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FOREWORD

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The thoughts and opinions expressed in this publication are those of the author and are not necessarily those of the Navy Department or of the Naval War College.

HOW TO RUN A CONFERENCE

A lecture delivered by
Doctor F. Harold Fox
at the Naval War College
on August 14, 1950

I am happy again to have the privilege of addressing a group of distinguished military officers. During the past three years I have done so on more than 25 occasions, always with much personal satisfaction. This is not merely because of the friendly and courteous manner with which I have been received, although I appreciate that; of greatest satisfaction has been the open-minded but critical attitudes of my audiences. I have found military officers generally more ready to examine and explore new ideas than many civilians; and they do so with a thoroughness and a healthy skepticism of which I heartily approve. Once convinced of the worth of a new idea or practice, they are more ready than most people to implement it with action. I say this not to flatter you, for which there is no need; but because some college professors hold opposite views and I want you to know that I do not agree.

I must confess that I approach my subject this morning with some misgivings, lest I be misunderstood. I do not know the best way to run a conference. I am not sure that anyone does. Indeed, I suspect that there is no one best way of running a conference. There has really been relatively little scientific research in the area of conference procedures, and much of what we think that we know has been put together eclectically as a result of examination of what appear to be good practices.

Nevertheless, as in many fields of human endeavor, conference procedures in current use often fail to utilize fully the little that

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is known about them. It is my purpose this morning to call to your attention a few of those characteristics of conference procedures of which we think that we have some understanding, in the hope that the insights thus engendered may help you to make the conferences in which you participate or lead more effective. Perhaps a better title for this lecture would be, "Ways of Improving Conferences."

We might begin our study of the subject by raising the question, "Why call a conference?" Most of us are aware of the more common reasons for calling a conference. The leader wishes to submit his plans to his colleagues for criticism; or he wants to persuade his subordinates of the soundness of his views; or he desires to enlist the aid of others in solving a problem; or he needs to instruct those who are to execute his plans. People come together to exchange views, to keep abreast of new developments, and to pool their resources to achieve a common purpose. However, there are other reasons for calling a conference that are not so well understood.

Conferences, when well done, promote teamwork. I cannot work well with you unless I can predict your reactions to a large number of environmental stimuli. This is impossible unless I know something of your scale of values, your interests, and your special skills. Only when I am able to anticipate much of your behavior can I make the necessary preparations in time to make the greatest contribution to the objective of the team. Not knowing who you are nor what motivates your actions tends to make me distrust you and feel insecure in your presence. As long as I do so I cannot play well on your team. I need not enlarge upon this, for all of you have had extended experience in teamwork. Only a team can run a ship, or carry out a bombing mission or make an amphibious landing. However, teamwork resulting from action incident to achieve-

ment of a common mission may engender group loyalties that inhibit teamwork of greater scope. Thus, action teams within a service may find it difficult to combine to form a well-coordinated larger unit; or laudable pride and "esprit de corps" in one branch of military service may make it difficult to weld together a team involving several branches of the service. In modern warfare, this is a problem of some magnitude and one that is not easily solved.

When I participate in a conference I have opportunities to observe at close range the behavior of persons drawn from diverse places. Since most conferences are problem-centered, I am likely to find it easier than usual to accept the idiosyncracies, the differing objectives, and the variant value scales of others without the customary emotional responses. When a conference is well conducted, I find it easier to accept other participants just as they are.

A conference may also serve as a kind of mirror that enables me to see myself as I appear to others. Thus, I may increase my understanding of the reactions of others to my own behavior. Such insights help me to get along with people and so improve my effectiveness in teamwork.

Conferences may improve learning. Things merely memorized often are not understood. To understand a new idea one must integrate it with past experience, relate it to other similar ideas, contrast it, and apply it. Conferences, since they permit the examination of a new idea against the differing background experiences of participants and allow countering biased views to compete, are very valuable in turning mere knowledge of a subject into an understanding of it. Learning effectiveness is generally increased if lectures are followed by ample opportunity for discussion. Groups formed for this purpose should be small enough to permit each participant to make frequent contributions.

Conferences increase the range of experience that can be brought to bear upon a problem. This needs no elaboration since it is clear that the total experience of a group is likely to be greater than that of any member of it. Of course, it is rarely possible to relate all of the pertinent experience possessed by the group to the problem at hand. Group members may find it difficult to select the elements of their experience that are pertinent to the problem. Inability to communicate with clarity may prevent the focusing of pertinent experience upon a problem. Emotional reactions of participants may result in a "hidden agenda" that makes the attack upon a problem more apparent than real.

Finally, conferences multiply the creative powers available for problem-solving. A group of persons, if working under favorable conditions, is likely to think of more bright ideas than one person. Moreover, the cross-fertilization of ideas possible in a group may increase the creative capacity of each member of it. Again, major difficulties are encountered in releasing the creative capacities of a group. Much depends upon maintenance of a high level of circular response. Such maintenance depends upon favorable group conditions involving leadership, group size, attitudes of participants, and control of emotional reactions.

There are, of course, different kinds of conferences; although in some respects all conferences are alike. Since they involve people they reflect the hopes, aspirations, habits, and psychological conflicts of humans. These give rise to a series of problems encountered in all conference work—a series so lengthy that time permits mention of only a part of it here.

Communication problems are always present in conference work. Conferees have trouble in selecting experiences pertinent to the group purpose. They may find it hard to organize their

thoughts for purposes of expression. Vocabularies may be limited. They may lack skill in composition and the use of their voices.

Understanding the group goal is often a problem. The goal may be quite clear to the conference chairman but not to other members of the group. Not infrequently it appears to be understood by all, but discussion reveals variant interpretations by different members of the group. Semantic difficulties appear here, since the meanings associated with words tend to vary because of differing backgrounds of experience.

Members of a group may understand the group goal but not accept it. As a group member I may think the goal unimportant or poorly chosen; or I may be more interested in the personal goal of maintaining my own prestige.

The attitudes of cooperation held by members are always important in a conference. Creative group activity requires highly-developed attitudes of cooperation. Even in debate, cooperative attitudes between those holding to one side of an issue are necessary.

The personal attitudes of members toward each other are also important. Feelings of distrust, insecurity, or antagonism can greatly impede the work of a conference. A high degree of respect for the personalities of other participants is generally desirable in a conference.

Success of a conference often depends in part upon the development of group consciousness. As long as group members act independently of one another the full potentialities of the group process are not likely to be realized. There needs to be a feeling of interdependence among members and a sense of cohesiveness in the group.

Of course, the quality of achievement is always a factor to be considered in all conferences. This is likely to be determined

largely by the conference goal, the composition of the group, the skills of members in conference procedures, and the degree to which an environment favorable to group action can be established.

Continuity of conference work and progress in its use depends upon the adequacy of group satisfactions. If conference work leads to feelings of annoyance or futility, it eventually becomes sterile. In the past, too little attention has probably been paid to this matter, despite the fact that conference work abounds in opportunities for group satisfactions.

Leadership is always imporant in conferences. Unfortunately, conference leadership has been largely conceived as a problem of selection. Considerable evidence points to the conclusion that it is primarily a matter of training. Better results seem to be obtained when all members share leadership responsibilities.

Conferences differ largely because of their purposes. Failure to recognize that differing conference goals require different means of achievement is a common cause of conference failures. Conferences primarily concerned with critical appraisal of proposals require a different group structure, a different approach to thinking, and a different utilization of experience than conferences primarily concerned with creative problem-solving. Time does not permit a full elaboration of the characteristics of each type of conference group, but a few of the more distinguishing characteristics of each will be mentioned.

Study Group. The main purpose of the study group is to increase the perspective and deepen the understanding of the idea, topic, or question under consideration. Thinking is deliberative and involved. The tempo of group action is slow. Contributions tend to be long and infrequent and verbalization difficult. Leadership

problems are usually easy. Group consciousness tends to be relatively sensitive to psychological disturbances.

Conferences of the study group type are particularly useful in exploration of the possibilities of new inventions, in deepening the understanding of concepts presented in lectures or reading references, and in discovering and defining problems.

Administrative Conference. The main purpose of this type of conference is the exchange of views or experience. Contributions to the discussion are relatively short and verbalization tends to be easy. The tempo of group discussion is more rapid than it is in the study group, but still moderate in rate. In both the study group and the administrative conference, optimum group size seems to be ten to twenty. Group consciousness is not as sensitive to psychological disturbances as the study group.

The administrative conference is of great value in marshalling experience for use in problem-solving. It is a valuable device in promoting communication between the members of an administrative team to the end that each member is informed concerning what his colleagues have done and what they are about to do. It is used by executives as a control device to check the soundness of orders, as a means of giving subordinates a share in decision-making, and as a means of improving the execution of plans.

Mass Interview. This is usually an information-getting device, but it may be used also to supplement orders. There are relatively few discussion exchanges between group members, interactions being largely confined to exchanges between the chairman and individual members. Procedures tend to be somewhat formal and since contributions may be prepared in advance, verbalization is easy. A low level of group consciousness is likely to prevail.

The mass interview is used frequently by administrators and

military leaders as an economical means of keeping abreast of the progress of actions. It is also used as a means of supplementing individual orders when there is insufficient time for individual interviews and it is desirable for others to know something of the nature of individual orders.

Creative Committee. This is a problem-solving conference. Its purpose is the discovery of a unique, or the most satisfactory, solution for a particular problem. The creative nature of the task requires integrative thinking as opposed to critical or argumentative thinking. The tempo of the discussion is rapid and characterized by circular responses. When done well, the animation of participants is high and group satisfactions are likely to be strong. There is frequently a strong sense of group consciousness that is very sensitive to psychological difficulties. Verbalization tends to be considerably more difficult than in other types of conferences, and leadership problems are likewise more numerous and difficult. To be effective, the size of the group should be small—normally less than ten.

Representative Committee. This is an appraising and liaison group that brings to bear constituent interests or specialized training and experience upon proposals. It is not a creative conference, although it is often incorrectly used for creative problem solving. Contributions are likely to include detailed criticism and to be biased. The tempo of discussion may be moderate or rapid, depending upon the amount of opposition to the proposal under consideration. Leadership problems are not difficult and the size of the group may be relatively large.

The representative committee is particularly useful in appraising plans formulated by creative committees and in transmitting information concerning these plans to the groups with repre-

sentation on the committee. In this way it performs an important service in the execution of plans.

Staff Meeting. This is an informative and persuasive conference. It is a means of acquainting those who must execute plans with their development, purposes, organization, and requirements. It may also be a means of persuading relatively large numbers of persons of the worth of proposals. To be effective, unusual clarity in communicating information is required. A major difficulty is adequate involvement of the audience in the learning activity. There is not much interaction between members and relatively little group consciousness. In terms of the usual objectives of group work it is the most ineffective of the conference types here described. Its value is to be found in economy of time. Through the staff meeting, large numbers of persons can be reached with a relatively small expenditure of time.

Steps in Conducting a Conference. Having discussed the reasons for calling a conference and some of the characteristics, likenesses, and differences of conferences, we are ready to return to the original subject of this lecture, "How to Run a Conference." It is apparent that there is no single way of running a conference, but there are certain steps that may serve as guides in conducting any conference. These may be listed as follows:

1. *Determine the purpose of the conference.*

   This involves more than a general statement; the purpose must be specific and expressed in terms of goals to be achieved.

2. *Select the type of conference most appropriate for the goals to be achieved.*

   Assumptions that all conferences are alike is probably one of the most common causes

of conference ineffectiveness.

3. *Organize the conference groups.*

Each type of conference makes somewhat different demands upon participants and leaders and requires a specific group structure.

4. *Provide adequate leadership.*

This involves, in addition to conference chairmen, recorders, blackboard recorders, observers, and perhaps assistant chairmen.

5. *Arrange for suitable physical facilities.*

In some conferences, members ought not to be seated around a table. Lack of adequate blackboard facilities is a common handicap. Most conference rooms are too small.

6. *Train the leaders.*

Generally speaking, training is more effective than selection in getting competent leadership. Improvement in conference procedures is most rapid when leadership responsibilities are shared. Such sharing can only be effective when adequate provision is made for leadership training.

7. *Train the participants.*

Skills needed for good conference work are not easy to acquire. Some initial training

> is usually desirable, but most of the training needed is best acquired through practice. To make such practice productive, repeated appraisal and self-evaluation of group behavior is essential.

Although I fear that the length of this address has exhausted your patience, it has been too short to permit more than a mere sketch of the subject. Perhaps the discussion period to follow will provide an opportunity for a more detailed treatment of matters of specific interest.

PROBLEMS OF COMMAND AND LOGISTICS

A lecture delivered by
Vice Admiral Oscar C. Badger, U. S. N.
at the Naval War College
on 31 August 1950

Admiral Cooley, students of the College: It is a great privilege for me to come here this morning. I want to assure you that no one appreciates more than I do the contributions to the national security that have been made and are being made by this organization. I was just an ordinary line Naval officer until I was called into the logistic game in the middle of war—much to my personal disappointment because I was called in from an extensive sea command—but my resulting experiences certainly intensified my interest in and appreciation of the vital importance of sound logistics planning and implementation. I am glad that we in the higher echelons of all our Military Services have finally come to realize that a knowledge of the principles of logistics is a necessary qualification for command of military forces.

World War II really brought that about. Speaking of the Navy, we had a fine Supply Corps before World War II. The officers were men who had a good knowledge of how to get things, when to get them and how to distribute them. But the average line officer had but little interest in such matters. When World War II came, the situation was different from World War I in a manner not generally appreciated but which forced appreciation by all of the importance of logistics.

World War I was, in many circles, considered an all-out war. Actually, it was a war with one major theater. The production

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capacity of the United States was fully loaded but was, in general, adequate to the needs of that war. But when World War II came into the picture, there were 11 major theaters. Inadequacy of the production of the United States was felt in every high planning agency in this country. Teamwork and unification of effort became essential. We found that, instead of having plenty, in order to carry out our planned operations (even to a degree of 50 per cent of the desired effort), we had to exercise the greatest economy during war.

Therefore, my talk this morning will emphasize not only the need for knowledge in the high command of the principles of logistics but a few facts in regard to the relationship between efficiency and effectiveness and economy in planning and execution. I also want to emphasize the avoidance of certain practices such as unilateral and badly considered demands, in order that we may successfully fight a future world war with which we may well be confronted.

Before World War II, since logistics had been a fairly simple, one-theater, one-pipe-line business, with a possible feeling of adequacy of the production capacity of this country, the need for logistics planners taking a proper place in the sun was not brought into the foreground. The imagination and the ideas of the operational and strategic planners were considered paramount and all that was necessary. The fellow carrying on supply, production and distribution existed just to carry out these imaginative and possibly well-considered plans.

We found that we could not fight World War II in that manner. We found that, instead of having supermen who could tell us what to do without serious reference to logistics, one of the things of first importance was the consideration of the plan from the point of view of feasibility—feasibility of support, production,

shipping, and so on—together with consideration as to the timing of the execution of the various operations in order that big operations should not unduly overlap. It became evident that shipping, for instance, could be used to support more than one operation by staggering deliveries, rather than being overloaded as the result of an overlap. It became immediately evident, not only that the closest coordination between our strategic and logistics planners was required, but that they, in fact, had to have a perfect unity of thought. Any attempt to carry on a modern war without the application of that principle will result in fatal inefficiency and inadequacy of support for operations.

Therefore, the first thing that I want to emphasize is that logistics considerations belong not only in the highest echelons of military planning during the process of preparation for war, but may well become the controlling element with relation to feasible and successful operation.

I have mentioned the word "feasibility." I will use a few examples because I consider that to be a very important word. The thought behind it must be present in the minds of every military commander.

In my opinion, the principal duty of the controlling logistics agency is to ensure that the operational and strategical plans are feasible.

There are two kinds of logistics agencies. One is the top agency, the one that determines or approves operational plans so far as logistics is concerned. The other type of logistics agency is the implementing agency, which takes part after the operation has been approved. Although the former may oftentimes control the approval of operational plans on a basis of feasibility or infeasibility, the latter is always the slave of approved plans and *must* implement them in an adequate and timely manner.

As an example of the first or high echelon type of logistics agency, we will consider the big meetings at Cairo. At Cairo, a great many strategic and operational plans were submitted. As you know, operational planning during the war was decentralized; plans were submitted to the JCS by the theater commanders. The operational and strategic members of the JCS staff jointly with the logistic members looked them over from the broad angle of: "Does this suggested operation in such and such a theater take a proper and advantageous place in the early and successful completion of the war?" If, from a strategic and operational viewpoint, and the objective viewpoint, there was approval, then it was laid aside as an approved strategic or operational plan for the Joint and Combined Chiefs. I cannot tell you the exact number of such operations that were approved at Cairo from this objective viewpoint, but my guess now would be that there were approximately 28 to 30. After that consideration was completed, the Joint and Combined Chiefs took 36 hours leave and went to Memphis. Before leaving, they turned these approved operations over to the logistics staff at Cairo and said, "Examine these for feasibility and timing. When we return, let us know what you recommend that we carry out."

I hope you realize the implication of the importance of logistics under those circumstances and the control that the logistics people exercised in the final decisions of the Joint and Combined Chiefs.

I will review, briefly, the suggested operations. Mind you, these were not Combined Chiefs' plans. These were from the theaters:

Normandy—fourth of May, 26 divisions. South of France —10 divisions, simultaneous landing on the same day and hour. Italy—to proceed at its existing rate. Amphibious operation of

about 14 divisions into the Aegean. The supply to Russia of 5.5 million tons over the Caspian route, including the provision of tugs and barges built in the United States and shipped to the Persian Gulf and to the Caspian. The landing at Moulmein of about 10 divisions to break the Japanese lines of communication to the Malay Peninsula and Burma. Incidental operations on the Malay Peninsula, including an amphibious landing. The Pacific—to proceed according to a schedule which I have forgotten, but which included the Philippines campaign, MacArthur having recommended a landing on Mindanao on the first of July. In addition, there were innumerable smaller plans and OSS activities. Et cetera, et cetera.

This is not complete. It is a rough outline.

When the Joint and Combined Chiefs returned, they found the following recommendations:

Normandy—okay; but instead of the Fourth of May, the fifth of June, because of the need for that time in the supply of certain critical items, the most important of which probably was landing craft. South of France—because of the insufficiency of air facilities available and because of the logistics consideration of not wanting to divert air from England to the support of that operation, to delay it 15 days—or 45 days from the original date—instead of making it simultaneous, and to make the landing in darkness instead of in full moonlight. Italy—to proceed. The Aegean—eliminated entirely due to lack of logistics facilities, primarily landing craft. Moulmein—after considering the failure of the Indian steel industry to produce steel plate locally, we had to abandon Moulmein for the same logistic reasons. MacArthur's landing on the first of July in Mindanao was too close to the fifth of June landing and, therefore, we could not build them both up simultaneously with the industrial capacity and shipping available. MacArthur's plan was delayed to any time after the first of Oc-

tober so that the entire production of the United States could be devoted to his support from the 15th of March and all available shipping, except for the normal support of Europe, could be diverted in that direction. The Pacific Fleet operations were generally restricted, if I remember correctly, to the 135th meridian prior to the landing of MacArthur in the Philippines.

I merely mention that as a general outline to show the place that logistics planners assume during war.

I sometimes read with a great deal of interest about the troubles we are having in order to maintain an Army, Navy and Air force in peacetime with 15 billion dollars. Maybe it is difficult. But, I want to say that the training, planning, and consideration involved in bringing the essentials into the picture under the peacetime money limitation are not unlike the war requirements. In war, we do expend many times more than 15 billion dollars a year, but we never have enough, and one of the most essential things to be carried in the mind of the logistician and the military commander is the exercise of economy. I have just pointed out to you that, because of the inadequacy of logistic support, we had to abandon vitally important strategic objectives during the war. If we had not exercised the strictest economy and unification of thought and effort, we would not have been able to carry out successfully even those objectives designated for accomplishment.

Therefore, I want to impress upon you gentlemen, as one of the lessons that I have learned, that wastage of material or production effort due to indifferent planning and consideration or the unilateral demand of one agency without consideration of the teamwork necessary between agencies has no place in military planning. It is a fatal defect.

We had an example of unilateral planning during the war which might interest you. It brings out another point, that when

we talk about unification of the Army, Navy and Air Force, that is the least we can expect. We must go further than that. We must not forget that during the war we had to allocate steel, machinery, and engines to the Department of Agriculture and to all the other supporting civilian agencies that provided us with food and the other essential requirements not only of the armed but the civilian forces of the United States. So that unification of effort of the Armed Services is the minimum requirement. It is expanded in time of war, and directly affects military planning by affecting the availability of men, materials and facilities.

The Maritime Commission was a separate agency. It had no representative on the Joint Chiefs of Staff. Emory Land, a Naval officer and constructor, of high integrity and ability, commanding the respect of everybody, went to the President and got the President to sign an Executive order allocating 60 per cent of all plate steel to the Maritime Commission for the construction of merchant vessels. Therefore, 40 per cent of the plate steel, which, of course, was a critical item, had to be divided between the Army, Navy and Air Force, and it was inadequate. It was probably one of the most critical items during 1942 and 1943. *There* was a unilateral decision which was a serious one.

The steel industry resisted increasing the production of plate steel above a million tons a month. Therefore, we were going to Cairo, with 400,000 tons of plate steel, knowing that the war effort was going to be completely curtailed unless the steel industry would agree to increase its production or a change was made in the percentage of steel plate devoted to the Maritime Commission and/or the Army, Navy and Air Force. It was brought into unison by an interesting thing. Since I have gone this far, I will tell you the story.

A proposal was made to the Joint Chiefs of Staff just before we went to Cairo that, in December of that year, the alloca-

tion of steel plate would be the same, 60 and 40; in January, it would be 55 and 45; in February it would be 50-50, and there it would stay. I happened to be in that picture and was asked by the Joint Chiefs, "Is 50 per cent of the steel plate enough for the Maritime Commission?" I said, "No, sir; not 50 per cent of a million tons. But 50 per cent of 1,200,000 tons is adequate and it will be adequate for the Armed Forces." The attitude of the steel industry was affected in the fact that the principal consumer, the Maritime Commission, was satisfied. Although the Army and Navy were strongly complaining about the production of steel plate, the complacent Maritime Commission was getting enough, was rather silent, was not a party to the effort for increased production. If we put this new order through over the President's signature, we were going to have the Maritime Commission also protesting strongly. We predicted that under these conditions that before we arrived in Cairo, the steel industry would be under such pressure that it would agree to increase the production of steel plate. The order was signed by the President . We went to Cairo, and the first dispatch on the top of the pile that I found on my desk was one from the deputy in Washington saying that the steel industry had agreed to increase the production of plate steel to 1,200,000 tons in February, in spite of the fact that it was only a 28-day month.

On that basis, we were able to approve, that year, Normandy, the South of France, and the Philippines. Had that increase not resulted, certainly the Philippines and probably Normandy would have had to be reduced below essential requirements or delayed for a period of a year because even with the increase, there was a leeway of only 100,000 tons in the Cairo plans in regard to plate steel.

Therefore, the second thing which I wish to emphasize is the danger of a unilateral demand. It applies equally to the use

of political power, lack of teamwork, and failure to consider the needs of the other fellow in the team and how disruptive it can be to him. Therefore, it is to be avoided because we do not have enough in war; and we must exercise not only economy but teamwork so that distribution is in line with the greatest effort of all concerned.

I will attempt to bring out other important lessons by use of additional examples because I think they are more instructive than generalities.

Superfluous or unnecessary demands by any command are to be avoided. As an example of this, the British came over with a demand in 1943, I think, for 95 repair ships and a 100,000 ton dry dock. We told them, yes, we would give them the necessary support, although it involved a great deal of critical material, but that we would have to break it down to see how much they actually needed in the support of approved operations. Briefly, when we broke it down, we could not justify more than 15 repair ships and no dry dock. There was considerable political pressure on that. As a matter of fact, on that occasion, I was called to the White House and Mr. Roosevelt said, "You are apparently treating the British pretty roughly." "No, sir," I said. "We are giving them all that is justified to carry out approved operations and to that they agree." This was a demand which, in its desire to build up to the possibilities rather than to the realities, represented the difference between approximately 100 per cent and 15 per cent on extremely critical naval construction which affected, in its turn, air and other construction. It illustrates the point that superfluous demands on the part of one military agency may and probably will diminish unnecessarily the capabilities of other commanders elsewhere.

I got into trouble with the Air Force on a question involving faulty planning and thoughtless demands against other programs,

which is to be avoided as poisonous to all-out effort. At one stage of the war, the Air Force and everybody else, realized the importance of the B-29 program. So the Air Force came in and requested that the B-29's be constructed under over-riding priorities. Under that priority, people interested in a program could go into any factory or any production program, take out any tool, any workman, take over any factory, and divert any material for the construction, in the case I am referring to, of B-29's. It was not a question of the B-29's in and of themselves. It was a case of trying to build something without a plan. There was an idea that this privilege of getting these things in this manner without delay would expedite the construction of the B-29's.

We fellows who had to make the recommendations were strongly against over-riding priorities, but we said, "If you will submit a plan of requirements, we guarantee highest priority of all requirements, and we believe that under such a plan more B-29's, rather than fewer, will be produced. Furthermore, such a procedure will not affect the programs of other type airplanes which are being utilized and which are, in their particular cases, essential to the pursuit of this war."

There was quite a fight about that, and it was turned over to the Joint Chiefs of Staff. There were some rather disagreeable words passed at the Joint Chiefs of Staff meeting, but I point again to the teamwork of those individuals in the Joint Chiefs when it was "Hap" Arnold himself, after hearing the case, who said, "'You gentlemen go out of here. Get your plan. There will be no over-riding priority for the B-29."

Results proved that the B-29 program proceeded expeditiously and did not interfere with the production of other essential planes.

I mention that as a reason for not getting too enthusiastic

about the needs presented by one Service over the needs of another Service, or the demand for one type of ship, plane or whatever it might be, without due consideration of the effect of overemphasis on that type on the other types which, in their minor roles, are nevertheless essential.

In modern warfare, the relationships between operational or strategic planning and logistics planning must be one of the utmost coordination and unity. The high command, and by that term I mean any command that issues operational orders, must insure that all orders are logistically feasible, otherwise, such orders are definitely faulty. Such high command must not only insure that the necessary support can be made available but that it *will* be made available at the designated times by the implementing logistics agencies. The high command in the issuance of any proper operational order commits himself to this responsibility.

Logistics, on the scale of a World War, is truly a highly complicated subject which involves procedures and operations beyond the ordinary appreciation. On the other hand, the determination of feasibility of plans even on a world wide scale, is comparatively simple because certain essential items are always more difficult to produce in adequate quantity than the others and, therefore, these items become classified as critical and are the ones that form the "bottle-necks," so to speak, in the determination of feasibility.

During World War II there were always between 10 and 20 essential items that were always short of the overall demand. These included shipping, landing craft and engines, steel plate, electronics, aviation fuel, machine tools and a few others. "If these particular items were in shorter supply than all of the thousands of others on the essential lists but nevertheless were available in sufficient quantity to support the plan under consideration, then the responsible commander could be assured of the over-

all feasibility of the operation." In simple terms, if a landing craft engine was a rarer item than a truck engine, the feasibility study gave consideration to the availability of the former and assumed that the latter could be supplied in sufficient quantity.

In supporting an operation, there should be no such thing as 90 per cent supply of essential items, or 95 per cent, or even 99 per cent. It should be 100 per cent or else the operation can be conducted only at a risk of failure. I have seen, in my experience, officers inclined to boast about Fleet supply ships being sent into forward areas with 93 per cent of the supply items on board. They were surprised when I showed a high degree of dissatisfaction. Experience had shown that the very seven per cent of items that were missing because they were semi-critical and in short supply in the home ports would be the very same items which would be in short supply and most urgently needed by the forces to be supplied.

I recommend that in your consideration of the relationship between operations and logistics planning and direction you become accustomed to thinking in simple terms. All that I have said regarding command, logistics, feasibility, adequacy and so on, is basic and taken as a matter of routine in our day to day operations of a single ship. For example, the Captain issues orders to get under way at such and such a time for such and such a destination. He has received assurance from his navigator that the distance is within the cruising range of his ship; otherwise, he must provide for refueling en route. He receives a report from his Gunnery Officer, his Engineer, his Supply Officer and other heads of departments, that his ammunition, his fuel, his stores and his personnel are on board, as directed, and sufficient to carry out the operation; otherwise, he must provide for timely replenishment. Here is a simple example of responsibility resting on command with regard to logistics. If you will think along these simple lines in the con-

sideration of more complicated questions, I am sure that you will ordinarily find that the principles involved are the same.

And before I close, I should like to call to your attention one of the most important, *if not* the most important principle that is involved in the command responsibilities of producing plans and directives that are sound operationally and also feasible of logistics support.

In my opinion, there can be no action or evaluation on the part of any supporting logistics agency that will lead to greater or lesser meticulous care in the support of one part of an approved strategic or operational plan over another. To grant any discretion to such a supporting logistics agency regarding the need for support of any phase or part of such a plan is a fatal defect and, sooner or later, will result in disaster. All approved operations, large or small, regardless of geographical location, must be regarded as essential components in the over-all effort and the means must be provided for timely success in each case. It goes back to the old adage, "For want of a nail, a shoe was lost."

If the occasion arises when the logistics supply agencies find it impossible to render required services at the designated times, they should refer such facts to the responsible command for his decision and action. Obviously, such information affects the determination of feasibility and may require his reconsideration of his plans and of their timing. On the other hand, if he has determined his feasibility properly, such a negative report from a supporting logistics agency may mean a deferment of other projects of less urgency in order to provide the means available to go ahead with the support of his plans.

During the war, such action was repeatedly necessary in all echelons of command responsibility.

As an example, the demands of the Cairo decisions required the increase of landing craft and engine program by about 300% for about four months. When the Bureau of Ships was confronted with this problem they required a very considerable increase in plate steel allocations and engine manufacturing plants and mechanics. They reported their additional needs to CNO who, in turn, took the matter up in the Joint Logistics Staff who, in turn, proposed deferments in programs of trucks and other less critical items, and thereby assured the timely delivery of the required landing craft.

Thus, the final important principle which I wish to emphasize, involves the complete subordination of logistics supply and manufacturing agencies to the meticulous support of approved operational plans. They must be uniformly imbued with a "can do" spirit and must under no circumstances exercise any independent judgment or thought regarding the relative importance of or need for supporting approved operational plans. We found by repeated experience during the War that the exercise of this principle was essential to over-all timing of large and small approved operations, wherever they might be located geographically, in order that the planned effect on the enemy of world wide operations might impose on him the maximum diversionary pressure and the maximum strategic disadvantage. Such considerations properly belong with the high command and under no circumstances can they be justifiably controlled by judgment or actions by any supporting or subordinate agency.

These are the reasons why operational planners and logistics planners must work together, think together and even "sleep together," in the attainment of the perfect coordination essential to the maximum effort. These are the reasons why any operational plan before approval must be meticulously examined for feasibility and approved only after the practicability of full and complete sup-

port have been determined. This is the reason why the Joint Chiefs of Staff must maintain sufficient controlling influence over the priorities of production and industrial and personnel allocations, to permit the adjustments necessary to maximum military effort; and this is the reason why the Chief of Naval Operations must exercise control over his Logistics Bureaus and Agencies and all Fleet Commanders over their Service Forces, in order that they can assure their subordinate operational commanders an unfailing and adequate supply of facilities and support essential to successful execution and accomplishment of the operations with which they are charged.

These principles apply in my opinion in peace-time when the over-all limitations to the attainment of military readiness for war are expressed in terms of the taxpayer's dollar; as well as in war-time when military accomplishment and intensity is limited by the industrial capacity of the nation. Neither in peace nor in war will these limiting factors permit sufficiency for all the things that we would like to do for the defense and security of our nation. But because these limitations *do* exist and *do* constantly impose on us the need for expending our effort in the most constructive and effective manner, our organizations, in peace or in war, must embody the means and determination to attain the maximum coordination between logistics and operational planners. Only in this way can our performances demonstrate that we have "done the best we could with what we had."

RECOMMENDED READING

This section lists material published in current periodicals which will be of interest and value to officers of the Navy, Marine Corps, and Coast Guard.

"A Turning-Point in the Cold War?"

By Arnold Toynbee. International Affairs. October.

"Pravda, U. S. A.—Stalin's American Mouthpiece."

By Frederick Woltman. Collier's. October 21.

"Germany: Rearmament and Democracy."

By Ernest Lieser. The Reporter. October 24.

"The Second World War. Vol. IV."

By Winston Churchill. N. Y. Times. October 10 and appearing every day except Sunday.

"Russia's New Empire."

By David J. Dallin. The Yale Review—Autumn Issue.

"The Defense of Europe."

By Editors—Fortune. Fortune. October.

"Iran: Trouble Spot on Russia's Border."

By W. G. Dildine. The Reporter. October 10.

"Fundamentals of Far Eastern Foreign Policy."

By Dean Rusk. The Department of State Bulletin. September 18.

"More Than Ever—Land vs. Sea Power."

By Herbert Rosinski. The Reporter. October 10.

"The Middle East."

By Hans Kohn. Marine Corps Gazette. October.

"How Strong Is the Heartland?"

By W. Gordon East. Foreign Affairs. October.

"The Problem of Revolutionary Asia."

By John K. Fairbank. Foreign Affairs. October.