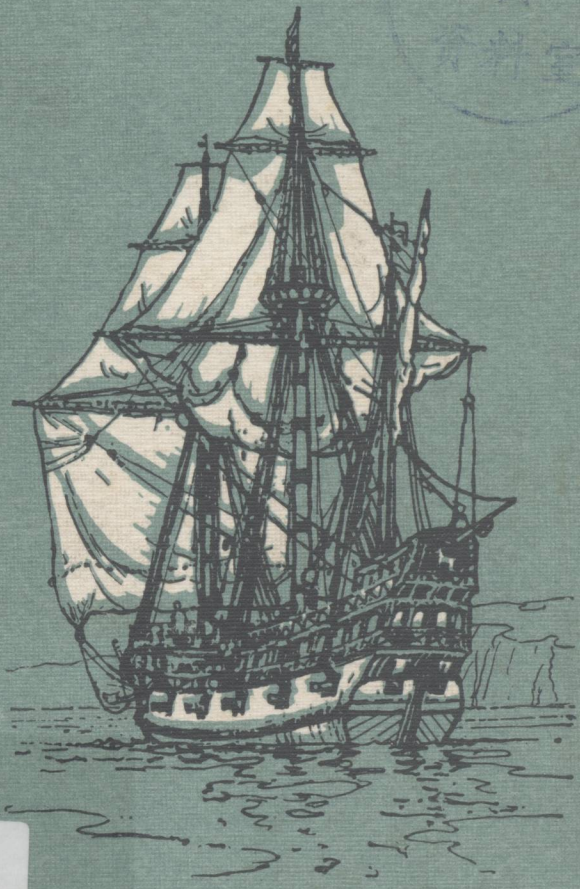
THEN AND THERE SERIES

Elizabethan Ship



GREGORY ROBINSON

THEN AND THERE SERIES
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Elizabethan Ship

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TO THE READER

As THIS book was in writing, the thought at the back of my mind was to help you to understand better the naval histories and sea stories of the Tudor period. You will understand that the book is written by one who is still very much at school when writing of the sea, and very much at sea when writing of arithmetic and geometry.

When you have read this little book, you will not suppose you know all about the ships of the period. The sea is vast and ever changing; the ships, though small, are numerous and vary much in form to meet the odd occasion, so there is no end to learning about ships and here is but a beginning.

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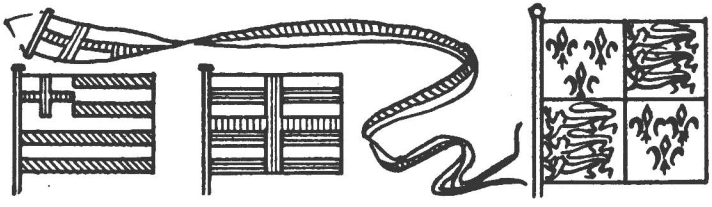


FINDING OUT ABOUT ELIZABETHAN SHIPS

WOOD burns well and worms find it good eating, but stone resists fire and worms do not fancy it. So it has come about that, while many ancient stone churches, castles, and palaces still stand four-square to the wind and the rain, there are scarcely two planks hanging together of the larger ships in which our ancestors braved the wide and stormy ocean. In the mind's eye we can re-people the castles and the palaces but we cannot man the ships, for they are all mouldered away.

And those of us who want to find out what old ships were like do not learn much more from the accounts of travellers. They may tell us something of land travel, but they will tell us next to nothing of their sea voyages—maybe they were too seasick even to make a note. When, however, we turn to the pictures we are offered a great deal of help. Yet these pictures, delightful as they often are, have in the past done much to mislead; not because the artists who drew them meant to deceive, but because people do not understand what the artists set out to do. For the moment forget about ships and think about lions.

We all remember when we were very young going to the Zoo and seeing for the first time a real lion and being perhaps a little disappointed because he was milder looking and smaller than we expected, for we had always thought of the lion as the King of Beasts. Now when three lions were designed for the Arms of England, their intention was to show England's courage and to terrify her enemies. So we have three fierce and warlike, raging and roaring beasts, and the artist did not care a fig whether they were particularly like lions or not, so long as they looked brave fighters.

As the artist drew lions, so he drew ships. If it was a design for the King's money, the artist filled most of the space with His Majesty, fitting the ship into what room was left, perhaps inside a circle so that the ship had to curl up at the ends. If it was a Church Service book, he would have in mind how the waves of the sea rage horribly and great beasts abound in it; so, what with waves and monsters, there was never much room for ships.

Obviously it would be sad if we had to rely on pictures alone for our knowledge of the sea and ships, ancient or modern. We certainly get valuable details here and there and they help us sometimes to understand some of the

items mentioned in the accounts, lists and estimates. These are the most important means of finding out about things until the time when plans and models came to be made for building the actual ships. There are no trustworthy models of the sixteenth century, but there are a few plans of ships belonging to Queen Elizabeth I's time.

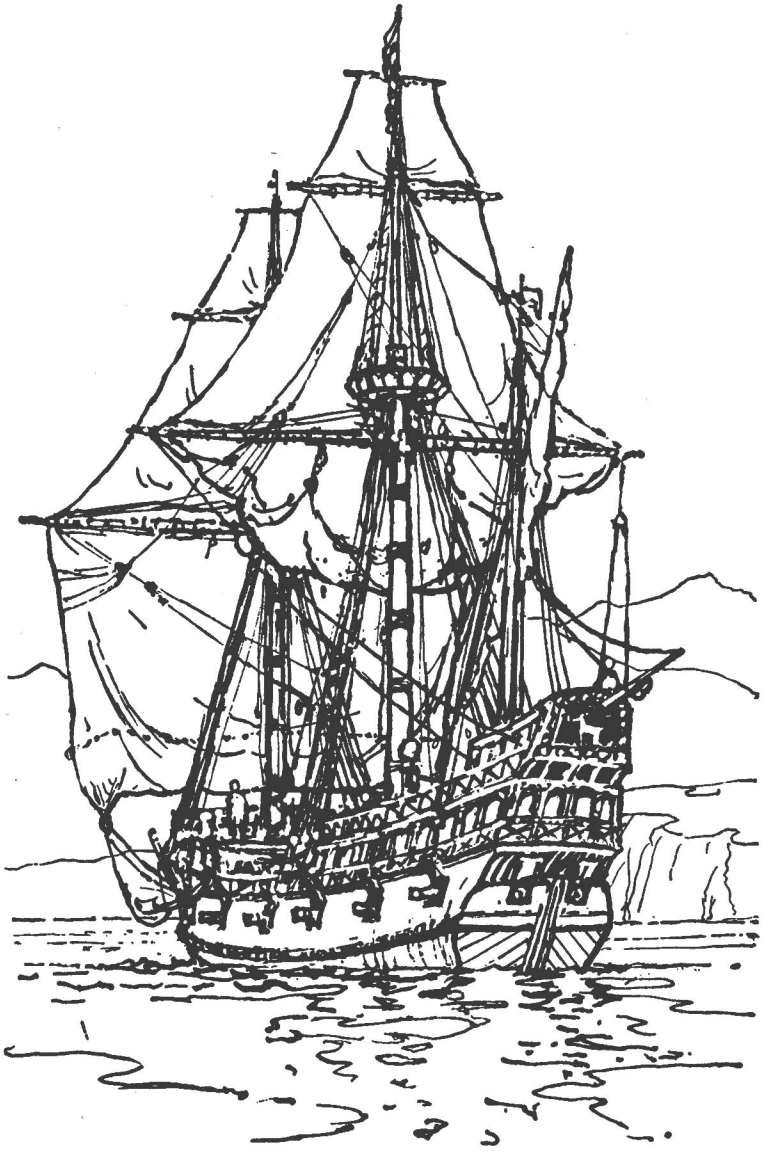
Seaworthiness

Whatever we may find out from pictures, documents, or plans, we should always have in our minds that from early times ships from England went down into the Bay of Biscay filled with woollen goods, pewter pots and pans, rabbit skins and pickled herrings, and brought back wine and salt from Bordeaux; that thousands of pilgrims were taken across the Bay to the shrine of St. James of Compostella, most of whom were brought home safely again. Therefore when we picture medieval ships or make models of them, we must always show them as the seaworthy vessels that they undoubtedly were.

And since we know that by Tudor times ships were venturing a great deal further, even right round the earth, it is all the more necessary to think of them as good healthy ships in which men lived over long periods and went about their business, lawful or unlawful, in all parts of the world.

Of the ships of Queen Elizabeth I's day there is none better known by name than Drake's GOLDEN HIND though it happens that accurate details about her are scarce. Lately attempts have been made to gather all that is known, hoping to find out her dimensions, with an eye to the building of a trustworthy model. You will find a picture of the ship on the next page: it is as true as I know how to make it.

Finding out (or rather, trying to find out) about old



GOLDEN HIND

ships can be as exciting as any treasure hunt, for clues about the GOLDEN HIND have been found as far away as Seville in Spain and even in Mexico City; and as near as the British Museum and the Record Office in Chancery Lane in London; while all sorts of subjects, from arithmetic to bricklaying, come into the work.

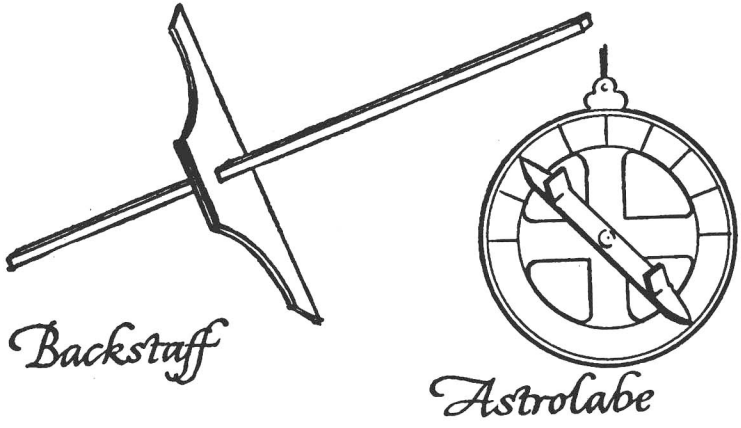
Drake and his Crew

Now to make sure that in our minds we rebuild the right sort of ship, it will be best to understand two things. First, what had to be put in her? The crew, their food, drink and gear, and the cargo. Secondly, how long were her voyages?

What was the size of the GOLDEN HIND? It was said that at one time on her voyage round the world this ship had on board as many as 88 men. Eventually, we know, she returned to Plymouth with 56 men and 3 boys. When crossing the Pacific, she was 89 days without any chance of refilling her water-casks. From Java in the East Indies to Sierra Leone in West Africa she took 118 days and then her company were brought near death for want of water. The voyage round the world took little short of three years, so that it will be understood there was need for more than standing room only. Men must lie down, must stretch their legs sometimes, and on so long a voyage they need a change of clothing, besides their little boxes stowed away containing needles and thread to put in patches and sew on buttons. Small things these, taking up little space, but in Queen Elizabeth I's day the common seamen did not look for much comfort. More important people's belongings, however, took up a great deal more room.

We will begin with the Captain. We know he had a magnificent suit of armour and a very long sword; he had,

too, some fine clothes for Sunday. We know he dined off silver plate and when he dined a small orchestra played. There must have been room to stow the fiddles. Then he had a small library, and we know he had some drawing materials, for one of the released prisoners informed the *Inquisition*[1] that the Captain and his nephew, John, aged 15, spent much time in the cabin drawing birds, beasts, and fishes, as well as sketches of the places visited.



The Chaplain had a cassock and a few religious books besides his Bible and Prayer Book. The Master would have had his *backstaff*, *astrolabe* and charts with which to navigate. The Master-gunner had 18 guns in their wooden carriages, round shot in plenty, and 60 cwt of powder, besides small arms of all sorts, including bows and arrows and fireworks. The Boatswain with his whistle had charge of all the anchors and cables, coils and coils of spare rope, paint and tar, all taking up a great deal of space. The Carpenter had his bench and tools and was also in charge

[1] You will find words printed like *this* in the Glossary on pages 56-58.

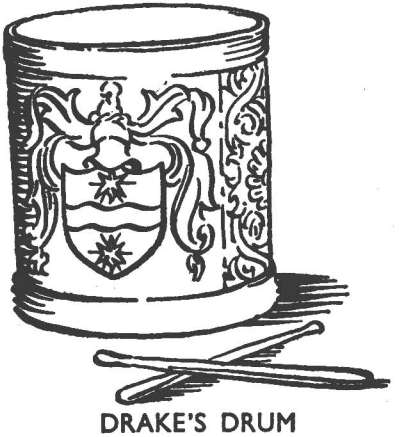
of the ship's well. Drinking water did not come from this 'well.' It was really the ship's drain, for into it drained all the salt and dirty water from the bilges. When the ship leaked it was here that they manned the pumps.

There was the Cook room, afterwards known as the *galley*; it had a brick floor and chimney. Here the cook did his best with what there was, often neither very much nor very good. And as sea cooks were not chosen because they were good cooks, but rather because they had wooden legs and consequently could not pull and haul very well with the other mariners, they were not always good at boiling salt pork and yellow peas.

Then there was the Sailmaker with a very large locker. always busy mending and patching the sails, so that by the time the little ship sailed home into Plymouth Sound we may imagine there were more patches than sail.

There were the Quartermasters who steered her by *compass, tiller, whips and whipstaff.*

Then, as all the world knows, Drake had a drum, and surely we may be allowed to guess that his ship's company had a parrot.



DRAKE'S DRUM

The treasure brought home is reckoned to have weighed about 30 tons, but as it consisted of gold and silver bar, diamonds, emeralds and rubies, with 360,000 pieces of eight, the space occupied by it would have been small. Ten tons of cloves and five tons of ginger, pepper, and nutmegs, would have been

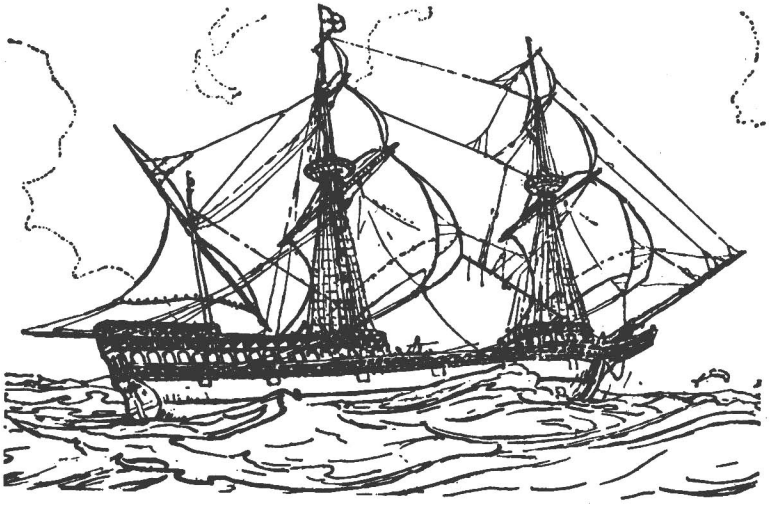
more bulky. Then we have to remember her boats—a long boat (not very long), a *joliwat* and probably a small skiff.

Taken all in all, you will probably think that there was need to have a roomy ship for the stowage of so many people and so much stuff and tackle.

What do we know about the 'Golden Hind'?

We now turn to the shape of her. What kind of a ship was the GOLDEN HIND? Where did she go and why did she go? A few years ago documents were discovered amongst Spanish papers in Mexico and in Seville. In them were set down the examinations of a Portuguese pilot who had been Drake's prisoner. He told the Inquisition, amongst many other things, that the ship had been built in France.

When she sailed out of Plymouth in 1577 she had painted on her stern a pelican; that was then her name. You can guess why ships and shops alike had their names pictured and not written in those days. Further, it was given out before she sailed that she was first bound for Alexandria to pick up a cargo of currants. The Spanish Ambassador did not believe this. His spies at Plymouth counted too many gunports in her broadside for a simple merchant ship. Moreover, the Ambassador knew very well that Drake did not usually make a living carrying currants to put into people's puddings. Drake knew too that Spain looked on him as a pirate and had even said that they would hang him if they caught him. He was very indignant as most of us are when we are called names, but he was a sensible man and we may be quite sure that he took every step to ensure he was not caught.



'Golden Hind'—homeward bound

And he was not caught. Instead he himself caught all the treasure ships he went seeking in the Pacific Ocean; and when the treasure (which some people reckon was worth about £2,500,000) was stowed under *hatches*, we can well believe how Francis Drake was the happier for having a long swift ship under his feet.

When, some years ago, people began to wonder about the shape of Drake's ship, they seem to have been thinking of her still as the PELICAN bound for Alexandria for a cargo. So they decided that she would have been of the same proportions as the PRUDENCE, a respectable merchant ship of London whose size we know. They forgot that near the Straits of Gibraltar, Drake had painted out the pelican and replaced it with a golden hind, telling his crew to forget about the currants; for they were on a

treasure hunt and would all live to be right good gentlemen in England. As sure as we can be of anything in this world, the GOLDEN HIND was not built on the lines of a tubby little merchant ship.

Although we have many accounts of the wonderful voyage, there is only one plain figure given about her. It is said that when she lay on the rocks in the Celebes in the East Indies, she needed "13 feet to make her fleet"—meaning 13 feet of water to make her float off the rock. That does not help very much. True, there are many statements about her *tonnage*. As they range from as little as 80 to as much as 400 tons, they do not help very much either. As you so often read in books of a ship being of so many tons, you will find on page 53 at the end of this book a little explanation of how calculations for tonnage were made.

So, you see, direct evidence does not give us very much information; but, as sometimes happens, there are indirect ways of finding out things and you are now going to see how we have come to be reasonably sure of the dimensions of the GOLDEN HIND.

The size of the 'Golden Hind'

Queen Elizabeth I, thinking that people would like to know in what sort of ship Englishmen first sailed round the world, ordered that the GOLDEN HIND was to be hauled out of the water at Deptford and a house built round her so that she might be preserved for all the world to see. Unfortunately the house was never built; the little ship was to end her days with the sky as a roof; and thirty-seven years afterwards a man sailing down the Thames noted that what was left of her looked exactly like the bleached ribs and skull of a dead horse. Today nothing remains of her except a chair made from her timbers in the Bodleian Library at Oxford and a table in the Middle Temple Hall in London.

It happens, however, that the estimate for the building of this house, which was never built, can still be seen in the British Museum; it helps us to discover the breadth of the ship. It says that a wall was to be built round the ship 15 feet high and containing 180 feet of brickwork in length; from inside to inside there was to be a space of 24 feet so as to allow room for a walk round the ship inside the wall. The bricklaying was to cost £130; the roof was to cost £90, which was to include timber, tiles, laths and workmanship.

You will see at once that our ship must be considerably less than 24 feet in breadth, and the question is: How much? If we assume that the pathway right round the ship was to be $2\frac{1}{2}$ feet wide, and that seems reasonable, it would mean that the GOLDEN HIND was 19 feet broad.

When we turn to the Estimate to get at the height of the ship, we are not so fortunate; for although we are told that the walls were to be 15 feet high, we are not told the depth

of the dock nor the pitch of the roof, so there is no help here for the height of ship from *keel* to topsides. But we do know that as a general rule ships of this period measured from the main beam to the top of the keel about one-half their breadth, so we can say this measure (which was called the Depth in Hold) was probably $9\frac{1}{2}$ feet.

Turning to the length we are told there was a "brick waule to be buylded whiche will conteyne in Sircuyte about 180 feet"; we are not told the number or width of openings or doorways in sides or ends. So we are forced to guess and experiment. There are many reasons that lead us to think that the ship was about 90 feet long.

Although we have written a lot about this ship, you will not suppose she was the most important of the Tudor period. She was not. In the beginning there were obvious reasons why particulars about her should be kept secret. Afterwards changes of opinions in England led to her neglect and she seems to have mouldered away before anyone thought of making accurate measurements of her. Consequently we have had to find a way round to discover them and that always is more interesting than going direct. On page 55 there is a list of books to read which will help you to find out about other ships.

And now we will find out about the men who sailed the ships of Queen Elizabeth I's navy and the many skills they needed in one crew.