The Tudor Navy

David Loades

STUDIES IN NAVAL HISTORY

General Editor
N. A. M. RODGER

THE TUDOR NAVY

An administrative, political and military history

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Routledge
Taylor & Francis Group
LONDON AND NEW YORK

First published 1992 by Ashgate publishing

Published 2016 by Routledge
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN
711 Third Avenue, New York, NY 10017, USA

Routledge is an imprint of the Taylor & Francis Group, an informa business

British Library Cataloguing in Publication Data
Loades, D. M.
The Tudor Navy - an administrative, political, and military history / by David Loades.
p. cm. — (Studies in naval history)
Includes bibliographical references.
ISBN 0–85967–922–5
1. Great Britain — History, Naval — Tudors, 1485–1603. 2. Great Britain. Royal Navy — History. I. Title. II. Series.
DA86.L63 1992
359'.00941—dc20 91–43374
CIP

ISBN 13: 978-0-85967-922-0 (hbk)

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PREFACE

It seems a long time ago that Nicholas Rodger invited me to write this book, and my first gratitude is to him for his patience. As will soon become apparent to the reader, I have come to the Tudor navy via other aspects of Tudor history, and not via other periods of naval history. I make no apology for this, because the navy was an integral part of royal government, as well as being closely related to the developments of the commercial and maritime communities. The tradition of naval history has tended to be isolationist, and that makes for unnecessary difficulties of understanding. This is also a general work. Although based partly on my own researches, it makes no claim to technical originality, aiming instead to present a profile of the sixteenth-century navy which may be different from that customarily received. Above all it aims to place the navy in its proper political and administrative context.

In the course of the last four years, I have accumulated many obligations and debts of gratitude, apart from that to my long suffering General Editor. First to the Warden and Fellows of All Souls College, Oxford, for electing me to a visiting Fellowship in the academic year 1988–9; secondly to the staff of the Bodleian Library, the Pepys Library at Magdalene College, Cambridge, and the Public Record Office, where the bulk of the research was undertaken; and thirdly to the British Academy for a grant to cover travel and other expenses. My colleagues and students have also had to bear with me during the period of gestation, when my thoughts were on victualling rather than the Pilgrimage of Grace or the rebellion of the northern earls. But above all my gratitude is due to my wife, for her constant encouragement and support among the innumerable preoccupations of running her own business. Her example in diligence and self-discipline has been an inspiration.

DL

ABBREVIATIONS

APC	*Acts of the Privy Council*
BL	British Library
AGS	Archivo General de Simancas (Spain)
CPR	*Calendar of the Patent Rolls*
Cal. Scot.	*Calendar of State Papers relating to Scotland*
Cal. Span.	*Calendar of State Papers, Spanish*
Cal. Ven.	*Calendar of State Papers, Venetian*
EHR	*English Historical Review*
Hall, Chronicle	*The Union of the two noble and illustre families of York and Lancaster*, by Edward Hall
L and P	*Letters and Papers, Foreign and Domestic, of the reign of Henry VIII*, ed. J. Gairdner *et al.*
MM	*Mariner's Mirror*
TRHS	*Transactions of the Royal Historical Society*
PRO	Public Record Office

(*for details see Bibliography*)

Places

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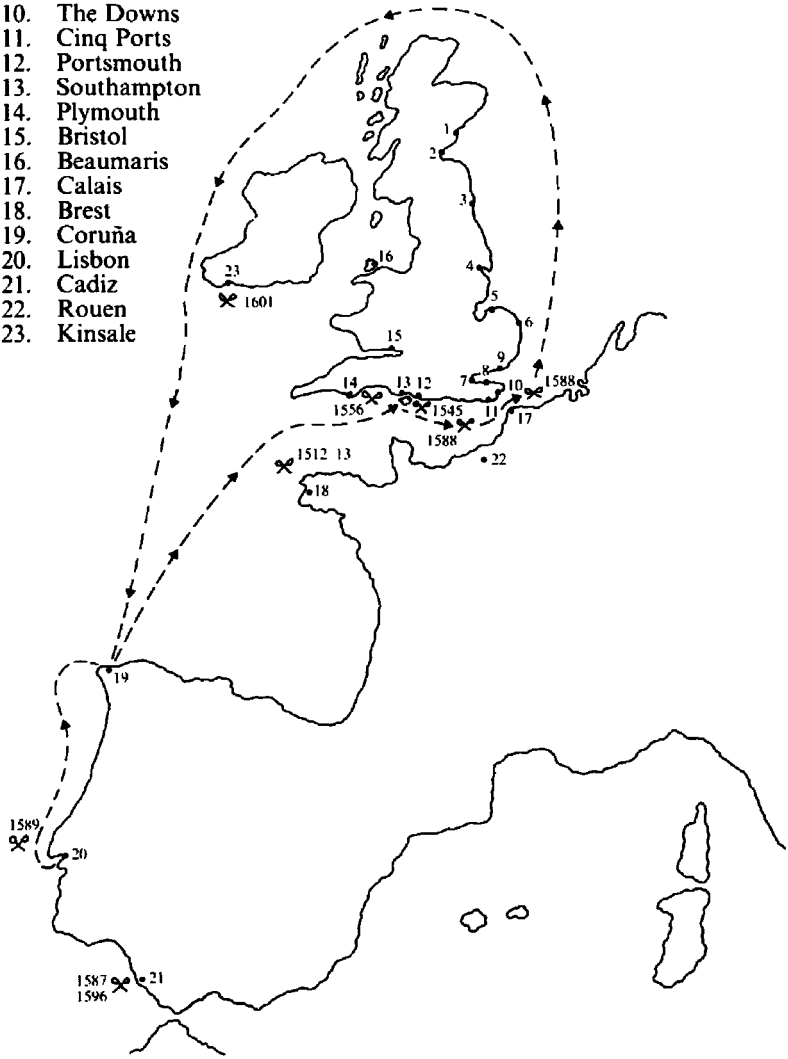
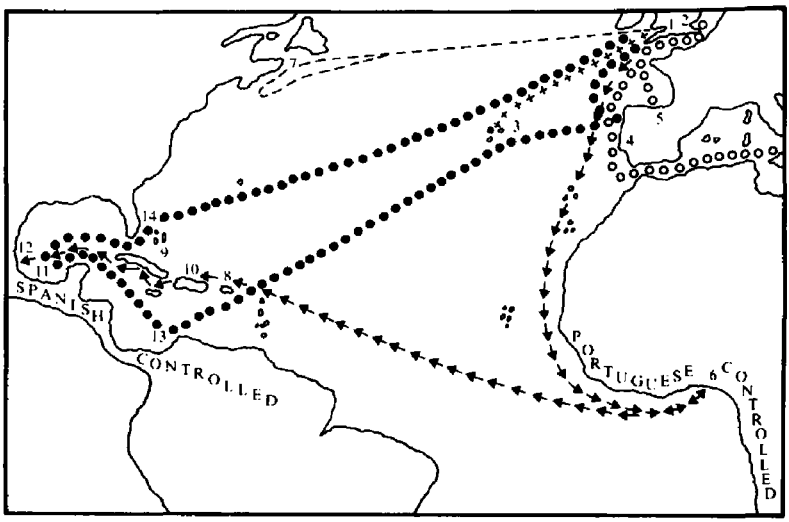


Bases and battles



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voyages

– – – – – Cabot, 1497

+ + + + + Azores voyages (1450→)

ooooooo Trade routes to Spain and Italy

→ → → → → Hawkins, 1562–8

●●●●●●● Drake, 1585–7

English expansion into the Atlantic, 1450–1600

1
INTRODUCTION

The sovereignty of the seas, wrote Sir John Borough in 1633, was 'the most precious jewel in his Majesties crown . . . and the principal means of our wealth and safety.'[1] Borough was arguing in favour of a *mare clausum*, and like many antiquarian lawyers of his generation, felt compelled to trace his sources back to Julius Caesar. The Saxon King Edgar, he declared, had maintained a navy of 400 ships to assert his authority at all four corners of his realm, and he went on to describe how John, Edward I and Edward III had defended this same ascendancy. In the absence of any agreed definition of territorial water, it is not quite clear how far Borough's concept of sovereignty extended. He wrote of Edward IV granting licences to foreigners to fish off the Yorkshire coast, and of Queen Mary selling fishing rights in Ireland to her husband's subjects. But his main concern was with the Narrow Seas where, he claimed, all other ships 'vaile Bonnet' in acknowledgement of English superiority 'to this day'. The main political thrust of Borough's treatise was against the Dutch, who were getting rich and immensely strong at sea by taking £300 000 worth of fish a year out of English waters without either fee or licence – an argument which echoes that of John Dee over sixty years before.[2] Queen Elizabeth had not been as remiss as Charles I:

> I remember that those of Hamburg and other Easterlings (though in amitie with us) in the late reign of Queen Elizabeth of famous memory were notwithstanding stayed from passing through our

[1] Sir John Borough, *The Sovereignty of the British Seas . . . written in the year 1633.*
[2] John Dee, *The Perfect Arte of Navigation* had suggested financing the navy by levying a toll on all foreign fishermen in English waters.

> seas towards Spain, and good prize made of all other nations that attempted to do the like.

What he did not remember, or did not choose to remember, was that the actions of the English navy at that time had very little to do with the assertion of abstract concepts of sovereignty and everything to do with waging war on Spain. Nevertheless his point was valid. Authority over the sea, like authority over colonial territories, could only be claimed if it could be exercised, and what concerned him was less Hugo Grotius's doctrine of *mare liberum* than the power of the Dutch navy. Whatever may have happened in the time of King Edgar or Edward III, the Elizabethan navy had controlled the Channel, and effectively extended the authority of the English Crown beyond the shores of the realm.

Sea power had always been expressed in royal or imperial fleets, but such fleets had been the personal creations of the monarchs who had led or operated them. The Tudor navy, on the other hand, was an aspect of the state, and its history has to be seen in that connection. Its establishment and early development was an act of political will which had very little to do with the maritime history normally associated with it. Only after the middle of the century did the two begin to converge, as naval strategy assumed an oceanic aspect, and mercantile entrepreneurs acted as an auxiliary navy. It is consequently a serious mistake to study the Tudor navy in isolation from other facets of government, with which it had much in common. The king's ships, like his artillery, were an expression of his power. Dependence upon noble support was second nature to any medieval king, and the fact that the Earl of Warwick had more ships than Edward IV does not seem to have taught that highly conservative monarch any urgent lessons. Most of Edward's ships, when he needed them, came from the port towns, like the cash which he borrowed from the citizens of London when his land revenues were slow to arrive. Edward, relying upon his personal ascendancy, did not object to this kind of dependence, but Henry VII set out systematically to reduce it. By increasing his revenues he reduced his reliance on short-term loans, and on grants from parliament. By taking more gentlemen directly into his service he made himself less dependent upon the nobility. By building two large warships and constructing an embryonic naval base at Portsmouth he lessened his need to call upon the ships of his subjects. In spite of the contrast in their personalities, Henry VIII followed his father's policies in many respects. Less suspicious in his relations with his nobility, he

nevertheless continued to build up his affinity at a lower level, a strategy urged upon him, and largely executed, by Cardinal Wolsey and Thomas Cromwell, his successive chief ministers. The result was a steady growth in the importance of royal commissions of all kinds, which were largely served by knights and gentlemen. Unwilling to rely upon personal or *ad hoc* arrangements in the remoter parts of the kingdom, he reformed the royal councils in the north and in the marches of Wales, and brought the remaining franchises under his direct control by a statute of 1536. His privy council was reorganized to make it more efficient and accountable, and new revenue courts were established to handle the income resulting from the Royal Supremacy over the church. It is in this context that the creation of the Council for Marine Causes in 1545 must be viewed.

At the same time Henry VIII was a warlike King, much given to military bravado of a kind which his resources could not really support. His contemporary and arch-rival Francis I of France established a small standing army of mercenary soldiers, and Henry needed an effective riposte. Armed ships were his chosen status symbol, a symbol appropriate to the nature of his realm, and also to his personal tastes. There was nothing very original about that, but by creating an infrastructure of dockyards and storehouses, and drawing the whole establishment into the institutional framework of government, he detached it from his own preferences and priorities. A standing navy changed the nature of the King's relationship with his seafaring subjects, just as the Royal Supremacy changed the nature of his relations with the clergy. To what extent either Wolsey or Cromwell appreciated the significance of this development is unclear, but both were dedicated to the augmentation of the King's power, and Cromwell certainly had the necessary strategic grasp. He was deeply involved in questions of naval administration during the formative years 1535–40, and the Council for Marine Causes seems to bear traces of his influence. The testing time for the navy as an institution of state came with Henry VIII's death, when his creative drive was removed. He had, however, reigned long enough for it to have been no shallow growth by 1547. Also, its advantages had become sufficiently obvious for his successors to need no further education in the merits of preserving it. In that respect also it was very much like the Royal Supremacy, which had begun as a personal ascendancy and during this period was recognized as an aspect of the Crown's authority. Both Edward Seymour and John Dudley, the two regents for Edward VI, were knowledgeable in maritime affairs, and maintained both the structure and function of the navy; in the

latter case far better than he is normally given credit for doing. By 1553 there was really no question of the navy being an optional or expendable item, and during Mary's short reign its integration into the machinery of state was carried a stage further. The Queen's suspicion of the officers whom she had inherited brought about a thorough stock taking, and the elimination of the last traces of *ad hoc* improvisation, with the introduction of the Ordinary, or regular budget. Placed under the supervision of the Lord Treasurer, the Admiralty survived when both the Royal Supremacy and the Court of Augmentations[1] went down. By the time that Elizabeth's council carried out another survey in 1559, and sketched out a policy for the future, the issue was about ways and means, not about the nature or the scale of the enterprise.

However, just as the early Tudor navy had reflected the growing power and self-confidence of the state, so the Elizabethan navy reflected its problems and ambiguities. Thanks to the independent commercial developments which had taken place, particularly since 1553, and the growth of a new breed of maritime adventurer, Elizabeth was quickly faced with a challenge and an opportunity. If the navy was to 'cover' the worldwide operations of the new companies in the way it had covered the Merchant Adventurers, who traded cloth to northern Europe, then it needed either a major injection of capital or some fresh strategic thinking. What happened was in many respects a retreat from the position which had been reached by 1557. The 'ordinary' was steadily reduced in significance as more and more work was contracted out, often to the officers themselves; and the navy began to cover long distance operations by taking part on a joint stock basis. Elizabeth, having inherited a situation where political dependence upon the nobility was largely a thing of the past, found the cure in some respects as bad as the disease. The gentry, who had been increasingly introduced into government earlier in the century, and who had provided her father with much of the solid support which he had needed for his controversial policies and expensive wars, were now indispensable and in some respects intractable allies. Willing to serve but unwilling to pay, they imposed limitations upon the Queen's freedom of action which could not be transcended. The Queen was forced to purchase their co-operation because she could not afford to bypass them. Much of Elizabeth's celebrated parsimony was not her fault, and on the whole in naval

[1] A financial court to administer former monastic lands. Absorbed into the Exchequer in 1554.

matters the arrangement worked well enough for most of the reign. Gentry, and even nobles, invested heavily alongside the merchants, and enabled the small royal navy to appear much more omnipresent than it really was. But the price was high. Private warships, and even private fleets, reappeared in a manner which had not been seen since the reign of Edward IV. The Queen's monopoly of force at sea was not challenged, but it was undermined. Whereas her father and grandfather had hired private ships on their own terms, Elizabeth was often constrained to co-operate as a more or less equal partner. This erosion of control was partly concealed by the Queen's success in maintaining a consensus support for the war with Spain, but it began to have a deleterious effect upon the Admiralty, where private interest began to undermine professional integrity, as it did in so many other aspects of the late Elizabethan administration.

This history, in consequence, is a history of the navy as an aspect of the Tudor state. It is not a technical history of ships and guns. These objects are constantly present, and discussed as appropriate, but the conflicting nature of much of the detailed evidence, and the confusions of contemporary terminology, make them intractable subjects except at a very general level.[1] Nor is it a history of English seafaring. Before 1550 the English were, with occasional exceptions, mere apprentices in the navigational sciences, and it was not until the reign of Elizabeth that they caught up, and began to teach their neighbours. Maritime enterprise has never lacked for scholarly exposition, and in recent years the works of E. G. R. Taylor, D. W. Waters, D. B. Quinn, K. R. Andrews and G. V. Scammell have provided learned and comprehensive coverage.[2] The English have, since the days of Hakluyt and Purchas, been profoundly interested in their seafaring past, and that interest has shown no sign of slackening in the second half of the twentieth century. But the navy, or at least the Tudor navy, has fared less well. After the great works of Laird Clowes, Michael Oppenheim, J. S. Corbett, Alfred Spont and others between 1890 and 1920, the subject seems to have lost its

[1] There are innumerable technical discussions of Tudor ordnance. The most up-to-date summary is that contributed by David Lyons to *Armada*, the catalogue of the official exhibition at the National Maritime Museum. For the difficulties of classifying oared ships, see particularly T. Glasgow jnr, 'Oared vessels in the Elizabethan navy' *MM*, 56, 1970. The best and most recent discussion of carracks and galleons is P. Kirsch, *The Galleon*.

[2] E. G. R. Taylor, *Tudor Geography, 1485–1583*, and *Later Tudor and Early Stuart Geography, 1583–1650*; D. W. Waters, *The Art of Navigation in England in Elizabethan and Early Stuart Times*; D. B. Quinn, *England and the Discovery of America, 1481–1620* and many other works; G. V. Scammell 'Manning the English merchant service in the sixteenth century' *MM*, 56, 1970, and many other works.

appeal.[1] There has been no general work, and more specialized studies have been patchy. In 1965 C. S. L. Davies published an excellent article on the origins of the Council for Marine Causes, in the *English Historical Review*,[2] and since then the American scholar Tom Glasgow jnr has written a number of highly informative articles on the Marian and early Elizabethan period, which have appeared in the *Mariners Mirror*.[3] The *Mirror* has also published, and continues to publish, many specialized and technical articles of relevance. More recently there has been a spate of publication, mostly of no academic significance, in celebration of the fourth centenary of the Armada. Exceptions to the general rule are the works of Geoffrey Parker, Colin Martin, I. A. A. Thompson, Felipe Fernandez Armesto and Mia Rodriguez Salgado, the last in the catalogue of the superb exhibition which was mounted at the National Maritime Museum.[4] Finally, this is not a history of the Admiralty jurisdiction. The Admiralty courts provide a constant background to the history of naval activity, particularly in respect of piracy and privateering, but they belong to the civilian and not to the military administration. There was no institutional link between the courts and the Council for Marine Causes, except through the person of the Lord Admiral. The subject of this study is the growth of the navy as a fighting force – its administration, personnel, funding, policy, strategy and tactics. It threads its way between foreign policy, commerce and war, with constant sideways glances at other aspects of government. Naval history is not an isolated subject in its own right, but is an integrated aspect of the general history of the period.

The main feature which emerges from this treatment is continuity. In place of the picture of boom and slump, which tends to come from concentrating on periods of war when evidence is plentiful, we

[1] W. Laird Clowes, *A History of the Royal Navy*; J. S. Corbett, *Drake and the Tudor Navy*; Alfred Spont, ed., *Letters and Papers relating to the war with France, 1512–13*; Michael Oppenheim, *The History of the Administration of the Royal Navy*, and other works.

[2] 'The administration of the Royal Navy under Henry VIII; the origins of the navy board', *EHR*, 80, 268–286.

[3] 'The navy in Philip and Mary's war'; 'The maturing of naval administration, 1556–1564'; 'The Royal Navy at the start of Elizabeth's reign'; 'The navy in the first undeclared Elizabethan war'.

[4] C. Martin and G. Parker, *The Spanish Armada*; I. A. A. Thompson, 'The Invincible Armada', *Royal Armada*, 160 89; Fernandez-Armesto, *The Spanish Armada: the experience of war in 1588*; Mia Rodriguez-Salgado, 'Introduction' to *Armada*, the catalogue of the NMM exhibition. In this connection also, note *The Expedition of Sir John Norris and Sir Francis Drake to Spain and Portugal, 1589*, ed. R. B. Wernham.

find a profile of remarkably steady growth. If a conscious decision was ever taken to establish a standing navy, then it must date from the very early days of Henry VIII's reign, or even from those of his father. There was more activity during war time, and several identifiable administrative developments took place during those years, but by no means all. The establishment of the Council for Marine Causes was not a sudden revolutionary move; it grew naturally out of the slow multiplication of earlier offices, and the example of the Ordnance Office. The Ordinary decreed in 1557 was a commonsense conclusion from the changes which had been taking place in funding arrangements over the previous thirty years. Similarly, although the use of gun ports to mount heavy cannon below the main deck was a change of revolutionary potential, it was to be another thirty years before such firepower began to be translated into tactics. The broadside as a tactic was not so much invented as evolved, and it took another whole generation of experiment before the logical conclusion of a line ahead formation was arrived at. Sir John Hawkins may have grasped the possibilities of lower and slimmer hull design more effectively than his predecessors, but he did not invent the galleon. On the other hand there was no time when, to use Tom Glasgow's dramatic phrase, the fleet was 'rotting at its moorings'; certainly not the years 1551–4, to which he applied it.[1] Glasgow long ago disposed of the idea that Elizabeth had rescued a navy in terminal decline, but his own view that it was Philip who performed that rescue act is no more substantial. The evidence for Philip's role in initiating a fresh phase of naval development boils down to a report of one irritated letter to the English council some two months after he had left England. In fact the level of activity in the dockyards and anchorages seems to have fluctuated more in the first twenty years of Elizabeth's reign than it had at any time since the outbreak of Henry VIII's last war in 1543. Most of the men involved, both at sea and ashore, were deeply conservative, and accepted change only slowly and reluctantly. Sir William Monson was still arguing the virtues of high charged carracks in the 1620s, just as Roger Ascham was still defending the longbow against the arquebus in the 1570s. The real innovators were not the policy makers, but the practical seamen and gunners, who suddenly found themselves with unexpected problems to solve. It was almost certainly some overmatched privateer, who, in order to avoid a grapple, first fired its guns at its enemy below the

[1] 'The maturing of naval administration, 1556–1564', *MM*, 56, 1970.

waterline. When Sir John Hawkins invented his double skin to keep out wood-boring beetles, it was as a captain with experience of tropical seas, not as Treasurer of the Admiralty.

Until 1547 a steady growth in the number and variety of ships to be provided for kept up the pressure for new facilities, and the development of proper schedules for repair and maintenance. After that date, with the main services and administrative structure in place, the size of the fleet remained remarkably constant, and the emphasis shifted to the more efficient use of plant and resources. Commercial enterprise drew the royal ships out of home waters, and gradually introduced a totally new strategic concept, that of the blockade. A fleet 'circling the realm' for defensive purposes had been envisaged in the fifteenth century, and was a reality by the end of Henry VIII's reign, but the idea of lying off an enemy coast for months on end to intercept his trade arose from the activities of ambitious privateers during Elizabeth's war with Spain. Such a strategy required more seaworthy ships than the old *Mary Rose*, and proper arrangements for victualling at sea. The need created the ships, and the necessary skills, so that by 1603 such a strategy was feasible, although not upon the scale that the ambitious projectors envisaged. Similarly it appears that no one 'invented' the drydock, or planned the growth and staffing of harbour facilities. They arose, grew, and sometimes declined, in response to the needs of the moment. Once established, there were changes of emphasis between Chatham/Gillingham, Deptford, Woolwich and Portsmouth, from year to year according to the type of service most required. Each had its own special function by the middle years of Elizabeth's reign, but that had happened gradually and not, it seems, deliberately. Plymouth and Newcastle, although both used as advanced bases in wartime, never acquired any permanent plant.

In spite of the slow and unplanned nature of most of the specific changes which took place during the sixteenth century, the contrast between the navy of 1485 and that of 1603 was dramatic. At the beginning of Henry VII's reign we are still in the world of Chaucer's shipman, and of the Warwick Roll; by the time of Elizabeth's death a 'blue water' strategy is already in place, and the pattern of fighting tactics has been set for the next 150 years. A single clerk on a part time basis has been replaced by a whole department of state, and the vast 'increase of governance', so typical of Tudor England can be illustrated to perfection by this development. Even to the ordinary seaman much had changed. Life was no more comfortable aboard

the *Merhonour* than it had been aboard the *Mary Rose*;[1] the pay was, if anything, worse, and the victuals were much the same. But voyages were longer, and more likely to lead to distant and exotic places; the chances of plunder were probably rather better, and the risks of working the more efficient guns rather less. There might be one of the newly invented hammocks to reduce the risk of a hard and damp bed, and there was even the prospect of a pension at the end of the day if you were unlucky enough to lose a limb at sea, and lucky enough to survive the experience. To the officer, and particularly to the master, both the demands and the rewards had increased. Sailing a great ship was a highly technical operation, and navigating it across the ocean even more so. Gone were the rule-of-thumb methods, the lead line and the portolan. The navigator of 1600 needed charts, tables of declination, tide tables, and instruments such as the backstaff and the boxed compass. He was at very least literate and numerate, and probably a man of some education. The sea had always been a way of life; by 1600 it was rapidly becoming a profession, and service on the royal ships occupied a respected place in that profession. It is often said that the Tudors made England a modern state. That is only true with certain serious qualifications, but they created a modern navy out of the office of the king's ships.

Henry VIII's navy expressed the honour of the King. Elizabeth was no less the personification of the realm than her father had been, but to the patriotically inclined her navy was 'England's glory'. The growth of national self consciousness was promoted and demonstrated by the hybrid, semi-private, nature of the sea war against Spain. A policy which the queen had been forced to adopt, and which had many disadvantages, nevertheless carried with it that bonus. The privateers and the gentlemen adventurers gave the political nation of the 1590s the same sense of active participation as was conveyed in a broader political context by the steadily increasing importance of the House of Commons. At the same time these tough-minded and often brutal seamen became in the eyes of their fellow countrymen, and sometimes in their own eyes, the champions of a Godly cause. The compatibility of genuine religious zeal with greed and cruelty had been demonstrated in the 1520s and 1530s by the Spanish *conquistadores*. Sir Francis Drake was a man in the same

[1] The work of Margaret Rule and others under the auspices of the Mary Rose Trust and the establishment of the ship as a permanent exhibition, has not only added greatly to specialist knowledge of early Tudor ship construction and rigging, it has also raised public awareness of the early Tudor navy, particularly the circumstances of life on board ship.

mould, and the observer who wrote of the attack on Cartagena in 1585

> The two galleys and galleasse, with the other fort, did so ply their ordnance against us that it was wonderful; their calivers, muskets and harquebuses did play their parts. But God is all in all, by whose good help we made them fly into the town like sheep . . .[1]

was typical of the new breed of protestant warrior. Just as Philip II took the crusading aspect of his great Armada with total seriousness, so some of those who fought against him at sea perceived themselves as doing the work of God. Because of the hazardous nature of their calling seamen had always been prone to appeal to the supernatural, but this was something much more specific and motivating. It also had tangible strategic implications. When Richard Hakluyt wrote his 'Discourse of the Commodity of taking the strait of Magellanus' in about 1580, he was arguing the importance of a global strategy against Spain, with permanent colonies and naval bases all over the world.[2] Hakluyt's specific objective on that occasion was to frustrate Philip's attempt to take over Portugal and her Empire, but his obsession was at least as much religious as political. The Counter-Reformation was a world-wide threat, and must be confronted wherever it appeared. Neither the Earl of Essex nor the Earl of Cumberland were zealots on quite that scale, but Essex took an army of preachers with him to Cadiz, and Cumberland sternly rebuked those of his captains who did not appear to take the spiritual welfare of their men with sufficient seriousness. Every ship of the navy above the burthen of about 100 tons enjoyed the ministry of its own chaplain, and it is often from these men that we derive our knowledge of their exploits. Richard Maddox who accompanied Edward Fenton on his ill-starred voyage in 1582/3 not only kept a journal, but also drew places of interest on the way.[3] By 1603 England's own *conquistadores* were ready to begin their Imperial task, and the navy had developed to the point at which such ambitions had become feasible. But the whole machinery of the English state was strained and stuttering after a century of remarkable growth and achievement, and the Admiralty's own house needed setting in order before further major demands could be made upon the navy.

[1] J. S. Corbett, ed., *Papers relating to the navy during . . . 1585-7*, 18–20.
[2] L. B. Wright, *Religion and Empire; the alliance between piety and commerce in English Expansion, 1558-1625*, 41.
[3] E. G. R. Taylor, ed., *The Troublesome Voyage of Captain Edward Fenton, 1582–83.*

2
THE MEDIEVAL BACKGROUND

In December 1480 Edward IV appointed Thomas Rogers, an experienced seaman previously in the service of the Earl of Warwick, to be Clerk, or Keeper, of his ships.[1] The office was an ancient one, which had originated in the thirteenth century, but it had been in abeyance for almost thirty years. Richard Clivedon, the previous Clerk, had presented his last account in 1452, showing a profit of £56.19s.6½d. on the sale of such stores and equipment as then remained in a rented warehouse at Southampton.[2] During the intervening years the king had owned ships, which had been operated on his behalf, but there had been no office with responsibility for their management, and consequently no naval administration. The reasons for that unusual situation lay partly in the disturbed domestic politics of the period – the so-called Wars of the Roses – and partly in the nature of the medieval navy itself. It could be said that the navy of the thirteenth or fourteenth century was like the parliament – less an institution than an event. The word itself was used, not to describe the royal fleet but the entire maritime resources of the realm. When a 'navy royal' was assembled, it was for some specific military purpose (usually an invasion of France) and consisted to only a very small extent of the king's own ships. In 1347, for example, Edward III had assembled a massive flotilla of over 700 vessels, of which 50 were fully equipped fighting ships, but his own

[1] *CPR, 1467–1485*, 242; C. F. Richmond, 'English naval power in the fifteenth century', *History*, 52, 1967, 10.
[2] PRO Exchequer LTR E364/86; Susan Rose ed., *The Navy of the Lancastrian Kings*, 55.

contribution was less than 30 – of all sizes.[1] Such a fleet was put together partly by 'ship service', and partly by commissions of impressment, similar to the commissions of array which were used to assemble an army. Ship service was a quasi-feudal arrangement whereby a port, or a group of ports, enjoyed specified jurisdictional and commercial privileges in return for providing a given number of ships, fully manned and equipped, when called upon for the king's service. The best example of this arrangement was the Cinq Ports, whose position had evolved from an early date, and who, by the thirteenth century were bound by charter to provide 57 ships for 14 days at their own expense,[2] and for as much longer as they might be required at the king's expense. Ships 'taken up' by impressment were hired at a fixed rate, known as 'tonnage' from the moment of their requisitioning, and the crews were paid direct by the treasurer of the war. During the reign of Edward III, according to a subsequent parliamentary petition, the standard rate was 3s.4d. per ton for three months; at which time a seaman was paid 3d. a day, plus his victuals, and a master 6d.[3] According to the same petition, this arrangement could provide the king with up to 150 fighting ships, in addition to the necessary victuallers and transports.

Such a system was feasible only because custom-built warships were virtually unknown. A fighting ship was created by taking a standard trading cog of between 100 and 300 tons, and building prefabricated wooden castles onto her stem and stern. A fighting top would also be added to her single mast. This work was carried out by teams of carpenters hired by the king for the purpose, when the impressed ships reached the port of assembly. When the service was completed, these additions were removed in the same way, and probably stored for future use. The majority of the king's own ships were indistinguishable from these same merchantmen. When not needed for warlike purposes they were used to transport the king's messengers and officials, and to bring Bordeaux wine or other goods for the use of the royal household.[4] They might also be leased out

[1] BL Harleian MS 246, f. 78; Cotton MS Titus E iii, f. 262; W. Laird Clowes, *The Royal Navy; a history*, 265.

[2] Hastings, Romney, Hythe, Dover and Sandwich, T. Rymer, *Foedera, Conventiones, Literae . . . et Acta Publica*, I, 53.

[3] Oppenheim, *A History of the Administration of the Royal Navy, 1509–1660*, 8. Tonnage was a measure of displacement, not weight, and was based upon an estimation of the number of tuns of Bordeaux wine with which a ship could be laded. The formula used for the estimate was probably 'depth of hold, multiplied by keel length, multiplied by main beam, and divided by 100'; M. W. Prynne, 'Henry V's Grace Dieu', *MM*, 54, 1968, 123.

[4] Laird Clowes, *The Royal Navy*, 120.

to private traders, and were converted for fighting in the same way. Until the late fifteenth century, when the Portuguese began to mount heavy guns in the waists of their long-distance carracks, there were no weapons at sea capable of damaging the structure of a large ship. Primitive breech loading guns of light calibre began to be used in the middle of the fourteenth century, and the first record of their deployment at sea refers to a fight between ships of Denmark and Lubeck in 1362,[1] but these were short range anti-personnel weapons. They were also extremely inaccurate and hazardous to use. No English ship carried more than seven or eight such guns before the death of Edward IV. The standard missile weapons, at sea as on land, were longbows and crossbows, and the standard method of sea fighting was hand to hand by a simple tactic of grapple and board. Naval tactics in the later sense were unknown, a single mass formation being the most effective method of bringing maximum force to bear. Manoeuvering in formation was impossible because of the poor handling qualities of the ships, and the only advantage which it was possible to seek was the 'weather gauge' – that is, to get upwind of the enemy. The larger the ship, the more difficult it was to board, and the bigger the advantage enjoyed by its archers, shooting down onto the crowded decks below them.[2] But large ships tended to be slow and cumbersome, and were particularly vulnerable to being driven ashore if a battle was being fought in coastal waters, as was usually the case.

One type of ship stood apart from all these generalizations. The galley was a custom-built warship, adapted from the classic fighting ship of the Mediterranean, by way of the Viking longship. It was lightly constructed, much longer in proportion to its beam than the cog or dromond, and propelled chiefly by oars. In the 1240s Henry III may have had as many as a dozen of these vessels, when they were kept in 'great sheds' at Rye, Winchelsea and Shoreham.[3] Their size was not measured by tonnage, as they had little cargo carrying capacity, but by the number of oars. By the thirteenth century galleys were virtually a royal monopoly, and were of little use against large sailing ships, particularly in open water. The last

[1] There may have been a few ship-board guns at Sluys (1340), and the earliest reference dates from 1338. P. Padfield, *Guns at Sea*, 11.

[2] In 1416 a Genoese carrack was attacked in the channel by six English balingers carrying (allegedly) 1 500 men, but escaped because the English were unable to scale her towering sides. B. Williams, ed., *Gesta Henrici Quinti*, 97; see also some of the drawings in BL Cotton MS Julius E iv, 'The Life of Richard Beauchamp, Earl of Warwick, by John Rous'.

[3] Laird Clowes, *The Royal Navy*, 120.

recorded royal galley before Henry VIII revived the genre, was the enormous *Jesu Maria* of 240 oars, which appeared briefly in 1410–11.[1] Her length must have made her extremely fragile, and there are no references to her use. Earlier galleys had mostly carried between 20 and 100 oars. They were almost twice as expensive to operate as comparable sailing ships,[2] and that factor as much as their lack of seaworthiness must have contributed to their disappearance. The main use of the medieval galley was for coastal and estuary patrols, and for swift, small-scale raiding in time of war. Barges and balingers were also propelled by oars in appropriate circumstances, but were principally small and handy sailing ships. When used for military purposes they were not fortified like the larger merchant ships, but were used either for scouting, or for skirmishing, in the manner of small galleys.

The 'navy royal' was an occasional event; but whenever there was war on the Marches of France, the King of England needed fighting ships. The Channel was not a frontier in the sense that it became after the loss of Calais in 1558, but rather a means of communication between one part of the king's dominions and another. Nevertheless the coasts of Normandy and Brittany were frequently hostile, and English shipping, both civil and military, needed protection, as did the ports of the south coast, which were always vulnerable to French raids. It was therefore normal for small fleets of armed ships to be assembled in March or April to 'keep the seas' until the end of the campaigning season in October. By the early fourteenth century such fleets were sometimes under the command of a single admiral (a term first used in 1297), but more usually in separate squadrons for the North Sea and the 'Narrow sea'. Occasionally a third fleet operated from the Severn estuary to the Isle of Man. For the most part the ships which made up these fleets were impressed in the same manner as for a 'navy royal'. Even when there was no official war, there might still be a need for naval defence. In April 1404, during the truce which lasted throughout the reign of Henry IV, a French squadron attacked the Welsh towns of Caernarfon and Harlech, and five Bristol ships were hastily mobilized and

[1] R. C. Anderson, *Oared Fighting Ships*, 50–51.

[2] In the late thirteenth century it was estimated that a sailing ship of 180 tons would cost £100 a year to hire, whereas a galley would cost £240 in 'Money of Morlaas'. This Aquitainian currency was worth about three fifths of the value of sterling. Laird Clowes, *The Royal Navy*, 129; P. Spufford, *Handbook of Medieval Exchange*, 209. A galley of 100 oars was considered to need a crew of 20 over and above the rowers.

equipped to repulse them.[1] In the same year another enterprising Frenchman endeavoured to extract a ransom from the inhabitants of the Isle of Wight, but retreated when an English fleet appeared on the scene. Not to be outdone, the English then raided the coasts of Brittany and Picardy, causing (it was alleged) great loss of life. To all this activity the king's ships themselves never made more than a small contribution. The king might have a 'great ship', such as the cog *Thomas* which Edward III used as his own flagship, or he might provide the admirals' flagships for his lesser fleets, and some galleys for scouting and skirmishing, but he did not have anything remotely resembling a standing navy.[2] Both ship service and impressment were of ancient origin, going back at least to the eleventh century; letters of marque, authorizing the holder to 'go upon' the king's enemies at his own expense under certain conditions, first appear in 1243;[3] and by the fifteenth century indentures and licences were also being used as means of providing for defence and law enforcement at sea. An indenture was essentially a contract, whereby the holder agreed to serve the king at sea with so many ships and men for a specified period, at the king's expense and in return for an agreed payment. A licence empowered the holder to keep the seas at his own expense in return for the bulk of any prize value taken, and was similar to a letter of marque, except that the enemy was not necessarily specified.

Consequently the Clerk of the King's Ships was a rather less important official than might be supposed. He had no responsibility for the king's ships when they were at sea, irrespective of whether they were on royal business or on lease.[4] If they were operating in the king's service they were the responsibility of their individual masters and pursers, and were funded directly by special warrant. The Clerk was responsible for ships which were out of commission, and for their equipment. He organized repair and maintenance work, constructed docks when these were needed, built or rented storehouses, and provided shipkeepers. In the reign of John, William de Wrotham had been responsible for a substantial fleet of royal

[1] N. H. Nicolas, ed., *Proceedings and Ordinances of the Privy Council of England*, 1834–7, I. 220.

[2] Rose, *Navy of the Lancastrian Kings*, 29–30.

[3] Granted by Henry III to Geoffrey Pyper, master of Le Heyte; the King retained a right to half the prize money. Laird Clowes, *The Royal Navy*, 129.

[4] As with all generalizations, exceptions can be found to this rule. John Chamberlain did pay the crews for voyages in 1401, 1404 and 1405, probably as a matter of convenience rather than because it was a function of his office. PRO Exchequer, Accounts various, E101/44/20

galleys, and had also handled the impressment of merchant ships, working through bailiffs and deputies in the various ports. In 1208 he organized the King's expedition to Normandy, and handled all naval payments out of the Exchequer.[1] Wrotham was not styled Clerk of the Ships, and his functions clearly transcended those of the later office. By 1250 the galley fleet had dwindled, and the Clerk proper had emerged, performing the humdrum functions which were to characterize the office down to the middle of the fifteenth century. Identifiable accounts first appear in 1344 on the Pipe Rolls, and later among the enrolled foreign accounts of the Lord Treasurer's Remembrancer.[2] The money seems to have been provided as it was needed, by occasional warrant out of the Exchequer, and the Clerk (or Clerks, there were sometimes two) recorded his disbursements in considerable detail. The accounts of John Chamberlain, who was Clerk from 1398 to 1405, show him to have been responsible for eight ships during that period, varying from the *Trinity* of 300 tons to a river barge for use on the Thames. One of these vessels was purchased for £100 from the Mayor of King's Lynn, and another was specially built for the King's use.[3] They seem to have been based in the Pool of London, which was why their names were all given the suffix 'de la Tour'; but in the winter they were removed to Greenwich, where they were drawn up on the mudflats. This process was misleadingly called 'docking', when a fence or some other temporary enclosure was built around the beached ship to facilitate work on her hull.[4] At such times the vessels were unrigged, and there must consequently have been some storage facilities at Greenwich, although these are not specifically mentioned in the accounts. Chamberlain was active, and disbursed rather more than £4 000 in six years, but his successor, John Elmerton needed only £300 for his four years in office. By the end of that time there were only two ships on the books, and it seems clear that Henry IV

[1] Rose, *Navy of the Lancastrian Kings*, 29.

[2] Ibid.

[3] The *Katherine*, which was purchased, was originally Portuguese, but had been built for northern waters. PRO Exchequer, Warrants for issue; E404/15/32. Details of the ship which was built appear in Exchequer, Accounts various, E101/43/6.

[4] The best account of this process is given in William Soper's account for the 'dokking' of the *Grace Dieu* in 1434: '... money paid Thomas at Hythe, and 29 men labourers, for working about making and constructing anew of a fence called a hedge, by the advice and ordinance of discreet and wise mariners, that is to say on the Wose near Brissleden aforesaid for the safe keeping and government of the King's ship ... and also that the said King's ship shall be kept more safely and easily in its said bed called dok within the said enclosure ...'; Oppenheim, *A History of the Administration of the Royal Navy*, 29.

was very uncertain of the value of having any ships of his own, despite the constant efforts which he was compelled to make to 'keep the seas' against French freebooters and pirates of all nationalities. If the king so willed, the Clerk of the ships could be responsible for the nucleus of a royal fleet, but he could equally be a very minor official whose function had virtually no connection with the mobilization of ships for military purposes.

If Elmerton belonged to the latter category his successor William Catton, Henry V's first appointment, clearly belonged to the former, and his activity reflected a major change of royal policy. Not only was Henry bent on war with France, he clearly intended from the start to use his own ships for that purpose, and was the first king since John to follow a naval strategy which transcended the normal *ad hoc* arrangements. By the end of July 1413, two weeks after his appointment and four months into the new reign, Catton had seven ships in his charge, and had undertaken a complete rebuilding of the old royal flagship, the *Trinity*. This he completed within his first accounting year, at a cost of £1 686.15s.11¼d.,[1] during which time two more ships were also added to the royal fleet. The first two years of the reign were quiet from a military point of view, and the King's ships were energetically deployed on private commercial voyages, which produced an income of over £2 000 in freight charges, and the loss of one vessel, the *Cog John*, which sank off the Breton coast in October 1414.[2] The major military deployment of 1415 was not Catton's responsibility, but the build-up of the royal fleet continued, and reached a climax during his second accounting period, from 1416 to 1419. During those four years, in spite of having no role in the military operations, he spent over £12 300, and had at one point as many as 36 ships on his books.[3] This must have placed a major strain upon Catton, as he seems to have been assisted only by a single clerk, and his operations extended far beyond the Thames estuary, to Rye, Dover, Southampton and Portsmouth. Apart from the *Trinity* he seems to have been personally responsible for building only two new ships, the *Jesus* and the *George*, but a considerable number of other ships were built or rebuilt by specially commissioned shipwrights during this period – not from any lack of confidence in Catton, but simply because of the burden of the work. These vessels fall into two main categories, Great Ships and balingers. The latter were small vessels of between 50 and 120 tons,

[1] PRO E28/31. Rose, *Navy of the Lancastrian Kings*, 34-5.
[2] Ibid.
[3] PRO, E364/59.

propelled both by oar and sail, as we have seen, which had come into use gradually over the previous hundred years. Four were built between 1416 and 1418, and a further seven or eight acquired by capture or purchase.[1] The Great Ships were constructed on a scale seldom seen in England before, and represent a new departure in naval strategy. The *Trinity* displaced 540 tons, the *Holigost* 760, the *Jesus* 1 000, and the *Grace Dieu* (laid down in 1416 but not completed until 1420) a massive 1 400 tons. Although their armament – a mere handful of light guns – was puny by comparison with their bulk, these were the dreadnoughts of their generation, and their appearance signified a new, although short-lived, period of English maritime ambition.

The naval operations which accompanied Henry's French war were broadly of two kinds. The invasion of France, launched on 11 August 1415, was conducted on strictly traditional lines, with an armada of 1 400 vessels and over 30 000 men. No more than 100 of these would have been fighting ships, of which perhaps 10 belonged to the King.[2] Similarly the relief of Harfleur in 1416 involved over 200 ships under the command of Sir Walter Hungerford. In this case, because of the circumstances, a sea battle was actually sought, but it was a very traditional type of action, fought in the narrow channel opposite the town. The English were more numerous and better organized, so that the siege was raised, and four large Genoese carracks in French service were captured.[3] After repair and some modifications, these modern and highly effective ships were added to the growing royal fleet. In addition to these large-scale actions, however, the King set up a regular pattern of naval patrols. These commenced early in 1415, when five ships were stationed between Plymouth and the Isle of Wight, four between Wight and Orfordness, and three on the East coast. In 1417 the Earl of Huntingdon 'swept' the channel with 40 ships, spearheaded by five royal warships, in order to clear the way for the King to cross to Normandy. Not only did Henry cross unmolested in the wake of this operation, but four more carracks were captured.[4] From then until the end of the war in May 1420, the English command of the sea was maintained by regular forays of this kind, and by keeping small numbers

[1] Oppenheim, *Administration*, 12; The table compiled by Colin Richmond shows only ten balingers in this period, of which two are noted as having been acquired, and eight built. C. Richmond, 'The keeping of the seas during the hundred years war', *History*, 49, 1964, 286–7.

[2] Laird Clowes, *The Royal Navy*, 373.

[3] A. Guistiniani, *Annali della Republica di Genova*, 277; Williams, *Gesta Henrici Quinti*; Rose, *Navy of the Lancastrian Kings* 48–9.

[4] *CPR, 1416–1422*, 142; T. Hearne, ed., *Vita Henrici Quinti*, 30.

of armed ships at sea for considerable periods on strategic stations, such as the Downs. Some of these ships were privateers, and some were impressed in the traditional way, but by 1419 the King had enough ships of his own to sustain such a presence without calling upon the resources of his subjects. The big drawback with impressment was that, during a war of any duration, it meant taking commercial ships out of service frequently and for considerable periods of time. The merchants always complained that their ships were 'taken up' long before they were needed, to the great detriment of their businesses,[1] and if they were to be called upon for regular service in the keeping of the seas, it might cost the king dear in terms of his relationship with the mercantile community. A standing navy offered a possible solution to that problem.

As long as the war lasted, Henry seems to have followed such a policy, but despite his awareness of the perennial problem of piracy, he made no effort to continue it on a permanent basis. Between 1415 and 1420 three men were receiving money for naval expenditure, Catton on a regular basis, and Robert Berde and William Soper occasionally. During that time they received altogether some £20 000. Soper took over from Catton as Clerk in February 1420, and over the next two and a half years his income totalled £5 500. The extraordinary payments ceased altogether, so naval expenditure declined by nearly 50 per cent.[2] Such an oversimplified picture does not do justice to the complexities of what was actually happening, but the impression of significantly reduced activity is generally accurate. The *Holigost*, the *Jesus*, the *Trinity Royal* and the *Grace Dieu* were all laid up on a care and maintenance basis in the Hamble by 1422, and several of the smaller ships had begun to deteriorate. When the King died in August 1422 he left instructions in his will that his ships were to be sold to discharge his debts, and the following March his son's Regency Council authorized the sale.[3] With the benefit of hindsight such a decision looks like gross dereliction of duty, but in fact it was simply a return to the *status quo ante*, and all that it really demonstrates is that Henry V, for all his purposeful activity, did not in fact transcend his predecessors, or entertain any new vision of naval strategy. Between 1423 and 1425 William Soper and his fellow commissioners disposed of 22 of the 30 ships of which

[1] J. Strachey et al., *Rotuli Parliamentorum*, IV, 79. The complaints were particularly loud against Henry V, but his consistent military success took some of the sting out of them.

[2] Rose, *Navy of the Lancastrian Kings*, 39.

[3] *Proceedings of the Privy Council*, III, 53.

the late King had died possessed. One of these was given away to discharge a debt, and eight others were described as 'debilis', fetching between £1.6s.8d. and £20 each.[1] The remainder realized some £925, the purchasers being mostly merchant syndicates, although some were individuals and three were described as 'king's mariners'. By 1427 the *Mary Barton*, the *Philip*, the *Little Trinity*, the *Redcog*, the *Andrew*, the *Mary Hampton* and the *Gabriel Harfleur*, although not specifically mentioned as sold, had disappeared from the records. Only the four Great Ships remained, and of the £750 which Soper received from the Exchequer during the five years 1422–27, £650 was spent on their upkeep.[2]

Such an outcome does not seem to have been the original intention. The *Grace Dieu* was not actually completed until 1420, and Soper was paid a salary of £40 a year – double that of his predecessor.[3] A forge and a permanent storehouse were built at Southampton, and the anchorage in the Hamble estuary was fortified. Probably Henry himself had envisaged a small nucleus of administration and plant which could be rapidly expanded when circumstances required – resources which had existed intermittently since the early thirteenth century, and could be described as entirely traditional. What actually happened, however, was a good deal more radical. When Luca degli Albizzi, the captain of the Flanders galleys, inspected the *Grace Dieu*, the *Holigost* and the *Trinity Royal* in January 1430, he described them as laid up but serviceable. Indeed he was particularly impressed with the *Grace Dieu*, describing it as the largest and most beautiful ship he had ever seen.[4] Albizzi was an experienced and widely travelled professional seaman, so he is unlikely to have been gullible; but the *Trinity Royal* had been described as 'debilis' in the previous year, and later in 1430 both she and the *Holigost* had been 'docked', that is beached and fenced around. By that time the only ship in commission was the balinger *Little Jesus*, specially built for the royal service. The *Jesus* and the *Grace Dieu* were both docked by 1434, one at Southampton and the other

[1] Richmond, 'The keeping of the seas', 285–8.
[2] PRO E364/5; Rose, *Navy of the Lancastrian Kings* 61–131 (Roper's Accounts).
[3] *CPR, 1416–1422*, 169, 256. An assistant was also provided for. For a full discussion of Soper's career, see Rose, *Navy of the Lancastrian Kings* 6–27.
[4] Albizzi's diary of his visit to Southampton has been edited by M. E. Mallett in *The Florentine galleys in the fifteenth century*, 259. Richmond believed that the *Grace Dieu* was a 'white elephant' – too large and clumsy ever to have been operational – but more recent research by Susan Rose has demonstrated that it was at sea, captained by William Payne, before the end of 1420. S. Rose, 'Henry V's Grace Dieu and mutiny at sea', *MM*, 63, 1977, 3–9.

at Bursledon.[1] None of the Great Ships had actually been used since 1422, and very little was spent on their maintenance after 1427, so by 1435 they would have required almost complete rebuilding. In that year, thanks to the political crisis in France, a flicker of life returned to the almost moribund office of Clerk of the Ships. The *Little Jesus* was rebuilt, and a barge and a balinger (named the *Jacquet*) were purchased for the defence of Crotoy.[2] However, the appearance of reprieve was deceptive. A large force was raised and shipped across for the relief of Calais in the summer of 1436; but although the Duke of Gloucester commanded over 500 vessels, no more than two or three of these belonged to the king, and the Clerk's function was marginal. In 1438 the *Little Jesus* and the *Jacquet* were still in service, and were still owned by the king, but they were no longer the responsibility of the Clerk of the Ships. Probably they had been handed over to individual masters in royal service on a contract basis. Between 1437 and 1439 Soper received no money at all from the Exchequer, and spent only £8.9s.7d., mostly on the storehouse at Southampton. By the time he was replaced by Richard Clivedon in 1442 he had become no more than a minor storekeeper.[3]

Over the next few years the Great Ships finally disintegrated and disappeared. The *Grace Dieu* was struck by lightning in January 1439, and burned to the water-line; the *Jesus* was sold in July 1447 to servants of the Bishop of Winchester at scrap rates; and the *Holigost* sank at her moorings early in 1452.[4] When the last piece of salvage had been sold, the office of Clerk was discontinued, and England was entirely bereft of naval administration – probably for the first time since the late twelfth century. Nevertheless Henry V's short-lived burst of creative activity had not been without its long-term significance. In the first place English shipwrights had been given the stimulus and opportunity to develop their skills. The balinger was developed as a vessel with considerable military potential, particularly with the building of the *George* and the *Anne* in 1416. These were both large (120 tons), two masted, and propelled by oars *modus*

[1] PRO E364/69, Soper's accounts for the years 1427–32. For the *Holigost*, see W. J. Carpenter Turner, 'The building of the Holy Ghost of the Tower, 1414–16, and her subsequent history', *MM*, 40, 1954, 270.
[2] PRO E404/52 152. Richmond, 'The keeping of the seas', 290.
[3] PRO E364/76. Richmond, 'The keeping of the seas', 291. Rose, *The Navy* . . ., 55.
[4] PRO E364/81, 86. The reason given for the loss of the *Grace Dieu* was that there were no shipkeepers on her at the time. She must therefore have been refloated after her docking in 1434, because shipkeepers would only have been provided for a ship at anchor. Soper paid £18.6s.3d. to Jurden Brownynge and four other shipkeepers on the *Holigost* from September 1426 to June 1427.

unius gallee (in the manner of a galley); they must have been rather like the galleasses of the next century.[1] When used for patrolling they carried crews of between 130 and 143 men, 'watching for enemies at sea', and when used for transport duties between 60 and 100. Similarly the Great Ships, built as an answer to the Genoese carracks, stretched technical resources and ingenuity to the limit. The *Trinity*, the *Holigost* and the *Jesus* were two masted (probably carrying a square rig on the mainmast and lateen on the mizen), but the *Grace Dieu* was three masted. Apart from being constructed in the traditional northern mode of 'clinker', or overlapping planks, instead of the southern 'carvel' (edge to edge) mode, she was one of the most advanced, as well as one of the largest, ships afloat.[2] England's capacity to build a substantial number of large and effective ships in a short space of time, and to crew, supply and maintain them efficiently, had been amply demonstrated. Three naval squadrons had operated simultaneously and with great success in the summer of 1417, and the sea had been better 'kept' for the nine years of the reign than for many years before. A successful naval strategy was therefore not a question of capability, but of political will and priority.

By 1430 that will had largely disappeared. In strictly military terms a low naval priority was justified before the Congress of Arras, however, the English council knew perfectly well that the sea had to be kept. There was only one surer way to annoy the merchant community than by continually requisitioning its ships, and that was by doing nothing at all to protect it from pirates and hostile neighbours. Moreover the war in France was going from difficulty to disaster between 1435 and 1450, and since the priority was consistently given to the need for reinforcements and rescue operations in Normandy and Gascony, there were few resources to spare for more mundane operations. Tried and traditional methods were perfectly adequate for a major military effort like that of 1436, but even when they were available, were no longer entirely satisfactory for dealing with marauders. Single masted cogs of 150–200 tons, designed to carry a maximum cargo could not cope with the balingers and carracks that such hit-and-run raiders were now likely to use. Conse-

[1] PRO E364/59. Rose, *The Navy* . . ., 42. R. C. Anderson, *Oared fighting ships*, 207.
[2] English carpenters did not have the necessary skills for carvel building, and when he wanted to repair the captured carracks, Soper endeavoured to import foreign craftsmen for the purpose. Rose, *The Navy* . . ., 45 and n.153. All these great ships seem to have been straight keeled, and to have had a straight stern-post and stern post rudder. Morton Nance, 'The ship of the Renaissance', *MM*, 41, 1955, 180.