

U. S. NAVAL WAR COLLEGE

December 1911.

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Lectures on the Applicatory System of Solving
War Problems, with Examples Showing the Adaptation
of the System to Naval Problems.

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THE ESTIMATE OF THE SITUATION.

This is the foundation upon which is based the deductive or applicatory system of studying and solving war problems.

This system is the ground work upon which the Germans have been building for so many years, and to which all military writers ascribe her wonderful development in leadership and in knowledge of the Art of War.

It stands alone, without a rival, and has so stood for a hundred years. It has been consecrated by success in its application to conditions of war; and it behooves any who would seek to gain efficiency in the Art to follow in the wake of its most successful teachers.

We have not been diligent, heretofore, in getting at this root of success; to see in what kind of substance it germinated and from which it extracted vigorous life.

We should not at this late day disdain to begin our professional life anew so far as it is concerned with the study of the Art of War; and begin at the A B C, which we have too long neglected in our desire to practice without its knowledge.

We are in exactly the same position as the youth at school who chafes at his books and longs to get out into the practises of life. He disdains the course that the experience of ages has shown to be the best and surest road to success. He goes forth into life a mediocre man; or, if he achieve success, it is because of other attributes the development of which by proper training would have assured to him a higher success.

It is equally true that no amount of education or training would assure success to some; but no one can deny that careful and assiduous training is vastly beneficial even to the stupid.

So with this system of training in war -- it is not designed to create genius. That springs from a seed of its own, the germ

of which has never yet been discovered. Its whole aim is to provide a higher education, a better training for the mass. It will not stultify genius, and it will raise the standard of average ability.

This system of training had its origin in the Prussian General Staff many years ago. It was not, however, until after the successes of Prussia in her war with Austria in 1866, and the successes of United Germany at war with France in 1870, that other nations were led to inquire seriously into her system of training.

Not until then was its principle grasped and its efficacy appreciated. But unfortunately we were not among those who felt the necessity of thus reasoning from effect to cause.

We as a nation are reluctant to shape our course in accordance with foreign standards.

We are surfeited as a people with an overweening self-sufficiency that is a natural outgrowth of our origin and development as a nation, and our position in the world.

As military men we have inherited this trait and have therefore been slow to recognize the virtues in any system of training that has not been evolved by us.

It may be pardonable for the masses to feel that the military inheritance left us by those who fought in our past wars discounts any system of training evolved or discovered abroad.

But it is not pardonable for military men, whose profession is the Conduct of War, to fail to search out the truth; and, having found it, by whomsoever discovered, to fail to follow it.

It has only been a few years since the voice of command was heard in our Army, and that voice demanded criticism of our past military history and not blind worship of ultimate results. It demanded that, at least among military men, war be studied according to a system, and as there was but one system they embraced that one.

Now, war is war; and whether we choose to study it as army or navy men, it is still the same subject; only handled with dif-

ferent tools.

We cannot learn how properly to use those tools until we know something of the Art that we are going to practice with them. Knowing the Art is common ground for us all, knowing our tools is our especial science; but each with his own tools may become better able to apply them to the task cooperatively, if each is well grounded in his knowledge of the Art.

Strangely enough, we of the Navy, with all our spirit of alertness and progressiveness in perfecting the details of our instruments, have not yet awakened to the fact that there is an Art in the employment of those instruments in combination as well as a science in their use as individual units.

Or, if we have appreciated the existence of the Art, we have failed to realize the virtues of the only known, well designed system of training that alone can lead us to a higher development of our profession and make us fit for the conduct of War.

That we may not longer continue in ignorance of our basic necessities, the endeavor of this paper will be to lay bare once more the principle; and to urge the importance of grounding our study of War upon a system that has been and is a torch of progress in the Art, and which we have hitherto failed to see; or seeing, have not firmly grasped.

The events that led up to the formulation and adoption of this system of training are interesting historically and illuminating.

We all know how the armies, led by the genius of Frederick the Great, established the integrity of Prussia and became the model in discipline, organization and training for all the Continental Powers.

We know too how intolerant of criticism or of suggested change in method were the leaders who came after Frederick the Great.

How could any system of training for the Conduct of War in the Napoleonic era be better, they maintained, than the brilliant

heritage left to them in Prussia less than 50 years before by the Great King?

Steeped in their self-sufficiency, disdainful to learn from events that forecasted a radical change of system, they had their awakening at Auerstadt and at Jena in 1806.

The disasters that there befel the Prussians were not incident to any decay in their race, their spirit, or their fortitude; nor to a neglect in their training according to the system that had been handed down to them.

They were still fine soldiers in every sense of the word; and they were pitted against soldiers in 1806 no more valiant than those over whom their fathers had won so many victories under the Great Frederick.

The causes were elsewhere to be sought; and out of the overwhelming disasters of Auerstadt and Jena, and the utter humiliation forced upon Prussia by the treaty of Tilsit in 1807, there sprang a spirit of determination to search out and expose the truth.

The truth that seemed to stand out as particularly condemnatory of their highly prized organization and system of training was, that it needed the genius of a Frederick the Great to make it effective in war.

They realized that they did not have a Frederick the Great; that they were living upon a tradition; and that therefore, when the first clash came with the great genius of modern war, their organization and system went down to utter defeat and ruin.

They may have realized too that Napoleon's system of training possessed the same inherent weakness that underlay their own; for Napoleon's system, deprived of the genius of his own leadership, met defeat more often than it did victory.

It is a significant historical fact that Napoleon's Marshals, with probably but one exception, Davout, after many years of active campaigning under his direction and guidance, seemed, when acting independently, unable to apply successfully, against the

forces opposed to them, the principles of grand tactics that made their master the greatest soldier of modern times.

The general principle underlying the deductions made from their experience by the Germans, relative to a system of training, seems to have been that it is safer and wiser to develop by training a high average of ability in leadership than to trust to untrained "common sense" or to the development of a genius in time of war to lead mediocrity to success.

In this crisis the Prussians were fortunate in recognizing the wisdom of Scharnhorst, who pointed out to them the way that ultimately led to victories of even greater import to Prussia as a nation than her former defeats had been.

Under his guidance was instituted a real Staff College, whose function was to take up the studies of campaigns, and to formulate, solve, and discuss concrete war problems.

These problems seemed at first to be based only on the studies of past campaigns; but later they were cast also in the mold of possible future campaigns.

Under the direction first of Scharnhorst, then of his pupil Muffling, and, for 31 years prior to his retirement in 1888, of von Moltke, this system of training was developed. In 1870, its fruition was seen in the unbroken succession of victories over the French; whose generals, be it remembered, had had far more experience in the field in active operations than the German generals had up to that time.

Thus was inaugurated and systematized what may be termed a new art -- the art of waging war in time of peace.

The basis of this system of training is founded upon a method of teaching how to approach the solution of war problems. It is, therefore, in its beginning a training in mental processes. Later the conclusions derived from the mental processes are translated into action.

This system of training embraces three phases.

The first phase is embodied in the Estimate of the Situation -

a mental process which leads up to and expresses the Decision; or what, under the circumstances you have made up your mind to do.

The second phase teaches us how properly to translate the Decision into an Order. Having made up your mind to do something, how are you going to do it?

The third phase translates the mental processes into action and has to do with carrying out on the field or in the game the tactical or strategical dispositions made in the Order.

At first it may seem to savor of a return to class room days to have to make what appears to be a labored preliminary to a decision on a war problem; but we must bear in mind that we are dealing in war with an Art in the practice of which we are mere tyros, and for the study of which we have heretofore employed no tangible system of training or practise; and it behooves us to make our profession our business.

Short cuts to fame in the Art of War are reserved only for the genius.

Were there other equally good and more direct methods of learning how properly to solve a war problem, or how to obtain in a concrete way a training in time of peace for the Conduct of War, it is safe to say that it would have been discovered at some time during the hundred years that have passed since the inception of this system.

When this system of training is thoroughly understood and sedulously practised it ensures the development of military character. It trains the individual in military judgment, in decision, in command and leadership.

It assures thoroughness and similarity of treatment of any war problems. This feature of its method, combined with a good knowledge of military history, leads under good direction, to a proper application of military principles and to an approximate agreement in judgment or decision. If it does not accomplish this end entirely, it, at least, tends to eliminate that which

is inherently and essentially erroneous.

All this ensures to a superior the guarantee of a trained judgment in his subordinate; and inspires that confidence that leaves untrammelled and stimulates the exercise of initiative on the part of a subordinate.

The first phase of this system of training is embodied, as was stated before, in the Estimate of the Situation.

This is a term used in a military sense to express that logical process of thought, which, applied to a concrete strategical or tactical problem, enables one to arrive at a definite strategical or tactical decision.

It involves a careful consideration, from the Commander's viewpoint, of all the circumstances affecting the particular problems.

It embraces a full consideration of any strategical or tactical situation under four subheads, namely:--

1. The Mission.
2. Enemy Forces; -- Their Strength, Disposition and Probable Intentions.
3. Our Own Forces; -- Their Strength, Disposition and Courses of Action Open to Us.
4. The Decision.

The Mission is a clear and concise statement of the orders or instructions under which the Commander is acting or a statement of what he deduces from his knowledge of the situation.

It is an answer to the question --

What is the task set before me?

Quoting from Captain Roger S. Fitch's pamphlet on the subject of Estimating Situations, we find the requirements of the Mission clearly set forth and expressed as follows:

"When a command is acting merely as an integral part of a larger command its mission is ordinarily determined for it by higher authority. In the case, however, of a practically independent command, or in any case where a force is acting under instructions of a discretionary nature, the commander will ordinarily have to deduce his mission from his knowledge of the general situation, his acquaintance with the intentions or desires of the superior who sent him forth, and his appreciation

of the existing military situation.

"Although each situation influences the mission and conduct of an independent leader in quite a different manner than it would if his command were directly dependent upon another and he himself merely obeying precise and definite orders susceptible of but one interpretation, yet in the one case no less than in the other the general purpose of the supreme commander must always be borne in mind. The means, however, by which the general purpose may best be furthered will differ greatly. As General von Verdy says: 'The officer who suddenly encounters the enemy while patrolling with his platoon must conduct his actions from a different point of view than if he commanded his platoon as skirmishers in front of his company. A division in an army corps will generally be so situated that it must carry out an action even though it be completely annihilated in so doing, and then it would still be promoting the general purpose; on the other hand, a division widely separated from an army would, as a rule, utterly fail to accomplish its mission if it allowed itself to be annihilated.'"

Under the second sub-head -- Enemy Forces -- we should deduce from the best reliable information at hand, what his strength is, how disposed, and what his probable intentions are.

It seems manifest here that, if the judgment of one who is estimating the situation for himself is trained and practiced, he will, by putting himself in the place of the enemy commander, conceive with good judgment what that commander would or should do. His decision would therefore be based on better knowledge of the enemy's probable intentions, than if he merely made a rough guess of the basis of outward indications of the enemy dispositions.

Under the third sub-head -- Our Own Forces -- a statement of the strength of our own forces and all the circumstances that may have a bearing upon the relative strength and mobility of the two opposing forces is comprehended.

Then follows a review of the various courses of action open to our forces, that might lead up to the accomplishment of the Mission.

These Courses of Action should be clearly outlined and definitely considered.

When we have gotten so far in our Estimate we should be prepared to weigh carefully the various methods that suggest themselves as possibly satisfying the demands of the Mission; and, by a process of elimination we arrive at the fourth sub-head of the Estimate -- The Decision.

I cannot do better than quote here, from Captain Fitch's di-

gest on the Decision.

"Having carefully weighed the advantages and disadvantages of the various methods open to him, the commander should definitely decide upon the one plan of action which promises the best opportunity of enabling him to accomplish his true mission. A commander's decision upon a single definite plan of action is therefore/^{the} culmination of his estimate. It is the cap-stone of the structure which he has built upon and around his mission.

"Buddecke, after stating that the marks of sound tactical procedure are 'simplicity and a firm adherence' to the line of action adopted, says: 'The decision, once reached, must be unwaveringly carried out with our whole energy. This condition is of so great importance in tactical affairs that the best course of action if carried out half heartedly, will come to naught, while a mistake in the choice of courses can often be entirely offset by decided and confident action.'

As Griepenkerl says, 'Arrive at a definite decision. * * * I warn you against half measures. For example, if you have decided to attack, do so with all your troops; if you wish to retreat, do not come to a halt again after a few miles without the weightiest reasons. Be perfectly clear in your own mind what you want to do and then carry it out to the letter.'

The ideal employment of the system would be a combination of its three phases in any one situation; that is, assuming any war problem, make first an Estimate of the Situation on each side which leads to a Decision; then write the orders to carry the Decision into execution; then carry on the action on the Game Board to test the Decision and Order.

That would consume more time than can be allotted in the short session of a Summer Conference; and we would hardly be prepared to go so far until we have had necessary practise in the elements of the general scheme.

We shall have accomplished a satisfactory result and all that could be expected in the time, if we become thoroughly acquainted with those elements.

In considering the Problems that will be given you, it is well to have in mind certain pertinent facts.

The main one is, to confine yourself to the problem in hand. Solve that problem and not one that you may think is more probable or better.

There were cases last year when members did not like the conditions laid down in the Problems; and their solutions were influenced by considerations not comprehended in the situation placed before them.

That this is not an unusual or altogether unreasonable attitude can be seen by historical reference that is at once interesting and illuminating.

In Von Moltke's verbal criticism of the Solution of his 53rd Problem, presented to the German Staff College in 1876, there is found the following comment:

"Some other gentlemen have made the situation still more difficult for themselves than that which the problem presented, and have assumed that the enemy is standing already at Basdorf and had already occupied the defiles of the Wandlitzer See and at Stolzenhagen. There are some even who imagine the enemy to be already at Zerpenschleuse. They said to themselves: 'Since the enemy comes from Berlin, he can just as well march those 16 miles to Basdorf.' Well, it is possible, but the problem says nothing about it. The enemy can certainly march with the Cavalry and Artillery and let the Infantry go by rail to Bernau, in order to keep it as fresh as possible.

"I admit that the whole situation, so briefly stated, is somewhat improbable. A Prussian Division is marching from Frankfort to Zehdenick while the enemy is at Berlin. But to state everything in the problem the whole history of a campaign would have to be given as an introduction. Not till then could one say: 'That is possible and that is impossible.'

"I have taken the 5th Division because its composition is very simple and known to all. I could just as well have taken a Swedish or Russian Division, but then we had to work with troops unknown to us. Gentlemen had therefore to accept the situation simply as the problem stated it, and not to look for anything special beyond what is given, otherwise there is no limit to speculation. The enemy need not at all come from Berlin; he can also come from a greater distance. You therefore must not look behind the situation for a special trick, and think we wish to lay a trap for you."

Also in his criticism of the Solution of his 59th Problem we find as follows:

"You will get one more problem which is simpler, and you will work it out simply also, and not bring in things which lie outside of it. If gentlemen have puzzled their heads as to whether the 12th and 13th Army Corps are following behind the 11th Army Corps, if they ask: What will happen if the enemy makes a left turn at Kerstenhausen in order to unite with the Western Corps somewhere in Westphalia, or if he advances on Cassel on the right bank of the Fulda? -- well, gentlemen, these are quite new problems, and all the military, strategical, and political circumstances would have to be presented to you. You must confine yourselves to what is given.

"In conclusion, I wish further to remark that a logical development of the idea, a correct and clear manner of writing, and a good style are also factors which have something to say when the problem is criticised, even if it is not solved exactly in the sense which presents itself to me as correct."

It is not within any ones province to say with authority that any one solution is the correct one. The effort is to reach a good, logical, and acceptable solution. No more is demanded and no more can be expected.

It is significant in this regard to quote again from Von Moltke's remarks in connection with his 53rd Problem --

"This, gentlemen, is only an example; in it I have given you only my opinions; this does not preclude others from being equally correct."

Again in his criticism of the solutions of his 63rd problem he says --

"Other gentlemen have arrived at different results. That cannot be wondered at; different opinions may exist, if they are only brought out in a logical and clear manner."

Again in his treatment of the discussion on his 65th Problem he says --

"There are several papers which have not adopted exactly the same measures which I propose, but which are clearly and logically written, and from which a correct military judgment may be inferred. That is the main point; for in war as well as in art there is no fixed rule; talent cannot in either be replaced by a regulation."

In respect to the method of handling the discussion, if members of the Conference should feel that the discussion is too much abridged and that it does not lead to a final consensus of opinion on the solutions presented, it is submitted that our allowance of time does not permit of protracted discussion, and that a consensus of opinion, even if desirable, would be difficult to obtain.

In this connection it is interesting to quote from Von Moltke and get his idea on the method of closing a discussion on a problem --

"Well, gentlemen, I must unfortunately break off these exercises. I think if we had still more time and could discuss some of the answers, we would very easily come to an understanding."

To obtain a further side light on Von Moltke's method of training and his opinion of the application of fixed rules as a guidance in warfare, I shall quote from his criticism of Solutions of his 61st Problem.

"I will make a further interpolation here with a view to examining the situation: a Prussian Division is marching to the Prussian Rhine; from that direction, therefore -- though it is not expressly stated -- surely no danger is to be apprehended. Notwithstanding, some gentlemen have thought the Division might be attacked from the south as well as at the same time from the west. But surely it cannot be my intention to lay a trap for you, gentlemen. Several gentlemen, nevertheless, sent a strong Advanced Guard of 3 to 4 Battalions, with Artillery and Cavalry, ahead by the high-road. It is, of course, in other circumstances a general rule that a body of troops does not march forward without an Advanced Guard; but science does not give us a fundamental maxim which we must follow everywhere; it does not give us a formula which helps us over all difficulties. In war the essential thing is to grasp every situation correctly, and to adopt the measures most appropriate to the situation.

"Here, according to my opinion, we would not need an Advanced Guard at all; our Advanced Guard is the Flank Guard which is marching in that direction where danger threatens. It is sufficient if a troop of Dragoons is sent ahead in order to see what is going on. One must therefore under certain conditions know how to cast oneself loose from general rules. Advanced Guard and Main Body would here be in proper relation if any keep was needed for the Flank Guard."

It is interesting to note too in this criticism how he aims at conserving the independence of action and initiative in a subordinate, which is a natural product of this system of training.

He says --

"Strangely enough, almost all gentlemen in forming their flank guard for delaying the advance of the enemy have understood the matter in such a way as to direct the leader of the detachment to occupy a position. How can you know where the man is to take up a position? That depends upon the enemy. It is sufficient to say to the Commander of the Advanced Guard: You have to prevent the enemy crossing the Alme. He will then go himself where the enemy is crossing. The man will be reasonable; he will not remain at Tudorf if the enemy is crossing at Ahden or somewhere else."

In closing I wish to quote in support of the views herein expressed, at some length, various authorities. First: the views of this eminent authority, von Moltke, on strategy as given in one of his discussions, and his conclusions as to the only methods of furthering education in the Art of War.

"That is nearly all that I have to say in reference to these papers. If one wishes to answer such questions as are set here, one likes to look for certain rules and axioms. Such can, however, be only offered by science, and that, in our case, is strategy. But strategy is not of a kind like the abstract sciences. These have their invariable and precise truths upon which we can build, and from which we can draw further conclusions. The square on the hypotenuse is always equal to the sum of the squares described on the sides which contain the right angle; that remains always true, be the right-angled triangle large or small, be its vertex turned to the east or the west. * * * * *

"Strategy is the application of common sense to the conduct of war. The difficulty lies in its execution, for we are dependent on an infinite number of factors, like wind and weather, fogs, wrong reports, etc., If, therefore, theoretical science alone will never lead us to victory we must nevertheless not entirely disregard it. General V. Willisen very truly says: 'It is only a step from knowing to doing, but it is a still greater from not knowing to doing.' The best lessons for the future we draw from our own experience; but as that must always be limited we must make use of the experience of others by studying military history. Besides which, another means of furthering our education is the working out of such supposed warlike situations as our problems present."

Second: from a work of an eminent French author, Colonel Darrecagaix on Modern War, in which he outlines the method by which von Moltke drew up the projet of war which unfolded itself in 1870.

"This projet, formed in 1868, in consequence of the prospect of war, to which the act of Germany the year before in the Luxemburg affair had given rise, was elaborated in the following manner; 1st. It first of all closely considered the respective forces of France and Germany. * * * *

2nd. It then examined the combinations by which this superiority could be increased. Among these were to be counted those likely to divide the French forces; for example, an isolated attempt by us upon the South German States. * * * *

3rd. After the study of our forces, came that of our probable operations. * * * *

The conclusion from this study was: First, the probability of a concentration of our forces upon the Metz-Strasbourg line; then, of their march to the line of the Main, for the purpose of turning the strong places of the Rhine and of separating the States of the South from those of the North.

"After having thus estimated our forces and considered our probable designs, the Prussians sought a means of successfully opposing them. They examined, from this point of view, the consequences of a German concentration to the south of the Moselle and to the east of the Sarre.

"This would permit an attack upon our left flank between the Rhine and the Black Forest, with the prospect of a disastrous retreat for us.

"In case the direction of our railroads should oblige us to form two principal masses at Metz and Strasbourg, the occupation of the Palatinate assured to the German army the possession of an interior line of operations. * * * *

"The Bavarian Palatinate was therefore indicated as the most favorable zone of concentration, or base of operations.

"5th. It remained to examine whether the relative mobilization periods of the antagonists would permit this combination.

"The German system of mobilization, supplemented by a minutely prepared plan of transportation, assured the assembly of two corps,

or 60,000 combatants, on the thirteenth day, and 384,000 on the eighteenth day. * * * * *

"The difference in mobilization and means of transport of the two armies thus permitted the Germans to select the Palatinate as the zone of concentration.

"6th. These different conclusions once established, nothing remained but to determine the manner of grouping the forces. * * *

"Such in outline was Marshall Von Moltke's projet of operations. While it does not form a fixed rule to be rigidly followed under all circumstances, yet in the logic with which it was worked out, it none the less offers us a model type and a precious lesson of experience. It presents this peculiarity, that, formed in 1868, it unfolded itself two years afterwards with almost mathematical regularity, and in conformity with settled anticipations."

Third: from a work by Colonel Maurice, R.A., entitled

"WAR" from which the following is extracted --

"To sum up, then, what has been said on the art of war. There is no royal road to the knowledge of the art of handling armies, any more than to any other branch of human activity. All that the best summary on that subject can profess to do for a reader is to assist him in undertaking a methodic study for himself of the principles which have guided great commanders, of the experiences of those who have fought in great battles and great campaigns, in endeavoring to put himself in their place, so as to see with their eyes, hear with their ears, and realise the passions which influenced them, and the circumstances under which their decisions had to be formed.

"It is not to be forgotten that even a commonplace critic may find it easy, when all the facts are fairly laid before him, to judge what ought to have been done in a given emergency. 'La critique est facile, l'art est difficile,' was the motto which Muffling, the very able representative of the Prussian army at Wellington's headquarters in 1815, chose for the title-page of his studies of war. The historical student has at least one advantage which is always and absolutely denied to the general. He may never, for many reasons, have an altogether correct and completely true picture of all the circumstances which occurred on a given day, but he has a far more complete one than could possibly be before the general at the moment when he formed his decisions. Still more, he has far better materials for judgment than any one of the minor actors who had themselves to decide what they ought to do, within the limitations of the orders they received, on most incomplete knowledge of what others were doing at distant parts of the field, of the positions and designs of the enemy, and of many other facts which may now be known with certainty by any one who will read what happened. He who would prepare himself in any measure for criticising aright must put himself in the place of the soldier who has to choose, -- must realise the conditions of personal danger, of noise, of passion, of incomplete and constantly misleading information, of disorder, confusion, panic, excitement, under which decisions are to be formed that must be calm and cool though they involve the lives of thousands of men, the fate of nations, and the course of history, and yet must be given then and there, for the lost moment will not return. Then he will perhaps perceive that after all the question whether he would himself have given the right decision, no matter what his previous training may have been, will be more a question of character than of knowledge. Nevertheless he is much more likely to decide aright if he has in his mind some large knowledge of the accumulated experience of the past, than if, without anything to guide him, he judges by a so-called "common sense" which has already led him to ignore the earnest advice of those who have been themselves most successful in war. He is still more likely to

decide aright if, after he has acquired some general knowledge of the experience of the past, his judgment has been exercised by considering under assigned conditions what course he would actually choose to adopt. This is the method of peace preparation for war in which the Prussian officers of our day have been most carefully trained. In all their current works on the study of war they insist on the importance of this formation of the judgment and this training of choice as a matter of the utmost importance. All their most important military educational works take the form of "studies" or problems. The use of war game and the training given by peace-maneuvers, as well as all regimental instruction, are adapted to the same end."

Last: from an authoritative treatise on the Science of War by Colonel Henderson of the British Army --

"Previous to 1870, in one kingdom only was it recognized that intellect and education play a more prominent part in war than stamina and courage. Taught by the dire disasters of 1806, Prussia set herself to discover the surest means of escaping humiliation for the future. The shrewdest of her sons undertook the task. The nature of war was analysed until the secrets of success and failure were laid bare; and on these investigations a system of organisation and of training was built up which, not only from a military but from a political, and even an economical point of view, is the most striking product of the nineteenth century. The keynote of this system is that the best brains in the state shall be at the service of the war lord. None, therefore, but competent soldiers are entrusted with the responsibility of command, and the education of the officer is as thorough, as systematic, and as uniform as the education of the lawyer, the diplomatist, and the doctor. In all ages the power of intellect has asserted itself in war. It was not courage and experience only that made Hannibal, Alexander, and Caesar the greatest names of antiquity. Napoleon, Wellington, and the Archduke Charles were certainly the best educated soldiers of their time; while Lee, Jackson, and Sherman probably knew more of war before they made it than anyone else in the United States.

"But it was not until 1866 and 1870 that the preponderating influence of the trained mind was made manifest. Other wars had shown the value of an educated general, these showed the value of an educated army. It is true that Moltke, in mental power and in knowledge, was in no wise inferior to the great captains who preceded him; but the remarkable point of his campaigns is that so many capable generals had never before been gathered together under one flag. No campaigns have been submitted to such searching criticism. Never have mistakes been more sedulously sought for or more frankly exposed. And yet, compared with the mistakes of other campaigns, even with that of 1815, where hardly a superior officer on either side had not seen more battles than Moltke and his comrades had seen field days, they were astonishingly few. It is not to be denied that the foes of Prussia were hardly worthy of her steel. Yet it may be doubted whether either Austria or France ever put two finer armies into the field than the army of Bohemia in 1866 and the army of the Rhine in 1870. Even their generals of divisions and brigades had more actual experience than those who led the German army corps. Compared with the German rank and file, a great part of their non-commissioned officers and men were veterans, and veterans who had seen much service. Their chief officers were practically familiar with the methods of moving, supplying, and maneuvering large masses of troops; their marshals were valiant and successful soldiers. And yet the history of modern warfare records no defeats so swift and so complete as those of Koniggratz and Sedan. The great host of Austria was shattered to fragments in seven weeks; the French Imperial army was destroyed in seven weeks and three days; and to all intent

and purpose the resistance they had offered was not much more effective than that of a respectable militia. But both the Austrian and the French armies were organised and trained under the old system. Courage, experience, and professional pride they possessed in abundance. Man for man, in all virile qualities, neither officers nor men were inferior to their foes. But one thing their generals lacked, and that was education for war. Strategy was almost a sealed book to them; organisation a matter of secondary importance. It was no part of their duty, they declared, to train the judgment of their subordinates; they were soldiers, and not pedagogues. Knowledge of foreign armies and their methods they considered useless, and of war prepared and conducted on "business principles" they had never even dreamt.

"The study of war had done far more for Prussia than educating its soldiers and producing a sound system of organisation. It had led to the establishment of a sound system of command; and this system proved a marvellous instrument in the hands of a great leader. It was based on the recognition of three facts; first, that an army cannot be effectively controlled by direct orders from headquarters; second, that the man on the spot is the best judge of the situation; and third, that intelligent cooperation is of infinitely more value than mechanical obedience. To explain more fully. In military operations space, time, and opportunity are dominant factors. For many reasons an army in the field can never be closely concentrated, and it is thus impossible for the commander to see everything for himself, to detect with his own eyes every blunder the enemy may commit, or to communicate his orders in such good time that openings shall not be lost. Nor can he forecast and provide for every contingency, for it is generally the unexpected that happens; the enemy's blunders cannot be foreseen; and events move with such rapidity that an order an hour old is often quite inapplicable to the situation. Moreover, if those portions of the army unseen by the commander, and not in direct communication with him, were to await his orders before acting, not only would opportunities be allowed to pass, but other portions of the army, at critical moments, might be left without support. It was understood, therefore, in the Prussian armies of 1866 and 1870, that no order was to be blindly obeyed unless the superior who issued it was actually present, and therefore cognizant of the situation at the time it was received. If this was not the case, the recipient was to use his own judgment, and act as he believed his superior would have directed him to do had he been aware how matters stood. Again, officers not in direct communication with headquarters were expected not only to watch for and to utilize, on their own initiative, all opportunities of furthering the plan of campaign or battle, but, without waiting for instructions, to march to the thunder of the cannon, and render prompt assistance wherever it might be required. It was long before the system was cordially accepted, even in Germany itself; and it has been fiercely criticised.

"To soldiers whose one idea of command might be summarised in the sentence, 'I order, you obey', and in whose eyes unqualified and unthinking obedience was the first of virtues, the new teaching appeared subversive of all discipline and authority. If, they said, subordinates are to judge for themselves whether an order is to be executed or not; if they are to be encouraged to march, to attack, or to retreat, on their own volition; if, in a word, each of them is to be considered an independent commander, the superior can never be certain, at any given moment, where his troops are or what they are doing, and to maneuver them as a united whole will be out of the question. Was it likely, they asked, that a junior officer left to himself would set as his superior would have directed him to act had he himself been present? Was it not probable that he would hinder rather than further the general plan; and would not such untrammelled freedom lead to independent ventures, prolific perhaps of personal glory, but absolutely destructive of the harmony of action essential to success? These dangers, however, had

been foreseen; and, while they were recognised as real, they were not considered so inevitable as to forbid the encouragement of an unfettered initiative, nor so formidable as to be insurmountable. The first step was to make a clear distinction between 'orders' and 'instructions.' An 'order' was to be obeyed, instantly and to the letter. 'Instructions' were an expression of the commander's wishes, not to be carried out unless they were manifestly practicable. But 'orders', in the technical sense, were not to be issued except by an officer actually present with the body of troops concerned, and fully aware of the situation; otherwise 'instructions' only would be sent. The second step was to train all officers to arrive at correct decisions, and so to make certain, so far as possible, that subordinates, when left to themselves, would act as their superiors would wish them to do. The third step was to discourage to the utmost the spirit of rash and selfish enterprise.

"In the German army of today the means employed to ensure, so far as possible, correct decisions are, first, a uniform training in handling troops. Every German officer, practically speaking, is educated in the same school and taught to adapt his action to the same principles. The school is that of the General Staff. The principles, few but comprehensive, are those laid down by the chief of staff; and they are disseminated through the army by his assistants, the officers of the General Staff, whom he himself has educated. Each army corp and each division has its own chief of the staff, all of them replicas of their teacher; and no general, so far as possible, is appointed even to the command of a brigade unless he is thoroughly acquainted with the official principles. Instruction is not necessarily given at Berlin. Every commander has not passed through the Kriegsakademie or served at headquarters. But at field exercises and maneuvers, at war games and staff rides, the official principles, especially those concerned with 'orders', are the groundwork of all criticism and the touchstone of every operation. The field exercises, too, are arranged so as to afford constant practice, under competent instructors, in solving the problems which present themselves in war. The second means is a systematic encouragement, from the first moment an officer joins his regiment, of the spirit of initiative, of independent judgment, and self-reliance. Each has his definite responsibilities, and superiors are forbidden, in the most stringent terms, to trench upon the prerogatives of their subordinates. The third means is the enforcement of the strictest discipline, and the development of camaraderie in the highest sense. Despite the latitude that is accorded him, absolute and punctual obedience to the most trifling 'order' is exacted from the German officer; while devotion to duty, and self sacrifice, exalted to the same level as personal honour, and inculcated as the loftiest sentiment by which the soldier can be inspired, are trusted to counteract the tendencies of personal ambition.

"It may be remarked that Napoleon at St. Helena, in his criticisms of his marshals, frequently made use of the significant expression that so-and-so failed 'because he did not understand my system.' It is possible that Moltke, the real founder of the German system, took those words to heart. Be this as it may, he knew not only how to command an army, but how to teach an army; how to form skilled leaders, strategists, and tacticians, men who could plan, execute, and instruct; and in this respect he was far superior to Napoleon, or indeed to any general of modern times. In 1866 the system was not quite perfected; but in 1870 there were few German officers who were not thoroughly penetrated with the ideas of the chief of the staff; few who did not thoroughly understand how to interpret and how to issue 'orders' and 'instructions.'

"The benefit to the state was enormous. It is true that the initiative of subordinates sometimes degenerated into reckless audacity, and critics have dilated on these rare instances with ludicrous persistence, forgetting the hundreds of others where it was exercised to the best purpose, forgetting the spirit of mutual

confidence that permeated the whole army, and forgetting, at the same time, the deplorable results of centralisation in the armies they overthrow. It is inconceivable that any student of war, comparing the conduct of the German, the French, and the Austrian generals, should retain even the shadow of a prejudice in favour of blind obedience and limited responsibility.

"To what," asks the ablest commentator on the Franco-German war, 'did the Germans owe their uninterrupted triumph? What was the cause of the constant disasters of the French? What new system did the Germans put in practice, and what are the elements of success of which the French were bereft? The system is, so to speak, official and authoritative amongst the Germans. It is the initiative of the subordinate leaders. This quality, which multiplies the strength of an army, the Germans have succeeded in bringing to something near perfection. It is owing to this quality that, in the midst of varying events, the supreme command pursued its uninterrupted career of victory, and succeeded in controlling, almost without a check, the intricate machinery of the most powerful army that the nineteenth century produced. In executing the orders of the supreme command, the subordinate leaders not only did over and over again more than was demanded of them, but surpassed the highest expectations of their superiors, notably at Sedan. It often happened that the faults, more or less inevitable, of the higher authorities were repaired by their subordinates, who thus won for them victories which they had not always deserved. In a word, the Germans were indebted to the subordinate leaders that not a single favourable occasion throughout the whole campaign was allowed to escape unutilised. The French, on the other hand, never even suspected the existence of so powerful a factor; and it is for this reason that they met with disasters, even when victory, so to speak belonged to them by every rule of war. The faults and omissions of the French subordinate leaders are to be attributed to the false conception of the rights and functions of command, to the ingrained habit of blind and inert obedience, based on a principle which allowed no exception, and acting as a law, absolute and immutable, in all degrees of the military hierarchy. To the virile energy of the Germans they could oppose nothing but impetuous courage. Compensation for the more powerful fire of the German artillery was found in the superior weapon of the French infantry. But to the intelligent, hardy, and even at times somewhat reckless, initiative of the German subordinate leaders, the French had nothing to oppose, in the grand as in the minor operations, but a deliberate inactivity, always awaiting an impulse from above. These were the real causes of the numerous reverses and the swift destruction of the valiant French army, and therein lies the true secret of German strength. Her foes of days to come will have to reckon seriously with this force, almost elementary in its manipulation, and prepare themselves in time to meet it. No well-organised army can afford to dispense with the initiative of the subordinate leaders, for it is the determining factor in modern war, and up to the present it has been monopolised by Germany.'

"That the Prussian system should be imitated, and her army deprived of its monopoly of high efficiency, was naturally inevitable. Every European state has today its staff college, its intelligence department, its schools of instruction, and its courses of field maneuvers and field firing. But that the full import of the German system has been thoroughly realised is very doubtful. So far as the history of warfare since the fall of Paris can be regarded as evidence, the contrary appears to be the case. In many of the campaigns since 1870, brains and system can hardly be said to have played the leading part. Individual generals have made great names as strategists, as organisers, as leaders of men; but want of foresight, inadequate preparation, contempt of the enemy and ignorance of his strength, violation of great principles, and indifferent training, both of the staff and of the troops, have been too often apparent. It is possible that the same faults and deficiencies will be conspicuous in the twentieth century, unless a knowledge of the real nature of war is far more widely diffused than it is at present.

PROBLEM.

SITUATION: - War was declared between ORANGE and BLUE 18 January 1909. The BLUE Main Fleet left GUANTANAMO on that date for the Pacific via MAGELLAN Strait. The Pacific Detachment under command of Rear Admiral J-- is at SEATTLE. This detachment consists of 6 B, 4 C, 5 V, and 3 colliers.

On 10 February 1909, at 9 a.m. Rear Admiral J-- receives information that a large ORANGE convoy of transports with escort was sighted at 6 a.m. 8 February in Lat. 51° 30' N., Long. 160° W., steaming eastward, speed about ten knots.

The Pacific Detachment is organized as follows:--

Division Ten

Rear Admiral J--
B-1, B-2, B-3,

Division Eleven

Rear Admiral H--
B-4, B-5, B-6

Rear Admiral J-- commands.

Division Thirteen

Captain W--
C-1, C-2, C-3, C-4.

Destroyer Division Seven

Commander F--
V-1, V-2, V-3, V-4, V-5.

REQUIRED: - Rear Admiral J's Estimate of the Situation.

ESTIMATE OF THE SITUATION.

MISSION: - To prevent this enemy force from landing on our Coast.

ENEMY FORCES: - Their Strength, Disposition, and Probable Intentions.

Information regarding the strength and disposition of the enemy forces is very indefinite. All that is known is that there is a large convoy of transports with an escort steaming towards our West Coast. The escort would likely be a formidable one, for such a movement on the part of the enemy would indicate that he was directing his maximum effort towards invasion; and the protection necessary for the transport of a large body of troops would entail the employment of a naval force very considerably superior to any force that we might at present be able to send against it.

The necessity of guarding the convoy, however, entails a tactical weakness which might be taken advantage of.

Judging from the position in which this force was sighted and its course, it seems most probable that it is proceeding on a great circle course from the enemy home country to the Puget Sound region. The enemy, therefore, probably intends to occupy that region as the first step in his invasion.

This force will probably be proceeding with a strong screen well advanced from his train and from the main body of the Escort. At night he will probably adopt a close screening formation around his train.

OUR OWN FORCES: - Their Strength, Disposition and the Courses of Action Open to Us.

Our own force consists of 6 B, 4 C, 5 V, and 3 colliers. This force, though small, represents all that we have in this theatre of war.

There is nothing else with which to oppose the evident pur-

pose of the enemy, and the situation demands immediate and well directed activities.

The Courses of Action Open to Us are -

1. To remain within the waters of the Puget Sound region; to deliver an attack upon the Convoy in those waters in case that be the enemy objective.
2. To proceed to gain contact with the enemy forces to determine their strength and dispositions with a view to attacking the convoy before it arrives on our Coast.

Inasmuch as the strength of the enemy escort is not known, and since it may be much stronger than the forces in this command, it would be extremely hazardous to await his entrance into the Straits of San Juan de Fuca before preparing an attack.

The enemy will realize that he will be opposed by whatever force we may have; and if he reach the Straits unmolested he will be in a position to guard the entrance, after his Convoy shall have passed, against any force that may try to enter; and he will be able to push ahead a strong reconnoitring force to uncover the position of any naval force of ours that may be inside the Straits or the Sound. He would then be able either to defeat or contain that force and it could no longer menace his Convoy.

Our naval force inside the Straits could for a time be under the protection of the series of Puget Sound fortifications; but they could be contained behind those fortifications, and the work of landing the enemy troops could be carried on with security.

Employed in this way our naval force would come in the category of what Admiral Mahan has called a "fortress fleet"; and which he designates as a faulty and vicious employment of an active naval force.

The fortifications would most likely fall because they could be taken in reverse; and when that time comes, this force, employed behind those defenses, will be lost, without accomplishing its mission or seriously menacing the progress of the Enemy's campaign.

The first Course mentioned must therefore be rejected. The second Course mentioned conserves the mobility of this force; and tends to clear up the situation by providing us with information relative to the strength and disposition of the enemy's escort, which is an absolute necessity in order that proper dispositions can be made with a view to harassing and attacking the Convoy.

Bad weather conditions, likely to be met with at this season of the year in the Northern Pacific Ocean, may cause a considerable elongation of the enemy's formation beyond his power to successfully protect; it may even cause a scattering of his force. These conditions should be favorable to our purpose and they are possible advantages that we should be in a position to grasp.

DECISION: - To proceed to sea with my entire force with a view to attacking the Enemy Convoy.

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This completes Rear Admiral J's Estimate of the Situation.

Having arrived at the above decision, based upon the reasoning which precedes it, Rear Admiral J then concerns himself with the tactics of the dispositions he intends to make of his forces and arrives at the following tactical decisions as a basis of his orders.

TACTICAL DECISIONS.

1. To proceed at noon.
2. To follow great circle course from Tatoosh towards point where enemy was sighted.
3. To form a scouting line of 4 C 50 miles in advance of Main Body with 25 miles between vessels.
4. To keep armored cruisers and destroyers together.
5. To send colliers to rendezvous 60 miles S.W. of Cape Disappointment.
6. To appoint a rendezvous for combatant vessels 20 miles West mag. of Tatoosh Id.
7. To use Cipher B for wireless.
6. To remain in B-1 with main body.

In problem work, types of vessels are indicated as follows:-

- AA All Big Gun Battleships.
- A Battleships, 1st class.
- N Battleships, 2d class.
- BB Battle Cruisers.
- B Armored Cruisers.
- M Monitors and C.D. vessels.
- C Cruisers, 1st class.
- F Cruisers, 2d class.
- D Gunboats.
- S Naval Scouts.
- E Merchant Scouts.
- V Destroyers.
- t Torpedo boats.
- G Torpedo gunboats and Despatch vessels.
- sm Submarines.

CAMPAIGN ORDERS.

Both before, and during the progress of military and naval operations, the General Plan and Strategic Objective will probably be laid down in Letters of Instruction issued by the Commander-in-Chief or other superior authority.

Routine orders will govern administrative features, and include General Orders, Special Orders, and Circulars.

In Naval operations tactical movements will generally be directed by signal.

Campaign Orders will apply to situations comprising both strategical and tactical features, and in character and scope are intermediary between the Letters of Instruction and Tactical Signals. Ordinarily Campaign Orders will not include administrative details, which are better left to General and Special Orders.

The Commander first makes an Estimate of the Situation, and on that bases his decision upon a definite plan of action. He then proceeds to draft the orders carrying the decision into effect. These orders then are the means employed by the Commander to acquaint his subordinates with the disposition of the enemy's forces, and of his own supporting forces, his decision, and the character of cooperation expected of the various units of his command.

The form for naval Campaign Orders is virtually the same as that adopted by the army for Field Orders, this in turn being based on the German "Operation Order." Some alterations in the Army form have already been made to adapt it to naval conditions, and organization, and it is possible that other changes may become necessary after sufficient experience in use of the form.

For Army purposes, Field Orders are issued orally, by dictation, or, in writing, though written orders are the rule. For naval purposes, Campaign Orders will be written, and addressed to the subordinates charged with the execution. On occasions they must be sent by wireless, their adaptation to this method

of transmission constituting a question to be discussed, when the form of the order itself comes up for discussion.

As the form in use at the Naval War College is based ultimately on the German model, reference is made here to the various German authorities, and to the Field Service Regulations of our Army.

In formulating a solution to a military order problem, Griepenkerl lays down the following requirements:

1. Read the problem carefully several times, map (chart) in hand.
2. Study carefully on the map (chart) the ground (region) under consideration.
3. Realize accurately your own situation, and that of the enemy.
4. Read the appropriate sections in the Tactical Guide (Tactical Signal Book). On principle, verify everything about which you may be anywhere in doubt.
5. In the movement of troops (forces) calculate by measurement of distances, the time necessary.
6. Consider the counter measures likely to be adopted by the enemy.
7. Arrive at a definite decision.
8. Consider the distribution of your troops (forces). All the forces concerned in the operation must be included in the order.
9. Formulate the Order.

To comply with these requirements in a naval Campaign Order involves a careful study of the chart of the area under consideration. It will occasionally be found, that unless this be done, the contemplated movements can not be executed. It may be possible that a reference to the sailing directions of the vicinity may be necessary.

The Tactical Signal Book prescribes the methods by which certain movements will be executed, and is authority on distances,

intervals, and bearings in formation. By making use of the requirements of the Tactical Signal Book it will often be found that the orders may be shortened, and still more often that detailed explanations may be avoided. If it should be necessary to vary from the Tactical Signal Book, it will follow that the contemplated movement must be prescribed in detail.

The Commander is supposed to know accurately his own situation. In regard to the situation of the enemy he will be compelled to make allowance for unknown factors. The most usual error is to assume that the enemy is inactive. Really he is likely to do the very thing that may be most embarrassing.

The Decision and distribution of forces is given in the problem posed.

FORMULATION OF A CAMPAIGN ORDER.

Every order must be logically arranged. Each order is paragraphed, and all pertaining to the same subject must be united in the same paragraph. The most important matter appears first. In establishing a formation, as in a military march order, the forces are noted in the order of formation.

The Order must be brief. Brief sentences are most easily understood. Conjectures, expectations, reasons for measures adopted, detailed instructions for a variety of possible events, have no place in an order. Test the order to see if some superfluous word may not be omitted, or whether some shorter and more suitable expression may not be used. Rewriting an order is good exercise -- it is rarely found that an order can not be improved by consideration and rewriting. The acid test would be to rewrite the order and find it impossible to put it in any other form than that in which it was previously written. The final form should be such that for transmission it must be copied verbatim -- to omit or to add a word would alter the meaning.

Orders should be clear and definite. Expressions depending

on the view-point of the observer as right, left, ahead of, astern of, on this side, beyond, etc., are not admissible and compass bearings should be substituted. The terms van, rear, right flank, and left flank are applicable to portions of forces in formation but might not be practicable for use after contact with the enemy.

An order must be positive. The Commander must accept the entire responsibility -- there should be no attempt to divide it with his subordinates. If misunderstandings arise, the chief fault is considered to lie with the officer issuing the order. Such expressions as "attempt to capture", "as far as possible", "as well as you can", should never enter an order, and "according to circumstances" is a term absolutely prohibited. Do not use the terms "expect" or "presume", as the expectations or presumptions may not be verified, confusion ensues, and subordinates lose confidence in the judgment of the commander. The more difficult the circumstances the more clear and positive must be the order.

An order must not trespass on the province of the subordinate. This is one of the most difficult requirements to be fulfilled, and the most frequent of all errors, both in actual operations, and in the solution of problems. Great commanders have been guilty of it habitually, and to it some owed their downfall. The details of execution must be left to the subordinate, who is probably better qualified to deal with them. It follows therefore, that an order should not attempt to prescribe the method of operations too far in advance -- a time limit is placed on the period which one campaign order is intended to cover. It is an error to extend an operation of an order so far ahead that in the meantime conditions may have entirely changed. Such orders must be recalled and others substituted, and this is demoralizing. In practice it is usually possible for the commander to interfere if the attainment of the object in view is considered jeopardized, but there must always be

urgent reasons for interfering with a subordinate's freedom of action. This applies more particularly to American psychological characteristics, than to those of other nations.

It is possible that on occasions, for special purposes, and for reasons known probably to the commander alone, he may decide to give detailed instructions in regard to some particular matter. For instance, in establishing a scouting line, it will usually only be necessary to prescribe the scouting bearing and interval. The commander of the scouts will most likely conduct the scouting efficiently; at any event it must be assumed that he will do so. Still the commander of the forces may desire to hold the scouts to a certain line or he may wish to gradually advance or retire the scouting line. Or he may desire to make a special investigation of some port or island or vicinity in which case it would be proper for him to prescribe these details for the commander of the scouts. Again the personality of the commander receiving the orders may influence their character. The higher a commander, the shorter and more general may be his orders. In the final essence, however, the continuity of the whole, the unity of leadership, and the leader's own views and intentions, outweigh all other considerations.

In every order particulars of time and place must be so carefully stated as to preclude any error.

Orders issued by subordinates should not be mere repetitions of those from higher authority with additions of their own. New orders are generally clearer and more satisfactory.

Arrangements for retreat are communicated confidentially to a few senior commanders only.

ORDER FORM.

Name of Detachment or Force,

Name of Ship,

Campaign Order

Location of Ship,

No. --

Day of Month, Month, Year, Time of Day.

FORCES:

(a) Name of subdivision.
Rank and name of Commander.
Composition of subdivision.

1. Information of the enemy,
and information of our own
forces, in the theater of
operations, but under other
command.

(b) Name of subdivision.
Rank and name of Commander.
Composition of subdivision.

2. Plan of the Commander.

(c) Name of subdivision.
Rank and name of Commander.
Composition of subdivision.

3. (a) The (name of subdivi-
sion "(a)" underscored) will

(b) The (name of subdivi-
sion "(b)" underscored) will

(c) The (name of subdivision "(c)" underscored) will -----

(x) Contains instructions in which all the subdivisions under
paragraph three are equally concerned.

4. Orders or instructions concerning the train.

5. Where messages will reach the Commander of the whole force.

(Sig.) Name of Commander of Force.

Rank,

Commanding (Name of Force.)

Copies to

Commanders of Forces Concerned.
How sent (by wireless, guard
boat, aid, delivered in person, etc.)
Attest of delivery (for fiel copy).
Name, Rank.

Alternative Form of Authentication:

By order of (C-in-C.)

Name,

Rank,

(Title of official acting for C-in-C.)

EXPLANATION OF FORM.

The heading follows generally the form prescribed by the Navy Department. "The name of the detachment or forces", and "the name of the ship" should be preceded by the name of the nationality, as "United States Scouting Detachment," "U.S.S. MOHIGAN". If the ship is a flagship the word "flagship" should follow the name of the ship on the same line with it.

On the next line follows the name of the place at which the ship, is; if at sea, the location by latitude and longitude.

On the 4th line is the date expressed in the order indicated in the form. The day of the month is given in figures. The month is written out. The year is indicated by the last two figures. The hour is noted to minutes, and whether a.m. or p.m.

Example: "9 June 11, 10.15 a.m."

Times of "noon" and "midnight" should be written out.

On the left, one inch from the margin, and on the same line as "Location of ship" is "Campaign Order"; beneath it the number of the order.

The order begins without "Sir" or other form of address.

The first act in writing the order after the heading and numbering of the order is to write "FORCES" in the place indicated in the form. "FORCES" enumerated in this form are those concerned in the order.

The subdivisions of "FORCES" are lettered. The subdivisions of the "FORCES" are those that the Commander in his estimate of the situation decided were necessary and proper.

The forces are subdivided and named according to the functions they are to fulfill, and not according to the administrative or tactical organizations given in the fleet roster. In each case the name of the subdivision is followed on the next line by the rank and name of the Commander of that subdivision, and on the line following by the composition of the subdivision. This composition is indicated by squadrons or divisions if the subdivision is large, by single vessels if the

subdivision is formed of parts of divisions.

In a military order the subdivisions are arranged in order of importance; for instance, in an order of attack in the order of -- Artillery, Main Body, Reserves, Cavalry, Engineers. If it is march order the subdivisions are arranged in the order of march, as, Independent Cavalry, Advance Guard, Main Body, Signal Troops, etc. In a naval campaign order they will be arranged in the general order of formation. When a subdivision is commanded by the commander of the whole force his name is omitted under the name of the subdivision that he commands in person.

A small interval is left on the right of the space occupied by "FORCES", and one blank line is left beneath this space. The remainder of the order is written on the available space.

Paragraph 1 contains, (1), information of the enemy; then, (2), of our own forces in the theater of operations, but under other command. It is conducive to clearness to separate the information of the enemy and the information of our own forces by paragraphing.

The information regarding the enemy will usually be very nearly a repetition of the conditions stated in the problem, though it is not always necessary to include all the conditions stated, as they are primarily for the information of the officer writing the order.

It is preferable that each officer should give his own understanding of the case, and not give a statement of the situation word for word. "Even when the commander, lacking satisfactory or exact knowledge, is unable to give definite information of the enemy, a statement of what seems to him most probable, based on the best information he has, deserves a place in the order, but it should be stated as a belief or probability, and not as a positive fact."

In paragraph one, and after the information of the enemy, is entered such information of our own forces other than those addressed which it is considered desirable for them to have.

This should include information of any force whose action may influence in any way the operations of the forces included in the order.

Geographical names usually are found in this paragraph. Wherever these names are mentioned they must be printed unless they are clearly and legibly written. Such names should be written all capitals in typewriting. As an instance, in one of the Problems last year BASHEE was not written in capitals and it became BASHU.

In a military order where geographical names enter to a great extent, it is a custom, where names are pronounced differently from the way they are spelled, to enter the phonetic pronunciation also.

Paragraph 2 contains a comprehensive statement of the general plan, sufficient to insure intelligent cooperation between the units of the command. "It is unwise to include too many details of the plan in orders, but it is essential to disclose sufficient to enable subordinates to conduct themselves intelligently." "It is always of importance that subordinates should understand the object of what is ordered, so they may strive to attain it themselves even should changes in the general situation demand on their part different action from that originally contemplated."

In paragraph 3 the duties of each group or subdivision of the forces are expressed in general terms, the details being left to the commander of the group.

Paragraph 3 is subdivided into lettered paragraphs corresponding with the lettered subdivisions under "FORCES". Each of these subparagraphs under paragraph 3 begins with the name of the subdivision concerned under-scored, followed by the word "will" and then a statement of the duty of that subdivision.

In paragraph 3 will usually be found dates and times.

These will invariably be spelled out in full. The only abbreviations allowed in the body of an order are "a.m.", "p.m.", "Lat.", "Long.", "N", "S", "E", "W", "G.M.T.", "L.M.T."

All numbers of whatever character except paragraph numbers that occur in the body of the order or under "FORCES" must be spelled out in full. Courses and bearings shall be given in degrees from zero to 360, and shall always be defined as "true" or "magnetic".

Paragraph (x) contains instructions that apply to all of the subdivisions under paragraph 3, such as course, fleet speed, rendezvous, etc. Methods of communication are usually referred to under paragraph (x).

Paragraph (x) is intended as a means of making the order brief, instead of repeating direction for each subdivision of the forces under "(a)", "(b)", "(c)", etc., of paragraph (3). All of these directions that apply to all of the forces are assembled and placed in paragraph (x).

Paragraph 4 contains instructions for non-combatant units, such as colliers, supply ships, repair ships, hospital ships, corresponding to the military train. "Train" is used to indicate all non-combatant vessels that accompany the fleet, in default of a better term.

After paragraph 4 are inserted any additional paragraphs found necessary.

In the body of the order the composition should be as nearly as possible independent of punctuation, in order to facilitate accurate transmission by wireless, if that should be necessary.

In the last paragraph, or in paragraph 5 if no extra paragraphs are found necessary, is indicated where messages will reach the commander of the whole force. Usually it is sufficient to give the location or intended movements of the flagship.

The order is signed by the name of the commander, followed

on the next line by his rank, and on the 3rd line by the word "Commanding" and the name of the forces which he commands.

If signed by the Chief of Staff or by an authorized subordinate of the Commander-in-Chief the words "By order of the C-in-C" should be written under paragraph 5, followed by the rank and title of the official acting for the C-in-C.

Below the line giving the title of the officer signing and to the left is noted to whom the order is sent, and in the next line how sent.

On the file copy of the order is an attest of delivery with the signature and rank of the officer responsible for the delivery.

In transmitting an order by wireless, paragraphs 1 and 2 are sent and then "FORCES are sent, after which the remainder of the order is sent as written.

After having been carefully worked out the order should be copied neatly and legibly and signed. It will sometimes appear that parts of the order are superfluous, especially when transmitted by signal or wireless. For instance, the list of forces when all forces are present; paragraph 4 when there is no train;-- in this case write the paragraph number and leave the line blank; also when an order is sent from the Flagship, and no shifting of the Flagship is contemplated. It is considered best to follow the form strictly and to fill it out entirely, to make sure that nothing has been forgotten.

In framing a solution it will be found much easier to understand the principles on which the order is based than to apply these principles to the case in hand.

This paper on Campaign Orders is practically all taken from Griepenkerl's Army Field Service Regulations, and from a lecture on the same subject delivered last year (1910) by Commander Marble.

Appended is an acceptable solution of a problem in the formulation of orders.

PROBLEM.

SITUATION - War was declared between ORANGE and BLUE 18 January 1909. The Main Blue fleet left GUANTANAMO on that date for the Pacific via MAGELLAN Strait. The Pacific Detachment under command of Rear Admiral J-- is at SEATTLE. This detachment consists of 6 B, 4 C, 5 V, and 3 colliers.

On 10 February 1909, at 9 a.m. Rear Admiral J-- receives information that a large ORANGE convoy of transports with escort was sighted at 6 a.m. 8 February in Lat. 51° 30' N., Long. 160° W., steaming eastward, speed about ten knots.

Rear Admiral J-- decides:--

1. To proceed to sea with his entire force at noon with a view to attacking the ORANGE convoy.
2. To form scouting line of 4 C 50 miles in advance of Main Body with 25 miles between vessels.
3. To keep armored cruisers and destroyers together.
4. To follow great circle course from TATOOSH towards point where enemy convoy was sighted.
5. To send colliers to rendezvous sixty miles S.W. of CAPE DISAPPOINTMENT.
6. To appoint a rendezvous for combatant vessels 20 miles West magnetic of TATOOSH Island.
8. To use Cipher "B" for wireless.
9. To remain in B-1 with Main Body.

The Pacific Detachment is organized as follows:--

Division Ten

Rear Admiral J--
B-1, B-2, B-3,

Division Eleven

Rear Admiral H--
B-4, B-5, B-6.

Rear Admiral J-- commands.

Division Thirteen

Captain W--
C-1, C-2, C-3, C-4,

Destroyer Division Seven

Commander F--
V-1, V-2, V-3, V-4, V-5.

REQUIRED - Orders issued by Rear Admiral J--.

SOLUTION.

Blue Pacific Detachment,
Blue B-1, Flagship,
Seattle,

Campaign Order

No. 1.

10 February 09, 9.50 a.m.

FORCES:

(a) Scouts

Captain W--

Division Thirteen

(b) Main Body

Division Ten

and Eleven

Destroyer Division

Seven.

1. A large ORANGE convoy of transports with escort was sighted at six a.m., eight February in Lat. fifty-one thirty N., Long. one sixty W. steaming eastward at ten knots.

2. This force will proceed to sea to attack the ORANGE convoy.

3. (a) The Scouts, when clear of SAN JUAN DE FUCA Strait, will

maintain scouting line North true fifty miles in advance of Main Body. Scouting distance twenty-five miles.

(b) The Main Body will follow Great Circle route from TATOOSH to point where convoy was sighted.

(x) Get underway at noon. Standard speed fifteen knots. Use cipher "B". Rendezvous twenty miles two seventy magnetic from TATOOSH Island.

4. Train will proceed to a rendezvous sixty miles two twenty-five true from CAPE DISAPPOINTMENT.

5. B-1 will be with Main Body.

J.

Rear Admiral,
Commanding Pacific Detachment.

Copies to

Rear Admiral H--, Captain W--, Commander F--.
Extract to Colliers.
By Guard Boat.

QUILL,

Flag Secretary.

NOTES ON SOLUTION.

The heading and numbering of the order follow the prescribed form.

"FORCES" are written in the space allotted. As Division Thirteen is to form a scouting line the vessels of this division may be called "Scouts" or "Screen". The "Main Body" is composed of the armored cruisers and destroyers, but no commander of the Main Body is mentioned under "FORCES" as Rear Admiral J--, the detachment commander, commands the Main Body.

In paragraph one is information of the enemy. This is complete, as the nature of the expedition requires that each unit have the fullest possible knowledge of the situation. Paragraph one contains no information of own forces as all such forces, under other command, are too remote to have any bearing on the contemplated movement of the Pacific Detachment.

In paragraph two is a brief comprehensive statement of the plan. "It is unwise to include too many details It is always important that subordinates should understand the object of what is ordered." This general statement of the plan is intended to further intelligent cooperation of the forces.

In paragraph three are the instructions for the subdivisions. These instructions do not carry the plan beyond the first hostile contact. Rear Admiral J-- wisely decided to await that contact and then adjust his further plan to the situation then obtaining. It would be desirable for Rear Admiral J-- to formulate plans of action to fit possible situations resulting from hostile contact if there were sufficient data available on which he could base such plans. As, however, he is not informed of the strength or disposition of the escort he is compelled to await further information.

The remainder of the order needs no discussion.

Some officers may think the tactical dispositions faulty, the decisions of Rear Admiral J-- as stated in the problem, unsound, but such questions are not involved in the solution. The problem is to embody the decisions of Rear Admiral J-- in a clear brief order arranged in logical sequence in accord with the spirit of a form that has been found by experience suitable.