of the columns coinciding with the direction of the wind, in order to run to windward with greater facility. The corresponding ships in the column must be kept in the di­rection of GH or GI, according to the direction of the wind and the tack they are on, while all the ships of the same column must be in the direction of EF.

(See fig. 30.)

Again, suppose the ships arrang­ed in three columns on one of the lines of bearing, and close hauled on the other tack. The ships of each column will be in the direction of one of the diagonals, while the corresponding ships of the other columns will be in the direction of the other diagonal.

Sometimes the line of battle is disordered on the wind’s shifting, and requires to be re­stored. Of this there are several cases, a few of which we shall notice.

1. When the wind comes forward less than six points. In this case the whole fleet except the leader brings to. The leading ship, that the same distances between the ships may be preserved on restoring the line, steers a course as *a b* (fig. 31), so as to be at right angles with the middle point between the former and present direction of the wind. His required course may be known by adding half the num­ber of points the wind has shifted to eight points, and ap­plying this sum to the former close-hauled course When the leader has arrived at the new close-hauled line with respect to the second ship ahead, this ship immediately fills and bears away as many points as the leader ; and when both these have reached the close-hauled line with respect to the third ship, she also fills and bears away ; and thus with the rest in succession ; and when they have got into the close-hauled line *b c* with the stemmost ship, they all haul their wind together, and the stemmost ship fills and stands on close hauled.

This may be expeditiously performed if the whole fleet fall off as soon as the wind shifts the same number of points, and the leader bear away eight points from the middle be­tween the former and present directions of the wind ; or when the wind shifts nearly six points, if the leader bear away eight points from the present direction of the wind, and hauls her wind as soon as the stemmost ship bears from her in the close-hauled line, while the second ship bears away when she reaches the wake of the leader, and hauls her wind when she has again gained his wake. The third, fourth, &c., ships bear away, and also haul their wind in suc­cession, till the stemmost and the whole line be formed again.

2. Suppose the wind comes forward less than six points, and the order of battle is to be re-formed on the other tack. In this case all the ships are to veer round till their heads come to the requisite point with respect to their former course, when the rear ship, now become the van, hauls close by the wind, followed successively by the other ships. Should the wind come ahead more than six points, but less than twelve, the fleet is to manoeuvre as before ; but if it shift exactly twelve points ahead, the tack must be changed.

3. Lastly, suppose the wind to shift oft ; if less than two

points, the leader hauls her wind, while the fleet stands on as before, each successively hauling her wind as she gains the wake of her leader. If the tack is to be changed, the whole fleet tack together, and the stemmost ship, now the leader, hauls up, while the rest bear down and haul up in succession.

Should the wind change sixteen points, all the ships im­mediately brace about for the other tack, by which means the fleet will be going four points large ; then the ships in­stantly tacking or veering together, the order of battle will be restored or formed again on the same tack as before the wind changed.

Having described and illustrated the principal evolutions which are performed by fleets or squadrons under ordinary circumstances, we are prepared to consider the nature and consequences of a naval engagement.

In forming a fleet for battle, it is proper to consider the size and number of the ships of which it is to consist, and the distance at w,hich they are to be placed with respect to each other. In the present system of naval warfare, it is generally deemed of advantage to have the ships that are to form the principal line as large as possible ; for though large ships are not so easily and expeditiously worked as those of a smaller size, they are most serviceable during the action, both as carrying a greater weight of metal, and as being less exposed to material injury, either from the ene­my’s shot or from the weather. In boarding, too, a large ship must have greatly the superiority over a smaller, both from her greater height, and from the number of hands which she contains. With respect to the number of ships, it is of advantage that they be not too numerous, as, if the line be too extensive, the signals from the centre are with difficulty observed.

In arranging a fleet in line of battle, it is proper to regu­late the distance so that the ships shall be sufficiently near to support each other, but not so close that a disabled ship may not readily be got out of the line without disturb­ing the rest of the fleet.

It has long been deemed a point of great consequence with the commander of a fleet to gain the weather gage, or to get to windward of the enemy, before coming to ac­tion. In deciding on the propriety of this, much will de­pend on the relative strength of each fleet, and on the state of the weather at the time. We shall state the advantages and disadvantages of the weather gage, as they are com­monly laid down by writers on naval tactics, though we may observe by the way, that if a fleet be much superior to its opponent, it is seldom of consequence whether it en­gages to windward or to leeward.

A fleet to windward of the enemy is thought to possess the following advantages. It may approach the leeward fleet at pleasure, and can of course accelerate or delay the beginning of the engagement. If more numerous, it may send down a detachment on the rear of the enemy, and thus throw him into confusion. It may also readily send down fire-ships on the enemy’s fleet, when thrown into confusion or disabled. It may board at any time, and is scarcely in­commoded by the smoke of the enemy. The reverse of these circumstances of course acts against a leeward fleet.

The disadvantages of being to windward of the enemy respect chiefly the circumstances attending a retreat, should this be necessary. The windward fleet can seldom retire without passing through the enemy’s line ; and if, in attempt­ing to retreat, the windward ships tack together, those of the leeward fleet may do the same, rake the weather ships in stays, and follow them on the other tack, having now the advantage of the wind. In stormy weather, the windward ships can seldom open their lower deck ports, and the lee guns are not easily managed after firing. Again, any dis­abled ships cannot easily quit the line without disordering the rest of the fleet, and exposing either that or themselves