of the wind on the headſails will presently give her ſtern-way. Suppoſe this to happen when the ſhip is in the poſition C, Bring the helm over hard to wind­ward, ſo that the rudder ſhall have the poſition repreſented by the ſmall dotted line *of.* It is evident, that the resiſtance of the water to the ſtern-way of the rud­der acts in a favourable direction, puſhing the ſtern out­wards. In the mean time, the action of the wind on the headſails pushes the head in the oppoſite direction. Theſe actions conſpire therefore in promoting the evo­lution; and if the wind is right ahead, it cannot fail, but may even be completed ſpeedily, becauſe the ſhip gathers ſtern-way, and the action of the rudder becomes very powerful; and as ſoon as the wind comes on the formerly lee-bow, the action of the water on the now lee-quarter will greatly accelerate the converſion. When the wind therefore has once been brought nearly right ahead, there is no risk of being baffled.

But ſhould the ſhip have loſt all her head-way conſiderably before this, the evolution is very uncertain: for the action of the water on the rudder may not be nearly equal to its contrary action on the lee-quarter; in which caſe, the action of the wind on the headſails may not be ſuſſicient to make up the difference. When this is obſerved, when the ſhip goes aſtern without changing her poſition, we muſt immediately throw the headſails completely aback, and put the helm down again, which will pay off the ſhip’s head from the wind enough to enable us to fill the ſails again on the ſame tack, to try our fortune again; or we muſt boxhaul the ſhip, in the manner to be deſcribed by and by.

Such is the ordinary proceſs of tacking ſhip; a proceſs in which all the different modes of action of the rudder and sails are employed. To execute this evolu­tion in the moſt expeditious manner, and ſo as to gain as much on the wind as poſſible, is conſidered as the teſt of an expert ſeaman. We have deſcribed the pro­ceſs which is beſt calculated for *ensuring* the movement. But if the ſhip be ſailing very briſkly in ſmooth water, ſo that there is no danger of miſſing ſtays, we may gain more to windward conſiderably by keeping faſt the fore-top bowline and the jib and ſtay-ſail ſheets till the ſquare-ſails are all ſhivering: For theſe ſails, continuing to draw with conſiderable force, and balancing each other tolerably fore and aft, keep up the ſhip’s velocity very much, and thus maintain the power of the rudder. If we now let all fly when the ſquare-ſails are ſhivering, the ſhip may be conſidered as without ſails, but expoſed to the action oſ the water on the lee-bow; from which ariſes a ſtrong preſſure of the bow to windward, which conſpires with the action of the rudder to aid the con­verſion. It evidently leaves all that tendency of the bow to windward which ariſes from leeway, and even what was counteracted by the formerly unbalanced action of theſe head-ſtayſails. This method lengthens the whole time of the evolution, but it advances the ſhip to windward. Obſerve, too, that keeping faſt the fore-top bowline till the ſail ſhivers, and then let­ting it go, insures the taking aback of that ſail, and thus inſtantly produces an action that is favourable to the evolution.

The moſt expert ſeamen, however, differ among themſelves with reſpect to theſe two methods, and the firſt is the moſt generally practiſed in the Britiſh navy, becauſe the leaſt liable to fail. The forces which oppoſe the conversion are ſooner removed, and the pro­duction of a favourable action by the backing of the fore-topſail is alſo ſooner obtained, by letting go the fore-top bowline at the firſt.

Having entered ſo minutely into the deſcription and rationale of this evolution, we have ſufficiently turned the reader’s attention to the different actions which co­operate in producing the motions of converſion. We ſhall therefore be very brief in our deſcription of the other evolutions.

To wear Ship.

When the ſeaman ſees that his ſhip will not go **a** bout head to wind, but will miſs ſtays, he muſt change his tack the other way; that is, by turning her head away from the wind, going a little way before the wind, and then hauling the wind on the other tack. This is called wearing or veεring ſhip. It is moſt neceſſary in ſtormy weather with little sail, or in very faint breezes, or in a diſabled ſhip.

The proceſs is exceedingly ſimple; and the mere nar­ration of the procedure is ſufficient for ſhowing the propriety of e,very part of it.

Watch for the moment of the ſhip’s falling off, and then haul up the mainſail and mizen, and ſhiver the mizen-topſail, and put the helm a-weather. When the ſhip falls off ſenſibly (and not before), let go the bow­lines. Eaſe away the fore-ſheet, raiſe the fore-tack, and gather aft the weather fore-ſheet, as the lee-ſheet is eaſed away. Round in the weather-braces of the fore and main maſts, and keep the yards nearly biſecting the angle of the wind and keel, ſo that when the ſhip is before the wind the yards may be ſquare. It may even be of advantage to round in the weather-braces of the main-topſail more than thoſe of the headſails; for the mainmaſt is abaft the centre of gravity. All this while the mizen-topſail muſt be kept ſhivering, by rounding in the weather-braces as the ſhip pays off from the wind. Then the main-topſail will be braced up for the other tack by the time that we have brought the wind on the weather-quarter. After this it will be full, and will aid the evolution. When the wind is right aft, ſhift the jib and ſtay-ſail ſheets. The evo­lution now goes on with great rapidity; therefore briskly haul on board the fore and main tacks, and haul out the mizen, and let the mizen-ſtayſail as ſoon as they will take the wind the right way. We muſt now check the great rapidity with which the ſhip comes to the wind on the other tack, by righting the helm before we bring the wind on the beam; and all muſt be trim­med ſharp fore and aft by this time, that the headſails may take and check the coming-to. All being trim­med, ſtand on cloſe by the wind.

We cannot help loſing a great deal oſ ground in this movement. Therefore, though it be very ſimple, it requires much attention and rapid execution to do it with as little loſs oſ ground as poſſible. One is apt to imagine at firſt that it would be better to keep the headſails braced up on the former tack, or at leaſt not to round in the weather-braces ſo much as is here di­rected. When the ſhip is right afore the wind, we ſhould expect assiſtance from the obliquity of the head­ſails; but the rudder being the principal agent in the evolution, it is found that more is gained by increaſing the ſhip’s velocity, than by a smaller impulſe on the