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President U. S. Naval War College

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THE ESTIMATE OF THE SITUATION

By REAR ADMIRAL AUSTIN M. KNIGHT, U. S. Navy
President U. S. Naval War College

If we recognize that the real work of a war college is training for war command, we shall be led to inquire at what ends this training should aim, and by what methods it should proceed. Evidently it must aim first of all at the development of logical and concentrated processes of thought, which, beginning with a clear recognition of the end to be attained and the facilities and difficulties involved in the situation, proceeds by logical steps to a decision upon the course best fitted to attain the end.

There is nothing here that is peculiar to training for war command as distinguished from other training which looks to the development of intellectual processes leading to definite action.

Whenever we find ourselves confronted by a situation which calls for something to be done, we pass from recognition of the necessity for action to the action itself by mental processes which, often without deliberate consciousness on our part, follow a certain clearly defined course. We see the something to be accomplished, evaluate and balance the factors entering into its accomplishment, and decide upon the way of going about it. In many, perhaps in most, cases, the something to be done is rather vaguely seen, the evaluation of factors involved is incomplete, and the decision is hasty; but the process, however superficial, is inevitably logical to the extent that some sort of a decision precedes the action, some sort of an estimate precedes the decision, and some recognition of the end to be attained precedes the estimate.

Where great issues depend upon the action taken, as is the case in war and the preparation for war, it is of vital importance that the estimate should be carefully made, covering all phases of the situation, giving adequate recognition to facilities and to obstacles, adjusting means to ends, and binding the something to

be done with the decision how to do it, by a thorough and logical process of reasoning. This we call "Estimating the Situation."

The "estimate of the situation," then, in its military application, differs from the ordinary mental processes which govern the acts of our everyday life only in this—that it is a very thorough and a very methodical course of reasoning, directed along lines carefully systematized with a view to giving the fullest attainable assurance that no important factor shall be overlooked, and guarded from hasty and superficial treatment by the formality which is deliberately imparted to it in the teachings of the War College. It is a logical process which, starting with a mission to be accomplished and taking account of all existing conditions, leads up to a decision which, when reached, is seen to have resulted more or less inevitably from the mission and the conditions considered together.

The form which has been adopted at the War College for estimating the situation follows in its general features the forms which have been developed and employed by such authorities as Buddecke, Grippenkerl, and Audibert. There are differences in detail between these authorities, but all are agreed as to the necessity of providing a form which shall serve as a guide; and the differences in the forms which they suggest are such as to accentuate the importance of the general principles which lie at the foundation of them all. It is recognized, of course, that a form is an empty thing in itself, and that too much stress might easily be placed upon it. But experience has shown that it is always helpful as a guide to logical processes of reasoning, and that to a beginner, at least in the field which we are now considering, it is altogether indispensable. It is not to be supposed that in actual warfare every situation which arises can be dealt with in detail and in writing, but the habits of thought which are developed by the practice of this system in cases to which it is applicable—as in the problems of the War College and in most of the strategic situations of actual war—should result in an instinctive application of the same principles when a sudden emergency calls for an instantaneous decision. Our insistence, then, upon adherence to a prescribed form is a means to the end which has been laid down as that toward which the training for war command should first of all be directed—the development of logical and concentrated *habits* of thought.

In the problems which are drawn up at this and other war colleges, an effort is made to simulate conditions as they would confront a commander operating in the field. At many points it is easy to do this; at others it is so difficult that only partial success can be hoped for; at still others it is altogether out of the question. One of the most important points at which this effort fails is in the initial survey of the conditions upon which our estimate of the situation must be based. In practice, a commander must make this survey for himself, outlining the field of operations in such a way as to secure a broad outlook over the field with all factors in their proper relation to each other. In war college problems the initial conditions are necessarily stated by the framer of the problem. This difference between theory and practice should be kept in mind by the student who must remember that, in actual warfare, his estimate of the situation should be preceded by an outline sketch of the situation as a point of departure for the estimate. This preliminary sketch will closely resemble the *statement* of a problem issued for study at the War College.

In the form used at the War College the estimate of the situation is treated under four heads, as follows:

1. The Mission.
2. The Enemy Forces: Their Strength, Disposition and Probable Intentions.
3. Our Own Forces: Their Strength, Disposition, and the Courses Open to Us.
4. The Decision.

The mission is the task which lies before us for accomplishment, and a clear understanding of this task is the first step toward its accomplishment. How shall we arrive at such an understanding? That depends upon conditions. If we are acting under orders received from higher authority we must begin by studying these. If they have been properly framed they will themselves define the mission, and may, if clearly and concisely expressed, be accepted at once as a statement of the mission, subject, however, to modification in the light of *new* information which may have come to the knowledge of the officer receiving the orders and which was not in the possession of the higher authority when the orders were issued. The principles governing in this case will be explained hereafter. If the form of the orders

does not lend itself directly to this application, we must search out the essentials and throw these into a shape as concise and clear as is practicable. If the instructions are too general to be regarded as defining a mission, we must apply their spirit to the conditions which we find existing and deduce a mission for ourselves in harmony with this spirit.

In the extreme case, we may have no instructions and no source to which we can look for them. Here we must be guided by a broad conception of the duty which our position carries with it, and the responsibilities of loyalty and initiative which result from it.

We may say, then, that in general, to determine a mission based upon orders, we study the orders; while to determine one based upon a situation, we study the situation.

A variation sometimes introduced in the form is to consider "Our Own Forces" before "The Enemy Forces." This has some advantage in cases where the mission is primarily offensive. It is a matter of detail, chiefly important because of a tendency which we may assume as inherent in it, to fix the attention upon offensive rather than defensive action, and to encourage *initiative* in the *mission* and the decision.

The mission is always the ultimate task which *at present is assigned to us* for accomplishment—the end at which we are told to aim and toward which everything included in *our present estimate* must be directed. There may be, and often will be, many steps by which we advance toward this end; and it may be that only one such step demands immediate action and immediate instructions to our subordinates. Each such step, directed along a line which leads toward the end at which we are aiming, constitutes in itself a secondary or temporary mission, which may become, and usually does become, *the* mission of a subordinate commander. These secondary missions must not be confused by the commander-in-chief with the mission upon which his attention is to be fixed, and upon which all of his efforts must converge. This may be "To Destroy the Enemy's Army," "To Capture the Enemy's Capital," "To Destroy the Enemy's Fleet."

It may be that the first step toward the capture of the enemy's capital is to gain possession of a certain mountain pass, and this may be a task assigned to a subordinate commander, for whom it becomes *the* mission. It may happen that this preliminary

operation calls for all of the forces available, and that it must be directed by the commander-in-chief himself. This does not make the capture of the pass "the mission" for him, if, as in the case assumed, his instructions reach beyond this to the capture of the capital. Nor is the situation changed even if he cannot at once decide what steps must follow the capture of the pass. So long as there remains before him under his instructions a larger task to which the task immediately at hand is only one step, he must take as his mission the larger task which lies at the end of his road.

This brings us to a point which has been much debated, and about which there has long existed a difference of opinion at the War College and elsewhere. This difference, as it happens, is a matter of form rather than of principle. It is well illustrated in the situation which has just been outlined. A commander, acting under instructions to capture the enemy's capital, finds that the first step before him is the capture of a certain mountain pass, and that this operation calls for the employment of all his forces and must be directed by himself.

If the task were assigned to a subordinate commander, it would manifestly be the mission for that commander. Is it, then, the mission of the commander-in-chief, since he is personally to direct it?

The answer is that it is not for him *the mission*, but assuredly it is *a mission*, and one for which he must prepare by an estimate which stops with the capture of the pass. It in no sense replaces or obscures *the mission* toward which it is only the first step, but for the moment it demands an estimate and a decision of its own.

We decide, then, to recognize in certain problems, an *immediate mission* leading up to the accomplishment of the general mission. This immediate mission may become apparent in our study of the general situation, in which case it will appear as a part of our general decision. In the case which has just been considered, the commander-in-chief, in estimating the general situation, finds that a necessary step toward the accomplishment of his general mission—the capture of the enemy's capital—is the capture of the mountain pass, and the general decision includes, we may imagine, some such phrase as this: "Proceed to capture the —— Pass, and then deploy beyond the mountains, advancing in three parallel columns by the three main roads leading across the valley, investigating the city on the east, west and south, and

sending the cavalry to cut the communications from the north." Here is the general decision, and as a part of this we find an immediate mission—to capture the pass—as a step toward the accomplishment of the general mission.

The commander-in-chief has, in effect, assigned himself a new mission, included in the larger one, exactly as, under other conditions, he might have assigned the smaller mission to a subordinate commander. The new mission *calls for a new estimate and a new decision*, all keeping in view the larger mission and looking toward its accomplishment. This means that each individual step must be so planned that it shall lead up to, and prepare the ground for, the step which is to follow. If, for example, the first step is to locate the enemy's raiding force and the second to destroy it, it will be futile to locate the force without making provision for the step which is to follow.

In what precedes we have seen an immediate mission developing in our estimate from conditions known or assumed to exist; but there are other cases in which such a mission develops unexpectedly from the progress of events. In working toward the general mission along the lines of the general decision, a situation arises which was not foreseen when the decision was framed. Here, again, the new situation must be estimated upon, and a new decision reached. We shall see when we come to discuss the relation of the *mission* to *orders* what principles should guide us here.

An immediate mission, whether it grows out of our general estimate or forces itself upon us suddenly as a result of new conditions, demands immediate attention and draws to itself the whole of our loyalty—not in any sense withdrawing this loyalty from the general mission, but presenting a new channel through which it flows. We concentrate all our resources, then, upon the accomplishment of this mission, directing our efforts along the lines of the decision which develops from the immediate mission.

We have seen the importance of guarding against a too narrow limitation of our mission. But we must remember that it is of not less importance to guard against projecting it too far. In the usual case, where we are acting under instructions, these instructions will define the bounds within which we are to act. The task assigned to us will usually be only a part of the larger task included in the mission of the higher authority—one of many factors in

the decision under which he is acting toward the accomplishment of his mission. Included within the larger purposes at which he aims, and embraced within the wider field with which they deal, there may be other tasks for us, but their assignment and their definition lie within his area of responsibility and outside of ours. It will be his duty, at the proper time, to coordinate those tasks with the tasks assigned to his other subordinates so that all shall be directed toward the accomplishment of his more inclusive mission.

Each subordinate commander takes the task assigned him as his mission, estimates the situation, reaches a decision as to his course of action, and hands down new tasks to his subordinates, each one of whom, in turn, takes the task assigned him as his mission, and so on indefinitely.

It will be seen from what precedes that just as the mission for any commanding officer flows directly from the orders which he receives, so the orders which he issues to his subordinates flow in turn directly from his mission. Thus the mission is linked up on both sides to orders—flowing from orders received and dictating orders issued.

It is important that this relation between *mission* and *orders* be thoroughly grasped. Every military situation incident to a state of war derives its importance from its relation to the war as a whole. The most successful conduct of war requires that each act of war be directed towards the attainment of the object of the war. War is not simply fighting to injure the enemy; it is fighting for the attainment of a definite purpose. And since each act of war should be in harmony with the general purpose, it is evident that there must be a supreme control to direct all of these acts. This control—in the field—is exercised by the commander-in-chief. He is cognizant of the general purpose. His plan assigns tasks to forces. The success of his plan depends upon the intelligence with which his subordinates execute the portions of the plan allotted to them. If they, on their own initiative and without necessity, change their parts of the plan, the commander-in-chief then is no longer working with a plan that is a *whole*, but with several plans of parts. The plan of the *part* may succeed, but the success may be worthless because it does not fit into the plan of the whole. These considerations make it clear why the *mission* must normally be derived from the orders, and indicate the great impor-

tance of writing orders so clearly that they cannot be misunderstood, and so comprehensively that no important detail shall be omitted. The officer who receives an order, since it is to be the guide to recognition of his mission, should find in it as nearly as possible all that he needs for such guidance. It should as far as possible acquaint him with all conditions which are necessary for an intelligent comprehension of the situation, making clear to him especially the information upon which it is based and the end toward which it is directed; that is to say, the end which the higher authority has in view. Being thus placed as nearly as possible at the point of view of the higher authority, the officer receiving the order is in a position to accept his mission with that combination of loyalty and initiative which is the ideal of obedience.

We shall see hereafter (in considering the Order Form) that the information above referred to as essential is included in paragraphs 1 and 2 of the form for Order-writing which has been adopted as standard; and that paragraph 3 of the same order contains the definite instructions handed down by higher to lower authority.

There are of course many conditions under which orders cannot be treated with ideal fullness and formality; but every order, however brief, whether written or verbal, must—to be an *order* in the military sense of the word—contain the essentials of these paragraphs; that is to say, it must accompany the *command* of paragraph 3 (Order Form) with a statement of the object to be attained by the order (paragraph 2), and a statement of the *information* upon which the order is based (paragraph 1).

It may happen that the conditions upon which the order was based have changed since it was issued, so that a modification or even an entire change of plan is required on the part of the officer receiving it, *to make his action contribute to the plan which he knows to be that of the higher authority*. The new situation will point to a new mission, demand a new estimate, and dictate a new decision. The new mission may replace the earlier one, or postpone its execution, or merely introduce a new step leading up to it.

An officer finding himself in this position will of course communicate with his superior if circumstances permit, reporting the new conditions and requesting new instructions; but if this is not practicable, he will modify his mission as may be necessary, *always*

in the direction of the end at which he knows his superior to be aiming. For this, his orders, if properly framed, will constitute at once his justification and his guide. If he has no knowledge of the plans of his superior, so far as these apply to a situation suddenly confronting him, he may have such an intimate acquaintance with the views of his superior and of the principles which make up the code of that superior, that he will act instinctively in accordance with these principles. A code of this character, definitely held by a superior and so fully absorbed by his subordinates that it stands for them in the place of orders, is called—for want of a better term—a “Doctrine.” The subordinate who acts as thus described is said to be “indoctrinated.”

There is nothing so important in war as obedience, but this does not mean mere mechanical obedience. Ask first, “What was my superior’s intention regarding this order? What may have been his view on this subject? What information did he have when the order was issued? What additional information have I now? How would this information have affected my superior’s order?” It is only thus that dead mechanical obedience is avoided and active obedience combined with initiative is produced.

* * *

The mission, having been decided upon, is written out clearly and concisely and forms the first paragraph of “The Estimate of the Situation.”

The following are typical examples of the mission:

Mission.—To secure command of the sea.

Mission.—To capture or destroy the enemy’s fleet.

Mission.—To detect and report any movement of the enemy main body from CULEBRA.

Mission.—To prevent enemy force from throwing reinforcements into GUAM.

Mission.—To capture or destroy enemy convoy and escort before they reach the STRAIT OF GIBRALTAR.

Having decided upon the mission—*what to do*—we must study the situation from all points of view as a means of arriving at the decision—*how to do it*. This part of the estimate is considered under the following headings:

2. Enemy Forces: Their Strength, Disposition and Probable Intentions.

3. Our Own Forces: Their Strength, Disposition and Courses of Action Open to Us.

Under these two headings we are to consider all conditions entering into the problem of carrying out our mission, discussing fully each course which may be open to us or to the enemy, weighing advantages and disadvantages and balancing one course against another, until we are led by a logical train of reasoning to a decision upon the course to be adopted.

It is very important that the whole train of reasoning, with all the facts, beliefs, and theories upon which it is based, be fully written into the paper. This will not always be possible in war, but we are not now conducting war, we are *training* for war; and the practice of taking into consideration every detail that bears upon our problem will lead to a habit of thoroughness which will assert itself instinctively as a feature of our reasoning even when our estimate and our decision must find their only expression in action or in orders to our subordinates.

A little consideration will make it evident that the treatment of 2 and 3 above must overlap at many points. Comparisons must be made which call for bringing our own and the enemy forces together in one paragraph; and this is true not only of the opposing forces in their entirety, but of individual detachments which may be expected to oppose each other. And the *position* of one force must usually be defined by direct reference to opposing forces. Similarly, the *aims* of one force and the *courses of action* open to it can hardly be stated without referring to the other force. It follows that, in spite of what has been said about the desirability of adhering to a standard form, we must be prepared to accept, especially at this point, a reasonable degree of elasticity in the use of the form.

The situation must be studied, as nearly as possible, from the point of view of a commander afloat. It is well to begin with a general survey of the field operations, laying out the charts of the area, indicating upon these the locations of the forces on both sides, the distances between important points, and other factors which will help toward visualizing the situation as a whole. Pilot charts, sailing directions, etc., should be studied, together with all other available sources of information. Special features will almost immediately force themselves upon the attention as

demanding consideration, and to some extent defining courses of action.

If we have already studied the field in a general way as preliminary to the choice of a mission, we here go over it again more in detail and with the added light which will result from the fact that our mission is now known. We studied the field before to decide what we would do. We study it now to decide how we will do it.

2. Enemy Forces: Their Strength, Disposition and Probable Intentions.

Under this heading we deal with the difficulties which are to oppose us in the accomplishment of our mission, and among these we must include those obstacles of wind, weather and terrain which are allied with the enemy against us.

Here we are concerned, first of all, with *information*, and secondarily with *inference*. In actual war, as we all know, information is always incomplete, often inaccurate, sometimes altogether lacking, and frequently deliberately designed to deceive. It must be sifted, weighed, tested, to determine its reliability. Even if our information is full and accurate, our inferences from it may be altogether at fault.

In drawing up problems at the War College, the information is such as would probably be in the possession of an officer called upon to deal with a similar problem in actual war.

Information of the enemy is important, but an estimate of his information of us is also important. The initiative is largely a matter of information. If we know and he does not know, that is one thing; if we know and he knows too, that is quite another thing. A problem solver must, therefore, consider all he knows of the enemy and then record all of the deductions and inferences which he adds to his actual knowledge.

The reasoning should be so arranged that each step results logically from what precedes and leads up to that which follows. *The estimate is not for the purpose of justifying a decision previously arrived at. It is a reasoned solution of a problem where each step in the process approaches a decision which, without those steps, could be arrived at by accident only.*

The effort should be, in this part of the estimate, to arrive at the enemy's point of view, to think as he would think of us; to consider all the plans that he would consider, and to estimate which

of those plans would be most injurious to us. This is the most difficult part of the estimate. The intentions of the enemy are frequently not divined. Clausewitz said: "There are always only three cases possible, and when all these have been provided for, the fourth invariably happens." Wellington said: "The great thing is to know from this side of the hill what the enemy is doing on the other."

It will not be possible in most cases to arrange the appropriate reply for all possible intentions of the enemy. But all courses of the enemy should nevertheless be carefully considered, to avoid being taken by surprise. The strategist must always be ready with a remedy for a new situation, but he will rarely issue the remedy until the situation arises. One must endeavor never to be caught in a situation that has not been foreseen and considered as a possibility. It is only by a thorough and painstaking consideration of the enemy's possible intentions that surprise can be avoided. Anyone familiar with military history knows the great moral value attached to surprise.

The following points call for detailed consideration, not necessarily under individual headings, but with full recognition of their individual significance. They are given here in the hope of insuring a full and detailed statement of the course of reasoning in the *written* solution of the problem. It is not assumed that they cover all the points to be considered.

- (a) Position and strength of enemy forces as far as can be inferred from information available.
- (b) Elements of time and space which govern the situation and affect the enemy's possible movements, and his possible whereabouts after certain intervals of time.
- (c) What will the enemy probably take as his mission?
- (d) What courses of action will he probably consider as leading to the accomplishment of his mission? Discuss the advantages and disadvantages of these courses from the enemy point of view, including logistics, weather, the reply which he foresees that we may make, etc.
- (e) Which of these courses will he probably adopt as his initial plan of campaign, and why?

3. Our Own Forces: Their Strength, Disposition and Courses Open to Us.

Under this heading there should be a thorough examination of all courses of action open to us which lead toward the accomplishment of the mission. All other courses, however attractive, must be discarded.

Each course of action should be clearly outlined and definitely considered. Having clearly outlined a course of action, examine it. Does it accord with the mission? What is its prospect of success? What will be the penalty of failure? Does it build for the future? Is it what the enemy will expect? What can he do to defeat it? Arrangements for the sure attainment of the *mission* are of first importance, *then*, for an attainment of the mission by methods that will bring the maximum ultimate profit.

The following are among the points which should receive attention. In whatever way they may be grouped, the written discussion should make it clear that they have all been considered:

- (a) Position and strength of our own forces.
- (b) Compare (a) with strength and distribution of enemy forces as already outlined, and consider the elements of time and space which enter into our own and the enemy's possible movements.
- (c) In view of our mission and of the strength and disposition of the enemy forces, and his probable mission, is our task offensive, defensive, or offensive-defensive?
- (d) What courses of action are open to us *as leading to the accomplishment of our mission?*
- (e) How are these courses affected by the mission which we have considered as likely to be adopted by the enemy and by the initial plan which we have assumed that he will probably adopt?
- (f) How will these various courses stand if the enemy's initial plan is different from what we have assumed it as likely to be?
- (g) What reply can the enemy make to each of the courses outlined in (d) as open to us?
- (h) What difficulties, other than those directly connected with the enemy's forces, will be encountered in the various courses outlined in (d)?

The influence upon one's own plans exerted by the conclusions formed concerning the enemy's probable intentions varies greatly according to the situation. *A commander should endeavor always to keep the initiative*, and this can only be done by acting aggressively. In war it is better to lead than to follow suit. A commander whose mission makes offensive action desirable and whose force is greatly superior to the enemy's clearly should not permit the enemy's movements to change his general plan of action. On the other hand, the dispositions of a commander, whose mission is strictly defensive, and whose force is greatly inferior to the enemy's, may be considerably affected by the movements of the enemy. So long as possible, however, *a commander should keep the reins in his own hands*. His mission, and not the enemy's movement, should as long as possible be considered the governing factor.—CAPTAIN R. S. FITCH, U. S. Army.

When all reasonable courses of action have been examined and compared, one of them is selected. Thus we reach a *decision* as a result of a logical process of reasoning, which process is so fully set forth that its reasonableness is apparent not only to others who read our estimate, but to our own minds as we review it.

If the nature of our problem is such that an *immediate* mission grows out of our estimate, it is at this point that we shall recognize it. It will, in fact, appear as a part of the decision, as in the illustration already given, where a mountain pass is to be captured as the first step toward the capture of a city. In this case we proceed now to a new estimate of the situation growing out of the new mission.

The decision, then, is the plan decided upon for attaining the mission. It outlines a definite plan for the use of the forces available. The decision once reached must be unwaveringly carried out with our whole energy. Buddecke says that this unwavering execution of a decision once reached "is of such 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 course can often be entirely offset by decided and confident action."

The *decision* must not betray indecision. The decision is the basis of orders to be written to subordinates. These orders must show resolution. "Resolution is not a heaven-sent gift. It is a quality of mind, the product of keen desire to perform a certain act, and the sure knowledge how to accomplish it."

Ingelfingen says: "Indecision on the part of the commander-in-chief may quickly destroy the powers of the troops and render

in a short time the whole army unfit for battle. Hence in war it is better to undertake something with firm determination than to vacillate hither and thither, order, counterorder, disorder. In war we should adhere to what we see to be good enough and not be led astray by seeking for something better."

Dodge says in his life of Napoleon: "Many a general fails by forgetting his first and better intention, and being led astray by an unimportant gain to do what is not in natural strategic sequence. A sense of proportion, of the relative value of things, is one of the highest qualities in the captain as in every other workman."

Captain Eltinge in his *Psychology of War* says: "The leader whose ideas are not clearly defined and whose intention is vacillating will get only half-hearted action from his troops, while, on the other hand, a determined man who has one clear idea will himself be surprised to see how the troops respond."

Gripenkerle 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.*"

In the solution of problems at the War College, as in the actual practice of war, the need of a ground work of sound military knowledge is constantly experienced. If it happens that a strategic problem is presented, there is a demand for knowledge of strategic principles. If it is a tactical problem, then tactical knowledge and experience are required. It is quite natural for a beginner to feel that there should be some guide to his first efforts. So far as *form* is concerned, this demand is reasonable, and is easily met by the issue of a few simple problems with solutions in correct form. More than this the college cannot offer in the shape of definite instructions. It has no code by which naval warfare is to be conducted. It presents no rule for meeting any single one of the situations which may arise during the progress of a war. It would manifestly be impossible to formulate such rules, for the reason that the problems which arise in practice are infinitely varied in the character and significance of the factors which enter into them. This is true not only of conditions which have to do with the material forces involved and the features of wind and weather and terrain, but with the intellectual and moral forces of

the personnel. Thus each problem must be dealt with on its merits, in accordance, however, with certain general principles, the recognition of which is one of the objects of our studies. The college aims, then, to furnish, not rules, but principles, and to develop a habit of applying these principles logically to each new situation as it arises. It offers not a set of precepts, but a course of training. It presents for study a series of problems illustrating situations such as might arise in practice, and which are regarded as involving instructive principles of strategy and tactics. These problems are studied carefully, and each officer presents what, for want of a better term, is called a *solution*; but it must always be recognized that neither the result thus obtained nor that obtained by maneuvering on the chart or on the tactical board is a "solution" in any sense of finality. For every problem of this character which can be devised, there are many possible solutions, and no one of them is so good that we can safely say that it is the best possible. In a large number of proposed solutions, however, we shall recognize many degrees of excellence, and it will sometimes happen that one of these will stand out as manifestly the best of those *under consideration*. Whatever their degree of excellence may be, all are acceptable if they start from sound premises and proceed by logical reasoning to a sound decision.

Each problem given to the class is considered very carefully by one or more members of the staff, and a staff solution is prepared. This differs from the solution prepared by members of the class only in the fact that it is usually the work of an officer of considerable experience, having the advantages of consultation with other members of the staff, all of whom are supposed to be "indoctrinated" with principles which are believed at the War College to be sound. All that is claimed, therefore, for the staff solution of any problem is that it is a sound, or, as it is more commonly called, an "acceptable" solution—not that it is necessarily better than all or any of those among the class solutions which are found to be also acceptable.

The following tactical problem, with solution, illustrates in a brief form the general character of the estimate. Strategic problems, covering the ground much more fully, are issued by the War College to officers in attendance on its course, and to those taking the correspondence course.

TACTICAL PROBLEM

BLUE SITUATION

Motives.—Estimating tactical situations. Attack on convoy under escort.

General Situation.—War exists between Blue and Red. A Blue force of 4 AAs is operating to intercept and destroy a Red convoy that is known to be proceeding to a base 100 miles eastward of Blue's position at 8 a. m. Blue knows that Red has at the base a force of AAs and Vs, the AAs of inferior speed to Blue AAs. Blue also knows that the escort for the Red convoy is composed of BBs. Red BBs are inferior to Blue AAs in gun power, but are superior in speed and torpedo power.

Special Situation.—At 10 a. m., Blue, steaming east in column at speed of 21 knots, sights smoke bearing SSE, distant about 15 miles, and on investigation finds this to be an enemy force of 5 BBs. At the same time, Blue makes out on the horizon to southward another heavy smoke. Weather is fine, wind east, moderate sea.

Required.—Blue commander's estimate of the situation.

Assumptions.—1. BBs have $\frac{3}{4}$ life and 80 per cent gun power of AAs. At 6000 yards range or less, BBs and AAs have equal life.

2. AAs have 21 knots squadron speed, maximum individual speed 23 knots. BBs are known to have from 23 to 25 knots speed.
3. AAs have two torpedo tubes, one reload, 30-knot 6000 yard torpedoes.
4. One hour required to get radio message through to Red base.

NOTE: AA = Dreadnought.

BB = Battle cruiser.

V = Destroyer.

ESTIMATE OF THE SITUATION

Mission.—To capture or destroy the Red convoy.

Enemy Forces.—Their strength, disposition and probable intentions.

The enemy escort of 5 BBs is about equal to our force in gun power but is inferior in protection. Normally its speed is superior.

but as the escort and convoy have been proceeding in company at slow speed we have good reason to believe that for a time at least our speed will be superior. The escort is now concentrated and (apparently) about 10 miles distant from the convoy. The enemy commander may decide to call the convoy near the escort, or he may disperse the convoy and move with the escort to meet us, hoping to decide the issue before we can reach the convoy with any of our force. This latter course would seem to be the more attractive to him, for he may hope, even if defeated, to be able to cripple our ships and thus delay their attack on the convoy till reinforcements can reach him from his base 100 miles away. If he remains concentrated, we have a good chance to get at least one ship around his defence; so he will probably divide his force if we divide ours for a dispersed attack.

Our Own Forces.—Their strength, disposition and courses open to us.

Our own forces are strong enough to have a good chance of success in engaging the enemy escort, but the chance of having our speed reduced by a severe action, and the delay in getting at the enemy convoy which would result from this, may prevent the success of our mission, which is *to destroy the convoy*. Our objective being the convoy, how can we best move to bring destructive force against it? We must take advantage of our presumed temporary superiority in speed, which will continue less than an hour, and of the limited time we are free to act before enemy reinforcements can reach him, keeping in mind the fact that even a single unit of our force, brought into contact with the convoy, can do much, if not all, that is necessary, to accomplish our mission.

There are two general courses open to us:

1. To hold our force together and direct it against the convoy, accepting engagement with the escort only if forced to do so, as we almost certainly will be.

The disadvantage of this course is that we will in all probability find the enemy force thrown directly across our path, while the vessels of the convoy scatter on courses which carry them away from the escort and from us. In the engagement which must ensue, we have a fair chance of winning, but at a price in loss of time and in reduction of speed which will leave us little hope of seriously damaging the convoy.

2. To divide our force and endeavor to get one or more ships around the flank of the escort and in touch with the convoy before the convoy can scatter so widely as to make pursuit ineffective against any considerable number of its units.

This plan has the disadvantage that, in dividing our force, we run the risk of having it crushed in detail. This risk is the more serious because the enemy ships will, within an hour, have a small superiority of speed, and because, moreover, they can expect assistance from the base within from four to six hours. It offers, however, the best possible chance of reaching the convoy before it is widely scattered. And while it is true that the enemy may concentrate against one part of our force, he can do this only by neglecting the other part, thus presenting the opportunity which we seek, and for which we are ready to pay the price—the opportunity of reaching the convoy in time to capture or destroy it.

Decision.—To make a dispersed attack on convoy at maximum individual ship speed.

