

12
17
132

16

TRAINING FOR WAR COMMAND.

Lecture delivered by
Commander Frank H. Schofield, U. S. N.

at the
Summer Conference

U.S. Naval War College

Newport, R. I.

June 1912.

(1919 Edition)

TRAINING FOR WAR COMMAND.

Prepared by Commander Frank H. Schofield, U. S. N.

Reference, - Corbett - Maritime Strategy,
Edinburgh Review April 1911, January 1912,
Audibert - - Problem Solving.

An effort will be made to develop in the following pages the general background of our system of training for War Command. The aim of training will be better understood if we can get at the very root of the matter, if we can uncover a true ideal towards the attainment of which we should direct our efforts. What is such an ideal? We conceive it to be efficient coordination of effort, unity of action of all military forces. Throughout this paper you will find that we persistently adhere to the idea of efficient coordination of effort, unity of action - as the true goal of training.

A state in its activities is much like an individual. It seeks its own good. It occasionally seeks the good of others. It has work to do and tools with which to do the work. It plans its work and carries on more or less according to plan using the tools that appear to fit. It recognizes fully the first law of nature and takes means to insure that self shall be preserved. It exists in competition, has friends and enemies, succeeds, or fails according to abilities and opportunities, and so on through the list of most human experiences we may find the counterpart of each in the life of the state. But there is one wide difference, in their activities, between the individual and the state. In the individual a single intelligence dominates all its acts from birth to death. In the individual there is a continuity and completeness of intelligent control that is never found in an organization of any kind. The brain is in instant communication with each living part of the individual. The will may find instant and complete expression in effort. All the complex organism is continuously and without delay coordinated to the will of the single intelligence. It is difficult to conceive of a more efficient arrangement for the execution of purpose. An intelli-

gence conceives. The same intelligence decides, and having decided, executes; according to its own method, without ever losing control of the remotest detail of execution. Let us assume that this is an ideal arrangement for which states should strive.

The intellectual acts of states as of the individual fall under three general heads:

(1) Conception.

(2) Reasoned Decision.

(3) Intelligent Control of Effort.

The conceptions of the state are the products of many intelligences in conflict. From among these intelligences certain stronger ones emerge as the leaders or exponents of the dominant conceptions. From these dominant conceptions and from the conditions surrounding the state its Reasoned Decisions flow. These decisions express policies. They may be quite permanent, or they may be evanescent depending upon how naturally they flow from the deepest convictions of the people, how effective the measures in their support, and how nearly the realization of the conceptions corresponds with expectations. But the fact that is here of most interest to us is that the conceptions and decisions of the state in their final form emanate from closely associated individuals, men who as a rule deal together without the barriers of time and space. They have superior opportunity to coordinate decisions with conceptions. They are men trained in the school of their particular conceptions, who reason along similar lines and consequently should arrive at homogeneous decisions. If the conceptions of the people were sound and durable, if the leaders were brilliant and honest, the reasoned decisions, the policies of the state would be efficiently determined. The intellectual activities of the state up to this point would then closely resemble the intellectual activities of an efficient individual. It is interesting here to note, as it bears on a subject of peculiar interest to us, that there is a constant and almost spontaneous

effort in every state to develop, solidify, and make stable the conceptions of the public. The means adopted is education, the training of thought along particular lines, the coordination of belief in support of policy. This coordination is strength. It tends towards concentrated and continued effort. It approximates the efficiency of the individual. The intellectual acts of the State comprised in the first two classifications (1) Conception, (2) Reasoned Decision are acts in which concentration is the dominant note. The conceptions of the many converge on and find expression by the few. From the many conflicting desires a few of the more dominant crystalize into policies. This is the pinnacle of the States' intellectual concentration. When it passes to the third phase of its intellectual acts - the intelligent control of effort to realize decisions - the natural tendency is one of dispersion. It is this latter phase that particularly concerns us and the methods involved in the present practice of this college. When a State determines on a policy which requires the consent of other States it uses diplomacy to further the policy. In the employment of this means there is no marked break in the intelligent acts of the State because those individual intelligences that deal with diplomacy are of the same general character and training as those intelligences that set the task for diplomacy. The barriers of time and space are of course introduced but diplomacy is usually so deliberate in its progress, and communications so facile, that these barriers offer no great obstacle to coordination of diplomatic effort.

If diplomacy fails and there has been no preparation for the use of force the policy will fail. This naturally suggests the necessity for policy and the preparation of force to be thoroughly coordinated. This subject is dealt with in a paper by Captain Hill read before the summer conference of 1911 and later given in testimony before a congressional committee having in charge the bill establishing a national defense committee. The basic idea of the paper is coordination and particularly the coordina-

tion of the highest government authorities to the end that their united relations to policy may be as the relation of the single efficient individual to his reasoned decision. This particular phase of coordinating as treated in Captain Hill's paper, should receive your careful attention.

If Policy and the Preparation of Force have been coordinated we come quite naturally to Force. Force is the Army and Navy, in their correct perspective a single living instrument of the State; in peace the potential argument of diplomacy, in war the dynamic power of the State for the realization of its policies. The effectiveness of the instrument depends upon its size, its character, and the uses to which it is put. Its size we do not control. Its character is our special charge. Its use is largely a matter of our initiative. If now we come down one step and regard the Navy as a whole - as an instrument, and grant that its greater efficiency will be realized when it is used as a whole rather than as an assemblage of parts we arrive at a point where we can formulate definite ideas calculated to increase efficiency.

The Navy is first of all an assemblage of men. Men are intelligent beings, but their intelligences are not equal, nor do equal intelligences have the same character. Individuality constantly seeks to express itself. The untrained work at cross purposes. It is the business of organization and training to turn conflicting effort into harmonious effort, to weld individualities into one great composite individuality in which each individual expresses in himself the spirit of the whole, which spirit should be good. To accomplish these ends organization resorts to training. Training seeks its ends by the use of methods and by the development of judgment and understanding in the individual. In the lowest grades this training takes on the character of training in methods. There is one best way to load a gun, one best way to fire a boiler, one best way to do most of the separate acts which taken together constitute the internal activities of a ship. These best ways are methods derived from experience. The objects of training

in methods are to develop speed, precision, automatism and efficiency. Speed is to enable the maximum performance in the minimum time; precision to insure continuity of action; automatism to lessen the effects of divided interest, efficiency to promote economy. Automatism is a product of training through the formation of habit. It aids the individual in neglecting the distracting influences of battle, in preserving his continuity of efficient service. All training in method is systematically aimed at coordination of effort.

Training in judgment is the next higher phase. Many acts require the application of method modified by judgment. The gun pointer lays his gun by method but judgment tells him when to fire it. This judgment results from training. It results from training according to method. The Captain uses method in handling his ship but judgment is always in play modifying his method. This judgment results from training according to method. But the Captain's judgment requires more training and a higher order of intelligence back of it because of the greater variety of conditions that influence its action. Yet in both cases both method and judgment are directed towards efficient coordination of effort, the gun with other guns, the ship with other ships. Through every phase of organization and training this is the one true goal - efficient coordination of effort.

As we ascend the scale of responsibility method takes a subordinate place and the importance of judgment grows. The Commander in Chief requires a higher order of judgment than any other individual in the organization. Above judgment is understanding, the distillate of knowledge, experience and character, that guides judgment. It is a curious fact that where judgment and understanding have most to do with efficiency, the systematic effort of our organization towards their development is weakest. The training of subordinates is good. It receives the attention and criticism of skill wherever found in the organization. The same

is not true of higher training. Rank is removed from criticism. Peace is apt to foster an apathy towards the requirements of war. The training of the subordinates to the efficient performance of his duties is of great importance, the training of rank to the efficient performance of the high duties of great command is of the greatest importance. The one is provided for, the other neglected. Both are essential to intelligent cooperation. Both are essential to the employment of the navy as a whole, as a single instrument.

To summarize. The State is a whole, a living whole, a composite individual, having one great mind the welded mass of many minds. Its policies are the reasoned decision of its great mind. Its organized forces are its strong arm to carry out its policies where they are resisted. The value of these forces depends upon their readiness to act in unity. In searching for some guide that would focus ideas on the essentials of military conduct, none has been found surer or more useful than the conception of unity in all the forces, of unity in their aims and measures, and of unity in the scheme of war. This conception flows naturally from the conception of war as a whole, a conception held by all the masters of war. We secure this unity of purpose and action by coordination. How is this coordination to be attained?

Knowledge is the basis of intelligent action. In an organization, action flows from the leader. The flow must not be obstructed by ignorance. It is our duty to acquire knowledge of war. None will dispute the necessity for knowledge of war on the part of the Commander. Why should a like knowledge permeate his command? Because, "It is not enough that a leader should have the ability to decide rightly; his subordinates must seize at once the full meaning of his decision and be able to express it with certainty in well adjusted action. For this every man concerned must have been trained to think in the same place; the chief's order must awake in every brain the same process of thought; his words must have the same meaning to all".

"At first sight nothing can appear more unpractical, less promising of useful result than to approach the study of war with a theory. There seems indeed to be something essentially antagonistic between the habit of mind that seeks theoretical guidance and that which makes for the successful conduct of war. The conduct of war is so much a question of personality, of character, of common sense, of rapid decision upon complex and ever shifting factors, and those factors themselves are so varied, so intangible, so dependent upon unstable moral and physical conditions, that it seems incapable of being reduced to anything like true scientific analysis. Yet, since the great theorists of the early nineteenth century attempted to produce a reasoned theory of war, its planning and conduct have acquired a method, a precision, and a certainty of grasp which were unknown before.

.....
That . . . are the tangible results which we can hope to attain from (knowledge of war) theory? If all on which we have to build is so indeterminate, how are any practical conclusions to be reached? That the factors are infinitely varied and difficult to determine is true, but that, it must be remembered, is just what emphasizes the necessity of reaching such firm standpoints as are attainable. The vaguer the problem to be solved, the more resolute must we be in seeking points of departure from which we can lay a course, keeping always an eye open for the accidents that will beset us, and being always alive to their deflecting influences. And this is just what the study of strategy can do. It can at least determine the normal. By careful collation of past events it becomes clear that certain lines of conduct tend normally to produce certain effects; that wars tend to take certain forms, each with a marked idiosyncrasy; that these forms are normally related to the object of the war and to its value to one or both belligerents; that a system of operations which suits one form may not be that best suited to another. We can even go further. By pursuing an historical and comparative method we can detect that even the human factor is not quite indeterminable. We can

assert that certain situation will normally produce, whether in ourselves or in our adversaries, certain moral states on which we may calculate".

"Having thus determined the normal, we are at once in a stronger position. Any proposal can be compared with it, and we can proceed to discuss clearly the weight of the factors which prompt us to depart from the normal. Every case must be judged on its merits, but without normal to work from we cannot form any real judgment at all: We can only guess. Every case will assuredly depart from the normal to a greater or less extent, and it is equally certain that the greatest successes in war have been the boldest departure from the normal. But for the most part they have been departures made with open eyes by (men) who could perceive in the accidents of the case a just reason for the departure".

"Study of theory must not be regarded as a substitute for experience but as a means of fertilizing it. Individual thought and judgment must remain the guides to point the general direction when the mass of facts begins to grow bewildering. "Theory (knowledge of the past) will warn us the moment we begin to leave the beaten track, and enable us to decide with open eyes whether the divergence is necessary or justifiable."

Knowledge of war is thus seen to be necessary to the attainment of our mission - the efficient coordination of effort. The ability to apply knowledge and experience is the second requirement. In this we see gradually unfolding a scheme of higher training. The scheme is based on method. It is a training according to method, but not a training in method. A necessary step in the method is the acquiring of knowledge, the digesting of the experience of others. No one who reads military history can doubt that knowledge of the experience of the past has been a characteristic accomplishment of all great commanders. We think of Napoleon pouring over his maps, studying the campaign of Alexander, of Caesar, of Hannibal, with as much respect and admiration as we think of him in that wonderful quarter of an hour at Austerlitz when he held back his forces until his knowledge

and judgment told him that the exact moment had come to strike the crushing blow. The one picture is of the great man undertaking inconspicuous work, hard long continued work, in order that he might be the more fully prepared for what the future had in store. The other picture is of the same man exhibiting a dazzling poise, born, perhaps in part, of natural greatness; but strengthened by the sleepless nights of hard and inconspicuous labor by which he had endeavored to perfect his natural endowments. He realized the value of knowledge. He was willing to give to its acquiring the labor it demanded. He had his reward in the greatest of military careers.

Dodge says that "military critics are wont to forget that Napoleon's able generalship was the result of his study of the campaigns of other great soldiers in the past, and of his natural acuteness in evolving the secret of their methods, and again of putting their principles into practice". In this remark we see again the outlines of a scheme for self improvement. First, by diligent study to make the experience of others our own experience and then to exercise the knowledge we have thus gained. Before anyone can do this effectively he must leave behind that "traditional idea that intellectual capacity is of far less value in the field than the military virtues, courage, endurance, and skill at arms, that the problems which confront the general are all to be solved by the exercise of ordinary common sense, and that war is a matter of such simplicity that it is hardly worth serious study". Clausewitz said "In war everything is simple but the simple is difficult".

When we recognize the necessity of training in the application of knowledge in order to strengthen judgment, the need is immediately felt for some method, some system of training. We feel that there must be some best way of developing our ability to command. As it is a matter of common experience that we learn by doing, it appears that a good way to learn to command is to command. But that, for most of us, defers learning until

late in life when habits of thought and action become so fixed that the individual does not respond to training. Then command in war is quite different from command in peace. Wars of the present day are brief. There will be no time to educate men for war command after war has broken out. The only possible answer to the demand for general training to command in war is peace training in the duties of war command. This training must require of the individual acts resembling those of an actual commander during war.

What does a commander do in war? He issues orders. On what are those orders based? They are based on his instructions as modified by his interpretation of the condition of affairs at the time his orders are issued. How does he arrive at the nature of the orders that he issues? He carefully weighs all the circumstances of the case to determine what he should do. Is he cognizant of all the circumstances that might affect his decision? He is not. Henderson says, "Full knowledge of any one point connected with the enemy is very seldom forthcoming. Data of the problems to be solved are never clear. The condition of affairs has always to be more or less inferred. Almost every operation is so involved in uncertainty from beginning to end that success is invariably a matter of doubt".

The intellectual acts of command in war may, then, be stated as follows:-

- (a) A clear comprehension of instructions.
- (b) A reasoned examination of conditions.
- (c) The determination of intention - decision.
- (d) The communicating of intention in the shape of orders to others. These are the acts that we should do to train for command.

To gain "A clear comprehension of instructions" seems at first quite easy if instructions are clear. To make "A reasoned examination of conditions" is not difficult in most cases. But when we are to combine these two acts and from them determine inten-

Now, we at once see that any military situation may appear to justify a variety of intentions. Now remembering always that we are struggling for coordination of effort, unity of action of military forces, we see that this multiplicity of possible intentions is undesirable.

The Commander in Chief must have a certain confidence in his estimate of what a subordinate will do under certain conditions. He desires that the subordinate will do as he, himself, would do were he present. How can he attain this confidence? How can the subordinate act as his superior would have him act? We believe that the answers lie in the general recognition and absorption of a doctrine of war. - That term has an unattractive sound to a military man. It savors of book-learning rather than of practical experience.

What is meant by a doctrine of war? It is a general body of instruction; that body of instruction which comprehends the underlying ideas of the organization on the conduct of war. It has for its mission the harmonizing of military effort.

To determine if doctrine can accomplish its stated mission we must examine the past. If doctrine has in the past accomplished its mission it must be a good thing.

When armies were small, the range of fire arms short, and close order fighting was the rule, there was practically no delegation of authority or responsibility to subordinates. Such delegation of authority impaired cohesion of effort. Armies were handled by commands of the general,

When armies became large, when artillery was made mobile, a change in organization became necessary. The French introduced this change. It consisted in the division of the army for use over a wider field, and in the development of the use of mobile flexible columns preceded by swarms of skirmishers.

The importance of these changes was grasped by leaders of French military thought. Through their teaching the younger French officers became imbued with a doctrine. It was the doc-

trine of economy of forces. "This doctrine was based on the principle that a formation of all arms such as a division could not be destroyed by even a greatly superior force in a brief time, provided it had space in which to fight delaying action". By using this principle the commander was able to amuse a large part of the enemy forces while concentrating a decisive attack at a chosen point.

This doctrine was extended by Napoleon to the field of strategy. So long as he had marshals who were imbued with the doctrine he was successful. He knew he could depend on them, that they understood what he called "mon systeme". When he had to depend as in 1813-1815 on marshals who did not understand his system, he failed. Doctrine no longer harmonized the principles of command. It was not the fault of doctrine but the fault of men who did not comprehend the doctrine and who, in consequence, could not fully understand the orders of their chief.

The earlier campaigns of Napoleon justified the existence of doctrine in war.

Moltke before he became chief of staff recognized an important element in the final fall of Napoleon - the failure of his marshals. It appears that Moltke resolved that his doctrine of war should not fail from the ignorance of his subordinates. His doctrine required commanders of detachments, possessed of a high degree of technical skill. It required commanders with minds trained to work in unison with him when distance made immediate control impossible. To be ready in war he trained his commanders in peace. He thoroughly instructed them in his doctrine. This doctrine is indicated in the following paragraph from his "Instructions for the Superior Leaders of Troops".

"Incomparably more favorable will things shape themselves if on the day of battle all the force can be concentrated from different points towards the field of battle itself - in other words, if the operations have been conducted in such a manner

that a final short march from different points leads all available forces simultaneously upon the front and flanks of the adversary. In that case strategy has done the best it can ever hope to attain, and great results must be the consequence."

"This doctrine postulated the advance of columns on a broad front. The danger of such a method is defeat in detail. To guard against this danger, the operations of each column must be so bold and so energetic that the initiative is not allowed to pass into the hands of the hostile commander. Every column commander as he comes to grips with the enemy perhaps stronger than himself, must feel confident that his comrades to the right and left will see the situation as he sees it, and will attack vigorously to take the pressure off him and help envelop the enemy he is engaged with, -----From the subordinate commanders in his column he will demand the same energy, self reliance and understanding of the situation which the supreme commander has required from him".

To ensure this form of coordinated effort Moltke trained the minds of his subordinates, by problem solving, by staff rides, by maneuvers, many of which he personally criticized, until his subordinates saw war as he saw it. Of course, there were exceptions among them, men whose minds were so restrained by character, or rendered so impervious by age, as to be unable to assimilate Moltke's doctrine. The failures only served to emphasize the need of harmony and pointed the final way to securing harmony when instruction and experience had failed, - the removal of the inharmonious.

The Campaign of Moltke in 1866 and again in 1870 justified the existence of doctrine in war. So today in the Emperor's forces, unity of thought is held to be essential to harmony of effort.

There is a doctrine of no doctrine. It contemplates the training of commanders in the technique of command, but stops short of any attempts to mould their mentality. The theory is

that each situation must be estimated solely on its merits. This seems to provide for the greatest possible simplicity. The fault lies in the fact that it is humanly impossible to take unbiased action on any situation. The situation is the sum of several factors. The estimate of these factors and the determination of intention from the estimate is bound to reflect the personality and training of him who makes the estimate. Even in a service that believes and teaches the doctrine of no doctrine, we must grant that officers will study the past, will study war, will endeavor to understand war. Such study must result in definite impressions. Each individual formulates, perhaps unconsciously, his own doctrine of war. This doctrine will depend on his character, his reading, and his deductions from the knowledge acquired. "Instead of a doctrine held in common with comrades and chiefs, each commander will have his own doctrine and a few will know what that doctrine is".

Of two organizations, one educated in a definite doctrine, and the other in the doctrine of no doctrine in which will effort be more harmonious? Command over separated forces can be exercised more or less completely in proportion to the ability of the Commander in Chief to transfer the working of his mind to the mind of his subordinates. If they speak the same language and think along the same general lines, is not command more complete than it would be in an organization schooled in the doctrine of no doctrine?

The Commander in Chief may frequently have to base decisions on what he thinks will be the probable action of subordinates. If he is familiar with their training and thought, he is in a stronger position for his own decision. He will have eliminated an unknown quantity from the equation, the mind of his subordinates, and the problem becomes correspondingly simplified.

The doctrine of no doctrine does not promote coordination of effort, unity of action - our mission.

This statement is not made off hand. It is backed by the highest military opinion. The French study of the war in South Africa led General Langlois, a leader of French military thought to conclude that the English failures were due to the lack of a consistent and coherent strategical and tactical education, to the lack of a doctrine of war animating the English Army. The conclusions of the great German Staff were of a like nature.

General Kuropatkin in his book enlarges on the divergence of views held by his subordinates -- on the lack of uniform training -- which clearly indicated a lack of unity of doctrine. He found the need of a general doctrine of war so great that he attempted in orders issued during war to lay down a doctrine.

From this examination of doctrine, it can be seen that no subordinate in a military organization can efficiently and surely perform the intellectual acts of command in harmony with his chief unless his education and beliefs are in harmony with the educations and beliefs of his chief. To clearly understand his instructions, he must be able to read between the lines their full meaning. If the signal were hoisted "Ships right" and those officers charged with its execution were not informed of the method of execution, there would result a movement quite discreditable to any fleet. In the same manner a brief military order perfectly clear in its terms will not be properly obeyed unless it is fully understood. Each word and phrase must awake in the mind of the subordinate the same train of thought that was in the mind of the chief when he gave the order. This condition then permits the fullest understanding of instructions.

The second intellectual act of command, -- a reasoned examination of conditions will then comprehend an examination of the implied wishes of the chief as one of the important conditions. The determination of intention, and the communicating of intention in the shape of orders will then most likely be in complete harmony with the view of the Commander.

If we look for a naval doctrine of war we cannot find any clear concise statement of such a doctrine. We have maxims and principles, but they have yet to be welded into a general body of instruction and doctrine. From study, experience, collaboration in the solution of war problems, we hope that there will be evolved a uniformity of strategic and tactical belief that will be our doctrine, the basis of unity in action, coordination of effort. We pass now to a brief consideration of problem solving.

War may be compared to a moving picture film -- a sequence of detached yet merging pictures, each one quite clearly defined. If we take one of these pictures and describe it in words it becomes a military situation on which authority in war must act. It is a problem that command must solve. On the solution will depend the nature of the next problem that will confront command. The sequence is situation, decision, orders; new situations, new decisions, new orders and so on to the end. From each great situation many minor situations result, all requiring this treatment, -- study - decision - orders.

If we imagine situations and then subject them to the treatment indicated above we do as the commander must do in war. If we imagine situations likely to occur in a possible war with a designated power we prepare our minds for a definite conflict. If situations are numerous, probable, and well thought out, a general conception of such a war is evolved which will be useful in plan making.

We call this process problem making and problem solving. That part of the college staff charged with this work makes the problems and solves them. You are concerned only with the problem solving. We recognize two steps in problem solving:

(a) The Estimate of the Situation.

This includes a complete study of the problem and all collateral data, in a logical manner

so that from the data given and inferred a sound military decision may be derived.

(b) The Formulation of Orders.

This is the actual writing of orders to carry out the military decision arrived at in the Estimate of the Situation.

We have thus narrowed the general view down to problem solving, our point of interest.

In the beginning, there was the conception of the state as an intelligent whole with many of the activities characteristic of individuals. It was assumed that the more nearly the state acted as an efficient individual the more powerful it would be; that the ideal condition would be perfect coordination of all the acts of the State. That the Army and Navy in their correct perspective are a single instrument of the State, that their effectiveness is largely derived from their ability to be used as a whole rather than as an assemblage of parts. That they are made up of many intelligences and that those intelligences can be coordinated into unity of action only through education and training. That education and training to this end, - unity of action; - is the goal towards which we are striving. - That certain methods of training have been developed and that these methods involve two general phases - study of the past, in order that the experience of the past may, in a measure, become our own experience; and problem solving, to develop and strengthen judgment by the exercise of knowledge, and especially to bring about a uniformity of belief and practice.

Study is largely a matter of individual initiative, but appended to each problem given to you will be a brief list of certain pertinent books or papers to be studied. You have also been given a list of books that have a special bearing on our work.

In problem solving you will all experience certain difficulties. One of these difficulties will be what you regard as incomplete information. Some of you will feel impelled to resist the problem itself to point out why it is unreasonable, incomplete, not a true problem. Why it would never happen in war. Well, perhaps it will be a poor problem but concentrate your attention on its solution. The problem makers did their best. Every problem presented to you has been rewritten many times to make it reasonable, sound and instructive. We try to build each problem around a motive, to so shape the problem that the motive will have to be developed. The problems of the summer course are very few in number. You will find that the solution of the last problem will be no easier than that of the first problem. Do not reason from this that your military judgment is not developing, that you are not acquiring greater certainty and facility of judgment for if you so reason you will be in error. As the problems are few in number each one must necessarily involve an entirely different study; each one is practically a new subject. It is for this reason that you will not notice any increased facility in problem solving as the course progresses. The benefit to you would quickly be seen if problems were all of the same nature. One scouting problem exhaustively studied and carefully solved will be a permanent and valuable asset for use in all other scouting problems that may present themselves to you. The same is true of each other class of problems.

There is another benefit to be derived from even this short course in problem solving. You will be in a better position to pose your own problems and solve them. You may in doing this be deprived of the advantage of criticism by someone who has given the problem as much study as you have given it, but this is not a wholly irreparable loss. A pro-

blem solved by yourself and stowed away if broken out later will receive quite drastic criticism if meanwhile you have solved other problems. No matter how satisfactory the first solution to a problem may be we invariably find ways of improving solutions when revising problems.

In the problems presented to you for solution you will find that questions of numbers and positions appear to have more intimate and cogent relationship to the situation than the state of mind or spirit of the adversaries. This is because it is not possible to assign a value to the moral factors that will approximate the truth. A problem solved without considering the moral factors is not a problem completely solved but one very usefully solved. The Commander who has made a sound estimate based on numbers and positions is in a better situation to make use of his estimate of the moral factors than one who has neglected what may be considered the mathematical side of the solution. He may find that the moral factors support his mathematical solution or vice versa, but in any case, and whatever his decision, it will be based upon definite knowledge of determined factors rather than upon a loose and indefinite survey of the whole field.

It is important that the commander should so study his problem that he will have the utmost confidence in his decision. He will thus secure to his poise a firm foundation and to his measures a guard against the assaults of indecision and vacillation.

In war the moral factors constitute, in a way the atmosphere in which the fleet and all its living units, exists. This atmosphere is permeated by Public Opinion, by the state of National Patriotism, by view of the Offense and the Defense, of Peace at any price, etc. But a still more immediate and poignant element is found in the events of the immediate past, initial successes or failures, physical condition of the personnel, weather, etc. To all these influences authority is subjected, so that in actual war the flow of events cannot fail to modify in a way the valor of

decisions. In war mathematical judgment is not complete judgment. We will find it useful in the solution of problems to meditate upon the influences which the moral factors might exert on the decision. Remember always that we are striving to develop sound judgment. That we are seeking to develop a unity of strategic and tactical conception with a view to harmony of effort. Our ideal is a closely knit organization in which the spirit of chief command is sound and is so diffused through all the organization that each individual required to act alone will act in accordance with that spirit. --- Pull together and keep stroke with the stroke car.