THE SPECIALIZATION OF SHIPS OF WAR.

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In the days of sailing fleets, vessels of war were distinguishable into two classes—ships of the line, and ships not of the line. This distinction was a perfectly natural one, inasmuch as the first alone, had their position in the line of battle predetermined and constituting, moreover, the fighting force *par excellence*, of the fleet: all the other vessels had a more or less specific destination, and, in accordance with this destination, their construction varied considerably. To the latter class belonged frigates, corvettes brigs, schooners, and all sorts of vessels serving as line ships and transports. All were absolutely dependent on the fleet, on the heavy mass of ships, which, from the very nature of its locomotive powers, was compelled to maintain a compact formation, under pain of not being able, when once dispersed, to get together again within a given time.

In the present day, the character of ships of war has altered so much, in respect both of their means of locomotion and their fighting powers, that the above classification has no longer any real significance. The size, the construction, the armament of vessels of war are now so varied that the manœuvring of each requires rules of its own; besides, the introduction of ramming and of torpedoes will completely change the character of naval warfare in future, and give a personal initiative to the commanders of individual ships incomparably greater than they possessed before. Nowadays, the individual importance of each ship in a squadron has greatly increased; the dependence existing between the individual vessels of a squadron in their collective capacity has, on the other hand, materially diminished.

In the opinion of the majority of writers who have recently discussed the subject of naval tactics, *ramming* will play the most conspicuous part in future naval actions; now, ramming and the movements necessary to avoid attacks of this description, preclude the possibility of any regular formation, so that each vessel will be compelled to act for herself according to circumstances and with due regard to the means of attack and defence with which she is provided. But those means vary greatly; and consequently the rules for fighting individual ships must vary.

If we concede that it will be impossible for an admiral, or any other single officer to control the movements of all the ships under his command during an engagement, the problem to be solved in future naval actions will be to fix the general principles upon which the movements of individual ships should be based, so as to secure the maximum of military effect with the minimum of needless risk and exposure.

These principles are not identical in the case of ships of every class—on the contrary they differ very widely according to the size, construction, armament, &c. For instance, it can hardly be supposed that a monitor, an ironclad frigate, a gun-boat, and a wooden despatch vessel should one and all be handled in precisely the same manner under fire.

For each, according to the style of opponent with which she has to deal, there will be certain conditions, offering the greatest advantages, and which it is the duty of her commander to secure and turn to the best account. From this point of view, the study of naval tactics would in future be limited to a consideration of the conditions under which it is most favourable for each description of vessel to engage a given class of opponent. But this would give us rules for the conduct of single encounters, (naval duels) only; and it would be impossible to stop short at this point. Other questions must therefore, be considered as well. These are: What descriptions of vessels are capable of acting in concert with the fullest measure of advantage? How should they act so as to impede each other's movements as little as possible, and at the same time inflict the greatest possible amount of damage upon the enemy? What description of vessel is most advantageous to employ under certain given circumstances against a certain given type of opponent.

These questions will have to be decided; but to this even it is indispensably requisite to have a well considered class classification of vessels based upon the exigencies of modern warfare. Such a classification existed in the past, and some of the questions involved were resolved in respect of the types then existent. The two principal classes, as we have said, were ships of the line and those not of the line.

It was a recognized principle that on the approach of the enemy the fleet should keep together, that certain types of vessel were indispensable to the constitution of a fleet; that for ships of the line the most advantageous formation was a single line of battle, from which all vessels not of the line should keep clear, that in engaging, each vessel, if superior to her opponent, should endeavor to get as close as possible to the latter; that the power of a vessel was measured by the weight of metal thrown by her broadsides. At present all is unknown. General rules like the above have no existence. In proof thereof, let us attempt to discover what are the present equivalents of these rules, and we shall not only find that nothing can be formulated on the subject, but that nothing similar can exist. Let us consider each of these rules in turn.

Ought the vessels of a fleet or squadron to be brought together on the approach of the enemy?

The question appears at first sight to require an affirmative answer, but on a closer investigation of particular cases, it assumes a very complicated aspect. Let us regard it from another point of view.

Will cases often occur in which it will be expedient for two large fleets to come to a general engagement?

We are disposed to think that such cases will be of extremely rare occurrence, because the means of attack and defence are wholly changed from those of the past; and because also the facilities for manœuvring have become vastly increased. With the existing means of defence, each fleet would have a secure refuge in its own waters, so that it would be impossible to compel it to engage against its will. But it does not therefore follow that a fleet thus circumstanced should remain in inactivity. In the face of a very superior force of the enemy, the ironclads would remain quiet, but then would commence the *rôle* of the small torpedo vessels and rams.

Would it be practicable for a fleet to keep the enemy's coast steadily in view, if the latter had a sufficient number of torpedo vessels, similar either to those built by Prussia during the late war, or to those now in course of construction at Washington, ready to attack it every night, or a number of armour plated rams of high speed, and nearly invisible in the dark?

With such means of defence available, the sojourn of an enemy's fleet, say in the Gulf of Finland, would be a sheer impossibility, more especially, if the vessels employed in the defence were so distributed that they could be warned at any moment by telegraph of the presence and position of the enemy, and act accordingly. Night after night one or more of the enemy would fall victims to the rams or the torpedo vessels. Where, then, would be the inducement to a fleet thus acting on the defensive to come to a general engagement? The employment of vessels of special types would render any such engagement unnecessary; and the concentration of the defensive force would be productive of evil rather than otherwise.

But, although dispersed, the ships could be massed at a given point, at any given moment, if needed, as the orders could be delivered to each of them almost simultaneously by telegraph; and the speed of ironclads under steam is little affected by the wind, so that in confined seas like the Baltic they may be regarded as almost independent of the weather.

It may here be observed that movements against the wind are much impeded by the masts and rigging, a source of great inconvenience in manœuvring, not to speak of the risk in action of falling portions of the latter fouling the screws. We shall revert to this point further on.

To the question: Should the vessels composing a fleet be concentrated on the approach of the enemy?—we cannot therefore give an affirmative reply. The qualities and capabilities of each vessel must be considered separately, and she should be so posted as to develope these properties to the uttermost. The principal *rôle* will accordingly, be played by vessels specially constructed, for special purposes.

Taking other considerations into account, we shall also find that special types of vessel are best adapted to the solution of the problems above proposed. Powerful vessels for general purposes are very often incapable of giving the desired results at the right moment. Again, the construction of vessels of special types, as a rule, is infinitely less costly than that of others designed to answer a variety of ends, as in the latter the dimensions are necessarily greater, and withal the desired ends are not always attainable, as the possession of certain qualities interferes with or excludes that of others; so that vessels constructed for general purposes though formidable in appearance, and constructed at great cost, may not give the anticipated results in action—may, in fact, prove worthless, whilst other incomparably cheaper constructions will fully satisfy the tactical demands made upon them.

The late Franco German war supplies a remarkable illustration in point. The French fleet was perfectly useless, because it was composed exclusively of heavy armor-clad vessels, and was unfurnished with others of special construction, fitted to act in the shallow waters of the enemy's coast. On the other hand, the German fleet, although it comprised some very powerful vessels, never made the smallest attempt to raise the blockade of its coasts, because it had not a single vessel suited for rapid attacks, and the ironclads, the *König Wilhelm* included, were incapable of performing this service.

The next question—Of what types of vessel should a fleet or squadron be now composed?—must be deferred till a future opportunity.