ilcan geare Æþelstan cyning 7 Ealchere dux micelne here ofslogon æt Sondwic on Cent 7 .ix. scipu gefengun 7 þa oþre gefliemdon.

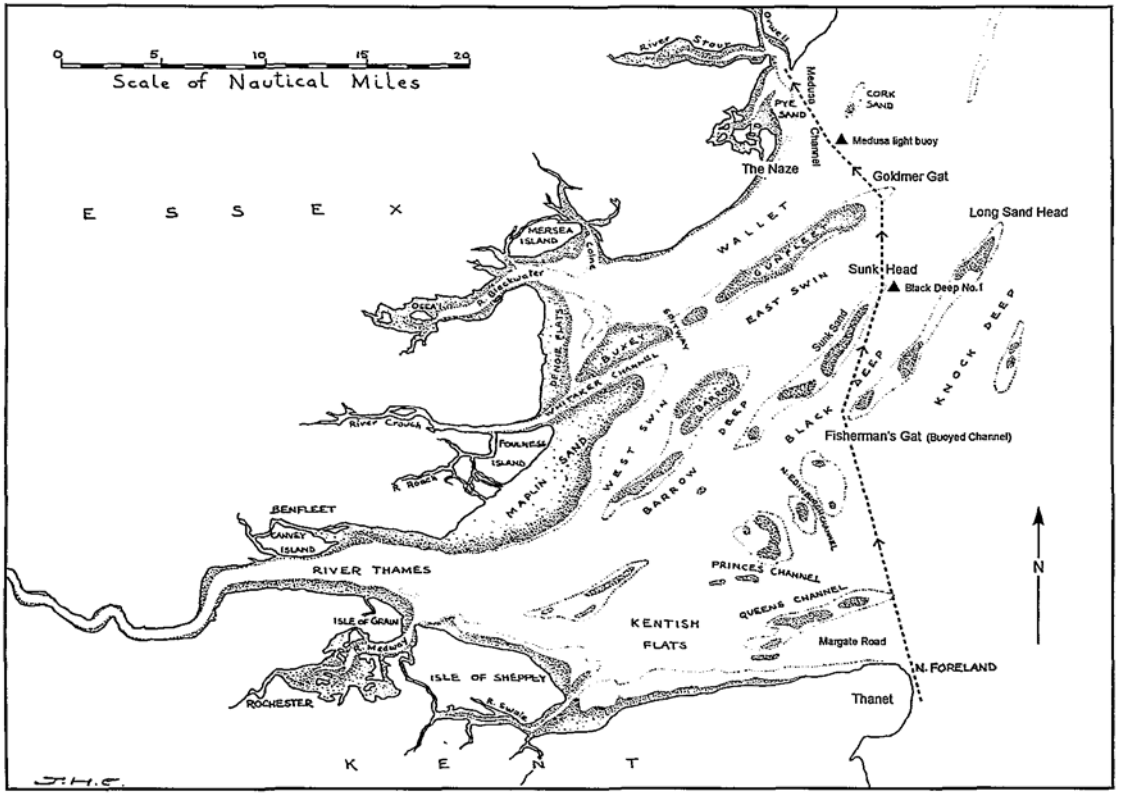

Fig. 2 Thames Estuary showing the present-day swatchways (after J.H. Coote, by kind permission of Yachting Monthly East Coast Rivers Cruising Companion).

> [And in the same year King Æthelstan and Dux Ealhhere slew a great army at Sandwich in Kent, and captured nine ships, and put others to flight].[26]

This fleet overwintered on the Isle of Thanet[27] from where they were able to make incursions upriver, for the *Chronicle* records:

> 7 þy ilcan geare cuom feorðe healf hund scipa on Temesemuþan 7 brẹcon Contwaraburg 7 Lundenburg.
>
> [And the same year 350 ships came into the mouth of the Thames and stormed Canterbury and London.][28]

The difficulty of navigating from Kent to the Harwich area

There is no coastal-hopping, beloved of the medieval mariner,[29] on a passage from Sandwich to Harwich (**Fig. 2**). Once the Isle of Thanet is left behind you are out of sight of land. King Alfred's fleet would have left Sandwich an hour or so before High Water at Dover when the tide was still running west through the Wantsum Channel. It would have planned to leave the Wantsum Channel at Reculver around high tide when the ebb tide started to run in a north-easterly direction. The fleet would have sought to catch this ebb tide flowing off North Foreland, just as the ebb was beginning to run. For more than six hours the fleet would have steered its course along the various swatchways (channel through the sands) and sandbanks in the Thames estuary. The exact configuration of the swatchways and sandbanks in the Thames estuary in the ninth century cannot be known with any certainty but they are likely to have been, if anything, more tricky to navigate through than today, for there may have been more of a delta in the lower Thames in the Roman and early medieval centuries.[30] From the writer's own experience, even today, with every modern navigational aid, the configuration of the sandbanks and the varying depths of the channels makes it essential to have someone on lookout for changes in wave patterns and in the colour of the sea, which in the context of different weather conditions, can alert the crew to particular hazards. The navigational aids available in the ninth century, apart from the accumulated knowledge of the experienced seaman passed on from father to son, were the position of the sun, perhaps a windvane (for which there is archaeological evidence in Scandinavian ships), and some tidal data.[31] However, generally speaking, medieval navigators did not calculate, they observed.

Navigation today between the many sandbanks in the Thames estuary is not easy, even in good weather conditions, with channels marked by buoys and beacons. In heavy weather or with poor visibility it can be very difficult. A day that begins with good visibility and light winds can end very differently. It might be thought that the slight-keeled ships

of the early medieval centuries made such a passage easier, and that to go aground on a sandbank was a relatively trivial matter. This is not so. Going aground on a sandbank can mean that you are there for six hours or more until the tide rises, and by then you may have missed the direction of tidal flow that you need for the next stage of your passage. If the weather turns foul, your ship can crash down on the sea bed with each wave and eventually break up.

If King Alfred's fleet had taken a night passage through the Wantsum Channel it is possible that they might have avoided any Scandinavian ships in the vicinity of the Isle of Thanet. Interception offshore is unrecorded at this time, but confined conditions, such as the Wantsum Channel, made it an ideal venue for a naval skirmish. However, it is documented that fleets of Scandinavian warships were experienced at night sailing, for Scandinavian fleets made surprise landings at dawn after night passages, such a fleet arrived at Quentavic at dawn in 842,[32] and at St Bertin's monastery, St Omer at dawn in 861.[33] This would surely have dissuaded King Alfred's fleet from such a course of action. It seems unlikely, not to say foolhardy, that King Alfred would send a fleet of open ships on a passage of at least ten hours, across the difficult conditions of the Thames estuary and up the Essex coast to the mouth of the river Stour, in the Danish-held estuary of the river Orwell, to skirmish with the enemy in their technologically superior ships, and sail back to Kent.

Consider further the possibility of such a passage from Sandwich to Harwich in 885. King Alfred's fleet of, perhaps, sixteen ships undertook a ten hour passage, followed by two naval skirmishes, the first of which they won, perhaps with slight losses, in the second, which followed immediately, they were defeated and may have sustained heavy losses. In or near enemy territory they could not bivouac but had immediately to make the return passage. King Alfred's depleted fleet of ships, presumably with some injured crew on board, had to undertake a ten hour passage back to Kent, provided the wind had conveniently changed for them. If it had, chroniclers, surely, would have recorded this as some sort of miracle, and they did not. We are looking at an overall distance at sea of some one hundred nautical miles, taking perhaps, twenty hours, with 'naval skirmishes' in the middle. In nautical terms, King Alfred's passage of fifty sea miles through the water to Harwich, out of sight of land for some of the time, even if the visibility was excellent, does not make any sense.

CONCLUSION

Enough doubts have been raised about the traditional interpretation for a hypothesis to be advanced that the written sources for 885 refer to events that took place off Stourmouth in Kent rather than at the confluence of the

rivers Stour and Orwell at Harwich. If we put together information from the *Chronicle* and from Æthelweard it would seem that King Alfred's fleet was sent on passage from Sandwich to Benfleet to remove Scandinavians when they encountered the fleet of sixteen Viking ships off Stourmouth. After King Alfred's victory over these ships, his fleet taking the booty, we are told that 'the rest of the fleet followed on'. These ships may have been on course from Benfleet to *Fordwic*, the trading *emporium* which is thought to have stretched along the river Stour from Canterbury.[34] The expedition (from Sandwich) to Benfleet, the naval skirmish and the return (to Sandwich) would have been a 'day sail'.

The 885 naval skirmish was further action by King Alfred to defend not only the growing prosperity of the Kingdom of Wessex but London itself. The two earlier incidents in 875 and 882 may have taken place in the same area, with the similar aim of protecting sea trade and clearing the Wantsum Channel and Thames estuary of Scandinavian ships. Since *c.*840 this had become the main route of sea-trade between England and the Continent for, as Hodges shows in his investigations into imported pottery found at *Hamwic*, the West Frankish long-distance trading network between the river Seine and *Hamwic* had come to an end.[35] The Wantsum Channel was the protected passage, inside the islands, into the Thames estuary and up to London, for, as we have seen, the numismatic evidence suggests that London may have been under the control of King Alfred since the late 870s, certainly by 883, with its defences restored and strengthened in 886. In 885 Æthelweard tells us that Danes from East Anglia had made an expedition outside their own boundaries to Benfleet, Essex joining up with groups of Scandinavians who had stayed on after the siege of Rochester. This was a direct threat to London and they had to be removed. It is unlikely that *deponunt scarmos* referred to the Vikings setting their rowing equipment aside, it is more likely that the phrase referred to the Viking fleet dropping overboard loot plundered from Kent which King Alfred's fleet, interrupted on their planned passage from Sandwich to Benfleet, Essex, attempted to retrieve.

Nothing written here diminishes the achievements of King Alfred but rather enhances them. His determination, persistence and success in defending – offshore – the sea-trading wealth of his kingdom was unique among early medieval European kings.

ACKNOWLEDGEMENTS

The writer is extremely grateful for the comments received on early drafts of this paper from Professor Janet Bately, Paul Bennett, Professor Nicholas Brooks, Richard Emms, Professor David Hinton, Dr John Maddicott and Tim Tatton-Brown.

ENDNOTES

[1] *The Anglo-Saxon Chronicle MS A*, J.M. Bately (ed.); *The Anglo-Saxon Chronicle: a Collaborative Edition*, D. Dumville and S. Keynes (eds), 3 (Cambridge, 1986) p. 52 (text); *The Anglo-Saxon Chronicle*, D. Whitelock (ed.), with D.C. Douglas and S.I. Tucker (London, 1961), p. 51 (translation).

[2] Manuscript B fo. 21, Manuscript D fo. 37. The reading in Manuscript F fo. 55 was too faint to read. The writer was unable to consult Manuscript C as it was on permanent exhibition. For Manuscript C, Whitelock's reading is 'from Kent' (p. 51).

[3] Charred fragments of the only manuscript of Æthelweard's Chronicle mounted on paper survive: British Library Cotton Otho A x and Cotton Otho A xii, s. xi.^{in} The writer is grateful to the BL for allowing her to consult these fragments.

[4] *Chronicon Æthelweardi*, A. Campbell (ed.), London, 1962, Introduction, p. xii; E.E. Barker, 'Select Documents, 1. The Cottonian Fragments of Æthelweard's Chronicle', *Bulletin of the Institute of Historical Research*, 1951, 46-62; E. van Houts, 'Women and the writing of history in the early Middle Ages: the case of Abbess Matilda of Essen and Æthelweard', *Early Medieval Europe*, 1 (1992), 53-68, at 59-68.

[5] Æthelweard's signatures as ealdorman run from 973 to 998: Campbell, p. xv; S. Keynes, *The Diplomas of King Æthelred 'The Unready' 978-1016, a Study in their use as Historical Evidence* (Cambridge, 1980), pp. 121 n. 123, 138, 157-8, 175 n. 84, 188, 192 n. 139, 197, 206 n. 193, 209, 251-2, 253-5.

[6] *Anglo-Saxon Chronicle*, Whitelock *et al.*, p. xii; J. Bately, *Texts and textual relationships* Monograph 3 (Reading Medieval Studies, 1991), Æthelweard pp. 4-53, Conclusions, pp. 59-62.

[7] *Chronicon Æthelweardi*, Campbell, p. 45 (text), p. 45 (translation).

[8] P. Wormald, 'Bede, the Bretwaldas and the Origins of the gens anglorum', in *Ideal and Reality in Frankish and Anglo-Saxon Society*, P. Wormald *et al.* (eds), Oxford, 1983, pp. 99-129; M. Richter, 'Bede's *Angli*: Angles or English?', *Peretia*, 3 (1984), 99-114; S. Foot, 'The Making of *Angelcynn*: English Identity Before the Norman Conquest', *TRHS* 6th ser. 6 (1996), 25-49.

[9] Foot, 'The Making of *Angelcynn*', 1996, 37.

[10] S. Keynes, 'King Alfred and the Mercians', in *Kings, Currency and Alliances*, M. Blackburn and D. Dumville (eds), Woodbridge, 1998, pp. 1-45, at p. 11; M. Blackburn, 'The London Mint in the Reign of Alfred', in *Kings, Currency and Alliances*, pp. 105-123.

[11] There is one, sole reference to a place called Stourmouth in a two-volumed *Imperial Gazetteer of England and Wales* dated 1866-9: 'Stourmouth, a parish, with a village, in Eastry district, Kent; on the river Stour at the influx of the Lesser Stour...5 miles NW of Sandwich', J.M. Wilson (ed.), Edinburgh, 1866-9, vol. II, p. 880.

[12] Campbell, 1962, p. 45, n. 1.

[13] *Scarmos* BL Cott. Otho xii, 5v. Campbell and Barker read *scarmos* (as did the writer).

[14] *An Intermediate Greek-English Lexicon*, Liddell and Scott (Oxford, 1889-1997), 7th ed. p. 240, the pin or thole to which the Greek oar was fastened by a thong.

[15] Campbell 1962, p. 45, Introduction, p. xlvii.

[16] N. Brooks, 'England in the Ninth Century: the Crucible of Defeat', *TRHS* (1978), 1-20, especially 20.

[17] *Manipulus Vocabulorum: A Rhyming Dictionary of the English Language*, Peter Levins (ed.) with *An Alphabetical Index* by Henry B. Wheatley (London, 1570), p. 59, l. 21 'A Peele, *pala, scalmus*, i.

[18] M. Sparks and T. Tatton-Brown, 'The History of the Vill of St. Martin's, Canterbury', *Archaeologia Cantiana*, CIV (1987), 200-213, at 202.

[19] T. Tatton-Brown, 'The Towns of Kent', in *Anglo-Saxon Towns in Southern England*, J. Haslam (ed.), pp. 1-35, at p. 16.

[20] M.J. Swanton, 'King Alfred's ships: text and context', *ASE* 28 (1999), 1-22, at 1.

[21] *Bede's Ecclesiastical History of the English People*, B. Colgrave and R.A.B. Mynors (eds), Oxford, 1969, i. 25, pp. 72-3.

[22] *Ibid.*, v. 8, p. 475.

[23] *Eddius Stephanus, The Life of Bishop Wilfrid*, B. Colgrave (ed.), Cambridge, 1927, pp. 28-9.

[24] G. Grainge, *The Roman Channel Crossing of A.D. 43: The constraints on Claudius's naval strategy*, BAR Brit. ser. 332 (Oxford, 2002), Appendix X, Tides in the Wantsum Channel, pp. 131-133.

[25] S. Kelly, 'Trading privileges from eighth-century England', *Early Medieval Europe*, 1 (1992), 3-28, at 3.

[26] *The Anglo-Saxon Chronicle MS A*, J.M. Bately, p. 44 (text); *The Anglo-Saxon Chronicle*, Whitelock *et al.*, p. 43 (translation).

[27] *ASC* A *s.a.* 851, 'And for the first time, heathen men stayed through the winter on Thanet'.

[28] Ibid.

[29] *Two Voyagers at the Court of King Alfred*, N. Lund (ed.), York, 1984, p. 34.

[30] P. Thornhill, 'A Lower Thames Ford and the Campaigns of 54 BC and AD 43', *Archaeologia Cantiana*, XCII (1977), 119-128, at 121. The configuration of some estuaries change each winter. Nowadays a new navigational chart is produced each Spring to assist safe entry through the changing sandbanks in the estuary of the river Deben, north of Harwich.

[31] We know that tidal data was available to a few people from the observations and recordings carried out by Bede and his network of eighth-century abbots who ruled monasteries sited on different parts of the coast of England. Stevens suggests that in a place like Lindisfarne the tides would be carefully observed and recorded to ensure easy daily access to the island (W.M. Stevens, 'Bede's Scientific Achievement', *Jarrow Lecture*, 1985, 3-44, at 26, n. 40).

[32] *Annales Bertiniani*, (eds) F. Grat, J. Viellard and S. Clémencet (Paris, 1964), *s.a.* 842; *ASC s.a.* 842.

[33] *Miracula S. Bertini Sithiensia*, O. Holder-Egger (ed.), MGH SS XV. I, pp. 507-516, at p. 509, line 30.

[34] M. Sparks and T. Tatton-Brown, 1987, 200-213, at 201-2.

[35] For the nine sea-trading routes see S. McGrail, 'Cross-Channel Seamanship and Navigation in the Late First Millenium BC', *Oxford Journal of Archaeology*, 2(3), 1983, esp. 309, Fig 4; for *Hamwic* see M. Brisbane, 'Hamwic (Saxon Southampton): an 8th century port and production centre', in *The Rebirth of Towns in the West AD 700-1050*, R. Hodges and B. Hobley (eds), CBA Research Report 68 (London, 1988), 101-108 or, for a summary, M. Brisbane, 'Southampton', in *The Blackwell Encyclopaedia of Anglo-Saxon England*, M. Lapidge, J. Blair, S. Keynes and D. Scragg (eds), Oxford, 1999, 426-7; R. Hodges, *The Hamwih pottery: the local and imported wares from 30 years' excavations at Middle Saxon Southampton and their European context*, CBA Research Report 37, Southampton, 1981; R. Hodges, 'Trade and market origins in the ninth century: relations between England and the Continent'; *Charles the Bald: Court and Kingdom*, M. Gibson and J.L. Nelson (eds), Aldershot, 1990, pp. 214-217, at pp. 214-5, 'Decline and demise of the networks'. Hodges showed that from *c.*840, no imported pottery from Northern France arrived at *Hamwic* from the Seine. The reason for this is likely to have been Scandinavian control of the Seine estuary.