

U.S. NAVAL WAR COLLEGE INFORMATION SERVICE FOR OFFICERS

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**INFORMATION SERVICE
FOR OFFICERS**

**Issued Monthly
U. S. Naval War College
Newport, R. I.**

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FOREWORD

Information Service for Officers was established by the Chief of Naval Personnel in 1948. It contains lectures and articles of professional interest to officers of the naval service.

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INTRODUCTION TO ECONOMIC MOBILIZATION

The Economic Basis of Warfare

A Lecture delivered by
Major General A. W. Vanaman, U. S. A. F.
at the Naval War College
24 September, 1951

Three concepts are essential to the study of the economic basis of warfare. The first of these concepts—logistics—in the traditional sense had to do with the transport, quartering, and supply of troops in the field; however, recent combat experience has greatly expanded the meaning of the word. It is appropriate and at the same time indicative of the effectiveness of Navy Department study in the field of logistics that probably the best current definition was developed by Vice Admiral E. D. Foster. It reads:

“It is the function of logistics to bridge the gap between two normally alien spheres of activity; to make intelligible to the producer the needs of the military commander; and, conversely, to inject into the calculations of the strategist an appreciation of the limits of the materially possible. Logistics is, at once, the military element in the Nation’s economy and the economic element in its military operations.”

There could hardly be a more apt and vivid way to express the essential elements of logistics.

The second and third definitions are from the “Dictionary of United States Military Terms for Joint Usage.” The first of

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these—national strategy—is defined as, “The art and science of developing and using the political, economic, and psychological powers of a nation, together with its armed forces, during peace and during war, to secure national objectives.” The language of this definition is significant. It will be noted that national strategy involves the use of not only political and military forces, but also the “economic” and “psychological” assets of the nation in attaining its ends. This is a clear extension of the duty areas embraced by the responsibilities of command in the armed forces—and acceptance of the fact that national power rises from the ability to produce, as much as from the ability to recruit armed forces. Further, it should be emphasized that the concept of national strategy is not limited to wartime. National strategy must govern the conduct of the political and military institutions of the nation in both peace and war, since the governmental, military, and economic successes and failures in terms of peace lay the basis for national potential in the event of war.

The third definition—economic mobilization—is simply, “The process of preparing for and carrying out such changes in the organization and functioning of the national economy as are necessary to provide for the most effective use of resources in a national emergency.” Here again, stress must be laid upon the fact that economic mobilization is not necessarily limited to a war emergency. It should be, on the contrary, a continuous process, conducted by both the military and civilian agencies of the government in peace and war. Its strength lies in its orderly, long-term development. Its effectiveness is reflected in the national potential for defense and in the support it gives to national policy.

These three basic concepts express the economic and logistic aspects of national defense. Each concept rises from the others. Each forms a part of an harmonious security program. In effect,

the purpose of economic mobilization is to provide the economic, that is the productive resource, base of logistics. A well-knit logistic pattern in turn provides for the utilization of the nation's armed forces with the highest effectiveness. And, completing the proposition, the military establishment, together with the political authority and economic power, supports national strategy, which is directed to secure the needs desired by the American people—a free, prosperous, and democratic world; a world in which the great principles of American life will find the conditions favorable to their fullest development.

The Twentieth Century Revolution in Warfare

Definitions are necessary since they establish a uniform understanding of basic concepts. But there is more to economic mobilization than the defining of terms. Economic mobilization is not the product of classroom studies—nor of ivory tower theorists. It is the result of the hard facts of economic and military evolution through the years.

In all ages war has affected and in turn been affected by the prevailing economic systems. Armed forces must be recruited, equipped, supplied, and paid. The costs of war must be met. A part of the product of the peacetime economy must be diverted from normal uses to the purposes of combat. In the days of small armies and short campaigns, war frequently brought economic ruin to the producers and merchants of the nations involved. In our time, however, the needs of military operations have provided a tremendous market for goods and services of all types, and business has expanded rapidly in wartime. In fact, wartime is usually a boom period in business, followed, sooner or later, by depressions during the readjustment to normal economic life.

This trend was not clearly established until World War I,

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when there occurred a revolution in the relation of war to the economic system. The huge scale on which the First World War was fought, together with the increasing complexity and volume of material, forced the major powers involved to resort to drastic measures in order to provide the needed supplies. Since the compelling demand was for more and more munitions, attention was fixed primarily upon expanding the production of manufacturing industry. During World War I the productive resources of the great powers were channeled into war-supporting activities to a degree unknown before that time. To attain this end, extraordinary economic controls were instituted by governments. This process was termed industrial mobilization. As the measures taken to expand industrial output affected other sectors of the economy, further controls became necessary so that by the end of World War I the major powers were approaching mobilization of their entire economies for the purposes of war. When World War II brought the requirements of blitzkrieg and global war, together with the extension of the combat zone through aerial warfare to include national productive areas, the major powers were forced to place their economies on a complete war basis.

There was increasing recognition of the fact that industrial mobilization, the objective of wartime procurement programs, was only the more obvious and striking phase of the transition from a peace to a war economy. The economy is more than manufacturing industry. It is agriculture, mining, lumbering, and fishing. It is transportation, communications, and power. It is money, banking, the commodity and stock exchanges, and the whole complex system of distribution under the price system. It is the sum of all the varied institutions, behavior patterns, and attitudes that comprise the system of producing and consuming wealth.

To mobilize all these resources, institutions, and attitudes for

the prosecution of war required more than a conversion of manufacturing industry from civilian to military goods. It required more than a corresponding diversion of manpower and materials from peacetime to wartime channels. War can no longer be waged successfully simply by operating the peacetime economy with a greater load and at a somewhat faster tempo. With great industrial powers aligned against each other, the fullest and most effective use of all the resources of the nation is required. A limited mobilization of resources, a commitment of only surplus manpower and productive capacity, the imposition of military on top of civilian requirements, without serious disturbance of the latter, are simply invitations to disaster. The peacetime economy cannot stand up under the tremendous strain imposed by wartime demands. The alternatives are drastic changes in the economy of its breakdown. Whether the transition to a war economy is accomplished, rapidly according to well-integrated and rational plans, or more slowly through a series of compromises and adjustments made in response to the pressures of a developing crisis, the end result—the organization and functioning of the economy on a new and higher level with new goals and incentives, new controls, and new organizational arrangements—is much the same.

The Nature of the War Economy

The objective of a war economy is the full and efficient use of all resources available to the nation. The attainment of this objective requires careful planning and close coordination. In peacetime the determination of what goods shall be produced, of what quality, in what amount, and at what time is dependent upon the functioning of the market place and the price system. There is no central planning and little direction. Coordination of supply and demand is effected in the market, operating through all the elaborate mechanisms of merchandising, advertising, banking and credit, the

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exchanges, and the habits and interests of millions of individuals. The motivation is enlightened self-interest; the goal is profit. Under the normal functioning of the market, supply and demand are most of the time, and for most goods, not very far apart, with supply tending to lead demand in what is commonly termed a buyers' market. In the peacetime economy, the role of government is primarily regulatory and essentially negative. Planning is the function of individual concerns and the planner operates within the very restricted limits of his own economic interest.

In wartime, the free play of competition in the open market, which normally directs productive resources into the channels where the demand is greatest and away from those goods and services which are less desired, breaks down as an effective regulator of the economy. It breaks down because almost overnight, demand for the wide range of goods necessary to equip and supply enormously expanding armies becomes in effect unlimited. It breaks down, too, because this military demand is concentrated in the hands of a single great customer, the government, which, with its taxing power and under the pressures of the emergency, is not subject to the normal restraints of the free-enterprise system. In the terrible urgency of arming the nation quickly, demand far exceeds any conceivable immediate expansion of supply. In addition the concurrent demand for goods by individual citizens, stimulated by the full employment and general prosperity that accompany present-day mobilization, increases the pressure on the productive capacity of the nation.

If under these conditions sellers were allowed to exploit their advantage without limit or restraint, prices would move sharply upward in what would soon become a dizzy spiral, throwing the whole market into a state of confusion, with disorganizing effects upon the entire economy. Sooner or later this would result in a breakdown of production, and public morale would be seriously undermined.

The War Economy Is a Planned and Directed Economy

A most significant and distinctive characteristic of the war economy is that it functions under the direction and control of the central government. Under free enterprise, the war economy, in contrast with that of peacetime, must become to the extent necessary, a planned and directed economy. Only by the most careful planning and control is it possible to devote from one-third to one-half, or even more, of the national product to the demands of war and at the same time keep the civilian economy in a state of productive efficiency. Centralized authority is indispensable for relating the over-all requirements of both the military and the civilian to the aggregate productive capacity of the nation. With total requirements intelligently balanced against total capacity, the productive factors of manpower, facilities, equipment, raw materials, and components can be distributed in such a manner as to insure the delivery of war material and civilian goods of the kinds needed, in the amount and at the time required, and in the order of essentiality. Hundreds of major industries, tens of thousands of facilities, and millions of workers of many and varied skills must be coordinated into a smoothly working whole, with a minimum of waste and lost motion. The nation must in effect be transformed into a single gigantic factory producing, under government coordination, the goods and services required by the armed forces and the civil population.

Control in Economic Mobilization

The controls by which the government directs and coordinates the war economy fall into several main groups. First, there are the controls which bear directly upon industry and by which the diversion of productive capacity into the appropriate war channels is effected. These range from mere persuasion to the seizure and operation of plants by the government, but, normally, they consist for the most part of indirect compulsion, priorities, and allocations

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in various forms. Such devices make available to producers, in the order of the essentiality of their products, raw materials, machine tools, equipment, components, services, and even capital.

A second group of controls is used for the distribution of manpower. Here the range is from publicity, employment services, and training programs at one end to universal service at the other, with various intermediate methods of allocations and referrals, wage and hour controls, and the like.

A third group of controls is that which places foreign trade—exports and imports alike—either directly in the hands of the government or under a system of licensing. Only those exports and imports are allowed which will contribute directly or indirectly to the strength and successful functioning of the war economy.

Still another group of controls has to do with the duty of the government to maintain both the physical condition and the morale of the civilian population. Such are, the rationing of scarce and essential goods and services, and the adoption of rent and price controls.

Requirements in Economic Mobilization

For the armed services, requirements are the starting point in economic mobilization. The determination of military requirements arises from a detailed analysis of the accepted strategic-logistic plan. This plan, basic to any effective national military action, implements the objectives of national strategy. It does this by determining, on the one hand, the strategic operations best calculated to realize the objectives desired, and, on the other hand, establishing the total economic potential available to the nation in support of its national policies, a factor simultaneously determining and implementing the broad strategic plan. From this calculation

issues the framework of over-all armed forces needs in terms of land, sea, and air units necessitated by the accepted operations. The requirements program, at its outset, involves the determination of the numbers of men, planes, tanks, ships, guns, uniforms, and the hundreds of other military end items to implement the plan. This in itself is a complex, difficult, and time-consuming task. But it is only the first step in the process of requirements determination. The supply branches of the armed services must further develop the requirements pattern. They must calculate the number of productive facilities, the amount of materials, and the number of critical components required for the production of the needed military end items.

The process does not end here. To the national military requirements must be added foreign aid requirements—all the goods, equipment, materials, and other items that are needed to support our allies and those neutral countries whom we find it expedient to aid.

Finally, it is necessary to determine what is required to keep the civilian population and essential civilian industries and services in a state of productive efficiency. In some respects this is the most difficult problem of all, because it is so hard to determine where to draw the line between civilian desires and actual civilian requirements.

Thus, the proposition of over-all requirements is a problem in the balancing of material needs with the national economic potential. Strategic planning cannot lay down requirements which go beyond the capacity to supply manpower and to produce material. Foreign aid must be realistically computed in terms of the national interests. And, finally, no military requirement should go beyond the point where the morale and productivity of the people are en-

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dangered. The balancing of resources and requirements is the arbiter in sound economic mobilization.

Procurement in Economic Mobilization

Once requirements for military items have been determined in accordance with sound strategic plans, consolidated with foreign aid and civilian requirements, and brought into balance with overall productive capacity, the next step in economic mobilization is procurement.

In the United States, responsibility for the procurement of virtually all military equipment and supplies has long rested with the armed services. Each service designs and develops its own special weapons and equipment, from the research on which the concept of the new item is based, through the development, testing, and final approval of the item for use. Procurement includes not only purchasing—the letting of contracts for the items required—but also the supervision of the execution of the contract, inspection of the items, packaging and transportation, and the storage and issue by the using service.

Under normal peacetime conditions, with the armed services maintained on a small scale, the problems of procurement are relatively simple. The amounts required are not large, manufacturers are usually eager to obtain military contracts, competitive bidding is keen, materials and manpower are plentiful, and the time factor is not an urgent one. All this is abruptly changed when a war emergency becomes imminent. As the armed services expand from a few hundred thousand men to five, ten, or more millions, total military expenditures multiply in even greater proportion and are measured, not in tens or hundreds of millions of dollars, but in billions. Raw materials, industrial facilities, equipment, and manpower in turn become scarce. Procurement operations expand tre-

mendously in quantity, yet they encounter increasing difficulties. The time element becomes a critical factor.

The Production Phase of Economic Mobilization

Procurement is not an end in itself, but only a means to an end—a means which in the manner of its handling can either help or hinder the speedy and effective attainment of adequate production.

Production is the axis about which the war economy turns and upon which the scale and effectiveness of the war effort depends. Production includes not only the fabrication of military equipment and supplies and of essential civilian goods of all kinds, but also the provision of essential services such as transportation, communications, and power. It includes provisions of the supplies of basic raw materials on which all industry depends. Production is manufacturing, mining, and agriculture and the innumerable auxiliary and service industries which support them.

War production differs from peacetime production in several important respects. It is, in the first place, all-out, maximum production. It is production with virtually all the slack removed, operating with expanded capacity, longer hours, and multiple shifts.

Second, war production calls not only for greatly expanded capacity, but for capacity converted from the making of the familiar articles of peacetime to the production of the unfamiliar, highly complicated material of war. It demands working to standards of quality and precision much higher than those necessary or desirable in most civilian products.

Third, consideration of financial cost necessarily become of secondary importance in war production. Quality of product and speed of production come first. Actual dollar costs are subordinate to costs computed in terms of time, labor, materials, and equipment.

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Finally, war production is production that is planned, directed, and controlled by national authority to meet national objectives. It is production geared to strategic plans and coordinated by legislatively established policies, administered by scores of Federal agencies. The decisions as to what is made, in what amounts, in what order, for whom, and at what price, are made, in the main, not by individual businessmen and consumers but by the government. The profit motive and the incentive of higher wages or salary incomes are retained, but are subjected to restrictions and limitations.

The direction and coordination of wartime production is exercised by the government through a variety of production controls. The most fundamental of these are the controls over the raw materials upon which all production depends. Under authority granted by Congress, raw materials in critically short supply are distributed among producers in the order of importance of their products in the war production program.

The key questions to be answered in a war production program are: who gets what, how much, and in what order of priority? Supplying the answers to these questions, for hundreds of industries and tens of thousands of companies, is a gigantic undertaking. It becomes the full-time task of many thousands of government employees. They must service vast numbers of requests, which build up into a mountain of paper work. Elaborate systems of priority are devised to facilitate material distribution, employing preference ratings, allocations, and other devices. Direct controls are established over materials in other ways by such means as limitations upon inventories, prohibition of the use of materials for certain purposes, and limitations on the use of scarce materials in certain products.

Controls over raw materials are supplemented by controls

over machinery and equipment, over end products, and over contributory factors, such as power and fuel. Still other controls are directly concerned with the management of production as in the case of production scheduling which directs the manufacturer in what order, in what amounts, and for what customers specified articles are to be produced.

As labor shortages appear and spread, it becomes essential to devise means to direct this vital element in production to the industries, the regions, and the manufacturers where it is most needed to advance the war programs. Strikes and other impediments to production resulting from unsatisfactory labor-management relations lead sooner or later in wartime to government intervention to an extent that would hardly prove acceptable in peacetime.

Still another type of control over production is that which involves the granting of subsidies, direct or indirect, to certain classes of industry, such as small business concerns, marginal mines, and producers of critical agricultural products.

Economic Stabilization

Direct and indirect controls over production are not enough in themselves to insure the maximized and balanced production of essential goods required for a major war effort. Production, after all, operates within the larger framework of the economic system. The effect of general economic conditions upon production is illustrated in peacetime by the sensitive response of industrial output to market changes, and by the close relations between production levels and general business conditions. One of the most revealing economic differences between peacetime and wartime is the circumstance that while peacetime producers operate most of the time in a buyers' market, the normal condition of

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wartime is that of a sellers' market. From the very nature of wartime requirements, supply cannot keep up with demand, and the continued and often wide gap between the two is a persistent threat to the stability of the economic system as a whole. Under peacetime conditions in a free-enterprise system, the problem of a scarcity is met through the flow of capital, managerial skill, and labor from the areas of less active demand—where profits, wages, and salaries are lower—to areas of more active demand—where the returns are higher. The result is a tendency toward balance, or equilibrium, in the market.

Under wartime conditions, shortages are too general and too great a balance between supply and demand to be attainable. Without government intervention, the natural market forces will produce an upward spiraling of prices ending in an uncontrolled inflation with disturbing repercussions on every phase of the economy. Price control, therefore, is essential for maintaining the economic stability which is necessary to the conduct of orderly business operations, the maintenance of public confidence, and the support of national morale.

In the broadest sense, price control includes not only control of prices of goods, commodities, and services, but of profits, wages, and rent.

Price control is only one of the measures employed to give stability to an economic system running at high speed and subject to extraordinary strains. While consumers' goods are becoming increasingly scarce, owing to restrictions on production, mass purchasing power is rising steadily. This rise takes place in response not only to higher wages but even more to increased employment, longer hours, and overtime pay. Family incomes rise sharply as women and older children join the working force. Personal in-

comes of professional and salaried groups and from business profits are likewise moving upward and adding to the amount of disposable funds.

This higher consumer income exerts a powerful inflationary pressure on markets as workers seek to spend their money. Taxation measures, rationing of scarce essential goods, and voluntary savings programs are among the more important devices which have been employed by our Government to contain the inflationary influences of higher incomes. In sum, the wide gap between supply and demand, which is a major characteristic of the wartime economy, creates a condition of imbalance which if uncontrolled will have a disturbing and demoralizing influence on every phase of production. The authority of government must supply the stability which the economy itself, under the abnormal conditions of war, cannot provide.

The Stake of the Military in Economic Mobilization

It has been argued that economic mobilization is not, after all, a primary concern of the military profession. This school of thought, while admitting that the new warfare places a tremendous burden on the economy and requires extraordinary measures of mobilization, states that this is not the responsibility of the military, that it is a civilian job for civilians to handle. Further, it is held that the increased scale and complexity of warfare are such as to make it impracticable for the officer to concern himself with the economic side of war.

It is true, of course, that military operations have become more and more complex and demand training and experience of a more and more specialized character. But the argument for specialization breaks down when we reach the higher echelons of command. It breaks down for two basic reasons. In the first place,

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the demands of total war are so great that close and harmonious coordination of the military and economic phases of war are essential. In the second place, by law, by tradition, and by long practice, the armed forces themselves exercise economic functions of great extent and importance.

In war, as in the conduct of any large-scale operation, effective action is dependent upon close-knit, smooth cooperation among all elements. There must be close and harmonious working relations among all the members of any team. In warfare today there are three major members of the national team. These are the military members—the Army, Navy, and Air Force; the production members, including all civilians who contribute economic activity; and the governmental or administrative members. Close and effective coordination of the activities of these three members is necessary. It requires that each one have a certain familiarity and a certain understanding of the missions and duties of the other members of the team and of the conditions, problems, and difficulties which each faces in wartime. While this, of course, applies to all three members of the team, the two civilian members and the one military member; it must relate primarily to the military component of the team.

It is necessary for officers in the higher echelons of command to have some understanding of the character, conditions, and problems of economic mobilization because military strategy must be geared closely to economic strategy; and military requirements must be related closely to productive capacity and to the requirements of the civilian economy. The size and intensity of the national military effort possible depend on how much of a strain the civilian economy can be adjusted to stand, and for how long. For the armed services to ask too little is to prolong the war, add greatly to its cost, and endanger the outcome. On the other hand,

excessive demands may result in an economic breakdown and the destruction of the will to continue the war. Thus, strategic plans must be balanced against economic feasibility as well as productive feasibility.

This is one major reason for the need of understanding the problems of economic mobilization on the part of the military member of the team. There is a second, a more direct and compelling reason why the armed services should be in close touch with the broad problems and conditions of economic mobilization. In this country, the armed forces have the primary responsibility in one of the most critical phases of economic mobilization, the procurement phase. They design and develop material, and they place contracts for it. Moreover, they supervise and control production under these contracts.

This year the armed services are preparing to spend nearly 60 billion dollars. Such enormous purchasing power concentrated in the hands of a single great agency is economic dynamite in its potential effects upon the working of our economic system. Unless it is handled with care, it can produce very great harm. Mishandled it can disorganize markets, stimulate speculation, create serious shortages, and give rise to inflation. It can demoralize the economy generally. And, ultimately, it can set in operation the forces of political and social disintegration which are the real hope of the enemies of the United States.

This outline of economic mobilization, in terms of its impact upon the economy and its significance in the defensive structure of our Nation, is important primarily in that it indicates two areas in which much must be accomplished in the interests of security. In the first area there must be closed, fuller, and more effective coordination between the armed services and the producing commun-

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ity of America. This involves a better understanding on the part of the military and civilians alike of their joint duties in the national defense. Each must learn more about the responsibilities, the achievements, and the potential of the other. American industry and the public must learn to think and act for the defensive and economic welfare of our country. The armed forces, in their turn, must devote close study to the problem of employing the tremendous economic strength of America for defense. This should be done in such a way that in both peace and war a maximum of military security can be maintained with a minimum dislocation of the economic processes and opportunities which have made the Nation great.

In the second area there must be a much needed development of the personal responsibility of every officer of the armed services. It is one thing to accept in principle the clear fact that war is, to an increasing extent, an economic activity, and that national survival rests as much upon the ability of the nation to provide ample logistic support to its armed forces as upon the fighting man's devotion and skill. It is something again to be personally prepared and qualified to meet the challenge of this basic military responsibility. The day when the competent officer was a man who understood only strategy, tactics, and the leadership of troops is gone. The officer of today must have these skills—and many others. He must be a technician, a specialist in the infinite variety of material which characterizes modern combat. He must have full knowledge of the problems of distribution. He must understand the complex process by which the industry of the nation provides the weapons of war.

Even this is not enough. Any officer who hopes to attain the highest levels of command must understand the deep economic motives, laws, and relations which determine the operations of a

free-enterprise community. He must be more than a leader of troops. He must be a leader in every sense. His duties will involve frequent contact with the governmental and business communities. In these dealings, his skills must be the managerial skills which are so well exemplified by the business leaders of modern America. He must learn to recognize problems and to arrive at sound solutions by the application of all the resources at his disposal. Having reached a decision, he must be able to secure decision acceptance, not by authority of rank, but by the powers of logic, persuasion, and personal leadership.

The American society can be led to any achievement—it cannot be driven. Today, the ideal officer must be a combination strategist, tactician, logistician, economist, executive, and statesman. This is a very heavy responsibility. Yet the responsibilities of command must always be heavy. It is the officer's duty to equip himself with the best possible kit of tools to meet the emergencies which he will encounter in the course of his career.

THE PRINCIPLES OF COMMAND AND LOGISTICS

A Lecture delivered by
Vice Admiral Oscar C. Badger, U. S. Navy
at the Naval War College
on 10 October, 1951

Admiral Conolly, students of the Naval War College:

It is a great privilege for me to come here this morning. As a former student and loyal follower of this college, I appreciate the continuously constructive effect that its courses of instruction have contributed to the overall effectiveness and efficiency of our Navy.

In discussing the subject assigned to me "The principles of command and logistics", I feel that it is advisable to present the picture, as I see it, in three phases. First: pre World War II, second: during World War II, and third: post World War II.

When I was a student here in 1936, there was very little consideration given to the subject of logistics. At that time we in the Navy had, as we have now, a fine supply corps. Our supply 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 took very little active part in such matters and in fact there was a tendency to avoid them if possible.

To a considerable degree, we fought World War I under these circumstances. The system worked with reasonable efficiency because of the relative simplicity of that war from a logistics viewpoint. First of all, it was a war with but one major theatre

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of operation. Accordingly, there was but one major pipeline of supply—from the Atlantic coast of the United States to Europe. Furthermore, although the production capacity of the United States was taxed, it was in general adequate to meet essential demands for the timely support of our forces in the operational areas.

Therefore, during the period between World War I and World War II the assurance of the adequacies of our methods and organizations continued, and the need for logistics planning to become integrated with the operational planning was not emphasized.

But when we entered World War II we found that instead of one major theatre of operations, there were eleven. We found that the production capacity of the United States was, in many important elements, inadequate to meet the magnitude of the worldwide demand. We found that, instead of having plenty in order to carry out our planned operations, we were forced to exercise the greatest economy in the use and distribution of our materials, and that we were able to undertake not more than fifty percent of the desired strategic operations.

Thus, we entered World War II unprepared to handle these complicated problems and to coordinate fully the operational and logistics planning and timing which we found to be essential to success. We learned quickly that logistics planning and control must be definitely considered as a "command" function and we were forced to the realization that a knowledge of the principles of logistics is a necessary qualification for the command of military forces. Admiral King, our great wartime Chief of Naval Operations, was one of the first to realize our weaknesses in these respects: and it was he who initiated the important action and

policies that lead to the adoption of the principles that logistics planning and control was a function of military command: that the closest coordination between our strategic and logistics planners was required, and that such unification of effort went far beyond the requirements of the Navy, but involved unification of such effort among the military and civil services of the United States, and further that such unification must include the planning and operational requirements of our allies.

Because our problems and experiences of World War II brought into the foreground new and continuing problems of command and logistics, I will dwell at some length on this period of our military history in trying to present to you the principles and procedures which we found to be sound and to emphasize to you some of the procedures of days gone by that proved to be fatal or at least destructive of maximum effort against the enemy.

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 and for specific wartime operations, but may well become the controlling element with relation to timing and successful operation.

There are two kinds of logistics planning agencies. One is attached to the staff of the Operational Commander and takes part in the formulation of operational plans and assures their feasibility so far as logistics is concerned. The other type is attached to the implementing logistics organization which is charged with the support of the operation after it has been approved. Although the former type may often times control the approval, timing of extent of operational plans on a basis of feasibility or infeasibility, the latter type is always the slave of such approved plans and *must* implement them in an adequate and timely manner.

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If the Operational Commander includes within his command the direct control of logistics organizations sufficient to support his operational plans, he may not be required to submit such plans to higher authority for approval. On the other hand, if he does not command and control such logistics capacity, then he is forced to submit his plans to such higher authority as may control adequate logistics support.

Thus, during World War II a system was set up whereby the commanders of the major theatres of operation submitted periodically to the Joint Chiefs of Staff and the combined Chiefs of Staff their plans for the pursuit of the war within their various theatres of responsibility. At Cairo, for example, these plans were received and each was considered from the broad angle of "does this suggested operation in such and such a theatre 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 further consideration in regard to the feasibility of support of all other approved plans.

Again referring to Cairo, I could not tell you the exact number of such worldwide operations that were approved from this objective viewpoint, but my guess now would be that there were approximately 28 to 30. These plans were then all referred to the very extensive logistics planning organization then attached to the Joint and combined Chiefs of Staff. Thirty-six hours later these plans had been examined for feasibility for supply of personnel, material, shipping, manufacture, etc. and the Joint and combined Chiefs of Staff received definite recommendations as to approval or disapproval and as to timing on this basis. At Cairo, the total number of approved plans was thus reduced to approxi-

mately 14, and in order that the greatest effect might be obtained from existing logistics facilities, the timing of approximately 8 of these operations was changed.

For example, plans for the Normandy operation as submitted specified May 4th, 1944 as the date of commencement. The landing by MacArthur in the Philippines was planned for July first. These two major operations, requiring the greatest output of American industry in certain respects, (such as landing craft and the availability of shipping), could not be undertaken on dates so close together. Therefore, the landing in Normandy was approved for 5 June, 1944 (the earliest date on which the required support could be made available) and the landing in the Philippines was delayed for approximately 4 months to allow American industry to make the necessary deliveries and to permit the use in the Pacific of the same shipping that had delivered the bulk of the supplies to the British bases for the support of Normandy.

It will be noted that these decisions could not be made either by General Eisenhower or General MacArthur because neither one of these commanders had sufficient logistics agencies under their direct command and control to permit their independent action. Therefore, they, in accordance with sound principles, submitted their plans and requirements to the Joint and combined Chiefs of Staff, because the latter agencies were the only ones with sufficient logistics authority to ensure successful and timely support.

I think this general and brief outline is a good example to show the place that logistics planners assume during war or during the time of any very extensive preparation for war.

I wish to impress upon you, gentlemen, that one of the lessons that I have learned at least is that wastage of material

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or production effort due to indifferent or uncoordinated planning or due to the unilateral demand of one agency without consideration for the requirements of others, has no place in successful military planning. As a corollary, I desire to impress upon you, that neither in peace or war will there ever be enough of everything to meet what would appear to be justifiable demand.

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 Maritime Commission, the Department of Agriculture and to all the other supporting civilian agencies that provided us with food, transportation and the other essential requirements, not only of the armed, but civilian forces of the United States. Thus unification of effort of the armed services is the minimum requirement. It is expanded in time of war, to include civil activities, 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 percent of all plate steel to the Maritime Commission for the construction of merchant vessels. Therefore, 40 percent of the plate steel, which, of course, was a critical item, had to be divided between the Army, Navy and Air Force, and all other supporting agencies. It was inadequate. Plate steel was one of the most critical items during 1942 and 1943. There was a unilateral decision which was a serious one.

The steel industry resisted 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 allocation 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, 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 had been 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

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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.

That gives you an idea of the danger of a unilateral demand; in this case, on the part of the Maritime Commission. 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, as I said before, not only economy but teamwork so that distribution is in line with the greatest effort of all concerned.

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 drydock. 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 drydock. 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."

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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.

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 worldwide scale, is comparatively simple because certain essential items are always more difficult to produce in adequate quantity than others and, therefore, these items become classified as critical and are the ones that form the "bottlenecks" 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. It is obvious that if these particular items were in shorter supply than all of the thousands of others on the essential lists, that the overall feasibility of operations could be, and was, definitely determined if these critical items were available in sufficient quantity to support the plans approved by the high command. 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 98 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.

In your considerations of the relationship between operations and logistics planning and control, I recommend that you become accustomed to thinking in simple terms. Remember that the objective of logistics coordination and effort is always toward support of the operational readiness and operational capacity of our forces. Approved operational plans always define the degree and timing of both of these factors. Therefore, it is essential that all logistics effort be patterned toward the support of such plans. Since these plans are always formulated by the military command, it is essential that operational and logistics planners work together under the operational commander concerned in the formulation of these plans in order to ensure their practicability and feasibility of execution.

During the period of World War I, the intervening period between World War I and II, and during World War II itself, we provided the organizations and means for the support of existing operational plans. I have pointed out that we changed our methods somewhat during these periods, and I have tried to give you the reasons why this was necessary.

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Now to divert for a few moments, I feel it advisable to discuss the period between the end of World War II and the declaration of the present national emergency by the president.

During this period, under the impetus of demobilization and economy we forgot in some instances the lessons learned during World War I and withdrew in some respects the control of the military command over logistics activities and gave the priority of control to the logistics agencies themselves. In many instances during this period this procedure resulted in withdrawal of essential logistics support from the needs of our responsible operational commanders.

In China, for example, there was very little close relationship between the amount, the kind or the timing of the support that we gave to that nation to meet their operational needs. In fact, there was so little relationship existing that in many instances the Chinese were unable to make any plans which included the use of American aid because they were never sure as to what was going to be supplied or when it was going to arrive.

In the eastern sea frontier, a military command responsible for the support of a considerable part in the execution of operational plans involving security of the coast and shipping in the western Atlantic, the establishment and support of overseas bases, the expanded logistics support of the Atlantic Fleet, and other wide responsibilities, the state of readiness to support or execute approved operational plans steadily deteriorated. The readiness of ships and of logistics activities to carry out their respective missions as defined and laid down in approved plans and directives, deteriorated to such a degree that such plans became merely scraps of paper setting forth requirements and timing completely infeasible to accomplish.

I am happy to say that the declaration of the national emergency and the statement of policy of our Admiral Sherman "to conduct our business through the military chain of command" this state of affairs has been rapidly corrected and the state of readiness of our forces and activities rapidly improved.

Nevertheless, these four years, where we forgot to a considerable degree the need for closest coordination between the operational and logistics planners and authorities in support of feasible operational plans constitute a realistic warning against future abandonment of the basic principle requiring the closest coordination between these activities in the support of the strategic and operational plans under the military commanders responsible for their execution.

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 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 responsibility resting on command with regard to logistics. If you will think along these simple lines in the consideration of more complicated questions, I am sure that you will ordinarily find that the principles involved are the same.

And, finally, before I close, I should like to call to your attention one of the most important, *if not* the most important,

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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 and small, regardless of geographical location, must be regarded as essential components in the overall effort and the means must be provided for timely success in each case.

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 with 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 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 judgement 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 overall timing of large and small approved operations, wherever they might be located geographically, in order that the planned effect on the enemy of worldwide 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 judgement or actions or 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 support 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 per-

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sonnel 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 unflinching 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 overall 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 reflect the fact that we have "done the best we could with what we had."

THEATER AIR FORCES

Staff Presentation by
Lieut. Colonel F. A. Nichols, USAF
at the Naval War College
on 8 October 1951

Gentlemen:

This morning I shall discuss the principles and doctrines of Air Force combat units in the role of support in a *theater* campaign. During the past several years you will remember the controversies going around Washington and the Pentagon about air power. Similarly, I know most of you, at one time or another, have participated in friendly arguments as to which system, the Navy, or the Air Force was the most effective. From my experience and study of the principles and doctrine of the use of air power in a combat theater, I can see no important difference. Possibly the Air Force ideas concerning the use of air power have been misunderstood. I am sure you have heard such remarks as: "This is not a SAC mission" or "First job of Tactical Air Command is to get air superiority, the next thing TAC does is to isolate the battlefield; then it provides close support to Ground Forces." These expressions dogmatically stated and isolated from an overall concept indicate that we, in the Air Force, are advocating a tight compartmentation of our command missions and a rigid adherence to a set of priority of tasks. This is absolutely incorrect.

As you well know, one of the outstanding characteristics of the airplane is its flexibility. To adhere rigidly to a fixed priority of tasks, regardless of the situation, destroys this flexibility. Regardless of the equipment or assignment of a particular air force combat unit, it can, and will be used to aid in accomplishing that

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objective which is of primary importance to the highest authority concerned. During August you were made aware as to the nature of the functions assigned to the Air Force. Attainment of the assigned objectives demands the full utilization of all air power. One cannot arbitrarily label the mission of any combat unit as being either strategic or tactical in nature, therefore one cannot arbitrarily assign "strategic" missions to one command and "tactical" missions to another. A clear cut definition between strategic missions and tactical missions is neither desirable nor possible.

Although the labels "strategic" and "tactical" have been applied to two of our major commands, these titles were arbitrarily chosen and are not intended to connote strict compartmentation of functions. The Strategic Air Command, as it exists today, merely represents the one segment of air power reserved to the specific control of the Joint Chiefs of Staff; it is an organization which can be used either independently or in conjunction with one or more theater commands to achieve the result desired. It not only represents a potent offensive weapon capable of obtaining a decisive result through the progressive destruction of an enemy's war-making capacity, but represents as well, a mobile reserve of air power that can be turned by the Joint Chiefs of Staff to the immediate support of any theater overwhelmingly in need of help. In this light, its organizational integrity, of course, must be preserved; however, whether allocated to the Strategic Air Command as we know it, or to some other Air Force unit, heavy and medium bombardment aircraft like all other combat aircraft are flexible. Their flexibility is a vital part of air power.

Now let's discuss in more detail the mission of this part of the Air Force which is organized, trained and equipped to act jointly with Army or Navy forces, or both, in a combat theater.

This is the mission of a theater air organization.

“During wartime a theater air organization in a theater of operations will execute, either independently or jointly, sustained offensive and defensive air operations aimed at the destruction or neutralization of a critical enemy military force together with its reserves and supplies.”

Here at the Naval War College you will be concerned from time to time during the year with the joint use of Air Force combat units in a theater campaign, thus I will confine my remarks to a discussion of how they can best be employed in support of a theater action. Experience has shown us that there are three general tasks which air power can perform in support of a ground campaign. All, one or any combination of these tasks may constitute a mission of theater air power in support of a particular campaign. These tasks are:

1. The gaining and maintaining of air superiority.
2. Interdiction of the battle area — that is, prevention of enemy movement into and within the battle area.
3. Close support of friendly forces — that is, providing air strikes to assist friendly forces in the immediate zone of contact.

We, in the Air Force, are now attempting, in our instruction of Air Force doctrine to eliminate any misunderstanding as to a set priority in relation to those tasks, thus, I want to emphasize that no particular importance or priority is attached to the order in

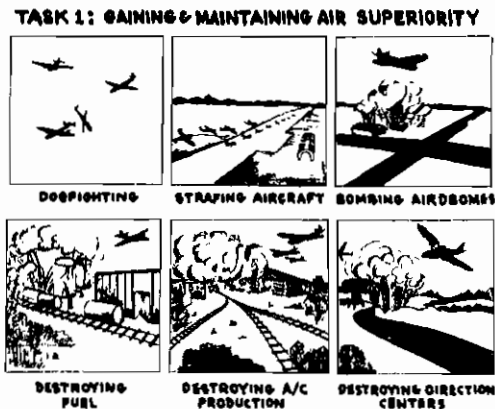
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which these tasks are listed. In the past, these tasks have been referred to both as "phases of tactical air operations" and "priorities of tactical air operations." These were poor terms since they implied a set procedure of operations and have led to erroneous impressions of the proper employment of air power. Performance of any one of these tasks may be the predominant concern of theater air power in a particular campaign, or during some phase of that campaign. In situations such as those experienced in Europe during World War II, changes of emphasis on the tasks occurred almost daily depending on the requirements of the ground campaign. In the present campaign in Korea, we see little, if any, emphasis required or placed on the task of "gaining and maintaining air superiority."

To give you an idea of the capabilities and employment of air power in support of a theater operation, let's look at the first task in a little more detail, the gaining and maintaining of air superiority.

ILLUSTRATION

TASK 1

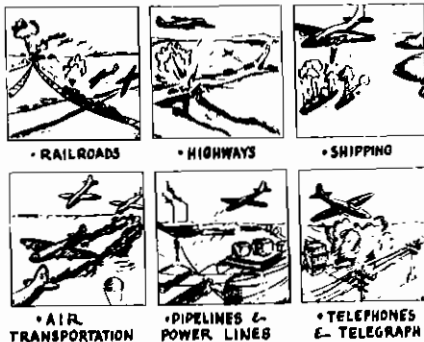


Insuring a satisfactory degree of air superiority is, nor-

mally, in the vast majority of operations, the first task to accomplish. This task is a major job which may require our entire air strength. Also, it is just as necessary in the support of air operations as in the support of land or sea operations. Heavy and medium bombardment units can and normally will hit the aircraft plants, air fields, and oil distilleries beyond the range of our other aircraft. Air defense units normally will destroy invading enemy aircraft. Fighter-bomber units normally will destroy enemy aircraft in the air or on the ground. Since this task of gaining an acceptable air superiority is normally an initial step in any type of theater action, the Theater Commander can usually be expected to begin his day-to-day plans with considerations for maintaining and even increasing this general air superiority within his theater of operations.

ILLUSTRATION
TASK 2

TASK 2 - INTERDICTION OF THE BATTLE AREA



The immobilization of the enemy is another task of whole theater air power—not of any compartmented portion of it. Isolation of the battlefield is only a part of the job of interdiction. The

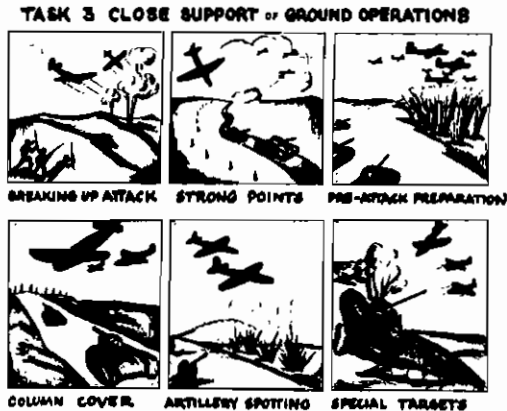
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enemy's supply problems begin at the factories where his materials are manufactured and do not end until his supplies are in the hands of his combat soldiers. Preventing the enemy from supplying the battlefield or the airdrome is not a compartmented job assigned solely to one organization. If it were, we would be failing to take maximum advantage of our flexibility.

The job of carrying out long-range missions against the industrial strength of an enemy nation is again one that must be carried out by indivisible air power. If transport aircraft even though assigned to troop carrier units are needed, then they may be used to support this job. If needed, fighter aircraft regardless of assignment will be used to defend heavy bomber bases or to accompany the bombers. All aircraft, light, heavy, Air Force or Navy which are available to the Theater Commander and have the capability of reaching the objective with a useful bombload will be used if necessary.

We believe that the job of carrying out long-range attacks against the heart of the nation will produce the greatest results for the amount of effort. However, we believe that these results would not fall into any one category such as attaining air superiority, interdiction, etc., but rather a task of major contribution of all air power. It extends the paralysis of an enemy's transportation system from the battlefield to the heart of the nation. Enemy forces that cannot move, raw materials that cannot reach the factory, and supplies and equipment that cannot reach the user, military or civilian, are useless. A nation deprived of its means of moving is defeated. Additionally, it could contribute to lowering the will to resist. This is particularly true in cold climates where housing is destroyed. This type of operation, while it might not produce the immediate effect, could be one of more far-reaching and tremendously greater effect.

ILLUSTRATION
TASK 3



The first question in the theater of operations would be, what units are available for the direct support of ground troops? Again, once the theater decision has been made that this job is of overwhelming importance, all units allocated to the theater commander by the Joint Chiefs of Staff are available whether it be heavy bomber, troop carrier, jet fighter, land or carrier-based. *The priority of operations is determined by the relative importance of all the tasks confronting the theater commander. (I repeat). The priority of operations is determined by the relative importance of all the tasks confronting the theater commander.* Too often, as I mentioned earlier, we overstress the importance of priorities of support missions on a chronological basis — air superiority, interdiction of the battlefield, close support. None of these missions is ever completely accomplished. Too often we create the erroneous impression that we can never isolate the battlefield until we have permanent and complete air superiority; that we never provide close support until we have achieved absolute isolation of the battlefield. This is certainly a mis-conception.

Once the theater decision has been made on the relative

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urgency of the job to be done, the decision as to the weapon to be used depends upon its characteristics, its availability, and its economy. The Army, for instance, does not use heavy artillery when Infantry weapons are available and can do the job; the Navy does not use a battleship when a destroyer is available and can do the job; nor does the Air Force use heavy bombers when fighters are available and can do the job.

The characteristics of the aircraft and other equipment of a unit and the training of the combat crews are designed to meet certain requirements. It is uneconomical to use a weapon in a role for which it is not designed except when the requirements of that role are of overwhelming importance. The destructive and cumulative effects of heavy bomber attacks against the concentrated targets in the interior of a nation are far greater than against the small dispersed targets of the battlefield. Only when the immediate results are of critical importance is it appropriate to divert heavy bombers from their normal role. When this situation does arise, the theater commander concerned will not hesitate to concentrate his available air power as necessity demands.

To briefly summarize, the terms "Strategic" and "Tactical" have been arbitrarily selected to designate certain commands. It is not our purpose in the Air Force to advocate a compartmented type of mission nor to indicate the sole purpose or mission of any unit.

Within the technical limitations of their equipment, all air units have a degree of capability to carry out any mission. The particular combat mission to which a unit is assigned depends upon:

The objectives to be accomplished

The force necessary

Availability of units

Economy in the use of forces

The flexibility of the force available

The flexibility inherent in the airplane must be utilized to the maximum in order to provide overwhelming force at the place and at the time dictated by the situation.

We believe that only a theater air organization under one control will permit the maximum use of this flexibility.

While the flexibility of the airplane and a correct organization permits massing overwhelming force where needed, the equipment and training of a unit makes it more economical and adaptable to certain missions than to others.

The diversion of long-range bombers to short range missions is profitable only when other forces are unavailable in sufficient numbers to get the desired immediate effect and when that effect is of sufficient importance to the Joint Chiefs of Staff to justify the temporary change of assigned missions.

The strength of air power primarily lies in its flexibility. Compartmentation of tasks and missions subverts the unified effort required to accomplish an objective.

CURRENT READING LIST

This section lists recent books and articles which may prove to be of interest to officers of all services.

BOOKS

- Title:** *The Forrestal Diaries.* 563 p.
Author: Forrestal, James. N. Y., The Viking Press, 1951
Evaluation: A unique collection of notes, letters, reports and recorded conversations of Mr. Forrestal covering his tenancy as Secretary of the Navy and Secretary of Defense, 1944-1949. The collection is reported to have been censored and edited only as essential for current national security purposes, and to remove repetitive material or detail not needed in the book. Readability is enhanced by editorial narrative linking sections of the diary. A few editorial errors were noted in giving the rank of flag officers and the word "thousands" instead of "millions" in table on page 352. The book serves to emphasize the well-known statesmanlike character, administrative acumen, and insight of Mr. Forrestal, and his deep patriotism. The intimate revelations of background strife, partisan politics, and complexity of considerations affecting numerous critical and far-reaching decisions of this period of world history are highly educational. Recommended reading for all hands.
- Title:** *American Diplomacy.* 146 p.
Author: Kennan, George. Chicago, University of Chicago Press, 1951.
Evaluation: This is a masterly diagnosis of the ills that plague United States' policies and foreign relations by one of the best political minds in our land. Mr. Kennan makes a vivid, plain-spoken appraisal of our foreign relations over the past vital half-century; and arrives at some conclusions that are revealing, though apt to be somewhat shocking to our self-esteem. He shows, in brief, how our national preoccupation with the moral and legal principles of in-

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Title: *American Diplomacy. (continued)*

ternational relations, and our concurrent neglect of realistic factors of international power politics have been largely instrumental in bringing us to our present position in an uneasy world. He then indicates, with evidence to support his thesis, that our policies should be based on a careful appraisal of POWER FACTORS in the world of today—on the creation and maintenance of a state of maximum stability the world over. Included in the volume, as appendices, and as well-placed accents on the central theme, are reprints of his two most renowned former articles—THE SOURCES OF SOVIET CONDUCT, and AMERICA AND THE RUSSIAN FUTURE. Recommended reading for all officers attached to the Naval War College and for all who are interested in the foreign policies of our country.

Title: *Chinese Communism and the Rise of Mao.*

Author: Schwartz, B. I. Cambridge, Harvard University Press, 1951.

Evaluation: This book is both a factual analysis of an important phase in history and the development of a controversial theme. It traces the rise of Communism in China, and develops the thesis that under the tutelage of Mao Tse-tung, Chinese Communism has successfully shifted the basis of its revolution from the urban proletariat of Marx-Leninism to the peasantry of China's countryside. It is a scholarly treatment of a most complex and difficult subject, and is recommended to those readers interested in the background of the events, and of the leaders of China today, and of Communism in the Far East as a whole. Because it is the history of a highly complex movement this book is not easy reading. However, both the student familiar with Chinese Communism, and the seeker for a "one-package" study of the subject will find Mr. Schwartz' work worth their while. Particularly valuable are the notes and references used by the author, for they are a valuable guide to further research. The last two chapters of the book, Chapter XII—"Triumph of Mao Tse-tung" and XIII—"Essential Features of Maoist Strategy" are recommended reading for all officers, while the rest of the book is recommended for reference only.

Title: *American Military Government in Korea*
 Author: Meade, E. Grant. N. Y., Columbia University, 1951.
 Evaluation: In his latest book on military government, Dr. Meade has presented a detailed, thoughtful, and perspective analysis of the circumstances by which Korea became a vital factor in American foreign policy. "American Military Government in Korea" is an important addition to our diplomatic history in a field too little understood by too many people. An acute observer, Dr. Meade tells his story from the point of view of one who was an observer and a participant in the military government in South Korea during the early months of the occupation, when our responsibility first began to take definite form. The book is carefully documented and not only illuminates a portion of the past but serves as a partial guide for the future. Dr. Meade believes that Korea cannot remain half slave and half free and that United States' support must be continued to the fullest until it is certain that Korea can stand alone as an independent nation of free men. This book should be read by all who are interested in or who may be faced with military government problems, either as a commander or as a subordinate.

Title: *Minutes to Midnight.* 128 p.
 Author: Chicago, Bulletin of the Atomic Scientists, 1950.
 Evaluation: A well-edited collection of excerpts and statements from the important documents and personages connected with the problem of International Control of Atomic Energy. It is made a readable and interesting book by the chronology and commentary contributed by E. Rabinowitch, editor of the Bulletin of the Atomic Scientists and a leading chemist in the Manhattan Engineering District. There is no question of the authenticity of the quoted material which comprises about two-thirds of the book. The author is frank to admit his personal responsibility for the connecting remarks and asides. Sobering reading in today's climate of exuberance over big and little atomic weapons for all military needs.

Title: *The Eagle and the Bear.* 183 p.
 Author: Haile, Pennington. N. Y., Ives Washburn, Inc., . 1950.
 Evaluation: Pennington Haile explains why we have our form of gov-

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- Title:** *The Eagle and the Bear. (continued)*
- ernment and why the Soviets have theirs. He explains the political philosophy which is the basis for the two forms of government in a clear, lucid style that any one can understand. The book is a valuable aid to those who wish to learn why the two nations act as they do. It also explains simply the basic philosophies expounded by Locke, Hegel, Kant and Marx
- Title:** *Red Banners Over Asia. 212 p.*
- Author:** Trullinger, O. O. Boston, Beacon Press, 1951.
- Evaluation:** The author gives the story of Communism in the countries of Southeast Asia, points out why Communism is making headway in those countries and what the Western nations must do to combat its advance. He also gives a brief background sketch of the central Communist figures in each country and in the area as a whole. While the sentence structure at times makes the book hard to follow the information included in it is valuable, particularly as background for news articles emanating from that part of the world which would otherwise have little meaning.
- Title:** *Collision of East and West. 340 p.*
- Author:** Maurer, Herrymon. Chicago, Henry Regnery Co., 1951.
- Evaluation:** Advances the thesis that the underlying cause of the war, violence, and unrest prevailing in the Far East today is a collision of cultures between East and West—a collision which "Finally blew up (a quarter of the world) so violently that it set the West itself on fire, overwhelmed four-thousand-year-old China, and involved East, West, and Russia perhaps fatally with each other." The cultures, and the mistakes that brought these cultures into collision, are reviewed. The author is a Quaker and a philosopher. He sets forth no panaceas, but contends that other people, whether they be of one culture or another, must be treated as ends in themselves, not as means to some other end. An amalgam of cultures can only occur by chance; it cannot be forced or produced by schemes of war and economics. The book is recommended

Title: *Collision of East and West (continued)*
reading to help understand what is going on in the East today and to project thinking to imminent collisions that are shaping up in other parts of the world.

Title: *Unite or Perish. 214 p.*
Author: Reynaud, Paul. N. Y., Simon & Schuster, 1951.

Evaluation: Paul Reynaud thoroughly understands Western Europe: the forces which threaten it, present weaknesses, and latent strengths. He takes as his thesis the proposition that a United Europe could provide within itself the necessary resources, manpower, and markets for the nourishment of a healthy, economic giant, and military forces capable (with some American help) of resisting aggression from the east. In developing this thesis he recognizes the forces which oppose unity, principally the refusal of socialist governments to accept responsibility for those local hardships which would be the first apparent result of economic union. Having developed the practicability of union, and the perils of disunity, he ends with the words, "Let us unite rather than perish."

PERIODICALS

Title: *Spain as an Investment.*
Author: Adams, Mildred
Publication: FORTUNE, Nov., 1951, p. 98-101, 130-134, 139.

Evaluation: A comprehensive survey of the Spanish economy and of its ability to aid U. S. military purposes which concludes that Spain can be converted into a dependable military base only by the expenditure of great sums of money.

Title: *Mutual Security in the Near East.*
Author: McGhee, George C.
Publication: THE DEPARTMENT OF STATE BULLETIN,
October 22, 1951, p. 643-646.

Evaluation: Explains the technical, economic and military assistance available to Middle Eastern countries under the Mutual Security Program.

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- Title: *What the French Elections Showed*
Author: Schreiber, Jean-Jacques Servan
Evaluation: THE REPORTER, November 13, 1951, p. 25-27.
Publication: Interprets the political situation in France in the light of recent elections which showed a swing to the right and warns that Communist strategists can still succeed unless the present majority saves the franc, solves the German problem and rearms the nation.
- Title: *The Economic War Potential of Asia.*
Author: Reday, Joseph Z., Lt. Cdr., U. S. N. R.
Publication: U. S. NAVAL INSTITUTE PROCEEDINGS, November, 1951, p. 1137-1147.
Evaluation: Examines the ability of Asia to provide for an all-out war, the men, supplies, fighting equipment, and facilities for getting men and equipment to battle, and concludes that Asia is too primitive economically to be able to do more than exist except by contact with the Pacific and the West.
- Title: *The Admiral Who Lost His Fleet.*
Author: Wilds, Thomas
Publication: U. S. NAVAL INSTITUTE PROCEEDINGS, November, 1951, p. 1175-1181.
Evaluation: Describes Admiral Koga's efforts to keep the Japanese fleet intact in order to win out in a major action with the American fleet and tells why he failed.
- Title: *What's Wrong With U. S. Propaganda?*
Author: Doob, Leonard W.
Publication: UNITED NATIONS WORLD, November, 1951, p. 29-31.
Evaluation: Asserts that though we are gradually building the machinery to publicize ourselves, U. S. psychological warfare is handicapped by policies that are vague or unstated and by the democratic feature that requires executives to report to legislators and to the people.

Title: *The Naval Establishment: Its Growth and Necessity for Expansion 1930-1950.*
(Office of the Comptroller of the Navy, Department of the Navy).

Evaluation: A detailed description of the U. S. Navy, which summarizes its role in world events from Revolutionary days to the present time and presents statistical tables of expenditures and costs of comparative types of vessels throughout the years. This monumental (225 p.) but surprisingly readable publication prepared by the Office of the Comptroller of the Navy is designed to offer to the public at large a brief summary of all aspects of the history, the organization, and methods of functioning of their Navy. It does a surprisingly good job, and is recommended as reference reading for all officers who desire to become acquainted with any part of the Navy that has heretofore puzzled them.

Title: *Death on the Wing.*
Author: Fliegiers, Serge and Pearson, Leon
Publication: AMERICAN MERCURY, November, 1951, p. 55-62.

Evaluation: Discusses the war potential of germs and gives detailed information on Soviet biological warfare projects as reported by two German micro-biologists who were forced to work on the projects.

Title: *The Concept of the Balance of Power in Soviet Policy-Making.*
Author: Garthoff, Raymond L.
Publication: WORLD POLITICS, October, 1951, p. 85-111.

Evaluation: A detailed analysis of the Soviet view on the balance of power.

Title: *How New Are Our Problems?*
Author: Kennan, George F.
Publication: FOREIGN SERVICE JOURNAL, October, 1951, p. 20-21, 51-52.

Evaluation: Suggests that the newness of our age lies in: (1) over-

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- Title: *How New Are Our Problems? (continued)*
population; (2) the weapons and tools which man has in his hands for good and evil; (3) the changing relationship between man and man. (Under the second heading the author discusses land power versus sea power).
- Title: *The Oil Problem in the Middle East.*
Author: McGhee, George C.
Publication: THE DEPARTMENT OF STATE BULLETIN,
October 15, 1951, p. 612-615.
Evaluation: Explains why the Middle East is of strategic importance to us and outlines the principles guiding our national policy in appraising the constantly shifting oil situation in the Middle East.
- Title: *What the Kremlin Fears Most.*
Author: Fuller, J. F. C.
Publication: SATURDAY EVENING POST, October 27, 1951,
p. 25, 115-117.
Evaluation: Contains U. S. S. R. fears war because it leads to internal disruption, criticizes our present policy of containment because it leaves the initiative in Russia's hands and proposes that the key to curbing Russia's age-old urge to expand, lies in the dissolution of the Russian empire and the liberation of the subjugated nations.
- Title: *Looking Inside Russia*
Author: Kirk, Alan G., Ambassador
Publication: U. S. NEWS & WORLD REPORT, October 26,
1951, p. 47-50.
Evaluation: Personal story of the author's two years in Russia, taken from an address delivered in New York on October 18.
- Title: *Air-Sea Power on the Asian Perimeter*
Author: Hessler, William
Publication: U. S. NAVAL INSTITUTE PROCEEDINGS,
October, 1951, p. 1019-1027.
Evaluation: Reviews the factors influencing the breakup of Great Britain's hegemony over Asia and discusses whether air-sea

- Title: *Air-Sea Power on the Asian Perimeter*
(continued)
- power as it now serves the U. S. can be utilized as efficaciously as surface sea power was employed by Britain in the 19th century for containment of Russian power in Asia.
- Title: *There Is Hope for Germany.*
Author: Kohn, Hans
Publication: THE NEW LEADER, October 22, 1951, p. 8-11.
Evaluation: Discusses the forces at work in post-war Germany and points out that her future depends upon a sincere reconsideration of the path of German nationalism over the past century.
- Title: *Is It Wise to Rearm the Germans?*
Author: Eliot, George Fielding and Padover, Saul K.
Publication: FOREIGN POLICY BULLETIN, November 15, 1951, p. 4-6.
Evaluation: Foreign Policy Forum presents pro and con arguments on the question of German rearmament.
- Title: *Naval Aviation's Roles and Goals.*
Author: Duncan, Donald Bradley, Vice Adm., U. S. N.
Publication: FLYING, December, 1951, p. 14-15, 45-47, 53-55.
Evaluation: An exclusive interview with the Vice Chief of Naval Operations and the Navy's top air admiral, in which he restates the objectives of naval aviation.
- Title: *The Responsibilities of Atomic World Leadership.*
Author: Dean, Gordon
Publication: WORLD AFFAIRS INTERPRETER, Autumn, 1951, p. 237-251.
Evaluation: An address of the Chairman, U. S. Atomic Energy Commission on the obligations incumbent upon us as world leaders in the atomic age.

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- Title: *The Strategic Importance of Scandinavia
in Case of War.*
- Author: Sandler, Ake
- Publication: WORLD AFFAIRS INTERPRETER, Autumn,
1951, p. 320-327.
- Evaluation: Discusses military value of Scandinavia to Russia and to
the West, evaluates the strength of each Scandinavian
power and concludes that the strategic importance of this
area centers in Sweden, which insists on remaining neutral.
- Title: *Let's Draw the Line Now.*
- Author: Wedemeyer, Albert C., Lt. Gen., U. S. A.
- Publication: COLLIER'S, November 17, 1951, p. 15, 38-41.
- Evaluation: Asserts that it is imperative that the U. S. and her allies
wrest the global initiative from Russia and outlines a
program for doing so.

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