headſails more ſavourably directed. Experienced seamen differ, however, in their practice in reſpect of this particular.

*To boxhaul a Ship.*

This is a proceſs performed only in critical situations, as when a rock, a ſhip, or ſome danger, is ſuddenly ſeen right ahead, or when a ſhip miſſes ſtays. It requires the moſt rapid execution.

The ſhip being cloſe-hauled on a wind, haul up the mainſail and mizen, and ſhiver the topſails, and put the helm hard a-lee altogether. Raiſe the fore-tack, let go the head bowlines, and brace about the headſails ſharp on the other tack. The ſhip will quickly loſe her way, get ſtern-way, and then fall off, by the joint action of the headſails and of the inverted rudder. When ſhe has lallen off eight points, brace the after- ſails ſquare, which have hitherto been kept ſhivering. This will at firſt increaſe the power of the rudder, by increaſing the ſtern-way, and at the ſame time it makes no oppoſition to the conversion which is going on. The continuation of her circular motion will preſently cauſe them to take the wind on their after ſurfaces. This will check the ſtern-way, ſtop it, and give the ſhip a little head-way. Now ſhift the helm, ſo that the rudder may again act in conjunction with the headſails in paying her off from the wind. This is the critical part of the evolution, becauſe the ſhip has little or no way through the water, and will frequently remain long in this poſition. But as there are no counteracting forces, the ſhip continues to fall off. Then the weather-braces of the after-ſails may be gently rounded in, ſo that the wind acting on their hinder ſurfaces may both puſh the ſhip a little ahead and her ſtern laterally in conjunc­tion with the rudder. Thus the wind is brought upon the quarter, and the headſails ſhiver. By this time the ſhip has acquired ſome headway. A continuation of the rotation would now ſill the headſails, and their ac­tion would be contrary to the intended evolution. They are therefore immediately braced the other way, nearly ſquare, and the evolution is now completed in the ſame manner with wearing ſhip.

Some ſeamen brace all the ſails aback the moment that the helm is put hard a-lee, but the after-ſails no more aback than just to ſquare the yards. This quick­ly gives the ſhip ſtern-way, and brings the rudder into action in its inverted direction; and they think that the evolution is accelerated by this method.

There is another problem of ſeamanſhip deſerving of our attention, which cannot properly be called an evo­lution. This is lying-to. This is done in general by laying ſome ſails aback, ſo as to ſtop the head-way pro­duced by others. But there is a conſiderable addreſs neceſſary for doing this in ſuch a way that the ſhip ſhall lie eaſily, and under command, ready to proceed in her courſe, and eaſily brought under weigh.

To bring-to with the fore or main-topſail to the maſt, br ace that ſail ſharp aback, haul out the mizen, and clap the helm hard a-lee.

Suppoſe the fore topſail to be aback; the other ſails ſhoot the ſhip ahead, and the lee helm makes the ſhip come up to the wind, which makes it come more perpendicularly on the ſail which is aback. Then its impulſe ſoon exceeds thoſe on the other ſails, which are now ſhivering, or almoſt ſhivering. The ſhip ſtands ſtill

awhile, and then rails off, ſo as to ſill the after-ſails, which again ſhoot her ahead, and the proceſs is thus repeated. A ſhip lying-to in this way goes a good deal ahead and alſo to leeward. If the main-topſail **be** aback, the ſhip ſhoots ahead, and comes up till the diminiſhed impulſe of the drawing ſails in the direction of the keel is balanced by the increaſed impulſe on the main-topſail. She lies a long while in this poſition, driving ſlowly to leeward; and ſhe at laſt falls off by the beating of the water on her weather-bow. She falls off but little, and ſoon comes up again.

Thus a ſhip lying-to is riot like a mere log, but has a certain motion which keeps her under command. To get under weigh again, we muſt watch the time of fall­ing off; and when this is juſt about to finiſh, brace about briſkly, and fill the ſail which was aback. To aid this operation, the jib and fore-topmaſt ſtayſail may be hoiſted, and the mizen brailed up: or, when the in­tended courſe is before the wind or large, back the fore- topſail ſharp, ſhiver the main and mizen topſail, brail up the mizen, and hoiſt the jib and fore-topmaſt ſtay- ſails altogether.

In a ſtorm with a contrary wind, or on a lee ſhore, a ſhip is obliged to lie-to under a very low ſail. Some sail is abſolutely neceſſary, in order to keep the ſhip ſteadily down, otherwiſe ſhe would kick about like a cork, and roll ſo deep as to ſtrain and work herſelf to pieces. Different ſhips behave beſt under different ſails. In a very violent gale, the three lower ſtayſails are in gene­ral well adapted for keeping her ſteady, and diſtributing the ſtrain. This mode ſeems alſo well adapted for wearing, which may be done by hauling down the mizen-ſtayſail. Under whatever ſail the ſhip is brought- to in a ſtorm, it is always with a fitted ſail, and ne­ver with one laid aback. The helm is laſhed down hard a-lee; therefore the ſhip ſhoots ahead, and comes up till the ſea on her weather-bow beats her off again. Getting under weigh is generally difficult; becauſe the ſhip and rigging are lofty abaft, and hinder her from fall­ing off readily when the helm is put hard a-weather. We muſt watch the falling off, and aſſiſt the ſhip by ſome ſmall headſail. Sometimes the crew get up ou the weather ſore-ſhrouds in a crowd, and thus preſent a ſurface to the wind.

These examples of the three chief evolutions will enable thoſe who are not ſeamen to underſtand the pro­priety of the different ſteps, and alſo to underſtand the other evolutions as they are deſcribed by practical au­thors. We are not acquainted with any performance in our language where the whole are conſidered in a connected and ſyſtematic manner. There is a book on this ſubject in French, called *Le Manœuvrier*, by M. Bourde de Ville-Huet, which is in great reputation in France. A tranſlation into Engliſh was publiſhed ſome years ago, laid to be the performance of the Chevalier de Sauſeuil a French officer. But this appears to be a bookſeller’s puff; for it is undoubtedly the work of ſome perſon who did not underſtand either the French language, or the ſubject, or the mathematical principles which are employed in the ſcientiſic part. The blun­ders are not ſuch as could poſſibly be made by a French­man not verſant in the Engliſh language, but natural for an Engliſhman ignorant of French. No French. gentleman or officer would have tranſlated a work of