

CAREENING FOR GOOD SOLDIERS IN THE SEVENTEENTH CENTURY

By Richard Barker

Careening is a term which occurs widely and represents a complex operation of great significance to the operation of ships in many parts of the world. Too often it has been thought of as essentially heeling a ship by hauling on its masts. In earlier periods at least this was actually a minor part of the process, but texts to properly describe the process are rare.

This note presents part of the text of a Portuguese manuscript that is understood to be from the second half of the seventeenth century, and is better known for being the second oldest Portuguese glossary of shipbuilding terms, and stating the proportions of ships.¹ In addition to this text on careening, it contains a dialogue between the good soldier and a gunner, which will be considered elsewhere. All but the latter item have been published in modernised form by António Gomes da Rocha Madahil (and kindly drawn to the writer's attention by W.G.L. Randles). The signature on the original manuscript appears to be A/H (?) Caetano de Almeyda Anes (?), though nothing else is known about the author.

Although it is nominally a century later than William Bourne's caustic text correcting contemporary English perceptions of careening, in *Treasure for Travellers* (1578), this manuscript is of value in confirming the role in careening of moving weights within a ship, only assisted by hauling on the masts. The precise meaning remains obscure in places. Indeed, the syntax of this Portuguese manuscript is so obscure in places that only the existence of a briefer but more explicit source of Spanish origin² allows any confidence in stating that the moving weighted platform is in the ship being careened, even though this is the rational explanation. This Portuguese text thus adds considerably to the present writer's descriptions in *Careening: Art and Anecdote*.³

The translation has been made from a photocopy of the manuscript. The published transcription proved sufficiently accurate as not to justify repetition here. Only significant vocabulary and doubtful phrases have been given. Interpolations are given in square brackets. A number of passages are obscure, and their syntax suggests the omission of key words or phrases. While this may be characteristic of copied documents the spelling of the entire manuscript is so idiosyncratic that it is difficult to suppose it to be anything but an original autograph:

Tratado do que deve saber hũ bom Soldado para ser bom Capitão de mar e guerra
MS Codex 235-bis, Biblioteca Geral da Universidade de Coimbra, f 22v-26v.
Published in António Gomes da Rocha Madahil, *Um desconhecido tratado de arte naval portuguesa do século XVII*, in Arquivo Histórico da Marinha, Vol.I, 1933-6, Lisbon, p 277-293.

**Treatise on what a good soldier ought to know to be a good naval captain
Apparatus to careen a ship, touching on seamanship**

In that a nau [4] is rigged to be careened, firstly the standing rigging (*enxárcia*) of the mainmast will be cast off from one side and from the other and joined together at the foot of the mainmast, and all the shrouds and pendants (*coroas*) of the standing rigging will be parcelled above the collar[s] (*se forram em cima da encapeladura*) and this parcelling has to be [made] with *lona* sailcloth and each shroud has to be parcelled on itself, and is taughtened around (*em redondo*) very well to the mast and then a cable will be passed around the said rigging, with which it is taughtened at the capstan and the said cable has to be doubled twice, and after being taughtened very well is collected at that main woolding (*se chama a isso cintura mestra* [5]). And after that the standing rigging is taken from one side and the other and is lashed (*se tece*) very well, and then after lashing a ring is seized (*se cose* [6]) to it below the main woolding, and is taughtened very well with a very strong doubled cable with two turns round others, and further below two rings are seized, one on one side and another on the other, joined to the standing rigging of the lower mast and also the rings are taughtened with another very strong cable that is taughtened very well at the middle (*pelo meio muito bem*).

And jointly they put two cables to it above the main woolding, that they call the guy-ropes (*patarrazes*), to aid the mast when the nau may be cast over in careening. These serve as supports (*de ter mão*) on the same mast and on the end[s] of these two cables are placed two double blocks (*cadernais*) or single blocks (*montões*), according to what the nau may be.

Jointly, two baulks which are called *paus dos patarrazes* are placed through two gunports of the gundeck, and are fixed [by butting them ?] against the mast, and on the ends of the two baulks are placed two blocks, stropped (*cosidos*) with good cables, being blocks (*cadernais*) with two sheaves (*gornes*).

There needs to be a single block at the foot of each of the double blocks for the lanyards (*colhedores*) to be passed to the said double blocks with which the said *patarrazes* have to be taughtened.

The nau has to be cast over a little to the side of the *patarrazes* for the said *patarrazes* to be tested [7], and the said standing rigging also, and everything has to be equal, because if one cable is stretched more than the other it will more easily break, and from that the breaking of a mast stems; and on the said mast two topmasts are placed in a cross on the forward (*ante a vante*) side and another on the aft (*ante a ré*) side, and is lashed on the mast above, half a fathom below the rings, or according as how the nau may be. And if the nau permits, it being a nau that requires force to be used to turn [it] (*e se o permitir sendo nau que dé força a virar*), the higher the better, because the higher it is the less the force, and the better it turns.

[The two paragraphs following are especially obscure, and may indicate missing phrases. Note that ship (*navio*) is distinct from nau in the original text.]

If the ship on which careening may be caused (? *em que der crena*) has a good place (? waist: *praça*) to turn the capstans [...?...] and the topmasts [plural] comes to be made fast if it has a half-deck (*tolda*).

If the nau has [...?...] on the upper deck, it will be taughtened very well with its wedges below, and they are taughtened above, and after the topmasts are taughtened another one/one on the other (? *hũ mas o outro*. Madahil has *hũ mais outro*) with a cable that they call (*lhe chamam*) *peia* (? beckets). And then they pass to it another cable to the mainmast for when the nau may be cast over, for the topmasts will not give of themselves (*não darem desim*) and this cable is passed to the mainmast against the topmasts with various turns. This cable is called *peia*.

And on the foremast its standing rigging is taughtened, and a topmast are [*sic*: is] placed on the side that the nau has to be cast over and is also lashed above, and on the said foremast a ring is lashed, also very strong, so that if the nau requires much force, a tackle to turn the said nau can also be set up on it, so as not to put all the force on the mainmast.

And after that is done six or eight cleats (? *castanhas*) with their holes are attached to the ships's side on the side where it is cast over [8], that they nail from wale to wale, and after that some heavy cables are passed through them which they call *abalroas* [9], and from the side where the ship is cast over is lashed a pulley before the mainmast below the chain-wales or wherever may be better to pass the tackle from the halyard, which tackle is made fast on the mainmast of the ship on which the nau will be careened (*navio em que a nau vai dar querena*). This tackle serves later that the nau being careened (? *nau de querena*) not wishing the nau to be careened (? *nau dar querena*), I say to right [it] (*adriçar*), so that with greater facility it will be righted and when all that is done, more tackles are placed on the said mast to support the mast that goes at the side of the *patarrazes*, dividing everything very well.

After all that is done the ship is brought alongside that which has to be careened and in the hold of the nau a platform (*bailéu*) is made of planking supported a palm or a palm and a half [10] above the bottom of the nau, so that a hawser or part of it may be passed six or seven times around it and after this hawser has been passed the artillery is put onto the platform, and in the case that there is no artillery it will be stone, the quantity that the nau needs so as not to interrupt [the work] when the nau is cast over. And when all this weight is within the hawser that was passed below the platform is taken and is taughtened turn by turn [11] and before this hawser is taughtened a very strong baulk is put fore and aft, which is called *tranca*, that serves to lash on it the pulleys with which the tackles have to be rigged for the said nau to turn in careen and all this weight that is in this ship is taughtened very well with the hawser that has to be passed.

And all this weight is called the *paixão* [12]; and all this done the ship is turned with great caution (*sentido*), and if it is a ship that requires force to turn it, it wants nothing in the hold except at the side [13] to help turn the ship so that then they do not give so much force to the masts, and the ship being such that requires less force and is

cast over much it is necessary to carry sand and stone in its hold on the windward side, and nothing on the edge [14].

And given the case that requires force to turn the ship, the stone within is thrown out and put in the ship on which the nau is careened.

Taking notice always that all these things that have been said above, thus as standing rigging, or *patarrazes*, or tackles that are spread through the said nau, may be everywhere equally stretched.

And the *abalroas* that are passed to the nau that comes to careen have to be used with great caution (? *haja muito sentido nelas*), and the halyard tackle.

The nau being one that may be less difficult to turn, then more care has to be taken.

And these ships have various cables passed between from one to the other that are passed from one nau to the other, and are made fast very well to pull fore or aft.

And if the nau to be careened may be in a port [15] where the water runs strongly they will order the careener to lay out another anchor, so that when the ship is cast over it does not drag with the current of the waters.

Also the good naval captain ought to know what concerns the fitting out for a nau to be careened, touching on carpentry and caulking work.

Firstly a prop (*esbirro*) will be made in the hold at the foot of the mainmast on the side that is given careen, that goes to be fixed on the ceiling (*amurada*); and some stanchions (*pontaletes*) are put on the gundeck that come from the side to be fixed at the gangway (? *corda de coxia*); and others of the same form are made on the deck above, and they are caulked, and are sheathed (*se forram*) within.

If the nau has a waist (*poço* [16]), washstrakes (*bordadura*) will be made from the half-deck (*tolda*) to the forecastle and from there by one side against their *covilhetes* and that very well caulked; at the foot of the topmasts that serve as *fuzis* are *trempes* [17], and their cleats (? *castanhas*) by the outer side, which serve as [? for the] *abalroas*.

And below the sterncastle two struts (*pês de carneiro*: deck stanchions) are made that are put below against the foot of the topmasts.

Also a pump will be put from the hatch opening to the hold and on the gundeck a hatch will be opened where the said pump goes, and in the hold a tub (*tina*) will be put for the said pump to sit in it, and a chute (*dala*) of planks will be made long enough to be laid outside the ship's side with its scupper leathers (*mangueiras*) so that for when the nau may be cast over it may be pumped there.

And their stoppers (*buchas*) are put in all the scuppers (*embornais*), and the said chute goes above the washstrake, and this washstrake will be understood for the ship that has a waist, and being the case that the nau may [? only] be decked forward the said washstrake is excused.

References

- 1 J. da Gama Pimentel Barata, 'O tracado das naus e galeões portugueses de 1550-80 a 1640' in *Revista da Universidade de Coimbra*, Vol. XXIV 1971, 367, though it is described as any-

mous and no mention is made of the sections on careening or gunnery. The glossary itself is basic and is little help with terms for careening.

2 R. Hakluyt, *Principal Navigations*, Maclehose edition (Glasgow, 1903), Vol XI, 447ff. *Advertisements touching shippes that goe from Sivil to the Indies of Spain*. Unattributed other than as from a Spanish pilot, associated with material for 1586. 'The carenero or caulker does give sureties, that if the ship so cast over, as they do commonly use to cast them, in such sort as any man may go dry upon the keel, as I have done, and without any butt, pipe or any other kind of timber under her sides, more than with counter-poise of stones in her, made with a certain timber as though it were a chest; and with the stones the carenero does bring her as he will, high and low, leaning or rising...'

3 In *Mare Liberum*, Vol. 2 (Lisbon, 1991), 177-207.

4 *Nau* is retained throughout to distinguish from *navio*, ship, in the manuscript. The consistency of original usage affects the interpretation of several phrases.

5 *Cintura*. Normally associated with the fishing of spars, or lashings.

6 The manuscript generally uses *tecer* (weave) and *coser* (sew), neither of which are recognised terms for ropework.

7 If the guy-ropes are to support the mast, they must be tested by heeling the other way. Brad Loewen observes that in Spanish, *petrecas* referred to the assembly of deadeyes, lanyards, chains, at the foot of shrouds

8 It seems likely that the side cast over here is not that immersed by hauling over, but that exposed to be worked upon.

9 *Abalroas*. Leitão & Lopes, *Dicionário da Linguagem de Marinha Antiga e Actual* (Lisbon, 1974), say that they are passed from the ship via the chainplates to the lighter.

10 About 200-400mm, depending on which of several *palmas* is intended. The platform was apparently assembled on temporary bearers on the ballast.

11 The hawsers form broad loops (perhaps only passed after the guns are loaded onto the platform) between the platform and the point of suspension. Comparing with note 12, this may have been a beam placed across the lower deck hatch. The turns are tightened and the load lifted off its supports by drawing their parts together, a form of seizing or racking, much as was done

until at least the seventeenth century in raising a ship from its keel blocks in preparation for launching (and discussed in R.A. Barker, 'Cradles of navigation: launching ships in the age of discoveries', conference paper, Viana do Castelo [1994], in press). Though accounts including this one, speak of using the capstan to tighten the turns, a Spanish windlass would often be more convenient (and appropriate), as illustrated in *Admiralty Manual of Seamanship*, Vol. II (1951), 89 (fig. 64), and discussed in *M.M.* Vol. 34 (1948), pp. 127-9 and 304, and Vol. 35 (1949), pp. 151 and 345. It may be said of these that this writer was taught about 1960 to call the tourniquet form a Spanish windlass; that that is the rogue term; and that the bar and two levers to rack two cables together is the original - while the appellation Spanish is not understood. Could it have come from this application, originally seen in Iberian methods of careening and launching? However, both Pasch and O'Scanlan give *tortor* for the device in Spanish, with no hint that *cabrestante* might have been used in this way.

12 *Paixão*. Leitão & Lopes say of this: 'system mounted in the careening lighter to anchor the strop of the lower blocks of the lower-mast rigging, as well as the lead blocks of the falls. It was formed by two beams placed from starboard to port in the hold, below the hatches, and supported by knees tree-nailed to the side...'. This appears to be a different system.

13 The ballast all removed from one side, possibly by shifting to the other side.

14 Ballast carried above the turn of the bilge would be especially likely to slip and, by upsetting the delicate balance, capsizes the ship while careened.

15 Rocha Madahil has *posto*, place, here.

16 The glossary has for *poço*: the *height* of the side at the weather deck. The conventional meaning reads better here.

17 Leitão & Lopes say that *fuzis* are topmasts used to consolidate the mast, supported in planks on deck, and crossing the mast at the hounds. The *trempe*s are likely to be triangles of planks fastened to the deck to secure the feet of the topmasts. *Covilhetes* are not identifiable in this context.

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