

Actual experience on an extensive scale of this mode of warfare has not yet been had, and it remains to be seen whether, when put into practice, it will be effective. France, more than any other power, has adopted a defensive policy, in which the torpedo boat is expected to perform an important part. Her coast line is thickly studded with torpedo stations, provided with accommodation for these boats and their crews. To be able to creep up on their prey, it is necessary that they should be of small size, and of great speed for that size; hence it is impossible that they should be able to operate at any great distance from their base, both because they cannot carry a sufficient coal supply and because sufficient accommodation cannot be provided for their crews. It is said that the work to be performed by the crews of torpedo boats in actual warfare will be so arduous, and the nervous tension will be so great while it lasts, that none but the pick of the men can be employed, and even then the periods of their individual operations must be very limited. Great Britain has answered the preparations of other powers by building torpedo boat destroyers, in addition to a large and effective fleet of torpedo boats. France, Portugal, Italy, Turkey, and the United States, have experimented with submarine torpedo boats, which, theoretically, have been brought to a state of great perfection. In the war of the rebellion between the North and South, one submarine boat started in an attempt to destroy a blockading vessel, but as she was never afterwards heard of, we cannot profit by the experience of her crew; it would, however, be presumptuous to prophecy the failure of submarine boats; all that can be said is, that the complication of chances necessary to success, already so great in all modern vessels, by reason of the amount and nature of the machinery in use, is in their case greatly increased.

In addition to the ships which I have attempted to describe, there are a large number of an older type, whose services would probably be held in reserve on the first outbreak of war. They consist of vessels built from time to time since the early sixties, when the old wooden battle ships were suddenly found to be com-

pletely obsolete. For a long time the Admiralty were loath to do away with masts and sails, the use of which, and the training thus afforded to the men, had in days past done so much to make an ideal British seaman. At last they had to go, as it was obvious that the ship carrying them would be placed at a serious disadvantage as a fighting machine. Many of these vessels remain, and would, no doubt, play an important part as a reserve force. Incidentally it may be mentioned that in training boys for the Navy, the Admiralty provide several training brigs at Portsmouth and Plymouth. These brigs depend entirely on their sails, and are not provided with steam power. They get under weigh every morning at daylight, returning to their anchorage in the evening. By this means the training in exercise aloft, knotting and splicing, and other matters necessary to a seaman's education, is obtained.

Having now attempted to give some idea of the ships and their functions it may be interesting to say something about their crews. In an article of this kind no detailed analysis can, of course, be attempted, but dealing with the subject generally, we must first remember that ships can nowadays be built much more quickly than men can be trained to man them. In recent years the change of *matériel* caused by the invention of new kinds of weapons and improved machinery has been both rapid and remarkable. A man-of-war's man, therefore, in order to be efficient, must in his youth have the basis of a liberal education, and all his faculties must have been cultivated by a course of careful training. To provide a supply of qualified men equal to the requirements of a rapidly increasing navy has been one of the most serious problems with which the Admiralty have been called upon to deal. Outside of those trained from their youth in the Royal Navy proper we have to look to the mercantile marine of Great Britain for our reserve, and the statement of Lord Brassey upon the authority of Mr. Williamson of Liverpool, showing that of a total of 235,000 hands employed in the mercantile marine not more than 55,000 are British seamen, is somewhat