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War Games.

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ARTIFICIAL WAR?

The Strategic Naval War Game or Chart Maneuver

1897-1910

By Captain W. McCARTY LITTLE, U. S. N.



*Learned to
play*

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THE STRATEGIC NAVAL WAR GAME OR CHART
MANEUVER.*

By CAPTAIN W. McCARTY LITTLE, U. S. Navy.

I. MOTTO: "NECESSITY IS THE MOTHER OF INVENTION."

If it were not for the stimulus of necessity, all effort in the world would stop, and the universe would come to an end. Therefore if we want to spur up action, and the *real* necessity is not available, we must create an *artificial* one.

"Assume a virtue if you have it not."

2. THE NAME "WAR GAME" vs. "CHART MANEUVER."

In embarking on this lecture I would like to say, by way of preface, that the name Game, *War Game*, has had much the same depreciating effect as the term *Sham Fight* has had with regard to field maneuvers. To avoid this the army has had recourse to the expression *Map Maneuver*. We, of the navy, may in like manner say *Chart Maneuver*, and we have lately decided so to do. There is a further reason why it is well for us to prefer that term, namely, that it accentuates the fact that the strategist's real field of operations is the chart, just as the architect's real field is the drawing board; indeed, Jomini calls Strategy "*War on the Map*."

Still, war itself has been declared to be a game, and rightly so, for it has the game characteristic of the presence of an antagonist. It has, however, another characteristic which differentiates it from most other games. The latter are played for sport; and good sport requires reasonable chances of winning for each side, and aims to give amusement even to the losers. In the game of war, on the other hand, the stake is life itself, nay, infinitely greater, it may be the life of the nation, it certainly is its honor. We are

* A lecture delivered at the Naval War College.

its champions; what sort of a figure shall we cut when, at the tournament, the trumpets sound the charge, and it is found that we have neglected to practice in the joust. What fencing is to the swordsman, what the jousting field was to the knight, the war game is to the modern strategist; and I hope to show that it is even a great deal more.

3. NATURE OF GENIUS.

For many years it was believed that good shots were born, not made; and it is only quite lately that this fallacy has been laid bare. So, too, has it been very generally held that the skill which wins wars was a gift from above.*

That we could apply the same methods to the acquirement of skill in conducting war that we use in learning to play marbles or football does not seem generally to have been suspected.

Marshal Soult said, however, that "that which is called an inspiration is simply a calculation rapidly made"; and another great authority has said that "inspiration was frequently but a timely recollection," which is but a paraphrase of the saying that the "soul of wit is apt quotation."

Napoleon has himself revealed to us what is to be thought of *his* innate genius, when, in a conversation with Senator Roederer, the 6th of March, 1809, he said:

As for myself, I am always at work, I meditate a great deal. If I seem always prepared to reply to all, to meet all, it is that before undertaking anything, I have meditated a long time, I have foreseen what might occur. It is not a genius which reveals to me suddenly, in secret, what I am to say or do in an emergency by the rest of people unexpected—it is my reflection, it is my meditation. I am constantly at work, at meals, at the theater; at night I get up to work.

The distinguished French military writer, from whom the above is quoted,† General Pierron, in an attempt to ferret out the secret of Napoleon's wonderful military capacity, has discovered that the main points of his most brilliant campaign, the campaign in Italy of 1796, were taken from the Memoires of the Marshal de Maillebois, who had commanded in that theater fifty years before

* Of course we are speaking here of skill, and not of natural aptitude for acquiring skill, which is quite another thing.

† Comment s'est formé le Génie Militaire de Napoléon 1^{er}, by General Pierron.

(1746), and from a paper of General de Bourcet, in which there is a review of operations in Italy in 1733.

It is not generally known that before assuming command of the Army of Italy, Napoleon had previously served in the same army as chief of artillery, and from there was transferred to the general staff in Paris, where he prepared a plan of campaign for that army, at which time he saw the books referred to.

In a conversation on this subject the late Major Churchill of the army related the two following stories in illustration:

An officer who had served on the staff of General Sherman in the March to the Sea, was telling Major Churchill of the General's wonderful, intuitive grasp of terrain, and gave as an example how one day the General was laying out the order of march, and said such a column will ford the Chattahoochee at such a point.—"General, there isn't any ford shown on the map; hadn't we better send a reconnoitering party to find out?"—"Oh, no; I'm sure they will be able to find a ford there somewhere," and sure enough they did!

Then the Major laughed; for he remembered that when he was a boy accompanying his father, Colonel Churchill, who was conducting the survey of that section, Lieutenant Wm. Tecumseh Sherman, of the third artillery, reported for duty, and that Lieutenant Sherman and he had crossed that ford together many a time!

The other story was that a man was insisting on the intuitive, inborn instinct of sign reading possessed by the Indians. "Oh, said his companion, "the white man could do the same under proper training."—"Never, never in the world!"

Just then the rattle was heard of an ice cart passing in the street. "What's that?"—"That's an ice cart."—"How did you know that? An Indian would have thought that wonderful."

4. SCIENTIFIC MANAGEMENT.

We all know how in the early part of the last century Germany set industriously to work with all the national thoroughness to apply what it is to-day becoming fashionable to call "scientific management" to the solution of the problem of conducting war.

5. THE KRIEGSSPIEL.

In 1824 Lieutenant v. Reisswitz, of the Prussian Artillery, adapted to the purposes of serious military instruction and investigation a game of war invented by his father; and we read that soon after this v. Moltke was president of a society to play the game. This shows that v. Moltke early became awake to its great importance. When in 1866 Prussia, out of half a century of peace, overthrew the power of Austria in a six weeks' campaign, and, four years after in a struggle with France who had had the benefit of the experience of several wars, succeeded in rolling her antagonist in the dust, the world realized the value of systematic scientific training; and it was generally admitted that the war game was a notable factor in the result.

There were a few French officers, just previous to 1870, who had sounded the alarm; but they were pooh-poohed in the way more or less familiar to us; while Marshal LeBoeuf, the French commander-in-chief, told the emperor that the army was ready—"jusqu'au dernier bouton de guêtre,"—to the last gaiter button.

There is perhaps more in this answer than at first appears, for it would seem to suggest that his mind, much like that of many naval officers of recent years, was more centered on the materiel, than on the "management."

So, when the time of mobilization arrived, there was confusion worse confounded, much like the later experience of other nations who were not warned by the "horrible example."

The war game being thus brought prominently to view, naval officers began to ask themselves if the game could not be adapted to naval use; and thus began the movement which led to its being now generally adopted.

6. CLERK'S ANTICIPATION OF AND USE OF THE WAR GAME.

Although the use of the war game to-day in the navy was suggested by the German Army Kriegsspiel, brought prominently to view in 1870, yet it is true that, in the latter part of the eighteenth century, Clerk, "The Laird of Eldin," made use of what was practically the same thing for his solution of the tactical problem of his time, as we may see from the following extracts from the Introduction to Clerk's Naval Tactics:

"The splendid results which followed Mr. Clerk's discoveries in naval tactics sufficiently attest their value and importance. The publication of his theory forms indeed an era in the annals of maritime war. If we look to the battles which were fought prior to this, we find, notwithstanding the valor and enterprise both of our officers and seamen, that, with few exceptions, they were all indecisive and unprofitable. The object of our enemies, conscious of inferiority in close action, was to avoid battle, and to act entirely on the defensive; and for this purpose they had brought to perfection a system of skilful maneuvers, by which they always contrived to disable and keep at a distance the hostile fleets of Britain.

"Hence the British commanders were always foiled in their attempts to force on a close action; and though they often encountered the enemy's fleets, they generally parted, after some indecisive and distant cannonades.

"The simple, bold, and decisive maneuver of passing through the enemy's line, suggested by Clerk, and of which he demonstrated the efficacy in a variety of the most conclusive illustrations, effected a complete revolution in maritime war, and gave a new and brilliant aspect to our naval history. The conflicts of hostile fleets were no longer signalized by the triumph of defensive tactics. The skilful mode of attack now adopted never failed to bring on a close and general action, in which valor was sure to triumph; and since this period accordingly, a succession of the most brilliant victories has adorned our annals."

Mr. Clerk in his preface says:

As I never was at sea myself, it has been asked, how I should have been able to acquire any knowledge in naval tactics, or should have presumed to suggest my opinion and ideas upon that subject. The following detail, which I trust I shall now be excused from entering upon, will, it is hoped, obviate every prejudice of this kind.

In the course of this explanation and speaking of his study of Byng's Action, he says:

The attack in this battle (Byng's Action) was from the windward: and as it appeared to me extremely ill conducted, the subject occupied my mind for years. In this discussion, I had recourse not only to every species of demonstration, by plans and drawings, but also to the use of a number of small models of ships which, when disposed in proper arrangement, gave most correct representations of hostile fleets, extended each in line of battle; and being easily moved and put into any relative

position required, and thus permanently seen and well considered, every possible idea of naval system could be discussed without the possibility of any dispute.

and further in reference to the war then in progress:

In the meantime, so often as dispatches with descriptions of these battles were brought home, it was my practice to make animadversions, and criticize them by fighting them over and over again, by means of the aforesaid small models of ships, which I constantly carried in my pocket; every table furnishing sea-room sufficient on which to extend and maneuver the opponent fleets at pleasure; and where every naval question, both with respect to situation and movement, even of every individual ship, as well as the fleets themselves, could be animadverted on; in this way not only fixing and establishing my own ideas, but also enabling many landsmen to form a judgment with respect to the subject of tactics as well as myself.

There are for us in these quotations two interesting points:

(1) That a civilian, feeling that there was some reason, not then known, which should account for the want of success to English arms, deliberately set himself to work to find out the reason; succeeded in discovering that what the English admirals had considered as French defeats, were actually successes of the French tactical scheme; succeeded in finding out what that scheme was; and finally sought out, and succeeded in devising plans to break it up, and bring about the destruction of the enemy; . . . and these proved not only plans, but plans which brought overwhelming success.

(2) That to accomplish this he used little blocks representing ships which he moved about on a table representing the sea: practically the naval tactical or fleet war game of to-day!

Here we have before us in this book the successful solving of an important problem of war. The value to us is not so much in the solution itself, which was for a case under very different conditions from those which we now see; but in the fact that we have before us a successful method of solution.

The method stands, both method and appliance.

(The Department should reprint this book, and it should be carefully studied by every officer as a text-book on the method of solving tactical problems.)

7. OBJECT OF THE NAVAL WAR GAME.

The object of the naval war game is to afford a practice field for the acquirement of skill and experience in the conduct or direc-

tion of war, and an experimental and trial ground for the testing of strategic and tactical plans.

The game offers the player the whole world as a theater, and puts no limit to the forces either in numbers or kinds. Any type of ship may be had for the asking, the only requirement being to state its qualities so they may be expressed in game convention. The ships, too, can do what in time of peace is impracticable to the real ships—for example, they can ram the enemy or destroy him with gunfire; they can run all sorts of risks, nay, can be destroyed to prove the inefficacy of a poor plan, and in a twinkling they can be restored for a new trial. And all of these things are at the disposal of any group of officers gratis.

It is unnecessary to call attention to the fact that the real fleet is not at the free disposal even of its own admiral.

While we can give an entire forenoon, if necessary, to work out and analyze a five minute critical movement, we can, on the other hand, dispose of a day, or week, or a month in less than an hour.

After this rehearsal of some of its advantages, it must be admitted that it has facilities greatly in excess of the fleet.

7. "WAR ON THE MAP" COMPARED TO "SAILING ON THE CHART."

Now at first blush it may be a little startling to be told that for the conduct of a naval campaign the presence of the fleet is not necessary. Strategy has been called, as we have seen, *War on the Map*. A little consideration will show that ordinary navigation is merely *sailing on the chart*. A walk on deck gives no idea where the ship is, but a glance at the chart in the cabin does. In like manner it is on the chart that the admiral plans and conducts his cruise.

Even on the *tactical field* with the enemy in sight, the picture on the retina is a distorted representation, which in the mind must be reduced to a proper diagram. The adjoining ship seems large; those further away diminish in proportion to distance; speed across the line of vision seems very great; that along its direction comparatively slow. Even the actual witnesses to a battle do not have a clear idea of what has taken place until it has been reduced to a diagram.

9. JUSTIFICATION OF TACTICAL GAME BOARD'S BIRD'S EYE VIEW.

It has been sometimes objected that it is a mistake to permit the tactical game board to be seen as though from an aeroplane; but the reason why we recognize a friend a couple of miles away is because we know him so well that the slightest indication will suggest all the rest. Therefore it was thought best to train first with a full view, and later to apply the handicap of obstructed vision, just as a chess player would practice first with the board in sight before undertaking to play blindfolded.

10. GENERAL DIVISIONS OF THE GAME.

It may be said that War is, in the theater of operations, to hunt the enemy and fight him; Strategy, to hunt the enemy in order to fight him; and Tactics does the fighting.

Similarly, that Battle is, on the scene of conflict, to seek position and strike; Tactics to seek position in order to strike; and Gunnery does the striking.

There thus appear to be two natural divisions of the game; The strategic game and the tactical game. As information and security cut a large figure in strategy, they form, in practice, the most important part of the strategic game. The handling of scouts and screens, ever ready to take touch with the enemy, has a strong tactical flavor, though the object is chiefly strategic. Since it is on the quick settlement of these contacts that the smooth running of the game largely depends, and since it is on the familiarity with the solutions of such contacts, and a confidence in what an admiral can expect from his subordinates in this respect, that his freedom of planning depends, the skilful handling of scouts and screens may well be made the subject of a class of games by itself. It is a sort of connecting link between the strategical and the tactical.

11. MUST LEARN TO THINK IN GAME CONVENTION.

Now, we must not overlook the fact that the game is a convention just as is the chart or printed page, or indeed language itself; and if we wish to use either, we must learn to think in it. The war game is a cinematographic diagram; and it is as important to us to be able to read it, as to read a chart or a book.

Before leaving this matter we must sound a warning:

The solutions of the game board, being mathematical, are necessarily correct, "errors and omissions excepted," as runs the commercial phrase; but they are dependent on the conditions. The real question is: are the conditions correct? Let us assume for instance a game ship that has certain stated qualities more or less like say the *Delaware*. The question, then, is not: "is this ship like the *Delaware*," but "is the *Delaware* like this ship?" And the reason is because we know positively and accurately what our assumed ship can do, but no one can state accurately what the *Delaware* can do—indeed no actual ship remains the same for any length of time.

12. HOW THE WAR GAME LEADS TO SEEKING SOLUTIONS OF WAR PROBLEMS.

Let us now follow through the various steps of the game and see how it leads us irresistibly to seek the solution of those problems which will face us when war makes its appearance. To this end let us start with a game of the first magnitude; and let us suppose that we desire to study a certain theater of war, and that we have selected the adversary best suited to our purpose.

The available players are divided into two camps, to one of which is assigned the blue, and to the other the red—the two colors usually used in the game to denote the sides.

A certain number, however, must be reserved for the umpire staff—consisting usually of the umpire, the recorder, an assistant umpire for each side, and, if desired, such other assistants as may prove convenient.

Since a war game is a numerical problem, and the solution is to be a numerical solution, it follows that the quantities involved must have assigned to them positive numerical values, in many cases unknown to the adversary. These values must consequently be fixed by the umpire, and are formulated in what is termed the *situation*, which *situation* states exactly the terms and conditions of the problem.

This statement of the "situation" is divided into two parts, sometimes called respectively the *General Idea* and the *Special Idea*, the *General Idea* being that part which is known to both sides, and the *Special Idea*, that which is known only to each.

There may be even a third part, known only to the umpire, as for example, when a given program of weather is to be followed; and of course the details could not be known to the players before the proper time.

Now, the very formulation of the problem compels a preliminary study of the question on the part of those who devise it.

The problem being delivered to the players, each side must make a careful study of the situation, must disentangle from the details of the statement the exact task that has been assigned to it to accomplish—the exact *mission* laid upon its shoulders, *i. e.*, just what it has to do. This first step is indispensable. The contemptuous expression of “that man doesn’t know what he is about” exactly fits him who has not fulfilled this first step—who has not disentangled from the irrelevant accompanying matter, his exact mission reduced to, and expressed in, its simplest terms.

This done, the problem will already look much simpler.

But there is another point involved: namely, the exact demarcation and fixing of the limits of what we may call the *area of discretion*, the area within which we may use our judgment, and outside of which we may not go. This demarcation is of very great importance; and we have seen here at the College cases in which, from this first step having been neglected, the decision seriously arrived at, after careful consideration, was nothing more than a conclusion to obey the order received, instead of a decision as to how best to obey it, which problem had been entirely overlooked and untouched.

We then proceed to the second step: a consideration of the *difficulties* we have to encounter in accomplishing our mission. Now, these difficulties may be regarded under two heads—those interposed by nature, and those interposed by man, and they call for a study, under the first head, of the terrain or theater, and under the second head, of the enemy and what he can, and probably will do.

I venture to say that we shall have no trouble in agreeing that after this step has been accomplished, the problem will appear much less formidable than it did before, and the reason is because it is the unknown that frightens people to death.

Being now possessed of a good idea of what we shall have to meet, our third step is: to marshal our forces and see what *means* we have to overcome these difficulties; to marshal the various

lines of action opened to our choice, to compare these, weighing the advantages and disadvantages of each.

When this has been carefully accomplished, we shall find ourselves much nearer a state of readiness to take the fourth step—the selection of the best one of these courses of action, or, as the technical term is, the *decision*.

This process which is thus briefly summarized is known as the *estimate of the situation*, and is the first grand step in the game; and let it be noted that it is the war game that has led us to adopt this systematic method described. It was the game that sought the method, and not the method that sought the game.

13. ORDERS. SYSTEM *vs.* NO SYSTEM.

Now that we have decided what we will do, the next step is to issue the necessary orders to carry out our decision. The preparation of these orders brings us face to face with the fact that we have had no system of war orders at all.

The Germans, first players of the Kriegsspiel, under v. Moltke, developed order writing to a high degree, *under the direct stimulus of the war game*; and their system is now the model for all the world, or at least for those who have waked up to the importance of such a system.

Just as it was the Kriegsspiel that led Germany to this work, so has it been the war game that has aroused us to it.

The *campaign order* (called in Germany the *operations order*, and in our army the *field order*) is the subject of a special lecture by another officer,* so it is only necessary here to touch upon it very lightly; but we may state that the exhaustive study given to the operations order has shown that, reduced to its simplest terms, it consists of in its *body* a skeleton of five parts:

The first—the necessary, relevant information.

The second—an outline of the general plan with regard to the force as a whole.

The third—distribution of the work in regard to the working force.

The fourth—distribution of the work in regard to supply, etc.

The fifth—the place where the directing authority can be reached.

* See “Applicatory System of Solving War Problems” on p. 1011 of PROCEEDINGS No. 143.

14. ORGANIZATION *vs.* DISTRIBUTION OF FORCES.

When we come to distribute our forces to carry out our plan, we find that there are two distinct bases of organization: (1st) the natural tactical organization (technically termed "*organization*"), that which, independent of plan, groups the elements into such bodies as makes them easily manageable for administration, handling and assignment, as for example the ship, the division, the squadron, etc.; and (2nd) the organization under the plan, organization by task (technically termed "*distribution of forces*" in contradistinction to "*organization*," as limited above), as for example *advance scouts, advance screen, flank screen, main body, rear guard, train guard, etc.*

The word *forces*, heads the margin which in the formal *combined order* is an abbreviation standing for this expression, *distribution of forces*; and the contents of the *margin*, where one is used, correspond exactly to the caste in the program handed to us in the theater, which gives the characters in the piece and the names of the actors assigned to each.

They are, then, as one might express it in the language of the stage, the characters in the play, the rôles of the plan. To each of these "*rôles*" or sub-tasks is assigned a suitable portion of the force, avoiding for reasons of administration any unnecessary splitting up of the tactical and administrative groups, indicating for each sub-task the officer responsible for its execution, and leaving him as free as possible in his way of action. This preserves the control of the ensemble, while giving the freest scope to the senior on the spot. Of course, to such sub-task leader, the task assigned to him becomes within his "*area of discretion*," a similar problem, to be handled similarly to that already described.

15. FREEDOM OF ACTION TO SUBORDINATES.

The temptation for the commander-in-chief, when he has nothing to do in his own sphere of action, to interfere in the *area of discretion* of his subordinates, is very great, and is moreover very dangerous, because it tends to make the commander-in-chief believe that it is his proper business, it tends to dull in the subordinate his sense of responsibility, and, when the commander-in-chief really has got something of his own to do, it seriously, if not fatally, interferes with his freedom of mind properly to attend to it. The only cure for this is proper war game training.

In this connection, I quote from a lecture delivered October, 1910, at the Army War College by Captain W. L. Rodgers, U. S. Navy, not only for the very pertinent ideas expressed on the subject, but also for the testimony it brings on the invaluable influence of the war game. I quote:

Strategy and tactics are intimately bound up with organization and administration. Matters of organization are avowedly subjects of study here (A. W. C.); but administration, as it seems to me, is not acknowledged, although it is actually a subject of instruction in one particular direction where constant iteration must produce an effect in wider fields.

I allude to the map problems which professedly are tactical and strategic studies, but beside are daily made to teach the supreme administrative lesson of "minding one's own business."

Let us take the case of a regiment to assume outpost duties, and the problem is for the colonel to issue the order. If a solution undertakes to go beyond the battalion commanders and give directions to individual companies, the writer is sure to be reminded that he can command three battalions efficiently, but that twelve companies are too much for anyone. Similarly, if in a divisional movement, the divisional order lays down the movement of a brigade in too great detail, it is pointed out as a fault liable to entail disaster by depriving the brigadier of the discretion he ought to exercise.

Such errors as these just mentioned are not tactical ones, they are administrative faults producing tactical results. But as administrative faults they are not peculiar to the military profession, but are general in all classes of business.

Again, take the form of the *field order*: the first paragraph is devoted to information, the second outlines the general plan, the third and fourth distribute the work, and the fifth announces the place where the commander may be reached. Of these five paragraphs only the last is peculiar to the military nature of the order. The other four merely conform to common sense and the general principles of administration, and might be adopted for issuing an order to any business organization.

Indeed, even the fifth paragraph applies to ordinary business, as for example, where the director is called away from town or his office, and desires to leave some particular address at which, in case of necessity, he can be reached directly. The natural place for this would be at the end of the order.

For these reasons I am strongly of the opinion that the broad general principles of administration should be a subject of study here; and I have been much impressed with the great desirability of taking up the analysis and study of military administrative orders following the same lines as those of the field order.

If true of the army, it certainly is true of the navy.

It is very difficult for a superior to deny himself the privilege, which he necessarily has, of attending to as many details as interest him; but gratification in such a course is ruinous to efficiency. But as was said before, the remedy is not to alter organization so as to reduce the commander's right to meddle; the best course is to take away his desire to meddle by teaching him to know better, and that is what the map problems do for everyone who profits by them, and may be done in still greater degree by study of the principles of administration in general.

And later on in the lecture he writes, speaking of General Grant:

There is a vast store of administrative wisdom in his reply to Sheridan when the latter telegraphed him in the Appomattox campaign that Lee would surrender "*if things were pressed*," and Grant answered "*press things*."

For a contrast, it is interesting to compare this order with that of Johnston for the advance on Shiloh. At Shiloh, everybody, including the commander-in-chief, was tactically tied up by administrative meddling. At Appomattox, Sheridan was perfectly free to act according to circumstances, and had received the assurance of support in Grant's two words of reply.

16. PLANS HANDED IN AND GAME BEGINS.

The plan of campaign having been determined upon and the preliminary orders having been written out, the commander-in-chief on each side assigns his assistants, so that for each independent acting body there shall be if possible a player.

The sub-task leaders then make out *their* plans and, where necessary, *their* orders.

While one side has been thus employed, the other side has not been idle, and at last both have handed in their plans and orders to the umpire, and the second grand step in the game has been taken.

It is now time for the third and final step—the culmination, toward which everything has been working, and for which the previous steps have been but the preparation—namely, the test or trial. "The proof of the pudding is in the eating."

The umpire being thus in possession of both plans, looks them over, and announces the length of the first move.

Each player then plots his projected move on his own chart, makes a tracing on what is called a transfer sheet, and sends this in to the recorder, who transfers them all to the umpire's chart.

The umpire thus has before him the projected move of both sides. If no contacts develop, nor any information that would cause any player to modify his move, the second move will be an-

nounced, and the first move thereby stands confirmed. If, on the other hand, there be contact or information, it is transmitted by or through the umpire at the proper time to the affected party, and he is permitted to modify his move in accordance therewith, starting from the *game* time at which the word reached him.

The rules for values, contacts, etc., are all laid down in the book of rules, and it is unnecessary here to go into those details; therefore, we will pass on to the types of problems that will develop as the game proceeds.

17. THE SUB-SITUATIONS WHICH EMERGE.

The forces are beginning to move, and are liable to meet the enemy; scouts are being pushed forward to discover the adversary's whereabouts; protecting screens must be thrown out to guard the advancing battle squadrons from surprise; the train and convoys must be protected; or, on the other hand, those of the enemy may have to be attacked. We could proceed down in this way to the smallest detail, but in practice the smaller details are treated in small games, and the results form the basis for conventional rules or summary decisions of the umpire when they arise as incidents of the higher games.

18. PERMISSIBLE DISCRETION DEPENDENT ON ABILITY TO PERFORM SATISFACTORILY.

It is the ability of the subordinate satisfactorily to grapple and solve the problems that may be assigned him as sub-tasks which permits the commander to treat such sub-tasks as, so to speak, the ultimate units of his problem, just as a captain may direct a boat to be manned, or the ship to be ready to sail at a given hour, without burdening his mind further with the details, and feel himself free to deal with the greater question which induced him to cause the boat to be called away, or to desire to sail at the hour named.

In regard to this liberty of action, let us, before passing on, be quite sure that we understand clearly the relation that binds commander and subordinate. The underlying basis is *loyalty to the scheme*; and this of course demands that there be a scheme to be loyal to. While we are urging the commander to grant all possible liberty to his subordinates within the area of their discretion (don't forget the limitation), there is a very sharp distinction between liberty and license: liberty is not the right to do as you

please; it is the right to do *right* as you please; license is the right to do *wrong* as you please. Liberty, we thus see, has a very decided string to it. The radius of the possible area of liberty is directly proportionate to the subordinate's ability to do right, and the freedom which will be granted depends directly on the commander's confidence that the subordinate, left to himself, will deal correctly with the situation.

If in addition there be a common "doctrine" between the two, mutual confidence will result, and they will understand each other, as the French would say, with "half a word."

It is thus directly to the interest both of the commander and subordinates that the latter be trained to do right naturally, that the right be made the line of least resistance; and it is up to the commander to see that they get the opportunity.

A newspaper has lately printed an anecdote, the authenticity of which is not guaranteed; but "*se non è vero è ben trovato.*" It is to the effect that:

While a certain distinguished officer was instructor at West Point he gave the following problem:

The flagstaff at your station has fallen down. Your commanding officer directs you to get it up again. You have under your command a sergeant and twelve men of the Engineer Corps. How would you go about it?

Various schemes were submitted. All wrong, said the instructor. You simply order: "Sergeant, put up that flagstaff!"

The key to the solution lies in the words "of the Engineer Corps," which imply in the sergeant and his people the possession of the requisite ability.

19. RESULTS EVOLVED FROM THE GAME.

The principle of the concentration of the fleet, now generally accepted in our navy, was the direct result of a strategic game here at the College in the summer of 1903. Dissemination had been our rule for years, *i. e.*, the ships were divided more or less impartially among the stations "to show the flag" as the expression was; and at that time the same rule was general with other nations. At the beginning of the game most of the conference had never entertained a suspicion that the custom was not perfectly correct; but at the end there was but one voice, and that strong and outspoken for concentration. But this view, which required but the

time of one game thoroughly to capture the entire conference, took many a weary month before by mere argument it could convince all of those of our naval authorities who had not had the privilege or opportunity of "seeing with their eyes." It was some time after this that England adopted the same principle. A game played here about that time and sometimes referred to at the College as that of "*The Double vs. the Triple Alliance,*" (in which Russia and Japan figured among the contending powers), caused those who had taken part in it to have but little doubt, at the outbreak of the Russo-Japanese War, of the outcome of that conflict. It may not be unreasonable to believe that, had the Russian Naval General Staff played the Russo-Japanese situation out on chart and board, and had their officers had a little game experience on the same lines, their actual plans would have been very materially different.

When the news came of the battle of August 10, and every one was wondering why at sunset, seemingly at the very crisis of the engagement, the Japanese battle squadron withdrew and apparently yielded the field, and all sorts of reasons were being advanced to account for it, we here at the College recognized at once an old friend, and laughingly exclaimed: "Hello! they have hit upon our retiring search curve!"

We can all recall that at sunset of the first day of Tsushima, Togo repeated the same maneuver, that is, drew off the battle squadron and headed for Matsushima, leaving the field to the torpedo boats. And no one can say that on that occasion, at least, it was because Togo felt himself beaten. No, what he did was, during the night to retire in the direction of natural escape of the enemy, so that at dawn he might find himself still outside of them. Then, extending his net, he could turn, and, as the fisherman's expression is, "scoup them in."

Even international law is affected and developed through the influence of this game. During one of the summer games referred to, played a year or two prior to the Russo-Japanese war, a division was driven into a neutral port, and the superior blockading enemy finding himself balked of his quarry made a demand on the neutral to intern the blockaded ships. Up to that time internment, as applied to the sea, had not been considered. It was taken up the next summer, as an international law situation; and, when the emergency arose in the war that followed, the result of the conference's

discussion was practically adopted by our government as the basis of its action.

I think I have shown, as much as can be shown in a short talk, the wonderful instrument that we possess in this game.

20. SECRET OF THE GAME'S POWER.

Now the great secret of its power lies in the existence of the enemy, a live, vigorous enemy in the next room waiting feverishly to take advantage of any of our mistakes, ever ready to puncture any visionary scheme, to haul us down to earth, and, above all, ready and anxious to "carry the war into Africa."

We know the tremendous interest that Greece took in its Olympic games, of the tremendous interest taken to-day in our yacht and boat races, rifle and tennis matches, ball games, billiard and chess tournaments, not only by those taking part, and those witnessing them, but by the public all over the country. If we want to excite an interest in war on the chart, we must give opportunity to have it played, and opportunity for at least a reasonable number of people to become sufficiently expert to play games worthy of exciting interest. Fancy what it would be, if a yearly war game could be made to excite the same service interest as the West Point-Annapolis football match!

There were those who in the beginning railed contemptuously at the "ping-pong" or Morris tube; but should any of these have been met at the last battle practices, they would indignantly deny that they ever did such a thing; and such is the treachery of memory that there is no doubt they would believe it!

21. RELATION OF STRATEGY AND TACTICS.

Now, if in listening to what has preceded, we have taken notice of the direction of the lines of development, we must have perceived that the "decision" was the direct consequence of the "mission," that execution is simply the act to carry out the mission; no mission, no decision, and consequently, of course, no action, no fight. Therefore, a fight without a mission is action without purpose, muscle without brain. And this suggests what to some may seem a somewhat novel view of the difference between strategy and tactics—that is, the "inner" or fundamental distinction: Strategy, war from the point of view of the one who has an object to attain,

i. e., the planner; and tactics, war from the point of view of the executor; or something like the distinction between the architect and the builder, the playwright and the actor.

While the distinction between strategy and tactics is clear, yet when it comes to laying down the line between the two, we find that they encroach somewhat upon each other's domain, each tending to overlap. This alone is sufficient to show that their movement of approach is from opposite sides. Strategy is the thought seeking its means of execution, and tactics is the means to carry out the desires of the thought.

It follows from what has been said that tactics is the servant of strategy, that every tactical problem should have a strategic setting, or at least keep in view the master idea which it is intended to subserve. That is the reason why tactics left to develop by itself is like servants without a master. They are practically on a vacation, and nothing very valuable may be expected from them under those conditions.

22. TWO WAYS TO APPROACH A SUBJECT.

Yes, there are two ways of approaching any subject: what may be called (1) By the small end; and (2) By the big end.

(1) The small end: the way of the subordinate, the man who obeys. He learns to be skilful within his limited discretion. His necessity, his *impelling* as well as *compelling* cause is the order of his superior.

No order; no cause.

(2) The big end: the way of the chief. His compelling cause is the necessity of the problem, the necessity of the situation.

No situation; no necessity.

23. EFFECT OF WANT OF COMPELLING CAUSE ILLUSTRATED IN OUR NAVY DEPARTMENT.

This finds curiously apt illustration in the history of our Navy Department:

In time of peace, the natural thought of the civilian is to a peace navy—there being no war to conduct, there is no compelling necessity for a war conductor, and, in the absence of a compelling necessity the Department was *organized without that element!*

There being no provision for war directing co-ordination, each bureau or specialist branch drifted toward independent sovereignty—like the states under the old Confederation which preceded the Constitution.

The Civil War came, and departmental chaos gave way to a scrub strategy board, which in turn gave way to an assistant secretaryship filled by an ex-naval officer—not, however, without wading through Pinaforean experiences before reaching some sort of possible system. It was this very thing which during the Civil War awakened the founder of this institution, Rear-Admiral Luce, to the necessity of a War College.

Well, the war over, came the time of cutting to a peace basis; and what more obvious for the first cut than the war directing secretaryship, now no longer “necessary!”

Next came a couple or so of still-born wars with the inevitable hurried, temporary expedients; and finally in 1898, the war with Spain. This time it is a strategy board.

After the war was declared, this board was hurriedly, as usual, organized and assembled in the same makeshift way. And here, too, following the same seemingly inexorable law: the war over, and our experience having shown the board to be very valuable, indeed in war indispensable, it was, as usual, promptly passed into the scrap heap.

24. THE SOLUTION.

WHAT THEN IS THE TROUBLE? *It is in the want of a compelling necessity.*

How then shall we supply this compelling necessity? As, in our history, war seems to have been the only thing that has had the requisite power to compel, and as we cannot have *actual* war in time of peace, why not have recourse to *artificial war*? It possesses the advantages without the disadvantages, has proved itself fully adequate to the purpose in the case of Germany and Japan; and here in our own case, notwithstanding the very limited opportunities we have had for its exercise, it has already exerted such an influence for good as to justify us in expecting much greater things when properly utilized.

25. CONCLUSION.

And now, gentlemen, in conclusion:

Success in any art may be regarded as the product of three factors:

- a—the right thing,
- b—rightly applied,
- c—in time.

If either of these factors is zero, the result will be zero. The right thing rightly applied too late, the right thing misapplied, and the wrong thing, whether applied or not—neither of these combinations promises success.

When from a study of the experience of past wars, and of that of *artificial* wars checked up by suitable trials in the fleet, we shall have discovered what is the “RIGHT THING”; when, by the practice of artificial war, we shall have so familiarized ourselves with the various theaters of war, the situations and their appropriate solutions, that we can see “THE RIGHT THING,” “RIGHTLY APPLIED”; and finally when, by persistent practice of artificial war, we shall have so trained our appropriate mental muscles (the mental processes), that the proper line of reasoning has become the *line of least resistance*, so that we shall think right even if we have no time to think at all—instinctively, actually quicker than thought—thus enabling us to do the “RIGHT THING,” “RIGHTLY APPLIED,” “IN TIME,” then, and then only, shall we fully realize the true meaning of the saying that “the best school of war is war!”

Steam applied does work; steam unapplied is but hot air. In the words of Captain Jack Bunsby: “The bearings of this observation lays in the application on it.”

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