

real business and not to entertainment. Lieutenant Castle's game of naval tactics—an imitation of the Kriegs spiel—will be found of great value. No great naval war lies near us for immediate dissection and generalisation, but the teachings of Lissa and the American civil war have yet to be systematically applied to the changed and changing conditions of ocean warfare. The main thing required is the disturbance of the present lethargic state. Guns and arm our will do little, aided by the finest steam engines in the world, without a clear, well defined, and thoroughly reasoned out system of naval attack and defence, and no one can venture to say that is what we at present possess. If we might venture to describe our present system, we should call it a mere code of signals, connected by one or two imperfectly understood principles, half written and half oral. We have made a beginning, but we have left the end to chance. It was not in this way that the Germans thought out their infantry tactics before the Bohemian war came to put them to the proof. Nor is it in this way that we shall acquire the power to bring our heavy ironclads into action, to make the most of their offensive and defensive powers, and to bring them out again. "With steam power," as Sir Howard Douglas truly observed, "success will more than ever depend upon the tactical skill and quick perception of the chief, together with prompt and resolute execution on the part of those under his command." It is this success we desire to ensure, and, to these words used by Commander Lewal, of the French Navy, we may say that success will more than ever be the result of a geometric figure and a mathematical calculation.—*Broad Arrow.*

#### NAVAL TACTICS.

In 1697 Paul Hoste published the first work on Naval Tactics, and for another century the French were the only writers on the subject of handling fleets. It was this monopoly of science, as applied to large numbers of ships, that rendered the battles between England and France during the eighteenth century so generally unfavorable to the former till the advent of Rodney. While the English were the best sailors, and handled their ships best singly, the French fought them as they pleased, and they generally preferred to evade attack. DeMorogues and Ramatuelle followed Hoste with treatises, illustrated by diagrams, and still the English kept on to their old obstinate way of forming line, beating to windward to get the weather gauge, and then bearing down in line, all together. They could not help themselves. James II. laid down the instructions when he was Duke of York and Lord High Admiral of England, and the admirals of England obeyed them for a century. Only in chasing was the order in column allowed. At last came a Scotch country gentleman, who had never been to sea, and wrote in 1804 an elaborate work, "Tactics for our sea Forces, by Adam Clerk of Eldin." From that date the great English naval supremacy may be said to be established. Clerk of Eldin introduced the great manoeuvre of breaking the line and doubling on half the enemy's ships, while paralyzing the other half. The balance, before evenly held, between the tactical and scientific French captain, and the sturdy self-reliant English sea dog, risen from before the mast sometimes, was overturned. The French, unequal in sailing and fighting, were unable longer to evade action by running down to leeward, and the Nile and

Trafalgar proved the fall of their naval power.

The introduction of steam, and more lately of armor plates and rams has so changed the aspects of modern naval warfare that for a long time its principles seemed relegated to curios. Even Sir Howard Douglas, the first writer on Naval Gunnery, and, like Clerk of Eldin, a landsman, could find nothing but general principles and those of the vaguest in his edition of 1857. In fact, like the ships themselves our naval tactics and strategists were "at sea" as to the best method of handling steam fleets. It is to a Frenchman and an American that the credit of first seeing the simplicity of the new problem and of solving it belongs. Admiral de la Graviere, and Commodore Foxhall Parker respectively wrote excellent treatises on fleet tactics under steam, showing that the difficulties, instead of augmenting, had really vanished, and that the true way to manoeuvre a fleet was to consider its ships as units, in order from right to left, like the companies of a regiment, the regiments in an army, etc. The importance of the weather gauge had disappeared, and the only improvement possible in naval tactics, as in those of the land, lay in simplifying them. There can be but two orders in naval tactics, as in those of the land, viz., column and line. The only question remaining to be decided is as to the proper and convenient unit of force. Under the tactics of the last century, the unit was the ship, sometimes the division of half the fleet. The consequence of this was that, after action was once fairly opened order disappeared, and each captain fought on his own responsibility, unable to see his Admiral's signals for the smoke. It was thus that the individual talents of captains and the steadiness of their crews, told in favor of English and Americans as against French and Spaniards. Action fairly joined, it was pretty certain to result in victory for the former nations. It is only in modern times that this question of the proper size of the tactical unit has been philosophically considered, whether on sea or land. On land the problem is limited by the power of a man's voice, and is decided in the form of the company, varying from fifty to two hundred and fifty men. On sea it has been fixed as the squadron, half squadron, division, according to the caprices of an unsettled and often arbitrary nomenclature. The word "column," used so intelligently in land tactics, is frequently confounded, especially in England, with line, while "line" becomes either column or line by calling it "line ahead" and "line abreast."

Professional pride alone would prevent a Briton from learning from a Yankee, or Commodore Parker's Squadron Tactics might have done good service in England. As it is, the English have as yet no fixed system of naval tactics, although they have been trying all sorts of experiments with their Channel fleet. It was to make a grope in the true direction that the Naval Professional Association recently offered a fifty guinea prize for the best essay on Modern Naval Warfare, including Tactics and the use of the Gun, Ram, and Torpedo respectively. The result has been a series of excellent essays on the subject, which must be full of interest to all naval men. The prize essay was by Commander Gerald Noel, R.N., and the two next best essays have been printed in conjunction therewith. These essays were all written anonymously, totally independent of each other, and yet one fact is patent in all. The three officers whose essays are

printed all advocate exactly the same tactical unit in future fleets, "group" of three ships commanded by the senior captain. All three recommended future movements to be made entirely by these groups, the admiral confining himself to signalling the course to group leaders, leaving details to them. This system of groups is accompanied with one important change in order. Whether in line or column it is always as line of groups or column of groups, two groups constituting a division, three or more a fleet. The group order is that of a scalene triangle with the acute angle forward, No. 1, ahead, No. 2, on the starboard quarter, two cables off, No. 1. In this position, the line of all three ships can be concentrated on an enemy on any side ahead, astern, starboard, or port, without changing order. The order itself will be easily maintained, all depending on the group leader. Where he goes the other two follow almost within hail, within easy signalling distance at all events. This group system was first tried in the English Channel by Sir Thomas Symonds, and has proved exceedingly manageable. With such a formation, the dangers of running athwart hawses of each other's ships is much lessened from that which inures to the ordinary double column. It is a matter of great interest to the American Navy to investigate this group system, and we anticipate a discussion of the subject that may yet prove of value to the readers of the Journal.

**THE INTERNATIONAL RIFLE CONTEST.—THE IRISH TEAM DEFEATED.**—The result of the International shooting match on the 26th at Creedmoor was as follows.—At 500 yards the Irish team made 317, the Americans 326. At 900 yards the Irish team made 312, the Americans 310. At 1000 yards the Irish team made 302, the Americans 298. Total, Irish team 931, Americans 934, the Americans winning by a score of 3!

**A CHALLENGE.**—In order to test the qualities of breech loading rifles, J. Rigby, of the Irish Team proposed a match between five men, at 1000 yards each, a man in addition to have two sighting shots, Mr. Rigby and his side to use muzzle loaders; their opponents breech loaders. No cleaning of rifles to be permitted during the shooting by either side.

Captain Leech, of the Irish Team, prints a card of thanks to the Americans for courtesies received, and concludes with a challenge to a return match at Dublin next June, the Team to consist of no more than eight.

**M. THIERS CONVINCED OF THE ULTIMATE SUCCESS OF THE REPUBLIC.**—Ex-President Thiers arrived at Vizille, on 24th September, in the Department of Isere. He was warmly received by the citizens, and delivered a speech, in the course of which he expressed his conviction that the republic would ultimately be founded, and he hoped, with the assistance of M. Casimir Perier and other friends, to contribute to that grand result.

M. Gambatta is announced to deliver political speeches at various places in the southern departments.

**FIGHTING BEFORE PAMPALUNA.**—Gen. Moriones has begun a series of operations with the object of relieving Pampaluna, and fighting has been going on for three days. The engagement of the first was indecisive. On the second day the republican artillery gained an advantage, and inflicted heavy losses on the Carlists. Yesterday Gen. Moriones resumed the offensive, and dispersed several insurgent battalions, but failed to follow up the advantages he had gained.