of battle. The best way to do this, when there is good sea-room, is for all the ships to tack together, when the fleet will be in a line of battle on the one board, and in bow and quarter line on the other. If however the fleet be turning to windward in a narrow channel, it is best for the ships to tack in succession, as, were they all to tack to­gether, the van would be soon in with the land on one side, while the stern ship, soon after the fleet had retacked, would be too near the land on the other side.

If the van and centre are to interchange, the van is to bear away a little, and then bring to, while the centre passes on to windward, edging a little to get ahead of the former van on the same line ; the rear, coming on under an easy sail, edges away likewise, to gain the wake of the now centre squadron.

If the van and rear are to interchange, the van and centre are to bear away a little, and then bring to, so that the van may bear away a little more to the leeward than the centre. The rear stands on to gain the head of the line ; and when abreast of the former van, the centre fills, and both stand­ing on, form ahead of the now rear, by edging down till they are in a line with it.

If the centre and rear are to interchange, the van stands on under an easy sail, while the centre bears away a little, and brings to, and the rear at the same time carries a press of sail to pass the centre to windward, and get into the wake of the van. The van and centre then edge away to gain the line with the now rear squadron, which then fills.

Several evolutions are required while a fleet is in the fifth order of sailing, and of these we shall notice some of the more important.

When the columns are to tack in succession, the ships of the lee must tack first, as they have most distance to run ; and when the leader of the centre comes abreast of the leader to leeward, or at right angles with the close-hauled line on the other tack on which the leader of the lee is now moving, she tacks, and is followed successively by the ships of her division. The weather column manœuvres in the same manner, paying the same regard to the centre. Here the weather column is still to windward, and should the columns have closed too much, or be too far asunder, the order may be recovered, either by the lee or windward column bearing away, so as to make an angle equal to that proposed between any column, and a line joining the leader of that column and thc sternmost ship of the next.

When all the columns are to tack together, the stern- most ships put in stays together ; and when in stays their seconds ahead put down their helms, and so on through the whole fleet. Each column will then be in bow and quarter line.

When the columns are to veer in succession, the leader of the lee column must steer four points free on the other tack, followed by the ships of that division ; and when she is clear of the sternmost ships of that division, she hauls up. The same evolution is performed by the centre and weather ships successively standing on till they bring the point at which the lee column began to veer to bear in a right line to leeward of them. They likewise successively spring their luffs when the point at which the lee column hauled its wind bears right to leeward.

Suppose the fleet, when in the fifth order of sailing, is to turn to windward. Let the ships be so arranged that the leaders and corresponding ships may be in the direction of the wind. The van ships must tack together, and must be followed in succession, each by the remaining ships of the division, when they reach the wake of their leaders, or the same point when they tacked ; so that there will always be three ships in stays at once, till the whole fleet is on the other tack. The fleet then stands on to any proposed dis­tance, and retacks as before.

When the weather and centre columns interchange, the weather and lee lie to, or only keep steerage way. The centre column tacks together, and forming a bow and quar­ter line, goes close hauled to gain the wake of the weather column ; it then tacks together, and stands on, while the weather column bears away to its new station in the centre, and the lee column fills.

When the weather and lee columns are to interchange, the centre column must bring to, while the lee stands on under a press of sail ; and when its sternmost ship can pass to windward of the van of the centre column, that is, when the centre ship of the lee is in a perpendicular line to the direction of the wind with the van of the centre column, the lee column then tacks together, and stands on close hauled till it comes in a line with the centre column, when it goes large two points to get into the situ­ation which the weather column left, and then veers to­gether, hauling the wind for the other tack. At the begin­ning of the evolution the weather column bears away to­gether under little sail, and goes large six points on the other tack, to get into the wake of the centre column ; it then hauls to the former tack, going two points large, till it comes abreast of the centre column, when it brings to, and waits for the now weather column.

Suppose the weather column is to pass to leeward. The weather column is to stand on under easy sail, while the centre and lee tack together, carrying a press of sail till they reach the wake of the weather column, when they re­tack, and crowd sail till they come up with it. The weather column, when the others have gained its wake, bears away two points to gain its station to leeward, when it brings to till the other columns, now the weather and centre, come up.

Suppose the lee column is to pass to windward. The weather and centre columns bring to, while the lee column carries sail and tacks in succession as soon as the leading ship can weather the headmost ship of the weather column ; and when arrived on the line on which the weather column is formed, it retacks in succession, forms on the same line, and either brings to or stands on under easy sail. If it brings to, the other two columns bear away together two points, to put themselves abreast of the column now to windward ; but if the now weather column stood on under an easy sail, they may bear away only one point, to gain their proper stations.

It is of the greatest importance that each ship of a fleet or squadron preserve her proper station and distance with respect to the rest. These may be regulated in two ways, either by observation with the quadrant, or by what is called the *naval square.* This square is usually constructed in the following manner.

On some convenient place in the middle of the quarter­deck is described the square ABCD, fig. 29, having the sides AD and BC parallel to the keel of the ship. Through the centre G, the line EF is drawn parallel to AD or BC, and the dia­gonals AC and BD are drawn. The angles EGD, EGC are bisected by the straight lines GH, GI, and thus the naval square is completed. Now the angles FGD, FGC are = four points each, being each half a right angle, therefore the angles EGD, EGC, the comple­ments of these angles, are each = twelve points, and conse­quently the angles EGH, EGI are each = six points, being each half of the last angles. Now, if a ship be running close hauled on the starboard tack, in the direction FE, the direction of the wind will be IG, and her close-hauled course on the other tack will be GC ; but if she be running close hauled on the larboard tack in the same direction, her di­rection when close hauled on the starboard tack will be GD.

Now, to apply the naval square to the keeping of ships in their respective stations, suppose the fleet formed on the fifth order of sailing, close hauled, the corresponding ships