

# PROCEEDINGS

OF THE

**Cambridge Antiquarian Society,**

17 OCTOBER—5 DECEMBER 1910.

WITH

**Communications**

MADE TO THE SOCIETY

MICHAELMAS TERM 1910.

No. LVIII.

BEING No. 1 OF THE FIFTEENTH VOLUME.

(NINTH VOLUME OF THE NEW SERIES.)



**Cambridge:**

DEIGHTON, BELL & CO.; BOWES & BOWES.

LONDON: G. BELL AND SONS, LTD.

1911

*Price 5s. net.*

Mr H. H. BRINDLEY read a paper, illustrated with lantern-slides, on

THE SHIP IN THE ST CHRISTOPHER WINDOW IN  
THAXTED CHURCH, WITH REMARKS ON EARLY  
METHODS OF REEFING SAILS.

Members of the Society who made the excursion to Thaxted in August will recollect the mutilated painting of St Christopher in one of the eastern windows of the north aisle of the Parish Church. The windows of this aisle have four lights and the figure of the saint occupies the light nearest to the transept. The north aisle and transept are believed to have been commenced about 1380 by Edward Mortimer, the last Earl of March and great uncle of King Edward IV. The Rev. L. S. Westall of Queens' College, the late vicar of Thaxted, informs me that Mr C. E. Kempe expressed to him the belief that the very beautiful glass of the north aisle windows dates from 1465. The lower third of the lights of these windows contains a shield of arms; that below the painting of St Christopher is, like the others, now imperfect and without a name. This shield is of so much interest both in the admirable painting of what remains of it and in its associations that I may venture to describe it in detail. I am indebted to much kind assistance from Mr Westall in writing the following account of it. It is a coat of arms of King Edward IV, in whom the honours of the Mortimers merged in the Crown, and who there is much reason to believe gave the window. There is in the British Museum an old description of the shield before it was mutilated, the blazon being: *quarterly*; 1st, England (this is now plain glass); 2nd, Mortimer, *barry of six or and az., on a chief of the first two pallets between two base esquierres of the second, over all an inescutcheon ar.* (this is in good condition); 3rd, de Burgh, *or a cross gu.* (some fragments of both field and cross remain);



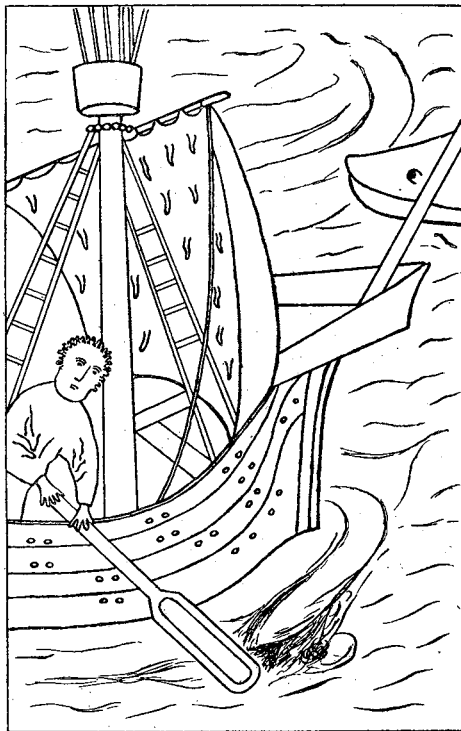
Thaxted church, Essex

4th, Genevill, az., three horses' bits or, on a chief erm. a demi-lion issuant gu. (the field and its charges are fragmentary, but the lion's head and tail form a beautiful piece of heraldic painting, while the ermine spots are noticeable for their unusual form). It has been conjectured that the King quartered the Genevill arms at his marriage with Elizabeth Woodville to show that, like the Queen, he had commoners' blood in his veins. The Mortimer coat as in this shield and one of an earlier date appear in the east window of the church, as does also the Genevill coat. In the window containing the picture of St Christopher King Edward's arms, *quarterly, France modern and England*, are in the second light from the Saint, while the figure of the King appears (now incompletely) in the intermediate light.

In the picture above the shield St Christopher is gigantic compared with all other objects shown; the figure from the waist upwards has vanished, we see nothing of the saint's head or of the Child though his staff and portions of his robe towards the right shoulder remain. He walks through a stream with his left hand resting on the hip. Just in front of his right foot is a water-wheel beside a tiled mill-house, further away is a small vessel under sail and manned by one sailor, and about to pass him on the further side is a large sea-monster which is partially hidden by the saint's staff. Beyond the stream we see a bank bearing a tree with large roots and other herbage, and further back still, on a level with the plain glass replacing the head of St Christopher, is a stone arch surmounted by a steepled belfry. Like the garments of the saint, the whole of this charming landscape is painted very carefully. Its prevailing colours are black, brown, yellow and white. It is thought that the scene may have been taken from the mill-stream of Tilty Abbey, about three miles from Thaxted.

The small "ship" in the river beyond the mill-house is as if it were sailing into the picture, for her stern is cut off by the mullion. From the set of her sail the wind is over the star-board quarter. To what class we should assign this vessel it is impossible to say, for in several respects she has the lines and fittings of a much larger vessel than the relative sizes of the

sailor who is working her and of his oar permit her to be. The artist may have intended her for a "crayer," "lodeship," "hocboat," "pessonner," "pikard," or some other of the various smaller craft of the fourteenth and fifteenth centuries concerning whose distinguishing characters we know so little. The great sheer forward (and we may imagine a similar sheer aft would be seen if the whole vessel were in view), the "fore-



Ship in St Christopher Window in Thaxted Church

stage" and its bowsprit over the cut-water, the fighting top bristling with spears and the heavy shrouds with ratlines all point to the artist having a comparatively large craft and possibly a man-of-war in his mind. Fittings such as those mentioned above would not be found in a craft small enough for navigating a mill-stream, so we may conclude that who-

ever painted the window was not disposed to be consistent about nautical matters, especially as he fitted her with a thwart and depicted the nails of her planking of such large size in proportion that, even disregarding the single mariner and his oar, we feel we are looking at an open boat. In other respects the work is that of an artist not familiar with nautical matters; thus the far side of the fore-stage leads into space, for it is quite out of drawing with the gunwale, the bowsprit is much too large, the starboard shrouds are connected or rather not connected with the mast in an impossible manner, and the sail is not bent to the yard uniformly on the two sides of the mast. Nor are we convinced by the way in which the sailor is handling his oar. But such technical inaccuracies are not uncommon in drawings of other things than ships in the age when this picture was painted, and the faults of the artist do not diminish the interest his picture has in its representation of the reef points on the sail, which render this little vessel of some historical value. Taken altogether, the sail and its fittings are the best part of the picture from the technical standpoint. This sail is the square sail universal in northern waters at the time, and almost the only form of sail employed. Fore-and-aft sails in the form of lateens or settees were still confined to the Mediterranean and appear in English and other northern craft on mizen and bonaventure masts only in the later decades of the fifteenth century. The yard of the Thaxted ship is fitted with a parrell or band to keep the yard to the mast. The parrell is rarely omitted in pictures of mediæval ships which go into details, and here we see it of the usual type, a necklace of "trucks"—balls of wood strung on a rope. The artist has omitted the lifts and halyard, but has depicted one piece of running rigging, the starboard brace. That of the other side is omitted, as the port yard arm is cut off by the mullion.

The sail is supplied with numerous tags of rope, which I think must be reef-points depicted in a conventional or heraldic manner.

When reef-points were first introduced we do not know. There is in Montelius' *Kulturgegeschichte Schwedens* (Leipzig, 1906, p. 261) a restoration of the Gokstad "Viking ship." She

is represented under way and the artist has inserted two rows of quite modern looking reef-points in her sail. There is no evidence justifying this, and the ships under way in the Bayeux tapestry have no reef-points. That sails of mediæval times could be reefed in some fashion or another we know, but no "Seaman's Grammars" were written in that age to tell us how it was done or what the usual fittings of a sail were. We have to gather what we can from contemporary pictures, inventories and general literature. Representations of ships having reef-points in their sails appear to be few. One of the earliest is the seal of Hastings, which is of the thirteenth century. The one-masted vessel in this seal carries a sail fitted with three bands and from these depend at regular intervals what can hardly be anything else than short pieces of rope, for in spite of the stiffness of design characteristic of the age, the rope ends do not hang in the same way and some are more bent than others. These fittings of the sail are much more like reef-points inserted into reef-bands (doublings of the canvas to take the strain of the reef-points when in use) than anything else. The three bands occupy the lower half of the sail. The seal of La Rochelle dates from the twelfth century (*Brit. Mus. Catalogue of Seals*, 1898, v. p. 455), and Jal (*Glossaire Nautique*, Paris, 1848, p. 483) quotes a description of it written in 1232. Like the Hastings seal, it bears a one-masted ship whose sail is fitted with three reef-bands and rows of points. They are in the lower part of the sail. This appears to be the earliest representation of permanent reefing gear. The seal of Rye, which is of the fifteenth century, also shows what we may fairly regard as reef-points. But the arrangement of them is different from the earlier examples quoted above. We again have a one-masted ship with her sail spread, but the reef-points are distributed all over the sail and, though no reef-bands are shown, the ends of rope are inserted in three even rows, equidistant from each other and at equal intervals from the head and foot of the sail. They all hang in the same way or very nearly so, and thus are different from those in the Hastings and Thaxted vessels. In the absence of reef-bands and in the points being inserted over the whole sail there is

agreement with the Thaxted ship, though in the latter the reef-points are scattered about with only a suggestion of rows near the upper part of the sail. The impression which the Thaxted example gives is, however, that the artist began with rows and that in the lower part of the sail he put the reef-points in irregularly so that none of them might be hidden by the mast and other gear. Jal (*Glossaire*, p. 280) illustrates the seal of John Holland, second Earl of Huntingdon, as Lieutenant-General of John Duke of Bedford, Admiral of England, Ireland and Aquitaine, from his commission dated 1417. This seal is also illustrated by Pettigrew, *Collectanea Archaeologica*, 1862, pl. xv, no. 3, and in the *Gentleman's Magazine*, 1797, p. 549, pl. ii. This seal, and two later ones of the same John Holland as Admiral of England, are in the British Museum. All three have the ship's sail ornamented with the Holland arms, *England, within a bordure of France*. The coat occupies the whole sail, so the *fleurs-de-lys* of the upper part of the bordure are in a row just under the yard. On page 234 of the *Glossaire* Jal gives a sketch of the upper part of the Holland seal which shows only the mast head, fighting-top and head of the sail. In this sketch he names "garcettes de ris" (reef-points) three sets of short lines which form a row on the sail just under the yard. Reference to his drawing of the whole seal on p. 280 shows that these supposed reef-points are really the *fleurs-de-lys* sketched very badly. At the same time it seems probable that the artist did not know exactly what he was copying, as the seal illustrated by Jal was evidently a very poor impression, for the *fleurs-de-lys* are shown only in the upper part of the bordure and could be recognised as such only by one who knew the Holland arms. It seems certain that Jal had never seen the actual seals or good drawings of them, and was led into error by a bad impression and want of knowledge of the Holland coat-of-arms.

Taking the pictures known to us in chronological order, we turn from seals to the Life of Richard Beauchamp, Earl of Warwick (Brit. Mus., Cottonian MS. Julius E iv. Art. 6), which was formerly attributed to John Rous, the author of the Warwick Roll, but is now thought to be the work of a Flemish



artist. This MS. was possibly written between 1485 and 1493. It has many careful drawings of ships. Most of the sails have certainly no reef-points, but in one or two cases they may be represented, though it is possible that what is depicted is the lacing of a bonnet, an additional piece of canvas added to the foot of the sail in light winds. I shall have to speak of the bonnet later.

Villequier and Vatteville are villages on either side of the Seine about two miles below Caudebec-en-Caux. They are decayed ports, for from the fifteenth to the seventeenth centuries sea-going vessels sailed from them, and, like Poole in England, at least Vatteville fitted out craft for the Newfoundland voyage. In the churches of both villages there are *ex voto* windows containing paintings of ships. That at Villequier is a very beautiful work and displays in much detail a naval combat between ships of Francis I and Charles V. The identification of this fight remains uncertain; M. Charles de la Roncière (*Histoire de la Marine Française*, iii. p. 250, Paris, 1906) is inclined to regard it as the capture of a treasure ship of Cortes by the fleet of Francis I, commanded by Jean Fleury, which occurred in 1523. I hope to attempt a description of this most interesting window in the future: it suffices here to say that the inscription at the base of the painting tells us that it was given to the church in 1523 by the mariners Jehan Busquet, Robert Busquet, Jacques Renault and Jehan Breton. The present importance of the painting is that, among the many matters of interest to the nautical archaeologist it contains, one of the vessels appears to carry reef-points. She is a large ship and evidently a three-master, but her foremast does not come into the picture. The rope-ends which look like reef-points are on her mainsail and inserted in a regular row almost half way up from the foot of the sail. They are peculiar in being placed in pairs, but there is also a single one. The pairs are equidistant, and the appearance of the whole fitting is rather that of reef-points than of a bonnet lacing. Moreover the row is improbably high up the sail to have anything to do with a bonnet. The sails of the other craft are either furled or are in too much confusion of battle to show any details such

as reefing gear. In the church at Vatteville there are two windows which contain paintings of ships. One of these is in the south transept and the vessel is a somewhat conventional representation of *La Roumaine* commanded by Delille (or possibly Silvestre) Billes, who was a fellow-privateer with the Busquets and other Vatteville seamen. The window containing this painting has undergone much alteration, and the glass in it is of more than one period. The Abbé Cochet (*Les Églises de l'Arrondissement d'Yvetot*, éd. 2, Paris, 1853, i. p. 132) states that the painting of *La Roumaine* was originally in another part of the church. The pieces of glass bearing the dedication are now out of order and there is some little doubt as to whether the year given is 1528. Cochet read it as 1525, but close examination of the glass makes it most likely that 1528 is the year. In this opinion I have confirmation from the Abbé A. Anthiaume, Aumônier Catholique du Lycée du Havre, who has kindly been to Vatteville to assist my enquiry since my own visit, and to whom I am indebted for much other information on naval windows in the churches of Normandy. Cochet's inspection of the church in 1844 appears to have been somewhat hurried and there are several inaccuracies in his account of the south transept window. *La Roumaine* is represented somewhat conventionally; for instance, on her poop stands the figure of St Clement, gigantic in proportion to all else, as was then the fashion where the patron saint is shown in a ship, but much of the ship and rigging is drawn with care and technical accuracy. Incidentally it is of interest to note that the rocks and vegetation in the painting are in both design and colouring exceedingly like those in the foreground of the window painting of St Paul's ship in King's College Chapel (about 1530): the two pictures are almost identical in this feature. The mainsail of *La Roumaine* bears what I think must be reef-points: they are six altogether, or really three double ones, for the rope ends are in pairs, each pair coming from a knot or what seems meant for a knot in the canvas. Two pairs are on a level near the head of the sail and the other pair is about half-way down the sail near its edge. These ends of rope hang in different ways and do not look conven-

tional. They are not inserted in reef-bands, but across the sail just above them are lines which suggest reef-bands. In the rest of the sail there are no reef-points: we may conclude that the artist, as not infrequently in paintings of that age, inserted details where there was most room for them; in this case they appear where the sail is least obscured by mast and rigging. This painting of *La Roumaine* is the latest known to me which shows reef-points before they fell into disuse. It is true that the ship in the seal of Lord Howard of Effingham, 1585, may have reef-points on her main course, but examination of the Greenwich example of this seal with a glass brings the conclusion that the short ropes shown are the lacing of the bonnet.

A summary of the pictorial examples of early reef-points described above is

Date	Nature of picture	Position on sail	Number of rows	Reef-bands
XII century	La Rochelle seal	lower half	three	present
XIII century	Hastings seal	middle to foot	three	present
XV century	Rye seal	all over	three	none
1485-1493 (possibly)	Cott. MS. Julius. E. iv. Art. 6	doubtful if reef-points are present		
1465	Thaxted church window	all over	roughly, six	none
1523	Villequier church window	middle	one, reef- points in pairs	none
1528	Vatteville church window	upper half	two, reef- points in pairs	probably present

No doubt this list is incomplete—perhaps it is very incomplete—but as far as it goes it is evidence that reef-points were very often fitted up to the earlier part of the sixteenth century, and, making allowance for the licence and conventions of an artist, they were sewn into the sail sometimes near the head and sometimes near the foot.

From the early middle of the sixteenth century, reef-points are absent in pictures of ships for more than a hundred years: they reappear at the time of the Second Dutch War and then continue till the present day. Pictures of ships made in the sixteenth century are many more than those of preceding ages, and it seems most unlikely that we should not see reef-points if they were fitted to sails from 1530 to 1665. All that we find is representations of bonnets. The apparent disappearance and revival of reef-points form one of the puzzles of nautical archæology. The evidence as to their earlier use is all from northern sources; it may be that there are pictures of Mediterranean vessels showing them in the sixteenth and earlier part of the seventeenth century, but in all that I know the bonnet only is seen.

Probably, almost the earliest craft propelled by wind had some device or other for reducing sail area in strong winds. One can imagine that a portion of the sail was bundled up roughly and made fast with temporary lashings. This might have been done at the foot of the sail or at its head; if the latter, the lashings would have kept the furled portion to the yard. The operation of partial furling would be rendered easier by permanent holes in the sail through which a lashing might be passed. This arrangement would be a simple form of definite reefing gear. To say it was the first form would be pure surmise: no pictures of Greek or Roman vessels or of later ones show such a fitting. But whatever was the usual method of reefing by temporary lashings, it is easy to understand that short pieces of rope permanently sewn into the sail would occur to someone as a speedier and less cumbrous method of reducing canvas. Gaskets, the lashings by which the whole of a sail when furled is made fast to its yard, may have suggested reef-points. In France reef-points are "garcettes de ris" and it is possible that "gasket" may be connected with "garcette." The etymology of "gasket" is obscure; "garcette" may be from old Spanish *garceta*, meaning a lock of hair on the forehead. Reference to Jal's *Glossaire*, Littré, Hatzfeld and the *New English Dictionary* shows that the possible relationship between "gasket" and "garcette"

is too difficult for me to make any attempt to discuss the matter.

An early method of reducing or adding sail was the bonnet, a strip of canvas which could be laced to the foot of a sail. In Tudor ships it was common to have two bonnets, the lower one being known as a "drabber" (A.S. *drabble*, "to trail in the water"). There seems to be no real ground for the statement in the *New English Dictionary*, Art. "Bonnet," "It appears to have been formerly laced to the top of the sail, or to have been itself a topsail." If a bonnet was ever added to the top of a sail, one wonders what was happening to the sail itself while the manœuvre was in progress, neither does there appear to be any record of topsails being called bonnets: in fact there were no topsails long after bonnets were in regular use.

The earliest mention of the bonnet known to me is in the MSS. temp. Edw. III in the Record Office giving the accounts and inventories of certain ships either constructed or taken over for naval purposes. Thus in 1338 the "ship" *Bernard de la Tour* had "un trief (sail) ove un bonnet," the "barge" *La Marie de la Tour* "un trief ove iiij bonetz" (probably at least two were reserve bonnets or of different sizes from the others), the *X'tofre (Christopher) de la Tour* had "un bon corps (the sail itself) ove un bonet bon et ij bonetz febles (worn)." These and other references show that the bonnet was a regular fitting at the time. In 1399, Langland (*Richard Redeless*, iv. 72) wrote

"They bente on a bonet, and bare a topte saile  
Affor the wynde fireshely to make a good flare."

"Topte" means mast-headed.

In *Morte Arthur*, c. 1400, there is (line 3657)

"They.....trussene up sailes,  
Bet bonnetez one brede."

The second line means that they "made good the bonnets on broad," i.e. set them to advantage. This is inconsistent with the shortening of canvas clearly indicated by "trussene up," but the context shows that we are listening to a conversation among sailors on sea terms, no definite manœuvre is described.

The anonymous *Tale of Beryn*, c. 1430, gives an instance of a sail with more than one bonnet, the earliest certain mention of this usage, for the two or more bonnets of Edward III's ships may have been for use singly.

“Wherefor, sir lodisman,  
 Stere onys in-to the costis, as wel as evir thowe can.  
 When our Shippis been I-com, that we may pas in-fere,  
 Lace on a bonet or tweyn, that wee mowe saille nere.”  
 (ll. 1601—4. Ed. Furnivall and Scot. *E. E. T. S.* 1910.)

In later fifteenth and in sixteenth century literature there are several mentions of bonnets, and we find in Capt. John Smith's *Seaman's Grammar*, 1627 (vii. 31), “We say, lash on the bonet to the course, because it is made fast with Latchets into the eyelot holes of the saile, as the Drabler is to it, and used as the wind permits.” In the Royal Navy in 1720, the topsails had reefs and the courses bonnets, as we find from “A Proportion of rigging for His Ma'tie's ships of the 1st, 2nd and 3rd rates,” 1720 (British Museum). By the middle of the eighteenth century bonnets had passed away, though they were occasionally fitted to fore-and-aft sails in the eighteenth and nineteenth centuries and survive here and there in certain cases, as in the mizens of Boulogne luggers, the stay-sails of Essex hay barges and the sails of Norfolk wherries.

Now in a reef and in a bonnet we have two devices for the same purpose, the only difference being that the reef is a permanent part of a sail while the bonnet is detachable. Thus it is not surprising that sometimes the same word should have come to indicate both fittings. In fact, “bonnet” seems to have been borrowed for the purpose of distinguishing the detachable piece of canvas, which was at a certain time called a “reef.” Professor Skeat (*Etym. Dict.* 1910, p. 505) gives L. German *reff* and *riff*, E. Friesian *ref* and *rēf*, and Pomeranian *rāff* as meaning a piece which can be added to a sail, and refers us to L. German *reffen* “to reeve,” which suggests the idea of lacing something on to the sail. I am indebted to Professor Skeat himself for the information that though the origin of the word “reef” is somewhat uncertain, it probably comes from a Scandinavian word something like the Swedish *rif*

and Danish *riv*, with the original meaning of "snip" or "strip," and through the Dutch *reef* English acquired *riff* which passed into *reef*. Following this, "reef" would seem at first to have meant something detachable, viz. the bonnet. At the same time we must remember that the Icelandic *reifa* and Anglo-Saxon *rēfan* means "to swaddle" or "wrap up." If "reef" is connected with either of these words, we are carried to the idea of a permanent part of a sail which could be furled by itself. As regards the French "ris," it is quite possible that Hatzfeld (*Dict. génér. de la langue française*, Paris, 1898, ii. p. 1968) is right in regarding it as derived from the same Scandinavian source as "reef." Professor Skeat tells me that this suggestion is sound, as in Norman making the plural by adding *s* would eliminate a palatal or labial before it, so *rifs* would become *ris*, the latter in course of time being used for the singular also. *Jolif*, pl. *jolis*, whence the new singular *joli*, is a parallel case. The French word is important, for "ris" appears earlier than "reef" as a nautical term. Wace in "Li Romans de Brut," written c. 1170, uses it. Le Roux de Lincy's edition (Rouen, 1838, ii. pp. 141, 142 and f.n.) gives three versions of one line:—

"A tous ris curent u a treis."

"A deus ris corent et à trois."

"A deus rams orent ou à trois."

In the third we must give up "rams" as unexplainable: very likely it is a copyist's error. Jal, in the *Glossaire*, art. "Ris," gives a free translation "Courent avec deux ou trois ris dans leurs voiles." The lines certainly suggest that there were definite means of taking in more than one reef in a sail; they cannot be read in the sense of two or three reefs distributed singly among several sails in one ship, for we know that vessels of the twelfth century carried one mast and one sail. Wace obviously uses "ris" for a "reef" in the modern sense and not for a bonnet, for as well as the line quoted the context suggests that there was a fair amount of wind.

Nicholas (*History of the Royal Navy*, 1848, ii. p. 472) gives extracts from the MS. in the Record Office (Exchequer K. R.

bund. 19, no. 31) of the expenses of building the "galley" *La Philipe* at Lynn in 1336. One item is quoted as 8 stone of hempen cordage for "8 rifropes." Mr Alan Moore and myself have recently examined the original, and Professor Skeat, who has very kindly compared our copy of the writing with others of the age, is of opinion that "wipropes" is the word in the MS.; in any case it is not "rifropes." It may be said also that "whip-ropes" is from the context much more probable than "reef-ropes."

The earliest certain mention of "reef" in English appears to be in 1393 by Gower, in *Confessio Amantis*, who wrote

"The wynd was good, the se was plein,  
Hem nedeth nought a riff to slake."

(Ed. Pauli, 1857, III, p. 341.)

Professor Skeat, to whom I am indebted for a modern rendering of other quotations also, tells me that "plein" means "smooth," so I think that here the "riff" is the bonnet, which the lightness of the wind allowed the sail to carry. Pauli, *l. c.*, p. 402, is mistaken in rendering "to slake riff" as "to let out a reef of a sail." To "slake" the bonnet appears to mean to take it off or "stow" it. This is not however what "slake" suggests at first sight. It is possible that Gower's seamanship was faulty, and so he used a verb more appropriate with "reef" in our modern sense, which seems to have been, as stated above, the alternative sense in his time.

The fragment *Cocke Lorell's Boat*, 1515 (MS. in British Museum), mentions reefing among its other very interesting items of seamanship, thus

"Some ye longe boat dyde launce,  
Mayne corse took in a refe byforce."

(Roxburghe Club, 1817, p. 12.)

Then we have reefs in a poem written at a time when so far as we can gather reef-points and any other similar devices for reefing in the modern sense seem to have vanished, and the bonnet alone remained as the means for altering the size of a sail. This is in the Earl of Surrey's *Praise of mean and constant estate*, 1557:



"And so wisely, when lucky gale of winde,  
 All thy puft sailes shall fil, loke well about:  
 Take in a ryft."

(Tottel's *Miscellany*, 1870, p. 27.)

The "taking in" in the two last quotations suggests reefing more than stripping off a bonnet. It is of course possible enough that the seamanship of the authors lagged behind the practice of the age.

But when all is said, there remain several questions undecided. From what has been set forth above, it must be confessed that we do not know enough to say whether the earliest definite method of altering the size of a sail was some kind of bonnet or the reef in our modern sense, when reef-points were first fitted to sails and why they disappeared for more than a century. With regard to the last matter it is just possible to make a suggestion, but nothing more. All the early reef-points are shown on the lowest sail, *i.e.* the "course," if the ship carried a topsail. But these reef-points were fitted long before topsails came in, though they survived at least into the early days of topsails, for by King Henry VII's time a main topsail was common for large craft and the largest ships had also a fore-topsail. But we know from inventories and from the drawings on which reliance may be placed that these early topsails were quite small, and as it were mere "kites." Such topsails would hardly have reefing gear, they would be taken in altogether in strong winds. For the large sails below there were nearly always bonnets and, though probably less frequently, reef-points. Perhaps the two were sometimes fitted to the same sail. We may imagine that improvements were made in the bonnet which rendered it more in favour than reefs. Mr L. G. Carr Laughton has reminded us ("The Evolution of the Ship," *United Service Magazine*, Feb. 1908, p. 464) that probably bonnets were sometimes used with topsails. This would be as the latter increased in size. By the time of the Second Dutch War, when we see the revival of reef-points, topsails were at least as large in proportion to the courses as in the first half of the nineteenth century. Now a bonnet would be more difficult to handle with a topsail than

with a course, especially if the topsail were large; so reef-points may have found favour again as a speedier and handier method of altering the size of upper sails, bonnets being retained for the courses, and we know they were still thus in use in 1720. But we have no contemporary statements; Smith, Boteler and other writers do not tell us anything, indeed, they omit any mention of reefing. Thus far we have negative evidence that only bonnets were employed and that is all. In the period of early reef-points there was no technical literature: Wagenhaer's *Speculum Nauticum* did not appear till 1584. A few inventories and accounts, poems describing doings at sea, paintings and prints by monks or heralds and the work of seal engravers are our only sources of information for the previous ages, and thus it comes to us from those who were for the most part ignorant of nautical matters. There is but little sure ground. The subject of early methods of reefing illustrates very well the difficulties which confront a nautical archæologist.

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Monday, 31 October, 1910.

The Rev. Dr STOKES, President, in the Chair.

The Very Rev. Monsignor BARNES read a paper on

THE TOMBS OF SS. PETER AND PAUL.

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