Sound Military Decision

Naval War College

Title: Sound Military Decision

Author: U.s. Naval War College

Release Date: February 24, 2009 [eBook #28178]

Language: English

Character set encoding: ISO-8859-1

E-text prepared by Suzanne Shell, Jeannie Howse,
and the Project Gutenberg Online Distributed Proofreading Team
(http://www.pgdp.net)

Transcriber's Note:

Inconsistent hyphenation in the original document has been preserved.

The original book used bold face as a means to find the index entries. This has not been reproduced in this e-book.

A link to an image of the form on page 219 has been provided for the reader's convenience.

Obvious typographical errors have been corrected. For a complete list, please see the
end of this document.

Click on the images to see a larger version.

Sound Military Decision

U.S. Naval War College

NAVAL INSTITUTE PRESS **Annapolis, Maryland**

"This book is the 1942 edition of a book originally published in 1936 by the U.S. Naval War College"—T.p. verso.

CONTENTS

Sound Military Decision

U.S. NAVAL WAR COLLEGE

Newport, Rhode Island

November 30, 1941

SOUND MILITARY DECISION was first published at the Naval War College in 1936. It included the essential features of THE ESTIMATE OF THE SITUATION which, since 1910, had been issued at intervals in a series of revised editions. The new material that was added in 1936 was intended to assist in enlarging the viewpoint and in broadening the basis of professional judgment.

Primarily intended for the purposes of the Naval War College, this work is the cumulative result of years of untiring and loyal effort on the part of the College staff and student body. Equally important have been the advice and assistance contributed by other officers of wide professional experience and attainment.

The objective has been a brief but inclusive treatment of the fundamentals of the military profession, i.e., the profession of arms. The emphasis, naturally, is on the exercise of mental effort in the solution of military problems, more especially in our Navy. An enormous literature has been consulted, and research has included all available and pertinent military writings. Care has also been taken to include, from civil sources, the findings of those authoritative works which deal with related matters and with the applicable underlying truths.

In a work of this type and scope, it is manifestly not possible to illustrate the abstract text by historical examples and analogies. These are complementary features of the War College resident and correspondence courses; provision for the necessary historical background is otherwise the concern of the individual student.

In this edition of SOUND MILITARY DECISION no radical changes have been made; the revision has been confined to rearrangement and amplification of the subject matter.

E.C. KALBFUS,
Rear Admiral, U.S. Navy,
President.

The Solution of Military Problems

TABLE OF CONTENTS

(See Chart on page XXXX)

CONDUCT OF WAR.

***APPENDIX**

* Not included in the limited issue for use in Part I of the Correspondence Course.

FOREWORD ToC

From the earliest days of recorded history, the facts associated with military operations of the past have been constantly studied. The result has been the accumulation of a mass of information from which conclusions have been drawn as to the causes of success and failure. Although scattered through countless volumes, and nowhere completely systematized and classified, this accepted body of knowledge constitutes the basis for the science of war.

Scientific investigation—that is, the collection, verification, and classification of facts—follows the recurrent procedure of successive analysis, hypothesis,

theory, and test. The application of this process to the campaigns of history reveals fundamentals common to all, irrespective of whether the sphere of action has been land, sea, or air. In the ceaseless struggle for supremacy between the offense and the defense, great technological changes have taken place. The successful conduct of war, however, has always depended on effective operations for the creation or maintenance of favorable military situations, whose essential elements have remained unchanged throughout the years (see page 46).

These fundamental considerations (see page 28), whatever the detailed form of their presentation, are the basis for the successful conduct of war. The need of such a basis has been felt from very early times. It was not, however, until the early part of the Nineteenth Century that students of warfare appear to have recorded the view that the conduct of war is susceptible of reduction to scientific analysis, and that only through a reasoned theory can the true causes of success and failure be explained.

Such a scientific analysis of any subject has for its chief practical aim the improvement of the art, or practice, of that subject. Forming an important part of the science of war are those new developments in weapons and in other technological fields which, with the passage of time, have brought about great changes in methods of waging war. It is only through founding the art of war—the application of the science of war to actual military situations—on the fundamental truths discovered through the science of war, that changes in method, due to technological evolution, can be made most effective.

In preparing for war, the only practicable peacetime tests are usually restricted to those afforded by examples of the past, by problems such as chart (map) and board maneuvers, and by fleet and field exercises. While the military profession can afford to neglect none of them, such tests can never be conclusive. This fact, however, far from justifying resort to any other procedure, emphasizes the necessity for utilization of the scientific method in order to arrive at conclusions which are as exact as possible.

An exact result is, of course, the aim of all scientific research, but exactitude necessarily depends on the establishment of correct relationships among facts which have so far come to light. Consequently, there is great variation in the degree of accuracy which actually characterizes the several sciences. If it be maintained that only those studies which have resulted in exact conclusions may properly be regarded as sciences, then it can hardly be said that many sciences, now regarded as such, exist; for the findings of medicine, biology, chemistry,

and even physics are continually being revised in the light of new data.

The science of war necessarily includes knowledge gained in other fields. In war, as in medicine or any other practical activity, the more inclusive and dependable the body of knowledge available as a basis for action, the more probable it is that the application of this knowledge, the art (page 1), will be effective.

Realization of these facts has led to renewed emphasis on the scientific approach to the solution of military problems. The fallacy of staking the future upon the possible availability of a military genius in time of need became clear when it was appreciated that more than one nation, hitherto victorious in arms, had been defeated and humiliated when genius no longer led its forces.

There followed in the military profession a conviction that, although extraordinary inherent capacity can be recognized and utilized when known to exist, it is safer and wiser to develop by training the highest average of ability in leadership than to trust to untrained "common sense" or to the possible advent of a genius. History has abundantly proved the folly of attempting, on any other basis, to cope with the unpredictable occurrence of genius in the hostile leadership. With the actual exercise of leadership in war restricted to the reality of war, there is emphasized the need of peacetime training—training of subordinates in efficient performance, and, more important, training of those who will be placed by the State in positions of responsibility and command.

Campaigns of the Twentieth Century reflect the intensity of mental training among the armed forces of the greater powers; the planning and conduct of war have acquired a precision, a swiftness, and a thoroughness before unknown. The study and analysis of past campaigns, the sifting of technical details from fundamental truths, and the shrewd combination of the theoretical and the practical form the basis of this training.

The proper solution of military problems requires the reaching of sound decision as to what is to be done. Upon the soundness of the decision depends, in great part, the effectiveness of the resulting action. Both are dependent on the possession of a high order of professional judgment, fortified by knowledge and founded on experience. Theoretical knowledge supplements experience, and is the best substitute in its absence. Judgment, the ability to understand the correct relationship between cause and effect, and to apply that knowledge under varying circumstances, is essential to good leadership. Professional judgment is inherently strengthened by mental exercise in the application of logical processes

to the solution of military problems.

The approach, presented herein, to the solution of military problems is intended to assist the military profession in reaching sound decisions as to (1) the selection of its correct objectives, the ends toward which its action is to be directed under varying circumstances; (2) planning the detailed operations required; (3) transmitting the intent so clearly as to ensure inauguration of well-coordinated action; and (4) the effective supervision of such action.

The student of war will find in these pages a fundamental military philosophy whose roots go down to very ancient times. In the technique described for the solution of military problems, experienced officers will recognize a system with which they are already familiar. This system, constantly under study to improve its details, has been in use in our military Services for many years.

The foundation of this philosophy and of the system for its practical utilization rests on the concept of relative or proportional values. In the military environment, change, rather than stability, is especially to be expected, and the relationships existing among the essential elements of a military situation are, in fact, the significant values. Such values, themselves, vary with the viewpoint of the person concerned. Accordingly, because of the difference in objectives (defined above), what is strategy as viewed by a commander on a higher echelon may have more of a tactical aspect to those on a lower (page 10). Immediate objectives and ultimate objectives (page 54) can scarcely be understood in their true proportions unless the point of reference is clear. The point of view of the commander, as established by the position he occupies in the chain of command, is, therefore, to be taken into consideration in every phase of the solution of a problem,—in the determination of the appropriate effect desired (page 43), of relative fighting strength (page 35), and of courses of action and the detailed operations pertaining thereto (page 88).

On the basis of these facts, instantaneous and easy understanding of all the elements involved is not to be expected. Were such understanding possible, the expert conduct of war would be one of the easiest, instead of one of the most difficult, of human activities. It is only through a gradual assimilation of its fundamentals that the profession of arms is to be mastered. A process of true education is involved,—that of enlarging the viewpoint and broadening the basis of professional judgment (see page i),—and its essentials are the proper foundation for any system of self-improvement in the exercise of mental power. There is no easy road to the goal of military effort.

Part I, hereafter, discusses professional judgment in its basic relation to the successful conduct of war. This treatment examines the responsibilities of the armed forces, discusses the role of the commander, indicates the natural mental processes employed in the solution of military problems, formulates and explains the Fundamental Military Principle, and concludes with an outline of the procedure for its further application in Parts II and III.

Part II is concerned with the solution of the problems encountered during the planning stage.

Part III discusses the execution of the plan,—the directives and the supervision of the action,—but the treatment as to details is chiefly from the standpoint of the mental effort. During hostilities the vital issues which hinge on alert supervision create an accentuated demand for the intelligent exercise of professional judgment. Its possession to a highly developed degree and its exercise on a foundation of knowledge and experience, are prerequisite to attainment of the highest standards in the conduct of war.

The following pages are intended, therefore, to provide a fundamental basis upon which the commander, by thoughtful study and reflection, may develop his professional judgment to the end that its exercise result in sound military decision, essential alike to wise planning and to consistently effective action.

PART I

PROFESSIONAL JUDGMENT IN ITS RELATION TO THE SUCCESSFUL CONDUCT OF WAR

CHAPTER I ToC

COMMAND AND ITS PROBLEMS

The Foreword, preceding, has explained the scientific approach to the solution of military problems. It has been brought to notice that the science of war can be utilized to further sound military decision and, so, to improve the practice of war, i.e., the art of war, whether under assumed or actual conditions. The Foreword has also stressed the importance of education for the development of judgment in the application of mental power to the solution of military problems.

Chapter I, which now follows, deals with the armed forces in their relation to national policy, and discusses, specifically, the role of the commander with respect to the use of mental power as a recognized component of fighting strength. Emphasis is placed on the important subjects of military strategy and tactics, unity of effort, the chain of command, authority and responsibility, organization, mutual understanding, loyalty, and indoctrination.

The Implementation of National Policy. Organized government exists for the purpose of bringing into systematic union the individuals of a State for the attainment of common ends. The primary national objective (page 3) is the ensurance of envisaged prosperity and of essential security for the social system which is the fundamental basis of the community. Whatever the form of government, the power and authority of the State are vested in an individual, or in a grouping of individuals, whose voice is the voice of the State. In the prosecution of the chief aim of organized government, the State crystallizes the many conflicting desires and views of its people into policies, internal and external. Each policy is a method of procedure for attaining one or more national objectives.

Internal policies are rendered effective by enforcement of the laws of the State.

External policies, to become effective, require recognition by other States, tacitly or by agreement. When there is conflict between the policies of one State

and those of another, peaceful means of settlement are usually sought.

If peaceful (diplomatic) means fail to settle the point at issue, the State abandons the policy in question, defers action to enforce it, or adopts stronger measures. Such measures may take the form of psychological, political, or economic pressure. They may even include the threat to employ armed force before actually resorting to the imposition of physical violence. During actual hostilities, also, every means of pressure known to man, in addition to physical violence, may be employed.

Whether the use of armed force to impose or to resist the imposition of policy constitutes a legal state of war is a political question which does not affect the tasks the armed forces may be called on to perform. War, therefore, is to be understood herein as any condition in which one State employs physical violence against another, or against an organized part of itself which may be in rebellion.

By agreement among nations, effort has been made to discountenance aggressive warfare. The distinction between aggression and self-defense is, however, not a matter of agreement. War is still employed as an instrument of national policy. No nation has, as yet, manifested willingness to relinquish the right to employ armed force in resisting aggression, nor the right to decide what constitutes self-defense. States still maintain and employ armed forces as a means of promoting and expanding, as well as of defending, their welfare and interests.

The Primary Function of the Armed Forces. Whether war is an ethical institution is not a matter within the purview of the armed forces. Their primary function is, when called upon to do so, to support and, within the sphere of military effort, to enforce the policy of the State. The performance of this function constitutes the chief reason for their existence.

The fundamental objective of the armed forces is, therefore, the reduction of the opposing will to resist. It is attained through the use of actual physical violence or the threat thereof (page 7). This fact constitutes the underlying motive of every military plan, whether for the conduct of a minor or contributory operation, or for the prosecution of a major campaign. The final outcome is dependent on ability to isolate, occupy, or otherwise control the territory of the enemy, for land is the natural habitat of man (page 46). Since opposition is to be expected, the military problem is primarily concerned with the application of power—mental, moral, and physical—in overcoming resistance, or in exerting

effort to resist.

The application of power implies effort, i.e., the exertion of strength. The mental, moral, and physical power at the disposal of the armed forces depends on the effort which can be exerted by the human and material components of their fighting strength.

The skillful employment of fighting strength, as a weapon more effective than the enemy's under a given set of circumstances, is the goal toward which the armed forces direct their effort. The elements of the material component—arms, ammunition, and other equipment—are indispensable. They are impotent, however, without the direction and energy supplied by the human component, its moral and mental elements nicely balanced and judiciously compounded with physical fitness. A true concept of the art of war will insist that the necessity for the achievement of a high standard of technical and administrative skill not be permitted to outweigh the need for maximum development of other mental attainments, and of the moral components of fighting strength.

The moral elements include all the essential attributes of personal character, and more especially those qualities of courage, loyalty, decisiveness, modesty, patience, tolerance of the opinions of others, and fearlessness of responsibility which are characteristics of true military leadership. The maintenance of a high ethical standard is essential to the establishment and continuance of mutual confidence.

The qualifications essential to the proper application of the mental elements include a creative imagination and the ability to think and to reason logically, fortified by practical experience and by a knowledge of the science of war. An unmistakable mark of mental maturity is the ability to distinguish between preconceived ideas and fundamental knowledge. Intellectual honesty, unimpaired by the influence of tradition, prejudice, or emotion, is the essential basis for the effective employment of mental power.

The numerical size of the armed forces, in their correct perspective as an instrument of the State, as well as the extent to which they are supplied with material components of fighting strength, are matters to be determined by the State after consultation with the responsible military authorities. The development of the essential military qualities of the instrument is the special charge of the armed forces. It is their task to weld the assemblage of men, armed and maintained by the State, into an harmonious whole, skilled in technique and imbued with a psychological and mental attitude which will not admit that any

obstacle is insuperable.

The Advisory Function. Understanding between the civil representatives of the State and the leaders of the armed forces is manifestly essential to the coordination of national policy with the power to enforce it. Therefore, if serious omissions and the adoption of ill-advised measures are to be avoided, it is necessary that wise professional counsel be available to the State. While military strategy may determine whether the aims of policy are possible of attainment, policy may, beforehand, determine largely the success or failure of military strategy. It behooves policy to ensure not only that military strategy pursue appropriate aims, but that the work of strategy be allotted adequate means, and be undertaken under the most favorable conditions.

These considerations require that the military profession be qualified, through the possession of mental power, clear vision, and capacity for expression, to advise the State in military matters. There is thus accentuated the need for mental training, as set forth previously in the Foreword.

Military Strategy and Tactics. Military strategy as distinguished by objectives (page 3) representing a larger, further, or more fundamental goal, is differentiated from tactics in that the latter is concerned with a more immediate or local aim, which should in turn permit strategy to accomplish its further objective.

Consequently, every military situation has both strategical and tactical aspects. The nature of the objectives to be attained at a particular time, and the action to be taken to that end, may be governed chiefly by strategical, or chiefly by tactical, considerations. Whether an operation is distinctively strategical or tactical will depend, from the standpoint of the commander concerned, on the end which he has in view.

To attain its objective, strategy uses force (or threatens such use) (see page 8) as applied by tactics; tactics employed for a purpose other than that of contributing to the aims of strategy is unsound. Proper tactics, therefore, has a strategic background. Definition of tactics as the art of handling troops or ships in battle, or in the immediate presence of the enemy, is not all-inclusive. Such a view infers that the field of battle is the only province of tactics, or that strategy abdicates when tactics comes to the fore.

Actually, while tactical considerations may predominate during battle, their influence is not confined to the immediate presence of the enemy. Tactical dispositions are frequently adopted for convenience, for time saving, or for other

reasons, long before entry into the immediate presence of the enemy. Nor do strategical considerations end when battle is joined. Tactics, unguided by strategy, might blindly make sacrifices merely to remain victor on a field of struggle. But strategy looks beyond, in order to make the gains of tactics accord with the strategic aim. Strategy and tactics are inseparable.

It is thus the duty of tactics to ensure that its results are appropriate to the strategic aim, and the duty of strategy to place at the disposal of tactics the power appropriate to the results demanded. The latter consideration imposes upon strategy the requirement that the prescribed aim be possible of attainment with the power that can be made available.

Consequently, while the attainment of the aims of strategy, generally depends upon the results gained by tactics, strategy is initially responsible for the success of tactics. It is therefore in the province of strategy to ensure that the attainment of tactical objectives furthers, exclusively, the aims of strategy, and also that the tactical struggle be initiated under conditions favorable for the attainment of the designated objectives.

Command of the Armed Forces. The initial requisite to the effective use of the armed forces is an agency authorized to direct them.

Command directs the armed forces. It is vitalized and personified in the commander, the human directing head, both of the whole and of organized groupings in descending scale of importance. Its responsibility, during peace, is the perfection of the armed forces to the point of readiness for war and, during the conflict, their effective employment.

Training for command, to be effective, is necessarily dependent upon an understanding of the position occupied by the commander, and of the role which he plays. Accordingly, this understanding is an essential in the study of that aspect of command training which has as its purpose the development of ability to reach sound decision.

The ideal of military command combines the best of human qualities with sound knowledge of the capabilities and limitations of the armed forces. It recognizes in war a form of human activity whose conduct, like that of all other human activities, is subject to natural law. It applies to the mastery of the problems of war, therefore, the natural mental processes of human thought (see Chapter II); it adapts these natural processes to a specific purpose, and consciously develops their use to the maximum degree for the attainment of this end. As command ascends the scale, its viewpoint broadens. Experience and

added knowledge, with increasing authority and responsibility, lead to a concept of war more and more comprehensive, with the resultant growth in ability to evolve and put into effect a general plan for the effective control of collective effort.

Unity of Effort. An objective is best attained by effective application of properly directed effort, exerted by a single individual or by groups of individuals. Where individuals are collectively concerned, unity of effort is the most important single factor contributory to the common success. The basic condition to be sought by the armed forces is an harmonious whole, capable of putting forth combined effort, intensified in strength because of the collective feature, and rendered effective by its unity.

The Chain of Command. Within the limits of human capacity, an organization can exert its combined effort with greater effect the more closely the exercise of command represents the act of a single competent commander. To divide the supreme command in any locality, or to vest it in a body rather than in an individual, is necessarily to diffuse responsibility. In that degree there is then incurred the danger, through confusion of wills and ideas, of delaying decision and of creating corresponding diffusion of effort.

Realization of this danger has led the military profession to entrust command, subject to justifiable exceptions (see page 71), to a single head, while ensuring, by careful selection and training of personnel, that competent individuals are available for this duty. Although this method is in seeming conflict with the restriction imposed by recognized limitations of human capacity, the difficulty is effectively met through the chain of command, whereby responsibility is assigned and authority is transmitted without lessening of ultimate responsibility. Responsibility and authority, the latter properly apportioned to the former, are inseparably inherent in command, and may not justifiably be severed from one another.

In the abstract, the chain of command consists of a series of links, through which responsibility and authority are transmitted. The supreme commander is thus linked with his successively subordinate commanders, and all are disposed on, so to speak, a vertical series of levels, each constituting an echelon of command.

By means of the chain of command, a commander is enabled to require of his immediate subordinates an expenditure of effort which, in the aggregate, will ensure the attainment of his own objective (page 3). He thus assigns tasks to his

immediate subordinates, whom he holds directly responsible for their execution without, however, divesting himself of any part of his initial responsibility. The accomplishment of each of these assigned tasks will involve the attainment of an objective, necessarily less in scope than that of the immediate superior but a contribution to the attainment of the latter.

The character and magnitude of the objective of the highest echelon involved will have considerable bearing upon the number of echelons required for its attainment. Whatever the number, a commander on a particular echelon occupies the position of an immediate subordinate to a commander on the next higher echelon, and that of an immediate superior with relation to a commander on the next lower echelon. Within these confines, authority is exercised and accomplishment exacted, both to the extent calculated to ensure unity of effort.

There may frequently be found two or more commanders occupying coordinate positions on the same echelon, all with the same immediate superior, and all charged with loyalty to him and to each other in the attainment of a common objective. In no case, however, will a commander be directly answerable to more than one immediate superior for the performance of the same duty. Thus is fulfilled the requirement that the command, although relatively narrower in scope as the scale is descended, be reposed in a single head.

The experience gained and the knowledge acquired during early service on the lower echelons provide a basis for later expansion of viewpoint, a better understanding of the position occupied by the subordinate and of the obligations of higher command, including its dependence on subordinates. As the echelons of command are ascended, the details involved become more and more numerous, because of the increased scope of the problems. On the higher echelons, therefore, staff assistance is provided so that the commander may be left free to consider matters in their major aspects. The staff of a commander is not, however, a part of the chain of command; its members, as such, exercise no independent authority.

A chain of command is not created by the subdivision of the officer corps into grades on a basis of relative rank. Such subdivision is for the purpose of classification from the standpoint of potential competency and capacity for responsibility, and carries no authority to command by virtue of rank alone. Organization, systematized connection for a specific purpose, is first necessary.

The armed forces, during peace, are usually subdivided into permanent major

organizations for the purpose of attaining and maintaining readiness for action. From the several grades of the officer corps, a permanent chain of command is instituted by the process of organization, the supreme command being reposed in a commander-in-chief. The basis of the permanent organization is that chosen as best suited to attain and maintain readiness. Its choice requires consideration of many factors, such as the types of weapons and vessels, their intended uses, and their capabilities, severally and in combination. Further specific demands are met by temporary arrangements effected through "task organization". Whether the organization be permanent or temporary, its establishment places in effect a chain of command applicable to that organization throughout its continuance.

Habitual and studied adherence to the chain of command in administrative matters, in consultation, in the exchange of information, and in the issue of directives is essential to mutual understanding, and therefore to unity of effort. The right of a commander, however, because of the responsibility he shoulders, to deal directly with subordinates more than one echelon removed is not relinquished because of the existence of the chain of command. Circumstances may arise which require him to issue orders directly to any person under his command. Fully aware, however, of the value of unity of effort, and recognizing that failure to deal through his immediate subordinate, no matter what the exigency, cannot but tend to weaken the chain of command, he will, as soon as the state of the emergency permits, inform intervening commanders of the action he has been compelled to take.

Mutual Understanding. The chain of command, though providing the necessary linkage, does not of itself ensure that the command organization will be adequate, nor can it ensure that unity of effort will result. To meet the requirement of adequacy, there is needed in the person of each commander not only the ability to arrive at sound military decision, to plan, and to direct the operations of his command, but also an appreciation of the position which he occupies in his relationship to his immediate superior, on the one hand, and to his own immediate subordinates on the other. To meet the requirement of unity of effort, it is also essential that there exist a state of mutual understanding throughout the chain of command.

Loyalty is not merely a moral virtue; it is a great military necessity. To establish and to cultivate a state of mutual understanding from which will flow mutual loyalty born of mutual confidence (page 9) are prime obligations of command. Within the limits of responsibility and resultant authority, individual initiative will follow. On a foundation of intelligent cooperation and resolute

determination, the acts of the lowest commander will be in accordance with the desires of the highest. This, in effect, will constitute unity of effort, accomplished through the vesting of command in a single head.

The final aim of mutual understanding is attained when, in the absence of specific instructions, each subordinate commander in the chain acts instinctively as his immediate superior, if present, would have him act, and also cooperates intelligently with commanders occupying coordinate positions on the same echelon. For this reason there is need, on all echelons, of a complete grasp of the significance of the relationship between immediate superior and immediate subordinate, and of the obligations of each to the other.

The proper relationship is such that a subordinate, even though separated from his commander, can confidently take action as if the latter were present. To this end, the competent commander will earlier have cultivated the personal relationship between his immediate superior and himself, and between himself and his subordinates. It is through such close relationship that mutual understanding is best developed and harmony promoted, so that intelligent and cordial unity of effort may exist among the personnel of a command.

The commander, however competent, necessarily relies on his subordinates. Recognizing the psychological factors involved, he will therefore manifest confidence in their abilities, display sympathetic interest in their efforts, and evince pride in their achievements. He will also exercise patience with the mistakes which will inevitably occur, without condonement, however, of disaffection, neglect, or carelessness. The commander may reasonably expect, by the same token, that this attitude will characterize his immediate superior.

In the absence of his superior, and faced with a changing situation, a commander may be forced to the conclusion that his assigned task requires modification or alteration. Conditions permitting, he will of course communicate with proper authority, and will make constructive representations. If he is without adequate communications facilities, or if circumstances have imposed restrictions on communications facilities otherwise available, he takes action according to the dictates of his own judgment, guided by the known views of his superior. On occasions when he believes that the immediate situation so requires, he may even depart from his instructions. He realizes that in so doing he accepts the gravest of military responsibilities. At the same time, however, he recognizes that to fail to take the indicated action may disclose a lack of the higher qualities of courage, judgment, initiative, and loyalty (page 9). He will, of course inform his superior of his action at the first available opportunity. In the meantime, he

has been enabled to act intelligently and fearlessly because of the existence of a state of mutual understanding.

Indoctrination. Both the necessary process and the final result of establishing a state of mutual understanding are sometimes known as indoctrination.

The word carries the dual meaning of "the act of indoctrinating" and "the state of being indoctrinated". In common with the word doctrine, it has its root in the Latin verb which means "to teach". A doctrine, in its pure meaning, is that which is taught, or set forth for acceptance or belief.

It does not follow that every doctrine is necessarily sound, nor that it is founded on conviction reached as the result of intelligent thought. Nor is the encouragement of a belief, by means of the spread of a doctrine, necessarily inspired by good motives. The preaching of doctrine known to be false is frequently encountered in many human activities. The deliberate spread of false propaganda is an example. But, whatever the motive and whether the doctrine be sound or false, the act of indoctrination is intended to shape opinion and thus influence action.

Manifestly, to be along permanently useful lines, indoctrination flows from sound philosophy, i.e., is rooted in truth. All teachings, all opinions that may be advanced, all expressions of viewpoint, i.e., all doctrine, is therefore to be scrutinized, first from the standpoint of validity, and then from that of usefulness of application. It is the responsibility of command to ensure that these conditions are met before doctrine is pronounced.

Military doctrine, in its broad sense, is a digest of the accepted beliefs of the military profession. In a narrower sense a military doctrine may be confined to the views of a single commander on a specific subject. The object of military doctrine, however, is always to furnish a basis for mutual understanding to the end that prompt and harmonious action by subordinate commanders may ensue without the necessity for referring every problem to superior authority before taking action (page 15). Doctrine thus provides a basis for action in possible situations when, for whatever reason, precise instructions have not been issued.

The term "doctrine" is inappropriate as a description of the content of orders or instructions prescribing specific methods of action for a particular tactical operation in a situation existent or assumed under circumstances of the moment. The precise instructions thus issued, though they may be the result of doctrine, and may themselves constitute a basis for development of doctrine, are manifestly of the nature of something ordered rather than presented as

authoritative opinion.

In the broad field of the conduct of war, with its diversified demands, a common viewpoint as to the application of fundamentals is an essential to unity of effort. If the members of the military profession have this common viewpoint, their reasoned beliefs as to the best general methods of waging a particular war may be expected more nearly to approach unanimity. The attainment of unity of effort therefore calls for an understanding of fundamentals (page i), a basic indoctrination which is not only sound but also common to all commanders of the chain of command.

Wars come and go. Their effects are painful, but when their wounds are healed mankind is prone to forget and to hope, even to assume, that peace will henceforth be unbroken. Psychological and economic forces then not infrequently impel the State to subordinate the national defense in favor of other interests. During such periods the burdens of command are enlarged. Its responsibility is not lessened, but the means for effective discharge thereof are withheld.

The effective conduct of war thus requires that understanding exist (see pages 9 and 10) between the civil representatives of the State and the leaders of the armed forces in the coordination of policy with the preparation and the use of power to enforce it. Of the leaders of the armed forces, as a whole or in combinations, such conduct of war demands the expression of the highest of human qualities, coupled with intimate knowledge of fundamentals, an appreciation of the capacities and limitations of the technique, and the ability to fit the practical details into the general plan in their true relation thereto.

The need for these qualities is manifestly not restricted to the hour of supreme test, when the weapon of the State, the armed forces, is wielded with hostile purpose. The forging of the weapon, and its adequate preparation for use, are not matters susceptible of deferment until the crucial hour. The exacting requirements of war are essentially such as to preclude the readiness of the requisite intricate instrument and its skillful use without previous studied effort during peace.

It follows that where the peacetime effort of the armed forces is directed toward the attainment of a war time objective of a specific, rather than of a vaguely general character, and the necessary components of fighting strength are provided accordingly, the readiness of the instrument is more likely to be adequate, and the application of power more likely to be successful. History

records, as facts, that certain States have given their armed forces great stimulus by early clear definition of policy while, in other cases, failures and disappointments have resulted from a lack thereof. Military problems are not confined to those presented after war is begun.

Mental power (see pages 8 and 9), which includes the ability to solve military problems in peace and in war and to arrive at sound decisions, is a recognized essential component of fighting strength because it is the source of professional judgment. The development of such ability in those who may be charged with the successful conduct of war (page 4) may not safely be postponed.

CHAPTER II ToC

MENTAL PROCESSES AND HUMAN TENDENCIES

The discussion in Chapter II deals, first, with the natural mental processes employed by the normal mature human being before taking deliberate action.

With the necessity for logical thought thus established, there arises a need for valid statements of cause and effect, i.e., of relationships resulting from the operation of natural laws, for use as reliable rules of action. The discussion of this subject explains the dangers inherent in the use of faulty rules, emphasizes the role played by the various factors applicable in particular cases, and describes the method of formulating reliable rules, i.e., principles.

All living beings and their surroundings are understood, on the basis of informed authority, to be governed in their characteristic activities by natural law (page 11). The natural forces inherent in living things and in their environment are continually reacting upon each other, either maintaining the existing condition or creating a new one, each of which is a situation or state of affairs. There is thus always a relationship (page 3) existing between such natural forces and the resultant condition which they produce. The natural forces are causes; the resultant conditions are effects.

It is a recognized natural phenomenon that every effect is the result of a certain cause, or of a combination of causes, and that each effect is itself, in turn, the cause of additional effects. Action and reaction are the basis of natural law. Cause and effect, the latter being the cause of further effects, follow each other in ceaseless succession in the world of human affairs.

Except by putting proper natural causes into action, it is impossible to produce the effect desired. It follows that specific knowledge of causes is necessary for the planned production of specific effects. Toward the accumulation of such knowledge the methods of science (pages 1 and 2) are constantly directed.

The uncertainties of war are largely the outgrowth of the fact that the minds of men are pitted against one other. Because of this, a knowledge of the manner in which the human mind seeks its way out of difficulties is a great military asset. Consideration is next given, therefore, to the natural mental processes employed (page 11) and to certain human tendencies which have been known to militate against their successful employment.

The mental processes employed by the normal mature human being before taking deliberate action, or in making studied provision for possible future action, are natural procedures, in that they employ the intellectual powers bestowed by nature, without artificial modification or embellishment.

When the individual concerned has a background of adequate knowledge and

experience, his ability to solve problems is limited only by his native intellectual endowment. That he falls short does not necessarily indicate, however, that the limit of native endowment has been reached. It happens frequently that latent powers have not been cultivated, or have not been utilized.

A problem is, by definition, a perplexing question. In any human activity, a problem appears when a perplexity arises as to a way out of a difficulty inherent in a situation. The question involved then is, what is a way, more especially the best way, out of the seeming difficulty?

To determine the best way out of the difficulty, i.e., the best solution of the problem, involves:

(1) The establishment of the proper basis for the solution of the problem,

(2) The actual solution of the problem through the employment of the reasoning power in the consideration of various possible solutions and the selection of the best solution, and

(3) The conclusion, i.e., the decision, embodying the best solution.

Considered in greater detail, the process has its inception in a combination of circumstances, existent or assumed, which, constitutes a situation. No problem will result however, unless the situation involves an apparent difficulty. Even in such a case, a problem will result only if such involvement exists and gives rise to a perplexity as to a way, more especially as to the best way, out of the seeming difficulty.

The problem will require solution only when accompanied by an incentive which demands a changed situation or resistance against a threatened change. A recognition of the incentive thus necessarily involves realization of a desire or need to maintain the existing situation or to change it into a new one.

Such realization may come on the initiative of the person confronted with the situation, or because he has received instructions from someone in authority. In either case, the effect so indicated is the outcome of a desire for change or for resisting change, and may therefore be regarded properly as an effect desired (page 19).

As so far outlined, therefore, the establishment of the correct basis for the solution of the problem involves (1) a grasp of the salient features of the

situation, (2) a recognition of the incentive, and (3) an appreciation of the effect desired.

The "appropriate" effect desired will necessarily be suitable to the further effects (page 19) which are inherent in the situation. An effect to be attained is accepted as appropriate when, after due examination, its relationship with the further effects involved, in all their pertinent implications, has been found to be in accordance with the dictates of sound judgment.

The establishment of the basis for the solution of the problem will also require an understanding of the resources involved, as influenced by the conditions obtaining, for the maintenance of the existing situation or for the creation of a new one.

The resources available, as influenced by the conditions obtaining, are correctly considered on a relative basis as compared to those of any persons who may oppose the effort.

With the basis for the solution of the problem established in this manner, the actual solution involves the consideration of one or more plans, i.e., proposed methods of procedure, and the selection of the one considered to be the best.

The person concerned, taking cognizance of the present condition, i.e., the existing situation, first considers whether this situation, if maintained, will be suitable to the appropriate effect desired. Then, unless satisfied that he desires no change, he creates one or more images of future conditions, i.e., mental pictures of new situations, which will also be suitable to this end. The maintenance of the existing situation, or the creation of a new one, will in each case involve a plan.

Necessarily, each such plan includes provision for (1) an effect to be produced by the person solving the problem, which effect will be the maintenance of the existing situation or the creation of a new one as visualized by himself, and (2) the action required to produce this effect and so to attain the appropriate effect desired, already established as an essential part of the basis of his problem.

After systematic examination of such plans, those retained for further consideration can be subjected to a comparison as to their relative merits.

The best plan, selected accordingly, is then incorporated into a decision as to the procedure to be adopted.

This decision is then available as a general plan, or may be developed into one, to serve as a basis if necessary for a more detailed plan for the attainment of the appropriate effect desired.

Later development, herein, of the details of this procedure will disclose many ramifications. The treatment, so far, points to the fact that the best method of reaching sound decision is through systematic thought which employs logic, i.e., sound reasoning, as its machinery.

The Necessity for Logical Thought. Logical thought separates the rational from the irrational. Its use avoids the wastefulness of the trial-and-error method. By its insistent employment, dormant powers of reasoning are awakened, and the danger that attends instinctive, spontaneous, impulsive, or emotional acceptance of conclusions (page 9) is lessened. The evil effects of an inclination to dodge the issue or of a disinclination to face the facts are thus also avoided. The fallacy of employing the reasoning power to justify conclusions already reached, whether on the basis of tradition or habit, or because of the bias or bent of a school of thought, or because of the tendency of human nature to accept plausible suggestions, is also made apparent. Through the deliberate practice of testing and weighing, the faculty of arriving swiftly at accurate decisions is strengthened and is brought more quickly into play when time is a matter of immediate concern.

Principles in their Relation to Logical Thought. Because of the necessity for the exercise of judgment (page 3) in the systematic arrangement of thought, the relationship between cause and effect, as expressed in principles, is of great assistance in applying logical processes to the problems of human life.

A principle establishes a correct relation between cause and effect. The word, derived from the Latin "principium", meaning a foundation, beginning, source, origin, or cause, has, because a cause implies an effect, acquired in correct usage the significance of a true statement of relationship between cause and effect. A principle, so formulated, is a natural law (page 19) because it expresses a fact of nature; it thus becomes a reliable rule of action and may be confidently adopted as a governing law of conduct. If basic in its field, such a rule or law becomes a general or fundamental principle with respect thereto; each such basic truth may be the basis for the determination of many corollary or subordinate principles dealing with the details of the particular subject.

The formulation of a principle, therefore, requires the determination of the causes that generate a particular effect (or effects), and the accurate expression of the resultant relationship. Such expression frequently takes the form of a proportion. In the mathematical sciences the proportion may represent a precise balance; its statement may be an exact formula. In other sciences, a definite relationship between cause and effect has likewise been established in many

cases, though not always with mathematical precision. Comparable exactitude has not been attained, in some cases, because the field has not been so thoroughly explored; moreover, greater difficulty is experienced, at times, in isolating the cause, or causes. The balance represented by such equations, therefore, is based on quantities whose weights vary within wide ranges. (See page 3.)

Human conduct does not lend itself to analysis as readily as do mathematical and physical phenomena. The advance in the psychological and sociological sciences is not so marked as in the physical, and the actions and reactions of the mind of man have not yet proved to be susceptible of reduction to exact formulae. Nevertheless, man, in his intuitive search for valid guides for his own action, has been able, with the advance of time, greatly to improve his own lot through the medium of the scientific approach to human problems.

The insistent search of the human mind for reliable rules of action is a recognized natural phenomenon. As understood on the basis of expert investigation of the subject, this trait results from the recognition, conscious or otherwise, by countless generations of mankind, of the relationships between cause and effect as evidenced in the workings of the laws of nature (page 22). A logical outcome, therefore, of experience, this instinctive demand of the mind constitutes a force which defies opposition. Properly utilized, this force affords a powerful and natural aid in the solution of problems.

Inasmuch as a valid rule, or principle, is of great assistance in arriving at sound decisions and in formulating effective plans (see page 22), this demand for reliable guides is logical, as well as natural. In any event, the demand for such guidance, if not met by provision for reliable rules of action, may result in the adoption of faulty rules, with frequent unfortunate consequences.

The formulation of principles, already referred to in this connection, constitutes in itself a recognized problem (see also page 27) of great difficulty; for it is a human failing to avoid the mental effort involved in thinking through such a problem, and to rely on rules whose plausibility and seeming simplicity are frequently a measure of their incompleteness and inaccuracy.

Since the earliest days, man has attempted to formulate the relationships between causes and effects without, however, always possessing the specific knowledge essential to accuracy. Pithy statements have always had great appeal to man, as evidenced by the existence of proverbs, maxims, and adages preserved from times of great antiquity. Frequently, however, such statements

are not expressive of the truth. Sometimes, again, they state facts, without, nevertheless, expressing the whole truth.

Only when the relationship between cause and effect has been demonstrated to be always true can the trained, inquiring mind receive its statement as a valid guide, acceptable as a principle in the light of the knowledge of the day.

To rely upon rules of action which do not express the whole truth is to court the danger of encountering exceptions which may entail serious consequences. The value of those rules known to be inexpressive of the whole truth lies in the fact that they may invite attention to circumstances which are sometimes encountered, or may suggest methods of action which are sometimes appropriate. Danger lies in the fact that such rules may fail to give proper emphasis to other circumstances or other methods which are encountered or are more appropriate in other cases.

Such a rule may fail to consider the entire problem. Its use, therefore, implies the necessity of recognizing cases to which it is not applicable. This may frequently be difficult in the active operations of war, when nervous strain and the urgency of events are handicaps to quick and accurate thinking (see page 22).

To express the whole truth, a rule of action calls to attention all circumstances, or causes, which may ever influence the result. The saying that "the exception proves the rule" is properly interpreted only in the older sense that an exception "tests" the rule, indicating by the mere fact of exception that the rule is to such extent incomplete.

Subject to variations of phraseology, the old adage "circumstances alter cases" is the sole reliable and fundamental rule of action. A corresponding maxim of the military profession, "It depends on the situation", has its root in recognition of the same fact, i.e., that the action taken in any situation depends, properly, on the circumstances of the case, and that the relationship between cause and effect (page 22) is always the governing consideration. The principles deduced hereafter (Chapter III) have these irrefutable findings as their foundation.

Factors. A situation is by definition (page 20) a combination of circumstances, which are the effects of certain causes. To these causes, the term "factors", long in use in the military profession, is customarily applied in many other activities. Through their influence as causes, these factors operate to produce, as their effects, the circumstances which, in combination, constitute the situation. A combination of factors, therefore, gives to each situation its distinctive character, differentiating it from other situations.

To maintain an existing situation, it is necessary to preserve, in total effect, the influence of factors already present, or to introduce new factors to offset the influence of any which tend to cause a change. To change the situation, it is necessary to introduce factors which will exert the desired influence; or, change may be effected by altering the influence of factors already present. To say, therefore, that "It depends on the situation", as in the maxim cited (above), is to state that under all circumstances, the proper action depends on, or is determined by, the influence of the factors involved. Any valid rule, or principle, will accordingly take into account the factors applicable to the case.

The application of any rule will similarly take into account the influence of the particular factors involved. The danger of the application of such factors to all circumstances, without due circumspection as to their value in the existing situation, lies in the fact that, in any particular combination of circumstances, they do not necessarily carry equal weight.

If this view be accepted, it follows that in many situations certain factors may, after mature deliberation, be rejected, or relegated to a relatively inferior status, without detracting from their potential value as fundamental considerations (page 1) in all situations.

Value and Limitations of Lists of Principles of War. The human preference for catchwords has, by many writers on the science and art of war, been extended to the attempted condensation of a principle or of several principles into a single all-inclusive word or phrase. As a result, varying lists of abstract nouns and phrases have been advanced to constitute epitomes of the principles of war. Subject to minor differences in number and in designation, the list most frequently encountered comprises The Objective, Superiority, The Offensive, Economy of Force, Movement, Cooperation, Surprise, Security, and Simplicity.

To rely on a list of this nature, as a condensation of the fundamentals of war, has been known to cause confusion and to result in failure to recognize the principles which are intended to be brought to mind.

For example, misunderstanding has resulted from the designation of the single word, surprise, as a "principle of war". On the one hand, it has been denied that surprise embodies a principle, the reason being advanced that it is neither always necessary, nor feasible, nor even desirable to attempt to obtain surprise. On the other hand, the acceptance of the word surprise (see page 73), as itself expressing a universal truth (which it of course does not except by inference), has been known to result in the incorrect belief that surprise is always essential

to success. Action based on such a viewpoint is the equivalent of applying general treatment to specific cases, regardless of circumstances.

Thus there have resulted distortions of the simple fact that a relationship exists between the employment of the unexpected, and the creation of a disadvantage which will hamper an opponent. The correct formulation of a principle, or of several principles, governing the employment of surprise, will result in a definite statement that its appropriate employment is dependent upon the various factors (page 25) that make up the situation, the influence of each of which requires evaluation in each separate situation.

Analysis, in like manner, of the so-called "principle of the objective" as a "principle of war" will show that the objective of a military force is, in itself, no more a principle of war than the direction of a physical force is, in itself, a principle of mechanics. Both concepts, however, involve certain matters of fact which can best be explained by principles. Such principles take note of the factors pertaining to the subjects, and indicate the underlying relationships in a manner to be later shown herein.

Certainly the preceding list (above) of isolated expressions includes no item which, in the abstract, may not properly be considered as possibly vital from the strategical and tactical standpoints. But that these expressions are always vital, and that there are no other considerations, can scarcely be accepted as final. Even if this objection could be removed by the inclusion of all factors well known to be vital, the fact would still remain that these expressions, standing alone, fail to satisfy the real need; i.e., they fail to indicate any practical application of the concepts which they are intended to imply. They do no more than provide a useful point of origin for further inquiry. When understood on this basis, they possess a certain value.

The concept underlying the application of principles is correct with respect to military problems, as well as for all others (page 22). This purpose, however, cannot be served by a mere collection of nouns or noun-phrases. Such expressions make no statements of cause and effect. Their meaning is therefore left to inference and to the idiosyncrasy of individual interpretation. The formulation, moreover, of useful principles cannot be satisfactorily established by the more-or-less random selection of matters, however important, pertaining

to the subject at hand. What is required is a systematic analysis of the essentials of the subject, with resultant emphasis on the fundamental causes and effects whose relationships are to be expressed.

Formulation and Use of Principles. The formulation of a principle, referred to previously (page 24) as itself a difficult problem, requires a citation of the factors pertaining to the subject. On the basis of these factors as causes, the principles, when properly formulated, also state the effects which may properly be expected. (See page 22.)

The relationship between causes and effects, or between effects and their causes, may be expressed in various ways. The requirement is that the expression be one of fact and that, if the principle purport to cover the entire subject, all of the pertinent facts (page 24) be stated, though not necessarily all the details involved.

In addition to the principles of general application (Chapter III), the later discussion herein includes numerous other principles, with reference to matters of detail (pages 22-23). To some of these principles the treatment invites special attention. All principles included have been phrased with due care, to ensure conformity with the requirements above stated. The preferred form, herein, for the usual statement of cause and effect is through the use of phraseology such as that certain effects "depend on" or are "dependent on" certain causes, or that certain causes "determine" certain effects, or that the latter "are determined by" certain causes.

From the standpoint of the exercise of judgment, it is a principle that the due determination of effects to be produced depends on the proper consideration of pertinent factors. Once the principles applicable to any subject have been formulated in necessary detail, the evaluation of the cited factors with respect to a particular situation becomes the vital procedure as to any problem where that subject is involved. In the course of this evaluation, corollary or subordinate principles may be of assistance (page 22). In military problems, however, the evaluation usually involves many factors not susceptible of reasonably exact determination by the use of formulae (see page 23). In such cases, experience, education, and training afford the only secure basis for judgment which will produce reliable conclusions. The principles, therefore, provide reliable guides

by citing the factors to be evaluated in order to arrive at desired results, but the principles cannot replace logical thought in the evaluation of the factors.

In formulating principles (see also page 23) as practical guides for action, as well as in using them when formulated, failure to give consideration to all pertinent factors may result in vitiating the effort based on their application. Danger also lies in the fact that any particular factor will infrequently have the same value—the same influence on the situation—in any two problems (page 25). Therefore, in each situation, each factor requires to be weighed in connection with the others. The soundness of the resulting conclusion will depend on the extent of the knowledge available (page 2) and on its useful employment.

Summary of Fundamental Considerations. The factors (page 25) involved in determining the nature of an effect and of the action to attain it become fundamental considerations (page 25) when it is desired to arrive at such a result under a particular set of circumstances.

The relationships obtaining between the desired effect and the action to attain it, on the one hand, and the factors involved, on the other, are best expressed in the form of principles. The next chapter is therefore devoted to the development of basic principles applicable to military problems.

CHAPTER IIIToC

BASIC PRINCIPLES APPLICABLE TO MILITARY PROBLEMS

(The Fundamental Military Principle)

On the basis of the previous discussion as to the natural mental processes and as to principles useful in their employment, Chapter III discusses the requirements for the attainment of an end in human affairs.

The fundamental principle thus derived is then applied to the needs of the military

profession, so as to develop the Fundamental Military Principle. This Principle indicates the requirements of a correct military objective and of the action for its attainment.

Review of Conclusions as to Principles. On the premise that all human activities and their environment are governed by natural laws (page 22), the preceding chapter has been devoted to an analysis of the natural mental processes employed in meeting the problems of human life. This analysis has stressed four fundamental truths:

(1) That a valid rule, or principle, when complete, embraces all known phenomena pertinent to the relationship established.

(2) That the logical application of principles to particular incidents will take account of all the factors of the principles, and of all known conditions of the incidents.

(3) That such principles afford great assistance in arriving at sound conclusions, and that the human mind, if without access to such valid guides, tends to adopt faulty rules in the effort to serve the same purpose.

(4) That rules of action, however, even though they be valid, cannot be depended upon to replace the employment of logical thought.

Procedure for Developing Military Principles. Logically, the next stage in the treatment of this subject is to develop certain basic principles applicable, more especially, to the solution of military problems.

The development of such principles starts, on the basis already established in this discussion, with a reference to the natural mental processes used by the normal mature human being before taking deliberate action (page 19). Under such circumstances, the person who is to solve the problem has first to establish a basis for his solution.

To arrive at this basis, which involves an understanding of the appropriate effect desired, the person concerned requires a grasp of the salient features of the situation, a recognition of the incentive, and an appreciation of the effect which he has been directed to produce or has adopted on his own initiative. To complete the basis for his solution, he also requires an understanding of comparative resources as influenced by the conditions obtaining at the time.

During the actual solution of the problem, the person concerned takes cognizance first, of the existing situation, picturing it in his mind. Then, unless satisfied that he desires no change, he creates for himself mental images of future situations. The pictured condition decided upon after consideration of the pertinent factors involved, be it the situation to be maintained or a new situation to be created, constitutes an effect he may produce for the further attainment of the appropriate effect desired, already established as an essential part of the basis of his problem. (See page 25.)

With the existing situation and a new situation now clear, what action is he to take to change the one into the other? Or, if no change is desired, what action is he to take to maintain the existing situation? What acts or series of acts should he decide upon, plan in detail, inaugurate, and supervise (page 3), to attain the effect which he has envisaged for the further attainment of the appropriate effect desired?

The correct solution of problems therefore hinges on the requirements involved in the effects to be produced and in the action to produce them. If these requirements are ascertained, a principle can be formulated as a valid guide for the solution of human problems.

Requirements for the Attainment of an End. The discussion to this point has established the fact that an end in view, a result to be produced, an effect desired, is very closely connected with a further effect which the attainment of the former is intended to produce. Human motives spring from deep-seated incentives often derived from distant sources, so that, even when the person concerned is acting wholly on his own initiative, he will rarely, if ever, be uninfluenced by some further effect desired, inherent in his situation (see page 19).

An end in view, therefore, from the viewpoint of the person who is endeavoring to visualize its accomplishment as a method for attainment of a further aim, will necessarily achieve such further aim, or at least contribute to its achievement. The first requirement, accordingly, of such an end in view is that it be suitable to any further aim, whatever that aim may be. It may be said, therefore, that a correct end in view satisfies the requirement of suitability as to the appropriate effect desired, whatever this further effect may be.

Important as suitability is, however, a reasonably responsible person will recognize that this consideration, alone, does not satisfy all requirements. An end in view remains a mere desire, without possibility of attainment, unless such a result is practicable of accomplishment. A correct end in view, therefore,

satisfies also the requirements of feasibility.

Consideration of feasibility calls for a survey of comparative resources (page 30). Such a survey will cover the extent of the resources (means available) of those making the effort, as compared to the resources (means opposed) of those who may oppose it. Full account is also to be taken, as to feasibility, of the natural and artificial conditions which the effort will encounter before it can produce the contemplated result. The responsible person will ask himself where the effort is most likely to be successful, and what obstacles, in addition to those represented by opponents, he will be required to surmount. The effects of such conditions may alter the ratio otherwise presented by comparative resources.

Consideration of the characteristics of the field of action may thus disclose features which will greatly influence the possibility of accomplishment, as well as the character of the effort to be made, from the standpoint of feasibility. The second requirement, therefore, is that of feasibility with respect to comparative resources, i.e., the means available and opposed, as influenced by the physical conditions prevailing in the field of action.

Although believed to be both suitable and feasible, the requirements for the attainment of an end are not yet completely established. There is still required a reckoning of a profit-and-loss account of the whole undertaking, to estimate whether it will be advantageous. What will be the cost, and what will be the gain? Is the effort worth while? Or should one be content with venturing less and gaining less? What is the bearing on possible future action? The consequences as to costs, always important considerations in dealing with human problems, are frequently the paramount determinant. The third requirement, therefore, is acceptability with respect to the consequences as to costs.

These requirements invite attention to the factors, already discussed, whose influence (see page 25 as to factors) determines the character of the effort required to attain an end.

The Fundamental Principle for the Attainment of an End. Here, then, are the broad fundamental considerations which affect the solution of every human problem. In a narrower field, the considerations may fall within more specific limits, but a principle sufficiently broad to be applicable to all cases appears to comprehend those inclusive factors mentioned in the preceding paragraphs.

A review of these paragraphs will disclose that the factors pertaining to the several requirements may be so grouped as to constitute a single fundamental principle governing the attainment of an end in human affairs,—as follows:

In any human activity, the attainment of a correct end in view depends on fulfillment of the requirements of

> Suitability of the end in view, as determined by the factor of the appropriate effect desired,
>
> Feasibility of the effort required, on the basis of comparative resources, as determined by the means available and opposed, influenced by the factor of the physical conditions prevailing in the field of action, and
>
> Acceptability of the results of the effort involved, as determined by the factor of the consequences as to costs,
>
> which factors are in turn dependent on each other.

The Interdependency of the Factors. As previously observed (page 28), the factors cited in the foregoing principle are themselves interdependent. This fact results from working of natural law (page 22), for it is a recognized phenomenon that every effect is the result of certain causes, and that every effect is itself, in turn, the cause of further effects (page 19).

Accordingly, when the evaluation of any factor is under consideration, its value as an unknown quantity can be determined to the extent that the values of the other pertinent factors are known. (See page 23, as to the discussion of the quantities in an equation.) The significance of each, in any situation, is therefore determined by the influence of the other factors. The relationships existing among them can best be expressed in the terms of four corollary principles (page 27), next to be discussed.

For example, questions frequently arise as to what is the appropriate effect to be desired in a particular situation. Whether a desired effect is feasible of attainment, and whether certain consequences, though undesirable, will be acceptable, in view of the gains, can be determined by evaluation of the means available and opposed, influenced by the physical conditions prevailing in the field of action, and of the consequences as to costs. If a desired effect is thereby found to be not feasible of attainment, or to be unacceptable as to consequences, deferment of such effort is indicated. A proper solution in such case would adopt

some lesser effect, in conformity with the further aim, feasible of accomplishment, and acceptable as to its consequences.

If (with respect to the further aim, mentioned above) the person concerned is acting under the instructions of another, there will frequently be injected into the equation, in addition to the factors already noted, a further effect desired, indicated by higher authority. Such an indication will often operate to narrow the limits of the problem. This is true even if the person concerned is acting wholly on his own initiative and responsibility (pages 29-30).

These considerations lead to the formulation of what may be called the corollary principle for determination of the appropriate effect to be desired in human affairs,—as follows:

> In any human activity, the appropriate effect to be desired (i.e., an end in view, a result to be accomplished) depends on fulfillment of the requirements of
>
> Suitability of the end in view, as determined by the factor of the further effect desired (if such further effect is indicated),
>
> Feasibility of the effort to attain the end in view, on the basis of comparative resources, as determined by the factors of the means available and opposed, influenced by the factor of the physical conditions prevailing in the field of action, and
>
> Acceptability of the results of the effort involved, as determined by the factor of the consequences as to costs.

If, to take a further example, the known factors include the appropriate effect desired, the means opposed, the physical conditions prevailing in the field of action, and the consequences as to costs, the only unknown remains the means available. The question then is, what means need be made available for the accomplishment of the contemplated effort? The answer to this question may be found in the application of what may be called the principle for the determination of the proper means to be made available in human affairs,—as follows:

> In any human activity, the proper means to be made available depend on fulfillment of the requirements of
>
> Suitability of the means (in kind and amount) to accomplish the end in view, as determined by the factor of the appropriate effect desired,
>
> Feasibility of the effort to make such means available on the basis of comparative resources as determined by the factor of the means

opposed, influenced by the factor of the physical conditions prevailing in the field of action, and

Acceptability of the results of the effort involved, as determined by the factor of the consequences as to costs.

The influence of physical conditions in the field of action may be illustrated by any case where ends otherwise feasible of attainment cannot be achieved without effecting changes in such conditions. The resolution of the uncertainty then requires study to determine what suitable changes can be made. Changes for such a purpose may take various forms, such as the construction of physical features in the area involved, or the destruction of such features already existing; or, again, both methods may be employed. Examples of such changes have existed and still exist in profusion, some of them, military and non-military, being on such a scale as radically to alter the previous status with respect to entire nations. The question as to what changes ought to be effected in the prevailing physical conditions, in order to attain a certain objective, can be answered by the application of what may be called the principle for the determination of the proper physical conditions to be established in the field of action,—as follows:

In any human activity, the proper physical conditions to be established in the field of action depend on fulfillment of the requirements of

Suitability of such conditions to the end in view, as determined by the factor of the appropriate effect desired,

Feasibility of effort to establish such conditions, on the basis of comparative resources, as determined by the factors of the means available and opposed, influenced by the factor of the physical conditions existing in the field of action, and

Acceptability of the results of the effort involved, as determined by the factor of the consequences as to costs.

The factor of consequences as to costs also calls for special notice. The influence of this factor frequently justifies abandonment of suitable ends in view, even though their attainment has been determined to be feasible, because the loss

involved would out-weigh the gain. Immediate success may be attained at such cost as to prevent the attainment of larger ends (see the discussion, pages 9 and 10, of the relationship of strategy and tactics).

On the other hand, the circumstances of the case may well justify loss, however great, because the alternative is unacceptable, even though the consequences involve complete destruction. Moreover, the need for swift and aggressive action in many activities (notably in war), for resolute prosecution of the plan, for timely seizure of opportunity, and for acceptance of justified risks, requires that consideration of consequences as to costs never be emphasized beyond its proper weight. To determine such proper weight calls, frequently, for judgment of the highest order, and is, in the military profession, a direct responsibility of command. This responsibility can be discharged by the application of what may be called the corollary principle for the determination of acceptable consequences as to costs,—as follows:

> In any human activity, the acceptable consequences as to costs depend on fulfillment of the requirements of
>
> > Suitability of the end in view, as determined by the factor of the appropriate effect desired, and
> >
> > Feasibility of the effort to attain the end in view, on the basis of comparative resources, as determined by the factors of the means available and opposed, influenced by the factor of the physical conditions prevailing in the field of action.

Special Nature of War as a Human Activity. A principle found, by careful analysis, to be governing as to human activities of any nature, is also applicable to the problems of war. This is true because war is a human activity, differing from other human activities only in the specialized character of the factors that enter.

The effect desired in war has a character distinctly military and, ultimately, through the reestablishment of a favorable peace, a political character (see pages 7-9).

The means available (or opposed) in war are the human and material components of fighting strength (page 8). The physical conditions prevailing in the field of action are, in war, the characteristics of the theater of operations. Fighting strength is thus derived from the means available (or opposed) in war, as influenced by the characteristics of the theater. Relative fighting strength (comparative resources in war) involves a comparison of means available with means opposed, due account being taken of the influence exerted on both by the characteristics of the theater. In war, relatively large masses of human beings oppose each other with hostile intent, while the means available and opposed, and the physical conditions established by the operations of war in the theater of action, tend more and more to acquire a highly specialized character.

The consequences as to costs, in war, also assume a special significance, inasmuch as they may materially influence the development of entire nations or of the world situation.

Factors as Universal Determinants in War. Tabulated for convenient reference and expressed in terms in general use in the military profession, the factors governing the attainment of an end in war are therefore:

(a) The Nature of the appropriate Effect Desired,
(b) The Means Available and Opposed,
(c) The Characteristics of the Theater of Operations, and

(d) The Consequences as to Costs.

These factors, thus expressed in abstract form, are the universal determinants of the nature of the objective and of the character of the action to attain it. Their further resolution into factors of more concrete form is indicated hereinafter (see Chapter VI, in the discussion of Section II of the Estimate Form).

The Objective in War. The objective (page 3), a term long in use in the military profession in connection with the "objective point", has acquired by extension the significance of something more than the physical object of action. The latter, as explained later (page 37), is properly denominated the "physical objective".

In the abstract, an "objective", in present general usage as well as in the military vocabulary, is an end toward which action is being directed, or is to be directed; in brief, an end in view, a result to be attained, an effect desired (page 19 and 30). An objective is an effect to be produced for the attainment of a further objective, itself a further effect. As already demonstrated (page 30 and following), the attainment of an end, in any human activity, requires action to maintain the existing situation or to create a new one. Therefore, in war, a special form of human activity, the attainment of an objective requires that action be actual imposition of an outside agency. The attainment of a correct military objective (discussed in detail in Chapter IV) requires, accordingly, the creation or maintenance of a favorable military situation.

An objective, in the sense of an end in view, a result to be accomplished, is manifestly an objective in mind. As already indicated (page 36), however, military usage also assigns to the term "objective" an additional meaning, a meaning exclusively concrete. Results in war are attained through the actual or threatened use of physical force (pages 8 and 9) directed with relation to something tangible, such as, for example, some physical element of the enemy's strength.

Action as to this tangible feature (e.g., if it is destroyed, occupied, neutralized, or otherwise dealt with) will result in, or further the attainment of, an effect desired. Thus the physical objective occupies a sharply defined position in warfare, in that it establishes the physical basis of the objective and indicates the geographical direction of the effort. Since the physical objective is always an object—be it only a geographical point—, it is more than a mental concept; it is an objective in space.

For example, the objective being "the destruction of the enemy battleship", the

physical objective is the enemy battleship.

As used herein the expression "the objective" or "the military objective" (page 55), when unqualified, ordinarily indicates the mental objective. The term is properly applicable to a physical objective when the context makes the meaning clear. Ordinarily, and always when clarity demands, a tangible focus of effort is herein denoted a "physical objective".

Military Operations. Appropriate action to create or maintain a situation will take the form of a military operation. An operation, in the basic sense, is merely an act, or a series of acts. The word is derived from the Latin opus, meaning "work". A military operation is therefore an act, or a series of included acts (i.e., work), of a military character. A military operation may consist of an entire campaign, or even of several such, constituting a clearly defined major stage in a war; or such an operation may consist of portions thereof. The term is also applied, properly, to entire series of acts on the part of successive commands, from the higher to the lower echelons, to and including distinctive military actions which relate to the merest routine.

A plan of action to attain a military objective is, therefore, a plan of military operations, including supporting measures (see page 167), considered or adopted as a method of procedure for the achievement of that end (see page 21). Such a plan or method of procedure requires action with relation to correct physical objectives in such a manner as to attain the objective, i.e., to maintain the existing situation or to create a new one, conformably to the appropriate effect desired.

A plan of military operations may be regarded as reasonably effective if the direction or geographical trend of the effort provides for proper action with relation to the correct physical objectives; if the force concerned utilizes positions advantageous in relation to those of the opponent; if the fighting strength is so apportioned as to provide for requisite power at points likely to be decisive, without undue weakening at other points; and if future actions, in seeking the effect desired, will be unhampered by obstacles with which the force cannot cope. These essentials apply to all of the various combinations of circumstances, i.e., situations (page 20), which may materialize as action progresses and the original situation unfolds.

A properly conceived plan of military operations therefore makes provision, necessarily, for certain salient features of such operations, as follows:

The physical objectives involved,

The relative positions utilized,
The apportionment of fighting strength, and
The provisions for freedom of action.

As will later be observed (Chapters VII and VIII), the content of plans for naval operations may be classified under the headings listed above. In such plans the salient features noted will be observed, also, to occur, subject to certain exceptions, in the sequence above indicated. Similar observations are applicable as to plans systematically prepared for direction of forces operating on land and in the air.

A military operation which is progressing favorably, whatever the medium of action, may therefore be justifiably stated to include provision for the following salient features:

Effective action with relation to correct physical objectives,

Projection of military action from advantageous relative positions,

Proper apportionment of fighting strength, and

Ensurance of adequate freedom of action.

Since, at any moment of its successful prosecution, a military operation presents, inherently (page 38), a favorable military situation, the salient features of such an operation constitute, also, the salient features of a favorable military situation. Manifestly, any deficiencies in these respects will indicate that in certain particulars the situation is not entirely favorable, if not actually unfavorable.

Determination of the Salient Features. Because the form which a military operation takes, in the effort to attain a military objective, depends upon the factors which are the universal determinants (page 36) of the character of the effort, the salient features of such an operation are determined by the same factors. A valid guide as to determination of the salient features of a favorably progressing military operation, seen (above) to be identical with those of a favorable military situation, may therefore be formulated as a principle for determining these salient features, as follows:

The determination of

Correct

physical objectives, Advantageous relative positions, Proper apportionment of fighting strength, and Provision for adequate freedom of action	depends on their	Suitability, as determined by the factor of the appropriate effect desired. Feasibility, by reason of relative fighting strength, as determined by the factors of the means available and opposed, influenced by the factor of the characteristics of the theater of operations, and Acceptability, as determined by the factor of the consequences as to costs.

Since the particular character of each salient feature of a situation, or of an operation, is determined by the influence, exerted by the identical factors (as noted), there is a resulting interdependency, important though indirect, among the several features. This interdependency is explained hereafter. (Chapter IV).

The Fundamental Military Principle. The Fundamental Principle for the Attainment of an End in human affairs (page 32) has invited attention to the factors, pertinent to suitability, feasibility, and acceptability, seen to be applicable, as well, to any military effort (page 35). As also noted, a military effort will necessarily consist of military operations, whose salient features depend upon the same factors. The factors, in turn, have been observed (page 32 and following) to be interdependent.

These considerations lead to the formulation of a derivative of the Fundamental Principle for the Attainment of an End in human affairs, in the form of

The Fundamental Military Principle

The attainment of a military objective (the creation or maintenance of a favorable military situation) depends on effective operations involving the salient features of

Effective action with relation to correct physical objectives,

Projection of action from advantageous relative positions,

Proper apportionment of fighting strength, and

Ensurance of adequate freedom of action,

each fulfilling the requirements of

Suitability, as determined by the factor of the appropriate effect desired,

Feasibility, by reason of relative fighting strength as determined by the factors of the means available and opposed, influenced by the factor of the characteristics of the theater of operations, and

Acceptability, as determined by the factor of the consequences as to costs,

which factors are in turn dependent on each other.

The Fundamental Military Principle, as a valid guide, encounters no exception in the field it purports to cover. As a practical guide, it brings to attention, in broad outline, all the causes and effects which are involved. The principle affords a proper basis for the formulation of corollary principles for the determination, in any particular situation, of any element noted therein whose value may be unknown but may be ascertained by reference to other pertinent elements which constitute known quantities. (See pages 21-27.)

As later explained (Chapter IV), the two major applications of the Principle relate to the selection of a correct military objective and to the determination of effective military operations to attain an objective (see page 28).

A corollary Principle of the Correct Military Objective will accordingly state that the selection of a correct military objective depends on the due consideration of the salient features and the factors cited in the Fundamental Military Principle. The application of this corollary is discussed in Section II of Chapter IV.

A corollary Principle of Effective Military Operations will similarly state that the determination of effective operations for the attainment of a military objective depends on the due consideration of the salient features and the factors cited in the Fundamental Military Principle. The application of this corollary is explained in Section III of Chapter IV.

These principles can be used as a basis for formulating the plans of the commander concerned, and, accordingly, for determining his own action. They can also be used as a basis for rendering sound opinions, when requested of the commander, as to plans and actions contemplated by higher authority. The principles are in like manner applicable for purposes of historical study involving analysis of operations of the past.

CHAPTER IVToC

THE APPLICATION OF THE FUNDAMENTAL MILITARY PRINCIPLE

(Objectives—Their Selection and Attainment)

Section I of Chapter IV discusses the major components of all military problems.

Section II deals with the fundamental considerations having to do, generally, with the first of these components, i.e., the selection of correct military objectives; the application, more specifically, is reserved for Chapter VI.

Section III deals with the fundamental considerations having to do, generally, with the second of the two major components, i.e., the determination of effective military operations for the attainment of such objectives; the application, more specifically, is reserved for Chapter VII.

The selection of objectives has a secondary application, also, to the discussion in Chapter VII, while the determination of operations has a similar application to that in Chapter VI. Both subjects, i.e., as to objectives and as to operations, have application also to Chapter IX.

The chart on page ii shows these relationships.

I. MAJOR COMPONENTS OF MILITARY PROBLEMS.

In the two preceding chapters, the study of the natural mental processes has brought to notice that, to meet the requirements of suitability, feasibility, and acceptability as to consequences in the proper solution of a military problem, it is first necessary to establish a sound basis for that solution. Such a basis involves an understanding of the appropriate effect desired and of relative fighting strength (see pages 29 and 30).

In each situation an understanding of the appropriate effect desired, from the standpoint of suitability, requires:

(1) A grasp of the salient features of the situation, favorable and unfavorable, including the perplexity inherent therein,

(2) A recognition of the incentive to solution of the problem, i.e., a realization of the desire or need for attaining a certain effect, an objective (page 36) which will be the maintenance or creation of a favorable military situation, and

(3) An appreciation of this objective in its relationship to the next further result to be accomplished by its attainment.

An understanding of relative fighting strength involves consideration of the means available and opposed, as influenced by the characteristics of the theater of operations. With this understanding there is provided a sound basis for the determination, later, of the feasibility of courses of action and of their acceptability with respect to consequences as to costs.

In the premises, the ability to understand the nature of a military problem is dependent on the knowledge, experience, character, and professional judgment of the commander. These qualities enable him to grasp the significance of the

salient features of the situation. The same personal characteristics are instrumental in the recognition of the incentive. Analysis indicates that an incentive may arise (1) by reason of a directive issued by higher authority, or (2) from the fact that a decision already reached by the commander has introduced further problems, or (3) because of the demands of the situation. However, the primary consideration in understanding the nature of the problem is the appreciation of the objective from which the problem originates, i.e., the just estimation or accurate evaluation of this objective. Such consideration is primary because appreciation of this objective involves, as necessary concomitants, a grasp of the salient features of the existing situation (to be maintained or changed) and a recognition of the incentive.

Correct appreciation of this objective, in its relationship to the further effect to be produced, is thus the principal consideration in reaching an understanding of the appropriate effect desired. It is, to repeat, through an understanding of this factor and of the factors of relative fighting strength that the commander establishes the basis for the solution of his problem. (See Section I of Chapter VI, page 118).

The Solution of a Military Problem. When the commander has thus obtained an understanding of the basis of his problem, the actual procedure of solution is undertaken through the consideration of the factors involved in their influence on the various plans for the attainment of the appropriate effect desired, as thus established. The best plan, selected and embodied in outline in the decision, can then be further developed, if necessary, into a general plan for the commander's force and, finally, into a detailed plan, as the solution of the problem. (See page 22.)

The Major Components of a Military Problem. Each plan considered by the commander will involve (page 21) two major considerations: namely—an effect to be produced and the action required to produce it; or, in military terms, a correct military objective (or objectives) and effective operations for its attainment. The selection of correct military objectives and the determination of effective operations for their attainment are therefore the two major components of a military problem, because they are the principal considerations on which depends the soundness of military decision. To meet these requirements is a prime function of command, one which demands professional judgment of the highest order.

The major components of a military problem are of course intimately connected, because a purposeful action, accomplished, is equivalent to an

objective, attained. Furthermore, the attainment of an objective involves the accomplishment of effective operations.

Because of the importance of the subject, the relationship between these two major components deserves very careful analysis. As has been observed (page 30), the action to be taken depends, in the first instance, on the effect to be produced. Therefore, the objective is, as compared to the action to attain it, the paramount matter. Moreover, there is necessarily included, in the procedure of selecting a correct objective, a consideration as to whether the action to that end will be feasible and as to whether the consequences involved will be acceptable on the basis of the costs which will be exacted. If, then, the objective has been correctly selected in any situation, this procedure will have included, as a necessary incidental, the determination also, in the proper detail, of the operations required for its attainment.

Of the two major components involved in the selection of the best plan, the primary relates, therefore, to correct objectives. Accordingly, this consideration is most aptly expressed in terms of the "selection" of objectives. The "determination" of necessary operations is a proper expression of the procedure therein involved, because this procedure, though also involving a major component of the problem is dependent on the primary consideration of objectives.

A valid guide for practical use during the process of solving military problems will therefore provide a basis, primarily, for the selection of correct objectives. However, the procedure for such selection, though requiring consideration of the action involved in attaining objectives, will seldom call for a complete analysis of such operations. Therefore, it is also desirable, for the solution of military problems, to provide a valid guide for the determination of effective operations, in detail. This guide may be used on occasions when, the correct objective having been selected, the only remaining problem is to work out the detailed operations involved.

The Fundamental Military Principle, developed in the preceding chapter, has been formulated to fulfill the requirements described in the preceding paragraph. Through the exhaustive analysis of the elements involved, there has been provided, in the form of a single fundamental principle, a valid guide for the selection of correct military objectives and for the due determination of effective operations for their attainment.

In the present chapter, the abstract application of the Principle is discussed in

terms of fundamental considerations. Section II of the chapter deals with the selection of objectives; this subject, in more specific terms, is later expanded in Chapter VI. Section III of the present chapter deals with the determination of operations; this subject, in more specific terms, is expanded in Chapter VII. The present chapter affords a treatment applicable to military problems of any nature. Later expansion is applicable, more especially, to naval problems.

This arrangement of the subject matter has been adopted for two reasons. First, discussion of fundamental considerations, thus taken up at the present point, immediately follows the formulation of the principle (in Chapter III). Furthermore, a fundamental treatment, prior to Chapters VI and VII, permits maximum brevity in the discussion, therein. The commander, having mastered the fundamentals dealt with here, can later follow the detailed procedure with minimum distraction due to reference to the preceding discussion.

Essential Elements Involved. As previously stated, the problems of war differ from those of other human activities with respect, only (page 35), to the specialized character of the factors that enter.

The final outcome is dependent (page 8) on ability to isolate, occupy, or otherwise control the territory of the enemy. The sea, though it supplements the resources of land areas, is destitute of many essential requirements of man, and affords no basis, alone, for the secure development of human activities. Land is the natural habitat of man. The sea provides routes of communication between land areas. The air affords routes of communication over both land and sea.

These facts inject into military operations certain factors peculiar to movement of military forces by land, sea, and air (page 60). There are also involved the specialized demands of a technique for the imposition of and the resistance to physical violence. In addition there appear those factors related to the psychology of human reactions to armed conflict.

In any situation involving opposing armed forces, the problem, as in any human activity (page 30), is, from the standpoint of each opponent, a matter of maintaining existing conditions or of bringing about a change. The method employed, if the action is to be effective, will follow lines calculated to shape the ensuing progressive changes in circumstances toward the attainment of the end in view. The action to be taken will be ineffective if it does not support the calculated line of endeavor, i.e., if it is not suitable or adequate forcibly to shape the course of events either toward the creation of a desired new and more favorable situation, or the maintenance of the original conditions.

The analysis of the principal components of a military problem—i.e., the military objectives and the military operations appropriate to the effort for their attainment—therefore requires a study of such objectives and operations in terms, respectively, of a favorable military situation (page 37) and of a favorably progressing military operation (page 38). As has been observed, the salient features of such a situation or operation are, from the abstract viewpoint, identical, as are also the factors which determine the character of such features (page 39). As a covering word for such features and factors, alike, the term "elements" appears especially suitable, inasmuch as it properly comprises the constituent parts of any subject, as well as the factors which may pertain thereto.

Accordingly, the analysis, following, of the procedure for selection of correct military objectives is made in terms of the essential elements of a favorable military situation. For like reasons, the analysis of the procedure for determining the character of the detailed operations required is made in terms of the essential elements of a favorably progressing military operation. (For these elements, see the salient features and the factors cited in the Fundamental Military Principle, page 41.)

II. SELECTION OF CORRECT MILITARY OBJECTIVES

Nature of Military Objectives. In the previous discussion (page 36), the military objective has been defined as the end toward which action is being, or is to be, directed. As such it has been noted as an objective in mind. The tangible focus of effort, the physical objective toward which the action is directed, has been observed to be an objective in space. The physical objective is always an object, be it only a geographical point, while the objective, being a mental concept, is a situation to be created or maintained.

The term "objective" requires circumspection, not only in the manner of its expression (see page 53), but in its use. The latter is true because the purport of the objective under consideration will vary with the viewpoint of the echelon concerned. For instance, the proper visualization of an objective, as an "effect desired" (page 19), calls for a correct answer to the question, "Who desires this effect to be produced?" (See page 4).

A variety of viewpoints is thus a natural characteristic of the chain of command (pages 11-13), whose functioning creates what may be called a "chain of objectives".

Necessary exceptions aside, the commander expects to receive, from his immediate superior, an assigned objective, which that superior thus enjoins the commander to attain. The commander, in turn, through the use of the natural mental processes already explained, decides on an objective, for the general effort of his own force, to attain the objective assigned by his immediate superior.

As a subordinate, a commander to whom an objective has been assigned is responsible to his immediate superior for its attainment. The commander may, however, also occupy the position of an immediate superior to one or more commanders on the next lower echelon. In such capacity, he may assign objectives to these immediate subordinates. By attaining such an assigned objective, each of these subordinates thus contributes to the success of the complete effort planned by his immediate superior, to the extent represented by his own assigned share of the effort.

A commander can scarcely expect to receive in full the intelligent support of his subordinate commanders, unless he makes clear to them the character of his own planned effort. It is customary, therefore, when assigning an objective to a subordinate, also to inform him of the purpose which its attainment is intended to further. Stated differently, a commander, when imposing upon an immediate subordinate an effect which he is to produce, informs him, at the same time, of the nature of the military result which he, the immediate superior, has determined to bring about.

This is the part of wisdom, not merely of choice. It acquaints the immediate subordinate with the objective of the immediate superior and thus enables the former to comprehend wherein the attainment of his own assigned objective is expected to contribute to the attainment of the effect desired by his superior.

Since the attainment of the assigned objectives will represent the consummation of the general plan of the immediate superior, the purpose of each of these assignments is to assist in the attainment of the objective announced, for his entire force, by the immediate superior (see also page 12).

From the viewpoint of the subordinate, the objective thus assigned by the immediate superior becomes the appropriate effect desired, essential to the determination of the accomplishment which the former is to effect by his own effort. On occasion, also, the full scope of the appropriate effect desired may require consideration of the objectives of higher echelons in the chain of command, so far as such objectives may be known or deduced.

The responsibility of the immediate superior, in the matter of ensuring that his immediate subordinates understand the purpose of their assigned objectives, is in no respect less than that which falls upon these subordinates in the execution of their own assignments. By failing to provide subordinate commanders, through whatever methods, with a knowledge not only of the details of his plan but of the general objective which their integrated effort is calculated to attain, the superior may actually subject his undertaking to the risk of failure.

The decision as to the general plan (page 44) for the attainment of his assigned objective provides the commander with an objective which he himself has originated. With the plan for the attainment of his general objective clearly fixed in mind, the commander may now proceed to the selection of one or more objectives of a specific nature, the integrated attainment of which will ensure the attainment of his assigned objective. The instructions which he may then give, severally, to his immediate subordinates in a detailed plan of operations, thus indicate to the latter their assigned objectives. (See also page 22.)

The source of the incentive (page 44) has an intimate connection with the assigned objective. Furthermore, whatever the origin of the incentive, the ability to select correct objectives is an essential element in the mental equipment of the commander.

For example, if the incentive arises by reason of a directive received from higher authority, such directive will presumably assign an objective, specific or inferred. The commander to whom such an objective is assigned is responsible for a correct understanding of all the implications involved, including the relationship between the assigned objective and the general objective of the next higher commander, which represents the purpose of the assigned objective. On occasion it will also be necessary for the commander to consider the relationships involved with the further objectives of the higher command (page 49). Again, without any suggestion of cavilling at orders received, the commander may also find occasion to examine, with care, the implications of his assigned objective, because of his responsibility for taking correct action in the premises (page 15).

If the incentive arises from a decision previously made by the commander, it follows that such decision will have embodied an objective, selected by the commander himself.

If the incentive arises because of the demands of the situation, the commander is responsible for recognition of the necessity for action and for the correct

selection of an appropriate objective, to be adopted by him as a basis for his own action as if it were assigned by higher authority.

An assigned objective having been established with respect to the basis for his problem, the commander is always responsible for the correct selection of an objective to serve as the end in view for the general, integrated action of his subordinate commanders.

Once such an objective has been selected, the commander is further responsible for selecting, on the basis provided thereby, correct objectives to be assigned to his subordinate commanders.

For various practical reasons, therefore, the responsibility of the commander requires of him the ability to select correct objectives. On the basis of classification with respect to the authority making the selection, analysis will demonstrate the existence of two types of objectives.

These two types of objectives are (see page 30 as to effects and further effects), namely, (1) the assigned objective (page 48) ordinarily indicated by higher authority, exceptionally determined by the commander for himself, and (2) the objective typically selected by the commander, himself, as the end in view for the integrated effort of his subordinates. It will be noted that in the latter category there will fall, not only the general objective referred to immediately above, but numerous other objectives for whose attainment provision may be needed during the actual prosecution of the effort or in anticipation thereof.

Procedure for Selection of Correct Military Objectives. The Fundamental Military Principle (page 41), properly applied, is the basis for the selection of any or all of such objectives. The procedure involves the direct application of the corollary Principle of the Correct Military Objective.

According to this principle, the selection of a correct military objective depends on due consideration of the salient features noted, i.e., correct physical objectives, advantageous relative positions, proper apportionment of fighting strength, and provision for adequate freedom of action. These features, discussed in greater detail hereafter (in this chapter), are determined by factors cited in the Principle (pages 41-42).

The first factor being the appropriate effect desired, a correct military objective is selected, in the first instance, by reference to the requirement of suitability as to this factor. This appropriate effect desired may be indicated by the higher command (page 44), or may be determined by the commander himself as hereinafter explained (page 52).

When the appropriate effect desired has been established, the next consideration is, "What physical objective (or objectives) can be found, action with relation to which will, if successful, attain this effect?"

For example, if the appropriate effect desired were the "reduction of enemy battleship strength" in a certain area, then an enemy battleship appearing therein would manifestly be a correct physical objective. A suitable action with relation thereto would be "to destroy the enemy battleship", in which case the objective involved in the action would be "the destruction of the enemy battleship".

Any lesser accomplishment, such as infliction of damage on the enemy battleship, or its repulse, or its diversion elsewhere, would also be suitable to the appropriate effect desired, though not in the same degree. Each such visualized accomplishment, suitable to the appropriate effect desired, may properly be considered as a tentatively selected objective.

An objective having been tentatively selected on the basis of the appropriate effect desired, its final selection will naturally depend, as indicated in the Principle, on the feasibility of the effort involved in the attainment of each such objective, and on the acceptability of the consequences as to costs.

In investigating such feasibility, account is taken of the relative fighting strength. With relation to the enemy battleship, for example (see above), the commander would consider the means available to him and the means opposed (including the enemy battleship and any supporting forces), as influenced by the characteristics of the theater.

This investigation will include, necessarily, a sufficient analysis of the salient features of the operation required to attain each objective. Such features include the nature of the physical objectives (the battleship and any other forces, for instance), the possibilities of relative position, the problems involved in apportioning the forces on either side, and the proper considerations as to freedom of action.

A similar study with respect to the acceptability of the consequences to be expected, as to the costs involved in the operation, will provide a basis for a conclusion as to that factor.

If the attainment of an objective is found to be infeasible, or feasible only at the expense of unacceptable consequences, the proposed objective will naturally be rejected, and some other objective will be considered (page 33).

The objective finally adopted as the best will be that which, all things

considered, is best adapted to the requirements of suitability, feasibility, and acceptability, as outlined in the Fundamental Military Principle.

The Appropriate Effect Desired, as the Basis for the Objective. As will be appreciated from the foregoing discussion, the first factor in the selection of a correct objective is the "appropriate effect desired". The evaluation of this factor is not always easy, for reasons which will be explained.

The procedure (as indicated by the Principle of the Appropriate Effect to be Desired—page 33) is the same as for the selection of an objective. This identity of procedure is natural, because the appropriate effect desired, used as a basis for selecting the commander's general objective, itself involves the appreciation of an objective. The latter is, in fact, one of the "chain of objectives" previously mentioned (page 48).

Under conventional conditions this objective is selected by higher authority, and is assigned to the commander in his instructions from the next higher echelon (page 48). The objective so indicated will of course, under sound procedure, have been selected by higher authority on the basis embodied in the Fundamental Military Principle.

When an established chain of command (page 11) is in effective operation, the path to the appropriate effect desired will therefore normally be indicated through an assigned objective, by the immediate superior. This assignment, however, or the failure to receive such an indication, does not relieve the commander from the responsibility for taking correct action on his own initiative. Such necessity may arise should he find, in the exercise of a sound discretion, that his instructions need modification or alteration, or even that it is necessary for him to depart from his instructions under circumstances of great emergency (pages 15-16).

Furthermore, the objective may be adopted by (rather than assigned to) the commander concerned, on his own initiative, in order to meet the demands of a situation (page 50) as to which the higher command has not yet had time or opportunity to act.

Moreover, even when an objective is assigned by higher authority in the usual course, it may be expressed in such terms as to require examination in order to enable the commander to appreciate it (page 43), as to its bearing on his operations. In fact, studious analysis may be necessary for this purpose.

For example, if the objective so indicated does not specify a clearly-defined goal, the commander will need to make a thorough study in order to appreciate

the full implications intended. He may find it necessary to analyze his immediate superior's instructions pertaining to the entire force of which his command is a part, and to consider, also, the objectives indicated for other commanders, on his own echelon, who also belong to that force.

On occasion, also, higher authority may acquaint the commander with the general plan adopted by the superior, and may order action—such as movement in a certain direction or to a certain locality—without assigning a more definite objective. Should it happen in emergency that later developments prevent higher authority from making such an assignment, the commander may find himself under the necessity of selecting, for himself, an appropriate objective, to be adopted by him as if it were assigned.

Should the commander find that his instructions do not clearly indicate an objective, or should he find that the one indicated is not applicable under the circumstances of the case, he will select an appropriate objective for his own guidance as if it were assigned by higher authority. He will make such selection through use of the same procedure already described herein as applicable to the selection of an objective of any sort. In such case he puts himself in his superior's place, in order to arrive at a reasoned conclusion such as the higher commander, if apprised of the circumstances, would desire to adopt. Circumstances permitting, the commander will of course communicate with higher authority, and will make constructive representations. (See page 15.)

The appropriate effect desired, as the first factor to be applied in selecting such an objective, will naturally involve the objective indicated in the general plan for the immediate superior's entire force. This general plan is normally announced by the superior for the guidance of the commander and of other commanders on the same echelon. If, however, this further objective is not known to the commander, he will endeavor to obtain a proper point of reference. To this end, he will use his knowledge of the objective assigned to his immediate superior, or of the further intentions of the higher command with respect to the conduct of the operations, or of the campaign, or of the war.

The provisions for the formulation of plans and orders (Chapters VII and VIII) take account of the fact that the commander may require definite information as to the objectives of higher echelons. In organizations where a state of mutual understanding has been well established, the commander will rarely be without some guidance in the premises (see also page 33), by reason of the chain of objectives indicated in plans and orders of the higher command (page 48).

From the viewpoint of the commander, this relationship among objectives presents to him a series, from the present or immediate objective to others more distant in time. Thus there may be one or more intermediate objectives, leading away from the immediate one to the ultimate objective, so far as the concern of the moment is involved.

This relationship of immediate, intermediate, and ultimate objectives may also exist in situations where the commander, operating on his own initiative and responsibility, determines such a chain of objectives for himself.

Such a situation frequently arises in a campaign or a major operation, and is normal, also, as to minor operations (see page 56, as to physical objectives).

As already observed, the relationship of objective and further objective is the criterion for distinguishing between strategical and tactical considerations, from the viewpoint of the commander concerned (pages 9 and 10).

What has been noted in the foregoing as to the objective (singular) is also applicable to situations where such an objective involves two or more objectives collectively considered.

III. DETERMINATION OF EFFECTIVE MILITARY OPERATIONS

As noted with respect to the Fundamental Military Principle (page 41), the effort required for the attainment of a military objective involves military operations (page 37), whose salient features are listed in the Principle. These features, including physical objectives, relative positions, apportionment of fighting strength, and freedom of action, will now be discussed to indicate how they are correctly determined by the factors, also cited in the Principle, pertaining to suitability, feasibility, and acceptability. Such determination is accomplished through application of the corollary Principle of Effective Military Operations (page 42).

Physical Objectives

Fundamental Considerations. An operation, however splendidly conceived and faultlessly executed, involves waste of effort if directed with relation to

wrong physical objectives.

Since a physical objective constitutes the tangible focus of effort (page 47) toward the attainment of the effect desired, its correct determination is of paramount importance both before and during the prosecution of operations.

As has been demonstrated (page 51), the consideration of possible physical objectives (in space) is essential to the selection of suitable objectives (in mind). Moreover, action with reference to one or more physical objectives is the necessary basis for determining the feasibility and acceptability of a plan.

Military objectives can be achieved only through the application of power, actually or by threat (page 8), with reference to physical objectives.

The determination of correct physical objectives is followed, if more than one such objective is found, by the selection of the one or more which are best adapted to the requirements of the situation. The procedure for determination and for selection is a matter for painstaking mental effort, based on the considerations now to be presented.

The term "military objective" is frequently used in military literature to distinguish physical objectives which are combatant in character from those which are noncombatant. The considerations which follow are applicable to physical objectives of all categories.

Procedure for Determination and Selection of Correct Physical Objectives. In a particular set of circumstances, the field wherein correct physical objectives may be found and the best selected, is that of an existent or probable theater of action.

The determination of a physical objective, when correct, initially satisfies the requirement of suitability with respect to the nature of the objective,—this being, in such case, the appropriate effect desired (page 31). Physical objectives not suitable, with relation to the objective to be attained, are manifestly incorrect physical points of orientation with respect to the operations involved in the effort to attain such an objective.

It may be found, however, that the selection of a single physical objective will not fulfill this requirement. A commander may find it necessary to direct his effort simultaneously, or in succession, with relation to more than one physical objective.

When a succession of physical objectives has to be dealt with, the selection will necessarily include such a series. Such a case might occur where a campaign

has been found necessary in the form of successive stages as essential features. The visualized termination of each successive stage may be marked by the successful application of effort with respect to one or more physical objectives. Such a series of physical objectives may frequently also occur in operations on a smaller scale; even in very minor actions such a succession of efforts is normal. (See page 54, as to objectives.)

The choice as to the specific nature of physical objectives will extend, for example, from the enemy's organized forces as a whole to the physical body of an individual combatant. Within this range will be included all manner of physical elements of enemy fighting strength, singly and in combination, such as troops, ships, geographical points, lines and areas, fortifications, bases, and supplies.

The physical objective may take the form of a fixed geographical position, the occupation of which, because of its inherent advantages, may be, for example, an essential preliminary to further progress. The position may, for instance, be merely a point in the ocean (page 47), a rendezvous beyond which, although its occupation may be uncontested, it has been deemed unwise to proceed without further information or additional strength.

The physical objective, therefore, does not always take the form of some element of the enemy fighting strength; not infrequently, the occupation of a correct physical objective may be uncontested by the enemy. However, intervening armed forces of the enemy may constitute the physical objective for application of successful effort before a further physical objective may be dealt with. The possibility of enemy opposition may, therefore, place the selection of one or more physical objectives on an indeterminable basis at the time of the original solution of the problem. This may require a commander to defer his choice until the situation has become more fully developed.

For example, his objective may be the occupation of a certain harbor, preliminary to the establishment of a base. The harbor is then a correct physical objective, perhaps the only physical objective which need be dealt with, if there are no other obstacles to prevent or interrupt the operation. Armed forces of the enemy may, however, stand as an obstacle to the undisputed occupation of the harbor and, therefore, to the attainment of the objective. In such case they become, for the time being, the correct physical objective.

While the armed forces of the enemy may frequently present appropriate physical objectives, this is not always the case (see above). It is true that, in war,

the armed forces of the enemy, until they can no longer offer effective resistance, prevent the full attainment of the objective of the State. Accordingly, from the broad viewpoint, they may constitute the legitimate and proper physical objective of the opposing armed forces. Armed forces of the enemy which are present in opposition to any projected operations are likely to offer proper physical objectives.

These facts, however, do not restrict a commander, in his choice of a physical objective, to the armed forces of the enemy. Nor do these considerations require him to search for and destroy the enemy forces before directing his effort toward the attainment of an objective under circumstances where the enemy is seen to be incapable of presenting effective opposition.

The correct physical objective may change several times during the course of an operation. This is particularly to be expected in a naval tactical engagement of considerable scope. While the enemy fleet, as a whole, may properly be considered in such a case to be the physical objective, the component parts of each fleet, the types of vessels and their combinations, may, from time to time, find in their opponents a variety of physical objectives, the particular identity of which can scarcely be predicted with assurance. It is here that the importance of the correct selection of physical objectives stands out in bold relief.

Infliction of loss on enemy forces, or support of own forces hard pressed, may always seem tempting immediate objectives in war. However, there may be occasions when disengagement or refusal to engage an enemy force, even though it be of manifestly inferior strength, may be appropriate to the attainment of the end in view. Necessity for speed or secrecy, or other demands, may make the required operations unacceptable. (See page 75 as to the offensive and the defensive.)

Land, as the natural habitat of man (page 46), is always the principal store-house of his indispensable resources, as well as the primary scene of his activities. Naval operations, therefore, have always in view the eventual maintenance or creation of a favorable military situation in critical land areas. From this fundamental viewpoint, the eventual physical objective of military operations is always a land objective.

The suitability of a physical objective having been determined, the next consideration is the feasibility (page 31) of taking such action, with relation thereto, as will, if successful, attain the objective in mind. Feasibility is determined by evaluation of the factors of means available and opposed, as influenced by the characteristics of the theater, in order to assess relative fighting strength (see page 52). In connection with the effort involved with relation to any physical objective, questions of feasibility may make it desirable or necessary to visualize the detailed operations which arise from considerations of relative position, of apportionment of fighting strength, and of provision for freedom of action.

Of particular interest with respect to such operations, it is noted that the premature disclosure of a selected physical objective is a military error. By appearing, however, to operate against more than one physical objective, a commander may lead the enemy to overstrain his resources in the effort to protect them all. Thus the commander may reduce the resistance to be encountered in dealing with what have already, or may finally, become the selected physical objectives. Feints in several directions may even divert all of the enemy's effective defense from the vital points (see also page 68).

After the suitability of a physical objective has been established, as well as the feasibility of the contemplated action with relation thereto, such action is next considered from the standpoint of acceptability with reference to the consequences as to costs. The specific factors involved in acceptability as to consequences have previously been mentioned (page 31).

When the requirements of suitability, feasibility, and acceptability have been satisfied, the locality, the opposing force, or other subject of consideration may be regarded as a correct physical objective.

When more than one correct physical objective has been determined and a choice is indicated, such selection will also be founded on the foregoing

requirements.

No doctrine, no advance instructions, can replace the responsible judgment of a commander as to his correct physical objectives. On occasion, higher authority may request recommendations (see page 42, as to opinions) with respect to such objectives. The duty of a commander to depart from his instructions under certain conditions, and the grave responsibility which he thereby assumes, have also been referred to (page 16).

Relative Positions

Fundamental Considerations. The relative positions occupied or susceptible of occupancy by armed forces are matters which demand constant and intelligent attention before and during hostilities. Being fruitful sources of advantage or disadvantage, such relative positions assume primary importance where enemy forces are concerned, and are scarcely of less importance from the standpoint of the correct apportionment of the subdivisions of one's own forces, and from the viewpoint of their freedom of action.

During periods of actual tactical contact, the successful delivery of the decisive thrust against selected physical objectives is greatly furthered by the occupancy and maintenance of advantageous relative positions.

The fundamental significance of relative position lies in the fact that position is the basis of movement, for movement is merely a change of position. Speed is the rate at which movement takes place. The particular factors to be reckoned with are, therefore, time and space. In skillful utilization of these elements lies the successful employment of relative position in the creation or maintenance of a favorable military situation, whether the movement be by land, sea, or air (page 46).

The necessity for movement may be an important consideration in determining possible or likely theaters of operations. Where transportation between two or more positions within a certain area is essential to the successful conduct of a war, the area which includes the routes between these positions, or a portion of such routes, becomes at once a possible or likely theater. Such an area may be normally within the control of one or the other of the belligerents, or the control may be in dispute. Certain of the positions themselves may belong to neither of the belligerents. The area itself may be a land area, or a sea area, or a

combination of the two. It may be an area which borders upon the sea, or an island area. In any case, the air is a common characteristic.

The movement of a force is properly regarded, not as an even flow, but as a series of steps from one position to another. The movement may or may not be continuous. Pauses are usual, their occurrence and duration being a matter dependent upon circumstances and calling for the exercise of sound professional judgment. Intermediate positions may be utilized, successively, so as to facilitate occupancy of the final position which is the goal of that phase of operations (page 56). This procedure often effects an ultimate saving of time. In many cases, other advantages also may accrue.

The foregoing considerations are applicable to changes of position whether in the direction of the enemy, toward a flank, or to the rear. Flanking maneuvers and retrograde movements, both sometimes profitably employed to decoy the enemy, may frequently be utilized to gain advantageous relative position. The proper objective of each is the maintenance of a favorable situation, or the alteration of an unfavorable one, either locally or with reference to the larger phases of operations, through measures involving apportionment of fighting strength, or obtaining advantages of position, or retaining or gaining freedom of action. Combinations of forward, flanking, or retrograde movements are frequent in war, the skillful combination of the offensive and the defensive (see page 75) being no less applicable to the problem of relative position than to the other elements of a favorable military operation.

Procedure for Determination and Selection of Advantageous Relative Positions. Since the various positions to be occupied become physical objectives for the time being, their proper determination and selection are governed by the same considerations which apply to physical objectives (see page 55 and following).

Thus, it becomes necessary to consider, first, as to suitability, whether the position, once gained, will permit the attainment of the appropriate effect desired.

Secondly, consideration is required as to feasibility. Are the available means adequate to gain or to maintain such position? In answering this question, due regard is paid to opposing means and to the characteristics of the theater.

Finally, there is to be considered, as to acceptability, whether the consequences as to costs, in terms of relative fighting strength, will be such, if the position is gained or maintained, as to permit the attainment of the objective.

The possible effect of these consequences on future action, whether the attempt succeeds or fails, may be vitally significant.

With regard to suitability, the factor of the appropriate effect desired calls for special consideration of the requirements with a view to future action. This is true because of the relationship which naturally exists between successive positions (page 60) if changes of location from one to another are to be integrated into movement calculated to accomplish the effect desired. Each position, itself for the time being a physical objective, offers certain advantages or involves certain disadvantages with relation to a further physical objective. The position of the latter, in turn, presents possibilities (or denies them) with respect to future movement. The influence of considerations with respect to time (in addition to those noted above with regard to space) is also a factor whose importance increases when urgency is a matter of immediate concern.

With regard to feasibility, the technical capabilities and limitations of the armed forces (page 67) are, of course, among the principal factors. These capabilities and limitations are respectively promoted and imposed primarily by considerations peculiar to the particular medium of movement involved.

With specific regard to the areas within which military operations may suitably be undertaken, the fundamental distinctions created by recognized political sovereignty require attention. That part of the surface of the earth which comprises its land area is recognized as the property or the charge of one or another of the sovereign states, although in certain cases the title may be in dispute. The air above a nation's territorial domain is generally understood to be part of that domain. The point to be observed is that there are no land areas which belong equally to all nations. Accordingly; because of the factor of neutral sovereignty, both land and air forces of belligerent States may be under the necessity of following indirect routes to their physical objectives.

In the case of the sea, however, all those portions of the earth's surface which are covered by water (exclusive only of the recognized territorial waters of the several nations), i.e., the high seas, are presumably common property. The same applies to the air above the sea.

These considerations, and the fact that the surface of the sea is a broad plane, permit open sea areas to be traversed by a variety of routes to an extent not applicable in the case of land areas and the air above them. In addition, the fact that technological developments have been such as to permit movement, not only on the surface of the sea and through the air above but also beneath the surface, gives distinctive characteristics to the sea when considered as a theater of operations.

The surface of the sea has, from the earliest days to the present, provided roads over which human beings in greatest numbers and the resources of the world in greatest weight and volume can be transported in single carriers. From the standpoint of any belligerent it is imperative that, during war, these roads be kept open to the extent demanded by the needs of the State. It is equally imperative that an enemy be deprived of the advantage which their use might otherwise afford. In both cases localized (even though temporary) control, not only of the surface but of the water beneath and the air above, may be essential. It is pertinent, also, to note at this point the interest of neutrals, or of unneutral nonbelligerent Powers, in keeping open the trade routes via the high seas. Such interest may constitute an important factor in the calculations of a belligerent State.

Considerations of maximum capacity for speed represent the utmost possibilities with respect to movements (i.e., change of positions) (page 60) in a given medium within a given time limit. A knowledge of maximum speed potentialities, one's own and those of the enemy, is required if changes in position are intelligently to be made. A knowledge of the variety of conditions, controllable and otherwise, which affect or preclude the employment of maximum speed, is likewise a requisite. Poor material condition, inadequate training, and incorrect methods of operation are preventable or correctable. The limitations on speed which are imposed by logistics, and by natural obstacles such as the hydrography, the climate, the wind, the weather, and the state of the sea, are susceptible of greatest possible adjustment to circumstances only by the exercise of foresight and judgment. All these conditions indicate the close relationship that exists between relative position and freedom of action (page 70).

The same observations apply to considerations of maximum capacity for endurance, the ability to operate without necessity for replenishment from an outside source. Radius of action is decreased or increased accordingly with resultant restrictions, or otherwise, on freedom of action.

With respect to the freedom of action of armed forces, also a consideration in relation to feasibility, the logistics of a military operation, of whatever scope, constitutes a problem which begins when the plan is in process of formulation. This problem ends only when the necessity for sustaining the movement, and for retaining the position gained, no longer exists.

Ships and other means of conveyance, surface, subsurface, and air, are incapable of providing the necessities of life and the implements of warfare beyond the capacity built into them. Operations which extend beyond the limits of such capacity must cease unless replenishment and support, possible only from other sources, are provided. The logistics problem may be so difficult as to cause rejection of a course of action involving distant operations. From the standpoint of supply, military movements by land, sea, and air are, therefore, vitally associated with positions on land and with their relation to the area of operations (see also page 58).

The same observations apply in larger scope to the State itself, which, because of economic vulnerability with respect to certain essential raw materials, may be compelled to seek support from outside sources lest supplies on hand become exhausted. In all cases, great importance attaches to the geographical location of sources of supply in their relation to a required point of delivery and to the routes which lie between.

It follows that enemy sources of supply may be suitable physical objectives (see page 56). Their destruction or capture, or the severance of the enemy's lines of communication with them, may seriously restrict his freedom of action.

From the standpoint of the relative position of its features, and apart from their inherent military value, the characteristics of the theater of military operations may exert an important influence upon the shaping of events. Each characteristic merits consideration as a potential means of facilitating or obstructing movement. Some localities may have been developed as repair, supply, or air bases. Others may be sources of essential raw materials. Certain points may be heavily fortified. Island formations may be valuable to either opponent, or to both, because of the capacity and security of their harbors, the character of their terrain, or their positions relative to each other. The inherent military value of the

several features of the theater may be enhanced or vitiated by the relative position which each occupies with respect to other features, and with reference to the location of the armed forces involved.

So-called "strategic points", historically significant in connection with military operations, derive their importance by reason of their relative position with reference to routes of movement.

The possibilities of utilizing or of changing the characteristics of a theater of operations, to assist, hamper, or deny movement, are governed by considerations previously discussed (see the Principle of the Proper Physical Conditions to be established in the Field of Action—page 34).

In planning the creation or maintenance of a favorable military situation from the standpoint of relative position, there may, therefore, profitably be included an examination into:

(a) The relation which may exist between the geographical location of the subdivisions of one's own forces and

(1) Those of the enemy,

(2) Geographical areas under one's own control, and positions within those areas,

(3) Geographical areas not under one's own control, and positions within those areas,

(4) Areas coveted or in dispute,

(5) Fixed actual and potential repair and operating bases and sources of supply and replenishment, own and enemy, controlled or otherwise.

(b) The relation existing among the geographical locations listed immediately above, including the effect of possible changes in control.

(c) The bearing of the sun and moon, and the direction of the wind and sea.

(d) The length and vulnerability of possible lines of communication.

(e) The time and distance, and resulting relative speeds, involved in movements necessary to change or to maintain an existing relation.

(f) The measures incident to adequate freedom of action.

A more detailed analysis of the factors influencing relative position is made in

Section I-B of the Estimate Form (Chapter VI).

In connection with the factor of consequences as to costs, the requirement as to acceptability is a weighing of expected gains and of reasonably anticipated losses, a balancing of the one against the other, with due attention to the demands of future action, (see page 61).

Military movement normally involves an inescapable expenditure of military resources. The characteristics of the theater, alone, will exact their due toll, even if no enemy be present. In the presence of the enemy, such expenditures may increase with great rapidity. The fundamental consideration here is whether the resultant losses are disproportionate to the gains.

Avoidance of movement is frequently the correct decision, because movement, if it offers no advantages, is scarcely justifiable even if it entails no material loss. Movement, merely for the sake of moving, is not a profitable military operation. However, the conduct of military operations without major movement is a concept inherently defensive (page 75), even apathetic, whose outcome, against an energetic enemy, can rarely be other than defeat. In the execution of advantageous movement to achieve correct military objectives, the competent commander is always ready to accept the losses which are inseparable from his gains.

The foregoing considerations as to advantageous relative positions are applicable, not only in the realm of the commander's decisions as to his own action, but also to his judgments rendered when higher authority calls for recommendations (see page 42).

Apportionment of Fighting Strength

Fundamental Considerations. The assignment of a task may be expected to carry with it availability of fighting strength deemed adequate by higher authority for accomplishment of the operation involved.

In appropriate instances, the higher command may call for recommendations as to the amount and character of the means deemed adequate by the subordinate for performance of the task with which he is, or is to be, charged (page 42).

In any case, means having been made available, it remains for a commander to whom an objective has been assigned to apportion these available resources in such manner as to provide the requisite strength at points likely to be decisive, without unduly weakening other points. In effect, he is charged with a practical adjustment of means to ends. This responsibility is discharged by the effective utilization of means and prevention of waste nicely balanced through full consideration of all essential elements of a favorable military operation. The procedure involved has been indicated (see the corollary Principle for the determination of the Proper Means to be Made Available—page 34).

The relation between the strength to be brought to bear in dealing with a selected physical objective, the tactical concern of the moment, and that necessary to the attainment of the strategical aim (see pages 9 and 10), constitutes a fundamental consideration in effecting such a balance.

In making a correct apportionment, there will be involved not only the physical elements of fighting strength, but the mental and moral as well. With respect to mental and moral factors, the capabilities of particular commanders and organizations may be an important factor in apportioning forces to tasks. In the physical field, numbers and types occupy a prominent position, each however, requiring consideration from the standpoint of the existing situation.

Thus, forces composed of appropriate types and suitably equipped and trained may exercise greater effect than numerically larger forces not so well adjusted to the requirements of the situation. On the other hand, numerical considerations become predominant under conditions otherwise substantially equal.

These considerations, viewed in the light of the relationship of naval operations to land areas (page 63), indicate the importance which may attach to immediate availability, with a naval force, in addition to its own air strength, of a proper complement of land forces (with appropriate air strength) which are organized, equipped, and trained for amphibious operations.

The same considerations point also to the vital importance of due provision, with respect to the armed forces of a State, for joint operations involving

concerted action on land, by sea, or in the air.

In connection with the capabilities of particular commanders (page 66), it will be appreciated how important it is, more especially in amphibious or joint operations, for responsible officers to have a correct understanding of the powers and limitations of the several types of military forces involved, be their primary medium of movement the land, the sea, or the air.

Factors of dispersion and concentration are also involved in apportionment of fighting strength.

While undue dispersion may result in lack of adequate fighting strength where required, a certain degree of dispersion may be necessary to meet the demands of movement and of freedom of action. Serious errors in this regard, however, may result in inability to furnish support where needed, and in consequent punishment or isolation of one or more valuable detachments.

In distant operations some dispersion is required to safeguard long lines of communication. The requirements for this purpose may sometimes be so great that, unless the total available strength is adequate, a due apportionment to the guarding of long lines of communication may so weaken the main force as to prevent the attainment of the objective. (See also page 63.)

Proper dispersion is, therefore, a requirement to be met, while undue dispersion is to be avoided. But realization is also necessary, in this connection, that there is an equal danger in over-concentration. An undue concentration of means at any point may subject such a force to unnecessary loss. Another disadvantage may be lack of adequate fighting strength elsewhere.

Accordingly, axiomatic advice that it is unwise to divide a total force, while containing a sound element of caution, is misleading and inadequate, for division is often necessary or desirable. To be adequate, a maxim or rule relating to division of force should indicate when, and in what measure, such division may or may not be necessary or desirable. (See also page 25.)

Similarly inadequate, however true as a generality, is the statement that the requirements of effective warfare are met by bringing superiority to bear at the decisive time and place. Such an injunction is of little assistance in solving practical problems as to the appropriate degree of superiority, and as to the proper time and place.

In like manner, any rule is faulty which advises a commander to seek the solution of his problems by always bringing to bear his elements of strength

against the hostile elements of weakness. It may be found, on occasion, that it is necessary or desirable to act with strength against strength.

But it is equally faulty to maintain that action, to be effective, seeks always to deal with the enemy by first destroying his elements of strength. Even when the strongest opposition cannot be defeated by direct action of this nature, success may still be possible by first disposing of elements of weakness. When the stronger elements of a hostile combination cannot be defeated without undue loss, yet cannot stand without the weaker, consideration may well be given to an apportionment of fighting strength on the basis of seeking a decision against the latter. The defeat of a relatively small force at a distance from the area where the main forces are concentrated in opposition, may hasten the attainment of the ultimate objective.

The main effort, where the greater force is employed, may be identical with the effort contributing most directly to the final result. This identity, however, does not always exist, and the decisive influence is frequently exerted by a relatively small force, sometimes at a distance from the principal area of action.

Diversions (see also as to feints, page 59) are not likely to be profitable unless constituting a sufficient threat, or unless offering apparent advantages to the enemy which he feels that he cannot forego. Success will attend justified diversions if they lead the enemy to reapportion his fighting strength to meet the threat, either because he expects repetitions (see page 73, as to raids), or because the area involved may become a new theater of action, or for other pertinent reasons.

Means which are inadequate for the attainment of an objective if used in one effort may sometimes be rendered adequate by utilizing them in a series of successive impulses. Similarly, the effect of employing means otherwise adequate may be intensified by the delivery of attacks in waves.

Procedure for Determining Proper Apportionment. The fundamental considerations outlined above as to apportionment of fighting strength have application both to the offensive and the defensive (see also discussion on page 75). As to all of these considerations, the solution for the particular situation is to be found only through an analysis of the factors applying to the particular problem.

Thus, the first consideration relates to suitability, and requires that the apportionment of means be suitable both as to type and as to amount, in order to produce the appropriate effect desired in view of the means opposed and of the

influence of the characteristics of the theater. The fundamentals involved, applicable in all human activities (see the Principle of the Proper Means to be Made Available—page 34), are the factors cited above. These are also, of course, indicated in the Fundamental Military Principle.

The correct apportionment may also be influenced by any military changes to be effected in the characteristics of the theater (as indicated in the Principle of Proper Physical Conditions to be Established—page 34). Thus, the establishment of a well defended base may operate, properly, to reduce the requirements for apportionment of a force for a particular duty in that locality. Similarly, the proper use of fortifications, obstacles, demolitions, and routes by land, sea, and air, as well as facilities for exchange of information and orders, all operate to increase fighting strength relative to that of the enemy.

The next consideration, that of feasibility, takes account of the type and of the amount of means that can be apportioned in view of the means available.

In connection with the foregoing there will be appropriate requirements for the operation as a whole and for its component operations. All of these requirements may call for analysis of the relative positions to be utilized, with reference to the selected physical objectives, and of the requirements for adequate freedom of action.

Finally, the requirement of acceptability as to the factor of consequences will call for consideration of the results of the allotments of forces to particular tasks. This is necessary in order to arrive at reasonable conclusions as to the military costs involved either in event of the success of the effort or in event of its failure, and with respect, more especially, to the effects on future action.

The attainment of the objective, however suitable as to the effect desired, may be found, on the basis of due study, to be infeasible or to involve unacceptable consequences. The inescapable conclusion is then that an increase in relative fighting strength is required or that another objective, feasible of attainment and acceptable with respect to consequences, is necessarily to be adopted (see page 52-53).

Freedom of Action

Fundamental Considerations. In providing for proper apportionment of fighting strength, a commander may attain the end in view by increasing the

physical, mental, or moral elements of his own strength, relative to the enemy's, or by decreasing the enemy's strength through imposing restrictions on hostile freedom of action.

Freedom of action will enable a commander to prosecute his plan in spite of restrictive influences. That enemy interference will, to a greater or less extent, impose restrictions on freedom of action is to be expected. Restrictions may also be imposed by physical conditions existing in the theater of operations, and by deficiencies and omissions which are within the field of responsibility of the commander to correct.

Even with fighting strength adequate to overcome enemy opposition and physical handicaps, deficiencies and omissions within a commander's own field may become effective checks to further progress unless avoided through the exercise of foresight. To this end, it is desirable to consider certain possibilities which are likely to promote freedom of action if properly exploited, and to restrict it if neglected.

To a considerable extent, a commander has within his own control the degree of influence which his force will exert in the creation or the maintenance of a favorable military situation. The power applied by a military force is determined not only by the fighting strength of its component commands, but also by the degree of coordination of their several efforts in the attainment of the objective (see also page 12). Whatever the inability of the commander to influence the other aspects of a situation, the ability of his command to act unitedly is a matter largely in his hands.

When time permits, subordinate commanders, apprised of contemplated tasks in general terms, may be called upon to submit recommendations as to the detailed instructions to be issued them, as well (page 66) as to the means to be allotted for the purpose. By this procedure, individual initiative (page 15) is fostered and the higher command enabled to utilize the first-hand knowledge and experience gained on lower echelons without, however, divesting the higher command of any of its responsibility.

The command system may provide for unified action through unity of command or through cooperation resulting from mutual understanding. On the assumption that commanders are competent and that communications are adequate, unity of command is the more reliable method. However, it cannot be obtained everywhere and at all times, because of the necessary decentralization of the command system in areas distant from the commander. In such areas,

unity of effort may sometimes be assured by provision for local unity of command. At other times, unity of effort may depend entirely on cooperation between adjacent commands within the same area. (See page 12.)

Organization (see page 13), the mechanism of command, is most effective when, through the establishment of authority commensurate with responsibility (page 12) and through the assignment of tasks to commanders with appropriate capabilities (see also page 66), the highest possible degree of unity of command is attained. The command organization and mutual understanding are of primary importance as methods of ensuring maximum power with available fighting strength, and of affording consequent maximum contribution to freedom of action.

Deficiencies in technical training are capable of imposing grave restrictions upon freedom of action. Material equipment, even though it may represent the acme of perfection in design and construction, will not surely function unless skillfully operated and maintained. Even though mobility and endurance be otherwise assured, the capacity which they represent is not susceptible of effective employment unless the methods of movement, i.e., of effecting change in relative position (page 59), are intelligently planned and are developed to a point which assures facility of operation when in the hands of skilled personnel.

Tactical training, not omitting that required for joint operations (page 67), is one of the vital factors of fighting strength, with respect, more especially, to its contributions to freedom of action.

A state of high and stable morale (page 9), founded upon sound discipline, is an invaluable characteristic of fighting strength. An understanding of the human being is therefore an important feature of the science of war.

Discipline, in its basic meaning, is the treatment suitable to a disciple. The objective of discipline is therefore the creation and maintenance of the spirit of willingness to follow where the commander leads. The exercise of leadership is not restricted, however, to those occasions when the commander can be physically present. The exigencies of war and the requirements of control prevent the commander from being always, personally, in the forefront of action. These restrictions as to considerations of space however, impose no limitations on leadership in terms of time.

The influence of the competent commander is a factor always acting to shape the situation according to his will (page 47), though the necessities of the moment may compel his presence elsewhere. The ability to create and maintain

a faithful following who will execute the commander's will wherever he may be (page 15) is, accordingly, a primary attribute of command.

With this objective in mind, the true disciplinarian runs no risk of confusing harshness with the exercise of justice. He understands the difference between an overbearing arrogance, arising from unconscious ignorance, and the pride which springs from a justified self-respect. He appreciates the distinction between mere stubbornness, which would alienate his followers, and the necessary firmness which binds the bonds between the leader and the led. He realizes that comradeship, without presumptuous familiarity, is the firmest foundation for mutual loyalty (page 14). He knows that kindness and consideration, without suggestion of pampering, will not be mistaken for weakness by any subordinate worthy of the name.

Military subordination, which implies a proud obedience without trace of servility, is the essential basis for the development of the qualities of command. It is an old adage that, to know how to command, one must know how to obey. In the profession of arms, every man is at once a leader and a follower; the uncertainties of war may suddenly confront any individual, even on the lowest echelon, with the call to exercise command.

The requirements of sound discipline are thus the correct basis for all training. By proper training of his command, by instilling in it a spirit of resolute determination and by otherwise fostering its morale, and by weakening the morale of the enemy, a commander may increase his own fighting strength and reduce that of the opposition. When a command is inured to the ill effects of fear, despondency, lack of confidence, and other weakening influences, it may more effectually employ measures calculated to upset the morale of the enemy.

In connection with these measures, surprise, when judiciously conceived and successfully employed, may be a most potent factor. Surprise (see page 26) is the injection of the unexpected for the purpose of creating an unfavorable military situation for the enemy. Its effect is particularly telling when it results in disruption of enemy plans, and thus promotes the execution of one's own.

The raid, an offensive measure swiftly executed, often by surprise, and followed by a withdrawal, may be a valuable operation when employed to attain objectives within its capacity. The collection of information, the destruction of important enemy equipment or supplies, the neutralization of enemy positions, the severing of physical means of communication and transport, and the like, are suitable objectives. The attritional effect of repeated raids may be very great.

Skillfully executed raids frequently produce panic among the populace and thus, by political pressure, cause a change in the existing apportionment of fighting strength to the extent of upsetting military plans in other theaters. This is particularly likely to occur when there is fear, justified or otherwise, of repetition (see page 69).

However, because a raid necessarily includes a withdrawal and cannot, therefore, accomplish the occupation of territory (see page 46), it can have only indirect bearing, however important, upon the final outcome of the hostilities against a strong and competent enemy. Like other forms of surprise, the raid, injudiciously employed, may serve only to disclose one's presence, and thus to betray more important future plans. If the raid fails to attain its objective, it may even strengthen enemy morale.

The form which surprise may take is not confined to the stratagem, the ruse, or the sudden appearance. Any unexpected display of novel methods or of fighting strength, moral, mental, or physical, the last-named sometimes assuming the character of new and especially effective weapons or equipment, is included in the category of surprise. The potential value of such methods or weapons is, however, reduced or even completely vitiated by the leakage of advance information concerning them, not only as to their details, but as to the fact of their existence.

Other conditions remaining unchanged, an offensive surprise measure is therefore more likely to be effective when the opponent has not been given time to prepare a defense against it. On the other hand, where there is knowledge that an opponent or possible opponent is taking steps of a new or unusual nature and no adequate defense is prepared, the equivalent of surprise has been granted him.

Security measures are necessary in order to minimize or prevent surprise, or to defeat other efforts aimed at disruption of plans. Protection brings security; its basic objective is the conservation of fighting strength for future employment. Primarily requiring the maintenance of secrecy and the exercise of vigilance and foresight, security may be furthered by efficient scouting, by appropriate dispositions and formations within the command, and by the use of protective detachments and of various types of works in the sphere of engineering. Previous discussion (pages 64 and 69), with respect to relative position and to the apportionment of fighting strength, has indicated how, through fortification and related measures, the commander may increase relative fighting strength and thereby promote his own freedom of action while restricting that of the enemy.

A commander will be hampered in maintaining his fighting strength at its maximum unless he has arranged for, and has at his disposal, adequate logistics support. Because of its intimate relationship to mobility and endurance, such support is an essential to freedom of action. Logistics support requires provision for procurement and replenishment of supplies, for evacuation, proper disposition, and replacement of ineffective personnel, and for material maintenance. Freedom of action is restricted beyond those limits to which logistics support can be extended. (See page 63.)

The initiative is of paramount importance in ensuring freedom of action. If the initiative is seized and maintained with adequate strength, the enemy can only conform; he cannot lead. If initiative is lost, freedom of action is restricted in like measure.

The offensive, properly employed, is a method of seizing the initiative, and of regaining it if lost. Even though there be an actual numerical superiority in fighting strength, an offensive will, however, seldom assume practical form unless founded on an offensive mental attitude, which ever seeks the favorable and suitable opportunity to strike. Completely to abandon the offensive state of mind is to forswear victory.

Whether physically on the defensive or the offensive, the competent commander is always engaged in a mental and moral attack upon the will of the enemy commander (see page 8). By effective attack upon the hostile will, the commander disintegrates the enemy's plan, i.e., the enemy's reasoned decision, as well as the detailed procedure on which the enemy relies to carry this decision into effect.

It does not follow that offensive action is possible or even desirable under all circumstances. Even with superior strength the most skillful commander will scarcely be able, always, to apportion forces in such manner as everywhere to permit the assumption of the offensive. Without adequately superior strength, it may be necessary to adopt the defensive for considerable periods. If the offensive mental attitude is retained, together with fixed determination to take offensive measures as soon as appropriate to do so, the calculated and deliberate adoption of the defensive, for the proper length of time, may best promote the ultimate attainment of the objective. It is of the utmost importance, however, that a static defensive be not adopted as a settled procedure (see page 65) beyond the time necessary to prepare for an effective offensive.

Both the offensive and the defensive have their places in an operation whose

broad character is primarily either defensive or offensive. In operations which involve movement over a considerable distance, a combination of the offensive and the defensive is usually found necessary (see also references to distant operations on pages 63 and 74). Though the movement itself be offensive, the ensurance of freedom of action may require both defensive measures and tactically offensive action. The enemy, primarily on the defensive, may be expected to seize every opportunity to employ the offensive.

Thus, a judicious combination of the offensive and the defensive has been found to be sound procedure (see also page 61), provided that the general defensive is always viewed as a basis for the inauguration, at the proper moment, of the offensive. The methods employed during the period of the defensive are best calculated to promote freedom of action if they are designed to facilitate a ready assumption of the offensive as soon as conditions favorable to the offensive have been created.

Familiarity with the physical characteristics of the actual and possible theaters of operations, and accurate intelligence of the strength, distribution, and activities of enemy forces likely to be encountered, are of primary importance in the promotion of freedom of action. Additions to this store of knowledge may be made by a continuous interpretation and dissemination of new information collected, analyzed, and evaluated by persistent effort. Of equal importance is the denial of information to the enemy.

In connection with counter-information measures (see page 127), the scrutiny of information of a military nature intended for popular consumption demands the exercise of sound professional judgment prior to publication. A resourceful enemy is ever alert to evaluate and turn to his own advantage all available information, including that ostensibly innocuous.

As to all of the foregoing considerations, a fund of professional knowledge, previously acquired through study, or experience, or both, and coupled with a sound concept of war, is the best basis for devising suitable, feasible, and acceptable measures for freedom of action.

With a given fighting strength, the ensurance of freedom of action, within the field of responsibility of a commander, requires consideration of such matters as:

(a) Efficient provisions for exercise of command,

(b) Effective training,

(c) A state of high and stable morale, founded on

(d) sound discipline,

(e) The offensive spirit,

(f) The initiative,

(g) Surprise,

(h) Security,

(i) Adequate logistics support,

(j) Adequate intelligence and counter-intelligence.

A more detailed analysis of such factors is provided hereafter (Chapter VI, as to Section I-B of the Estimate Form). With proper provision made in these respects, the commander will be better able to deal with those restrictions on freedom of action imposed by the enemy and by adverse geographical conditions. With respect to restrictions that in a particular situation may be due to the latter cause, it will at once be appreciated how greatly freedom of action may depend on the selection of correct physical objectives, on utilization of advantageous relative positions, and on an effective apportionment of fighting strength.

Each measure, or each operation, for freedom of action, if it is to meet the requirements of suitability, feasibility, and acceptability, will be planned on the basis of the foregoing considerations and will take account, also, of the inherent requirements of that measure, or operation, for freedom of action for itself.

On occasion, higher authority may request the recommendations of the commander (see page 42, as to opinions) with reference to provision for freedom of action. Such recommendations will properly be based on the elements considered in the preceding discussion.

IV. SUMMARY

All these considerations involve the proper evaluation of the factors applicable (page 25) to the particular problem. Each objective, prior to its selection, and each operation, prior to its adoption, will require examination of its suitability with regard to the appropriate effect desired; of its feasibility with respect to the action contemplated as to physical objectives, relative positions, the concurrent apportionment of fighting strength, and freedom of action; and, finally, of its

acceptability with reference to consequences as to costs.

CHAPTER V ToC

FOUR STEPS IN THE SOLUTION OF A MILITARY PROBLEM

Chapter V discusses the four steps in the application of mental effort to the successful attainment of a military objective. Emphasis is placed on such matters as: the Estimate of the Situation in basic problems, together with certain details as to tasks, the mission, courses of action, and the Decision; the formulation of detailed plans, including subsidiary plans; directives; the Running Estimate of the Situation; and the use of Forms in the solution of problems.

In Chapter II it has been brought to notice that every problem, regardless of its type and scope, has its source in a perplexity created by an apparent difficulty inherent in a situation. Where there is a sufficient incentive to change or maintain the situation, the problem is one which requires solution. (See page 20.)

A situation may be actual or assumed. In broad outline, an actual military situation is always likely to present a picture of opposing organizations of human beings, each possessed of fighting strength and disposed in a locality or localities which constitute relative positions with reference to each other.

This picture may be expected to assume various aspects as action progresses (see page 38). The concern of the commander is to control the unfolding of the original situation, to the end that he may attain the effect he desires (page 72). (See also Chapter IX.)

The incentive to solve a problem is provided by a realization, on the part of the individual concerned, of a need to make provision for the attainment of an objective. In the ease of a military problem, such incentive may result (1) from a directive issued by higher authority, usually in the form of an assigned task, or (2) from the fact that a decision already reached by the commander has

introduced further problems, or (3) from a recognition of the demands of the situation. (See page 44.)

An objective is best attained by the successful application of properly directed effort. There is thus an essential and continuing relationship between the incentive to solve a problem, and the task which assigns the objective (or objectives) and thus motivates the procedure necessary for the attainment of the objective(s) so assigned (page 50).

Such a task may, therefore, be referred to as the motivating task.

The natural mental processes which normal human beings employ in solving their problems of business, public affairs, or even personal matters, have been previously described as the natural processes for employment in the solution of military problems (see Chapter II). In adapting these natural processes to military requirements (page 43), the only difference imposed is that of studied insistence that the factors peculiar to the conduct of war, as recognized in the Fundamental Military Principle (page 41), receive thorough analytical treatment from the professional viewpoint.

The same observations apply when the field of military operations is restricted to that which primarily concerns the naval branch of the military profession. No fundamental difference in the solution of problems is introduced thereby. The only variations in the application of the Fundamental Military Principle are those due to the fact that the sea provides the theater of naval operations with distinctive characteristics (see page 62).

The Approach to the Solution

Studies of the subject indicate that the successful attainment of an assigned military objective involves the application of mental effort in four distinct steps (see page 3), in fixed sequence, as follows:

(1) The selection, by the commander, of a correct objective (or objectives) by achieving which he may attain his assigned objective(s). Such selection includes the determination, in proper detail, of the action required.

(2) The resolution of the required action into detailed military operations.

(3) The formulation of a directive, or directives, with the intention of immediately inaugurating planned action.

(4) The supervision of the planned action.

In the chapters which follow, the fundamental procedure distinctive of each of these steps will be treated separately and in the sequence shown. The sequence of the steps is fixed because of the consequential nature of the relationship among the procedures distinctive of the several steps. The complete solution of a problem involves, necessarily, all four steps. Each step deals with a distinctive type of problem, or problems, pertaining to an aspect of the comprehensive problem whose solution requires all four steps. No step after the first can properly be undertaken unless the included problems involved in the preceding steps have been solved.

It does not follow that the completion of one step necessarily requires that the next step be undertaken immediately. It will be seen, for instance, that the first two steps are concerned with planning, the latter two more especially with execution. It is not always necessary that a plan be executed; it may be drawn up as a precautionary measure.

It is possible, therefore, that the first step only may be taken; i.e., that the procedure for the attainment of a particular assigned objective may be determined for the sole purpose of making provision against a contingency, at that particular time merely an obscure probability. Or, as may frequently be the case during peace, the procedure may terminate, for the time being, with the completion of the second step. In such cases, certain of the necessary military operations are worked out in the desired detail as a provision against future possibilities, are listed, and filed for reference as needed.

Parts II and III, which follow, deal primarily with the solution of those problems of the naval commander which require familiarity with the entire process, i.e., all of the four steps given above.

For simplicity of presentation, the procedure is described throughout from the

mental standpoint of the same commander. The arrangement of subject matter conforms to this basis. The several types of problems, classified according to the source of the incentive (page 79), are discussed in connection with the appropriate step. When a problem typical of a previous step arises during the process, the sequence of steps is interrupted thereby, but is resumed by a mental return, on the part of the commander, to the proper earlier step.

The First Step

The mental procedure distinctive of the first step (more fully discussed in Chapter VI) deals with the usual case where a commander becomes acquainted with the nature of his assigned objective through receipt of a directive from his immediate superior, ordinarily in the form of an assigned task or assigned tasks. In the discussion of the first step, this most likely type of problem is chosen for description, i.e., the one where the motivating task (see page 80) comes directly from the immediate superior.

For purposes of reference, this problem may conveniently be termed a basic problem. In such a case the original situation which gives character to the problem may be similarly referred to as the basic situation. The full solution of a basic problem always involves a basic estimate of the situation, a basic Decision, a basic plan of operations, and one or more basic directives. It may, as will be shown, also require certain additional directives.

The military Estimate of the Situation, based on the natural mental processes (pages 19-20 and 43), is introduced in the first step. The reason for making such an Estimate is to provide a basis for a plan to accomplish the assigned task. The Estimate constitutes a systematic procedure for selection of a correct objective (or objectives), suitable to the appropriate effect desired, feasible of attainment, and acceptable as to the consequences involved in its achievement. The selection of such an objective or objectives involves, incidentally (see page 44), the determination, in the proper detail, of the action required.

This estimate procedure is founded on the Fundamental Military Principle (page 41). The procedure is the same as previously indicated for the correct selection of objectives (Section II of Chapter IV).

On the basis of a summary of the situation, a recognition of the incentive, and an appreciation of the assigned objective(s) (page 79), the estimate of a basic

problem enables the commander to obtain, first, an understanding of (page 43) the appropriate effect desired. As a result of this procedure, he can then correctly formulate his mission (discussed hereinafter).

For the further understanding of all details pertaining to the situation (page 43), the estimate next determines relative fighting strength through a survey of the means available and opposed, as influenced by the characteristics of the theater.

With the basis for solution of the problem thus established, the actual solution (page 44), conforming to the system indicated in the Fundamental Military Principle, starts with consideration of pertinent methods of procedure, as tentative solutions of the problem. These take the form of military operations, each denominated a course of action (discussed in detail hereinafter). Each such course embodies, specifically or inferentially, an objective to be achieved for the attainment of the appropriate effect desired. Each course also indicates, in proper detail, the action to be taken. Every pertinent course of action is tested to determine whether it meets the requirements of suitability as to the appropriate effect desired, of feasibility on the basis of relative fighting strength, and of acceptability with respect to the consequences as to costs.

Enemy courses of action are subjected to the same treatment.

Each course of action which passes the tests is compared with each retained enemy course, after which those courses of action not rejected on this basis are compared with each other. The best is then selected and embodied in the Decision.

The Decision, accordingly, expresses a general plan of action (or provides a basis therefor), including the commander's general objective (page 49) for the attainment of the assigned objective. The Decision also indicates, in proper detail, the action to be taken.

The estimate procedure is applicable not only to the problem of the first step, viewed as a whole, but also to the numerous included problems. These present themselves during the procedure of solution, and call for "estimates within the estimate".

For example, the proper nature of the objective embodied in the assigned task (discussed hereinafter), if not clear in the directive received, may be determined by the use of the natural mental processes. This is done through the application of the Fundamental Military Principle, as previously described (page 52).

Similarly, the solution of the included problems as to the salient features of the operations involved (correct physical objectives, etc.) can be arrived at through the same processes. The procedure is that indicated previously (in Section III of Chapter IV).

The estimate procedure may, however, be somewhat varied, as to details, in accordance with the nature of the problem. Such adaptation is applicable, for example, as to the special features which distinguish certain types of strategical and tactical problems.

Every military situation has both strategical and tactical aspects (see discussion of strategy and tactics, pages 9 and 10). The character of the effort to be exerted at a particular time, and the nature of the objectives to be attained, may be governed chiefly by strategical, or chiefly by tactical, considerations. This fact may affect details in the estimate of the situation, e.g., as to the weight to be given various factors.

The essential difference between strategy and tactics has been shown to lie in the end in view. It follows, then, that estimates of broad strategical situations and of localized tactical situations tend to differ from each other. The former lead to decisions as to such matters, among others, as whether a battle shall be fought. The latter lead to decisions, among others, as to the comprehensive tactical methods to be followed in furtherance of strategical aims. Certain distinctions of method as to such estimates are noted hereinafter with respect to the analysis of fighting strength and with reference to courses of action.

Tasks. The assignment of tasks to subordinates is an essential function of the chain of command, applicable to all of the echelons of command, from the highest to the lowest (page 12). On the lowest echelons, such as that of a gun's crew or a fireroom watch, operations thus prescribed involve numerous small specialized tasks, each requiring the performance of a simplified routine by a few trained men. Although earlier training in the performance of such tasks is calculated to remove the necessity of solving the problems of the lowest echelons in the four studied steps stated above, it is only when the same methods of logical thought have previously been applied to the solution of these problems that this state of affairs can be brought about.

Properly conceived, each assigned task indicates, either specifically or inferentially, an objective (or objectives). The relationships existing among the echelons of command, with reference to objectives, have previously been noted. (See page 48.) These relationships, because a correctly conceived task specifies

or infers an objective, are equally applicable as to such tasks.

The manner of expressing tasks calls for special comment (see also page 53, as to expressing objectives).

The commander may find in the expression of his task a statement, only, of the action required. For example, the order "Proceed toward the enemy battle line" involves movement, indicating merely a change in relative position. No provision appears as to a future condition or state of affairs.

Again, the task may be expressed as an order to "Attack the enemy battle line." In this case, the enemy battle line is the physical objective, but no specific future condition to result from the attack is indicated. Here the action and the physical objective are given, but the objective is left to be inferred.

If the commander can ascertain, from the directives he receives, his task expressed in terms of accomplishment, he may be able to visualize the action, the physical objective, and the condition to be created. The order "Destroy the enemy battleship" (indicating, as the objective, "the destruction of the enemy battleship"), results, when successfully completed, in a new condition which is the objective of the action against the physical objective.

Accordingly, a task expressed in such terms of accomplishment conveys precise information as to the objective; yet such an expression of the task does not prevent freedom of action, with opportunity for exercise of initiative. The commander who is assigned such a task can clearly visualize the results demanded of him, and may feel at liberty to employ any one or all of the methods at his disposal.

However, it is not always possible or even desirable to express tasks in terms of accomplishment.

For example, where the future situation cannot be adequately visualized, either because of the doubtful values of certain factors or because of possible changes in circumstances, it may be impracticable to assign a definite task in terms of accomplishment.

Under such conditions, and sometimes for other proper reasons, it may be desirable to afford a trusted and competent subordinate a corresponding measure of freedom of action. In such a case, the indication of the commander's general objective for his entire force, together with a directive for action along a certain general line, without prescription of a definite objective, may be especially appropriate to the situation. Such is the frequent usage in the issue, for example,

of directives of the type known as letters of instruction (Chapter VIII).

Again, where immediate response is desired, and where the objective may be understood by implication, the task may be better expressed in terms of action, rather than of accomplishment. This is frequently the case where the task is assigned by word of mouth, by memorandum, or by signal. In the last-named instance, the signal, when it constitutes a command fully understood by previous usage or experience, may convey a practically instantaneous comprehension of the objective. In many such instances, however, an inferred objective will require more analysis.

The expression of the task in terms of action is frequently desirable, more especially during an engagement, when tactical considerations are uppermost. Under such circumstances, two or more objectives may be suitable to the appropriate effect desired, but their degree of suitability, and the influence of the factors pertaining to feasibility and acceptability, may vary rapidly with the course of events. In such conditions, an order such as "Attack" without indicating a specific physical objective, may be best calculated to attain desired results, for the reason, more especially, that it affords the subordinate a proper freedom of action.

In many cases, the instructions received by a commander will set forth more than one task, often of varying importance. The proper bearing of such a double or multiple task upon his future action is set forth, together with other relevant matters, in the discussion of the mission, which follows.

On occasion, a higher commander, in assigning a task, may elect to specify, also, the course of action to be pursued by a subordinate for the attainment of the assigned objective: for example—

> "Deny enemy bases in area ABCD by capturing X Island".

Here the task is to deny the enemy the use of available bases in the area described; in addition, the higher commander has specified that this be accomplished by the adoption of a predetermined course of action (page 88), expressed in the words "by capturing X Island." Higher authority has in this case made the subordinate's estimate of the situation for him, and has thus arrived at the decision which the subordinate would ordinarily reach for himself.

Such procedure may be deemed advisable under certain circumstances: for example, when time is pressing; when a close control of the situation is an important factor; when the qualifications of the subordinate are unknown, as yet doubtful, or known to be inadequate for the operation in hand; or, for various

other reasons which may suggest themselves according to the nature of the problem.

Occasionally, higher authority, for similar reasons, may also prescribe the action to be taken, in considerable detail. Examples occur during operations of unusual complexity, or when the personnel factors call for special care in coordination of the action.

Sometimes, higher authority, instead of announcing both the task and the predetermined course of action, may indicate only the latter; in the example given above, the higher commander would then direct, "Capture X Island". The directive might also include, in some detail, the action to be taken to this end.

Procedure such as noted in the foregoing examples involves certain special considerations from the viewpoint of the subordinate. These considerations are discussed hereafter (page 96).

The Mission. In our naval service an assigned task, coupled with its purpose, is known as a mission. As explained previously (page 48), the purpose indicates the larger aim which is to be served by the execution of the task. The task indicates the assigned objective, i.e., what is to be accomplished; the purpose, the further objective to be served thereby.

The word mission is a derivative of the Latin verb, "to send". Its use implies the act of sending someone, or of being sent, as an agent for some special duty, a duty imposed by one in authority. Although an individual, free to do so, may select his own mission, and thereby send himself on a special duty, this is not usually the case where an effective military chain of command exists. Normally the sending authority is the immediate superior; the agent, the immediate subordinate.

The mission, once assigned, does not change until it has been accomplished or until it has been modified or revoked by higher authority, usually the immediate superior by whom it was assigned.

As previously explained in this connection, the designation of a purpose, linked with a task, is an essential element of a mission as treated herein. It is essential to unity of effort that the purpose of the mission of a commander be common with that of other commanders of the same echelon who are to participate in the effort enjoined by their superior's directives. Directives expressed in the Order Form (page 112 and Chapter VIII) facilitate clear recognition of this purpose, which appears in the general plan of action prescribed in the second paragraph of that form. The commander may consider

the relationship thus:

My assigned task is to be accomplished for the purpose of carrying out my designated part of my immediate superior's general plan.

It is customary to simplify the foregoing to the statement that the mission is:

(Task) (statement of the assigned task),

(Purpose) in order to assist in the successful execution of (statement of the superior's general plan).

The words "assist in", etc., may frequently be understood and therefore omitted.

The foregoing expression of a mission affords, as later explained (Chapter VI), a method for clear visualization of the effect desired by higher authority. (See also page 84.)

All of his assigned tasks which materially influence the commander's Decision (hereinafter discussed) are properly included in his mission; other tasks, naturally, may be omitted in this connection. In the case of a double or multiple task (page 86), all the tasks may be related to a single purpose, or the included tasks may each, or in certain combinations, be linked separately to appropriate purposes.

Survey of Factors of Fighting Strength. The feasibility and acceptability of action for the attainment of an objective are dependent (see the Fundamental Military Principle—page 41) on the factors of fighting strength. Fighting strength (page 35) is derived from the means available and opposed, as influenced by the characteristics of the theater of operations. A survey of these factors, in proper detail according to the nature of the problem, is therefore a necessary phase in the process of its solution. Such a survey completes the basis for the study of courses of action.

Courses of Action. The estimate process naturally takes account (page 80) of methods for attaining the objective indicated in the assigned task. The military profession has, from time to time, applied a variety of terms to designate such methods. Terms so used include, among others, "plans open to us" (or "to the enemy"), "lines of action", and "courses of action". The last-noted, having been standard in our naval service for many years, is the term used in this discussion.

Each course of action is thus a plan of military operations for the attainment of the assigned objective, and each thus indicates (page 37) "an act or a series of

acts" which may be undertaken to that end. Until a final selection is made for embodiment in the Decision, each course of action is a tentative solution of the problem. For the reason given below, a course of action, while under consideration as a tentative solution of the problem, is also correctly conceived as indicating an objective and, in proper detail, the action for its attainment.

When embodied in the Decision, the adopted course of action or combination of courses becomes the commander's general plan (or the basis thereof) for the employment of his force; such a general plan will naturally indicate the commander's general objective (page 49) and, in proper detail, the action to be taken for its attainment (page 44).

The objective may be specifically stated or may be inferred (see page 82; also page 84 for the corresponding discussion of the expression of tasks); but, in any event, clear thinking demands that the objective be definitely envisaged. There is a manifest advantage in such definite envisaging of the objectives involved in courses of action. Suitability as to the appropriate effect desired—the first requirement in the selection of a correct objective (page 51)—is much more readily tested on this basis. The practical bearing of this fact becomes apparent during the early stages (Chapter VI) of the process of solving military problems.

Frequent examples of naval courses of action include (see page 92):

(1) "To destroy the enemy force." Here the objective, "destruction of the enemy force", is specifically indicated.

(2) "To divert the enemy force." Here also the objective, in this case "diversion of the enemy force", is specifically indicated.

(3) "To evade the enemy." Here again the objective, "evasion of the enemy", is specifically indicated.

(4) "To cover friendly and neutral trade." Here the objective, "protection of friendly and neutral trade by the utilization of advantageous covering positions", is more or less inferred.

(5) "To escort trade." Here the objective, "protection of trade by escorting it in convoys", is more or less inferred.

(6) "To patrol the trade routes." Here the objective, e.g., "protection of trade by patrolling the trade routes", is inferred.

(7) "To raid." Here the objective, e.g., "infliction of loss and damage by raiding", is inferred.

In the foregoing instances, the action to be taken is indicated in general terms. The extent to which the action may properly be indicated depends on the nature of the problem and is necessarily left to the judgment of the commander. Two possibilities, between which there may be various intermediate cases, are as follows:

(a) To destroy the enemy force by simultaneous attacks on the escort and convoy.

(b) To destroy the enemy force by an attack with the main force on the escort, following this immediately by an attack on the convoy with a flanking force before the convoy can scatter so widely as to make ineffective the pursuit of any of its units.

For a further application, it will be noted that the national policies referred to early in this discussion (page 7) are national courses of action, considered and adopted as methods of attaining national objectives.

The expression "courses of action", in the sense of a plan considered or adopted as a solution of the problem, has the defect that it appears to emphasize the action, rather than the paramount component, i.e., the objective. So long as this fact is borne in mind, the limitations of the term "courses of action" need not operate to influence, adversely, the solution of the problem.

As noted above, the commander brings to mind courses of action by the mental act of "envisaging", i.e., "viewing with the mind's eye or conceptionally", "seeing as a mental image", bringing fully and distinctively to view. How is this done?

Although the time available for the process depends on the particular problem, the process itself is the same for all. During the clarification of the problem, the commander will have entertained certain ideas,—ideas as to such matters as the existing situation, the desired new situation, the possible physical objectives, the relative positions and movements of the forces involved, and related matters. His training and experience cause these ideas to evoke others, which are associated in his mind with problems of the past,—in particular, with the bearing of such ideas on the outcome of those problems.

This process of thinking, if it is to be effective as well as reflective, requires mental access to certain sources of ideas. These sources may lie in the study of history, or in the wealth of doctrine and instructions gathered into official manuals and into other professional writings, or in the commander's own practical experience. Logicians who have investigated this natural process point out that suggested solutions are the resurrection of ideas from past experience. Good thinking demands access to a large storehouse of ideas connected in various and flexible ways. The best available knowledge is the main source from

which reflective thinking obtains relevant and promising suggestions for a solution.

By such resort to analogy, the commander utilizes the accumulations of past experience. Sometimes he finds that the courses of action thus suggested are exactly suitable as tentative solutions for his problem. In other instances, of course, only parts of the present situation are found to be analogous to those previously encountered. Even then, however, the similarity of the facts may be helpful in providing suggestions. Guidance based on limited or partial similarity has been demonstrated to be better than purely intuitive thinking.

The commander cannot be content, however, to depend wholly on the guidance of the past. Sometimes, moreover, he may not be able to obtain suggestions by analogy. New suggestions, ideas not drawn from past experience, are very desirable; they are possible, also, in the sense that the result of the analysis of past experience may be reassembled, in imagination, in novel ways. New courses of action, overlooked in the past, may be contrived. Original combinations, not previously entertained, may be devised. Readiness to employ the novel and the new, as well as to utilize the old, is a prime qualification for command.

Reflective thinking of this nature requires adequate knowledge of the capabilities of weapons, so that new possibilities may be perceived as to coordination in their use. While analogy looks backward to find applicable lessons, the search for novelty seeks suggestions from potentialities not heretofore utilized.

The development of the full possibilities of new weapons is an important source of forward thinking. Such thinking constantly integrates the current developments in war. The competent commander does not wait for history to be made; he makes it.

Familiarity with experimentation, research, and new performance is also a fruitful source of suggestions. When used, this method results in advance demands by the armed forces for new weapons not yet supplied.

Closely allied to analogy is the application of ordered and classified knowledge as to the nature of warfare. Aware of the effects which can be brought about by the weapons at his disposal, the commander identifies his objective with one or more of these effects.

The application of ordered and classified knowledge of naval warfare starts, naturally, with a consideration of its objectives, and proceeds thereafter to the

study of the various classes of operations which may be utilized to this end. Naval effort has as its objective the keeping open of sea communications (see page 62). Command of the sea exists for one belligerent when he possesses and can exercise the ability to move surface traffic, while also being able to prevent the enemy from doing so.

Naval warfare, therefore, logically includes operations for the purpose of gaining, maintaining, or disputing command of sea areas, especially under conditions where freedom of movement and the keeping open of sea communications are of vital importance.

Such operations may be classified under the headings:

(1) For securing command of sea areas,

(2) In sea areas not under command, and

(3) In sea areas under command.

On the basis of this classification, specific operations, broadly considered, appear to be limited in number. As to classification (1), applicable operations are: to destroy the enemy naval forces, to contain them, or to divert them. For (2), applicable operations are: to raid, to make war against enemy trade, to attack or defend naval lines of communication, and to conduct amphibious warfare requiring overseas movement. For (3), applicable operations are: to blockade trade, to defend own coastal and critical areas, to safeguard expeditions against enemy territory, and to carry out offensive operations against enemy coastal objectives.

Manifestly, each such operation, broadly viewed, may be considered, in an estimate of the situation, as a course of action. Each such course of action (or operation) will involve, if developed into a more or less complete plan of action, numerous detailed operations which constitute parts of the whole. (See page 37.)

There can be no rigid line of demarcation, always applicable, between courses of action and the more detailed operations pertaining thereto. For example, "to raid" may be, in one instance, an operation of such a character, from the viewpoint of the commander, as to be envisaged, correlatively with "to destroy", as one of his courses of action. Yet, in another problem, a raid may be visualized, properly, as a detailed operation pertaining, in a subordinate capacity, to a more comprehensive operation envisaged as a course of action "to destroy".

Similarly, what is a broad course of action from the viewpoint of one echelon in the chain of command, may be correctly viewed, on a higher echelon, as a

detailed operation. Operations assigned in tasks imposed by higher authority become the basis for the determination of courses of action on the next lower echelon, a procedure which continues throughout the chain of command until specialized, on the lowest echelons, in the form of a simplified routine (see page 84).

While the list of courses of action given above is made up from the viewpoint of broad strategical problems, a similar list can be assembled for other problems. For example, the order, "Destroy enemy naval forces", if taken as the motivating task of a tactical estimate, will be the basis for certain courses of action, constituting, when complete (see below), a well-recognized general plan for a naval battle. This plan will in turn call for various detailed operations on the part of the several subdivisions of the force under the commander who makes the estimate (see page 95).

As a tentative solution of the problem a course of action may be complete or partial, i.e., it may, if carried out, provide for the complete attainment of the objective; or, such complete attainment may require a combination of several of the courses of action under study.

The exclusive consideration of courses of action of the complete type possesses the advantage of minimizing the total number of solutions under study. This simplifies the procedure of analysis and of comparing courses of action with each other, because of the relatively small number of courses to be tested and to be compared.

However, it is frequently difficult, and sometimes impossible, to visualize complete courses of action, especially during the early stages of the estimate. Sometimes the initial visualization of partial courses and their eventual combination into a complete solution will be found necessary.

Therefore, either or both of the foregoing systems of formulating courses of action may be found appropriate, according to individual preference and the nature of the particular problem.

Individuals, comparable with respect to knowledge, appear to vary greatly in their ability to produce the appropriate suggestion, as to courses of action, at the right time. The reason for this phenomenon is not altogether clear, but it is known that thinking seems to be limited not merely by the range of knowledge, but by whatever part of it becomes available when needed. This point invites attention to another procedure which is open to the commander with respect to stimulating reflective thinking. This procedure recognizes the fact that, when

two or more minds attack a problem, together, the combined effort often increases the applied mental power. This fact is universally recognized, for example, in the utilization of staff assistance (page 13).

Inherent and acquired ability have unquestionably much to do with the possibilities of visualizing single courses of action with respect to their completeness as to attainment of the objective. One method of visualization seems to be the mental picturization of more or less detailed operations, followed by their combination, through rapid synthesis, into complete courses of action.

An example of this method would occur where several rather specific operations were visualized, involving seizure of certain localities as a defensive measure. If it were then observed that the objective in each such case was "denial to the enemy of a particular naval-base site in the area ABCD", an appropriate expression of a comprehensive course of action would be "to deny the enemy naval-base sites in the area ABCD".

Another method of visualizing appropriate courses of action seems to involve initial recognition, in the first instance, of such courses as broad and comprehensive general plans, without first visualizing and combining their details. This method appears to be more usual after considerable experience or training. It is therefore possible that this second method is merely a practiced development of the first, the process of synthesis being so rapidly accomplished that it becomes subconscious.

The nature of the particular problem has also an unquestioned bearing on this subject. In instances where no single course of action can be found which is adequately expressive of complete attainment of the objective, the final selection of a method of attaining the objective will necessarily be through a combination of the courses of action under study (page 93).

For example, if the assigned task were to "protect trade in sea area ABCD", the extent of the area, together with its geographical position relative to locations from which enemy attacks could be launched, might not be such as to permit the attainment of the objective by a single course of action such as "to escort trade in convoys" or "to patrol the trade routes". Both of these courses of action might be necessary, and, in addition, perhaps, the further course "to cover focal points M and N".

Each of these courses of action has, as its objective, the establishment of a protected area or areas, stationary or moving, for the safe passage of merchant

vessels. However, for purposes of expressing the course of action involved, the contemplated procedure is in this case better indicated by a combination expressed in terms of action, the objective being inferred as a matter of mutual understanding. The less particularized expression of the course of action in terms of the objective would, in this instance, convey a less definite idea of the procedure under consideration.

Similar considerations pertain frequently to naval problems, more especially to those involving naval engagements of considerable scope. The solution of such a problem takes, typically, the form of an operation consisting, not of a single "act", but of "a series of acts", i.e., of a number of stages or phases of battle, each being a preparation for the one following, until the final stage provides for the attainment of the assigned objective.

For example, a first consideration might be "to reduce enemy carrier aircraft strength by" certain pertinent operations. A second consideration might be "to reduce enemy battle-line speed by" certain operations in order to force the enemy to accept battle. A third might be "to reduce enemy battle-line speed, life, and hitting power by gunfire" within certain range bands, in order to exploit own strength and enemy weakness at those ranges. A fourth might be "to continue reduction of enemy battle-line strength by gunfire, closing to" such a range as is suitable to that end. Finally, a fifth consideration might be "to inflict conclusive damage on enemy battle-line with torpedoes". All of the foregoing partial courses (other possibilities having been studied and discarded) might then be combined into one operation as the selected course of action "in order to destroy the enemy battleship strength",—such destruction being the assigned objective.

The degree of detail in which a course of action may be visualized for purposes of the estimate will vary with the same factors, i.e., personal facility and the nature of the problem. Practice in the solution of problems appears to develop such facility that entire plans can be visualized as courses of action, each plan reasonably complete as to details with reference to physical objectives, relative positions, apportionment of fighting strength, and provision for freedom of action. However, it is rarely, if ever, necessary to visualize courses of action minutely in an estimate of a basic problem; the extent to which they are viewed mentally, as detailed plans, need only be such as to fulfill the requirements of the particular problem (see Section I of Chapter IV).

The statement of a course of action, for purposes of the estimate, will naturally be along broad and comprehensive lines, although some important matters of detail (relatively speaking) may be added if this is found desirable as

the estimate proceeds. It is with these considerations in mind that the standard practice has been developed of formulating courses of action, while under study as tentative solutions of the problem, in broad terms, appropriate to general plans of action.

The commander may find, on occasion, what appears, on first examination, to be an exception to the rule, herein treated as valid, that a course of action, correctly conceived, always contains the two elements (1) objective, specific or inferred, and (2) action for its attainment. However, apparent exceptions to this principle are due to special conditions which, on proper analysis, reveal no actual exceptions. Certain examples, now to be discussed, demonstrate this fact.

For instance, when the higher commander deems such procedure advisable (page 86), he may make his subordinate's estimate of the situation, as well as his own, and may accordingly indicate both a task and a predetermined course of action for the subordinate to pursue: for example:

"Deny enemy base sites in area ABCD by capturing X Island."

In such a case the higher commander has indicated the predetermined course of action in the words "by capturing X Island". This expression indicates a specific objective, the capture of X Island. The expression also indicates, though not in any detail, the action to be taken, i.e., it specifies "capture", rather than "occupation", "isolation", or some other form of control (page 8). Any further development of the action is left for the subordinate to determine. The procedure to be followed by the subordinate commander in solving such a problem is described hereafter (page 102) in the discussion of the analysis of courses of action. In any event, it is manifest that there is here no exception to the rule that a course of action, correctly conceived, contains the two elements of objective and action for its attainment.

A further example may occur when the higher commander, instead of indicating both the task and the predetermined course of action, indicates only the latter (page 86), by directing "Capture X Island". Once the subordinate has recognized this directive as containing a predetermined course of action, but not a normal task, he realizes that the objective so indicated would ordinarily be left for him to select. He also realizes that the action to be taken for its attainment is left for him to determine, in further detail.

In this case, then, what is really a predetermined course of action appears in the guise of a task. When the commander, receiving the directive, has recognized this fact, he proceeds in the manner hereafter indicated (page 103) in the

discussion of the analysis of courses of action.

In any event, it is manifest that here, also, there is no exception to the rule that a course of action, correctly conceived, contains the two elements of objective and action for its attainment.

In such a case as the foregoing, how does the commander recognize that the apparent task is really a predetermined course of action? He could easily go astray because the directive, until analyzed, appears to contain a normal task. The directive indicates an objective, thereby resembling a task. The directive will usually indicate, at least in some degree, the action which the subordinate is to take. Hence, so far as superficial appearance is concerned, the subordinate commander may easily mistake the predetermined course of action for a normal task. However, he discovers the difference when he endeavors to find courses of action which are appropriate to this apparent task.

The commander will then discover that, while he can visualize actions whose accomplishment will attain the objective indicated in the apparent task, he cannot visualize any objective completely suitable to the case (page 93), intermediate between the assigned objective and the indicated action. He can state the assigned objective in other words and adopt such a statement as an expression of his general objective, but the two objectives, the one he selects and the assigned one, will really be identical.

This inability to visualize an objective of the commander's own selection, suitable to the case, is inevitable, because higher authority has already done this for him. He may find it advisable to develop further the action needed for the attainment of the indicated objective. On occasion this, also, will have been predetermined by the higher commander.

The foregoing considerations have been given special emphasis and deserve careful study, because an appreciation of these facts is necessary to a true understanding of the nature of correctly conceived courses of action.

Analysis and Selection of Courses of Action. After one or more courses of action have been determined as tentative solutions of his problem, the commander will be confronted with the necessity of deciding upon that course of action, or combination of courses of action, which will best attain the assigned objective, i.e., be the best way out of the seeming difficulty. The analysis, in each case, will settle suitability on the basis of the appropriate effect desired, feasibility on the basis of relative fighting strength as established by a survey of means available and opposed, influenced by the characteristics of the theater,

and acceptability on the basis of consequences as to costs.

In connection with these considerations, the detailed operations involved in each course will be analyzed so far as may be necessary (page 95) and with respect to correct physical objectives, advantageous relative positions, proper apportionment of fighting strength, and adequate freedom of action (see the Fundamental Military Principle—page 41). A selection shown to be best, from the standpoint of suitability, feasibility, and acceptability of the consequences, will be adopted as the decision.

The tests of courses of action to determine whether they fulfill the requirements of suitability, of feasibility, and of acceptability as to consequences take account of the usual included determinants as listed and explained below. The list is not rigid, and the commander, according to the nature of his problem, may desire to omit certain of the items or to include any other considerations which may be applicable.

With respect to suitability, the commander considers the following:

(1) General. The test for suitability (see also page 31) calls for conformity as to both the nature and the scope of the motivating task. With respect to conformity in nature, the test leads to a conclusion as to whether the course of action, if carried out successfully, will or will not contribute to the accomplishment of the task. As to scope, the test leads to a conclusion as to whether the course of action, if carried out successfully, will or will not accomplish the task in full; and, if not in full, to what extent. The factor of urgency is also considered here.

It is frequently possible for the commander, merely by concentrating his thought on this particular perplexity, to conclude at once that the course of action is suitable. In other cases, a considerable amount of study may be needed. This analytical study consists in breaking down the course of action into its component parts, i.e., the detailed operations which naturally grow out of it. This procedure is similar to that described later (Chapter VII), with respect to formulating a plan, but during the basic estimate the procedure, when utilized, is for a different reason—solely that of assisting in the analysis.

(2) Details, (a) Conformity as to nature. Will the course of action, if successfully carried out, contribute, at least in some degree, to the accomplishment of the task? If not, such a course is rejected. Courses that do contribute, however, are not rejected until the possibilities of combination have been examined, later.

(b) Completeness. If the course of action is successfully carried out, will it accomplish in full the motivating task? If not, how much will it contribute towards such accomplishment? With what other courses of action can it be combined, to accomplish the motivating task in full? With what others can it be combined to accomplish the motivating task in part, and in such case how nearly does the combination contribute to full accomplishment?

This examination may lead to combinations of certain partial solutions.

(c) Desirability as to Urgency. The commander now considers the element of time. Complete accomplishment of the

motivating task within his own theater may come too late to meet the requirements of the common effort of the entire force. Synchronization with the action of other task-group commanders may be so important that timing becomes vital. As to this consideration, two courses of action, equally competent, may differ greatly in their qualification relating to urgency; one may be found highly desirable and the other completely unsatisfactory.

As to feasibility, the commander considers the following:

(1) General. The test for feasibility (see page 31) is concerned with whether the course of action is practicable. Has it reasonable chances of success under the particular circumstances? Are the difficulties surmountable? Is it easily practicable, practicable with some difficulty, or very difficult?

The commander, if he concludes that the course of action is not a practicable one, rejects it from further consideration in the estimate of the situation. However, care is taken at this point not to dismiss, abruptly, courses of action which may later be combined advantageously with one or more others.

Here, again, as noted for the suitability test, the commander may sometimes profitably analyze the course of action by breaking it down into more detailed operations.

As a result of the tests discussed above, the commander is able to make a list of courses of action upon which his confirmed judgment has bestowed the qualities of suitability and feasibility.

He is also able to take stock to see how many of the solutions are complete, how many are incomplete, and in the latter case to what extent they constitute partial solutions. It is, of course, desirable to have as many complete solutions as possible, and at this point it may be possible to merge two or more incomplete solutions into a single course of action which better fulfills the test of suitability. The commander can also take stock, similarly, of the degree of feasibility, already referred to, as to the retained courses of action.

(2) Details, (a) Prospects of Success. Here the several courses of

action are considered relatively, with respect to the chance of success in each. In the rating of courses on this basis, the commander excludes consideration of losses except as they may influence success or failure. He notes, however, his considered expectations as to losses. Losses may appear to be so great that success is doubtful. Certain courses of action may be particularly vulnerable to enemy opposition because of the types of weapons involved or because of favorable enemy positions. Choice of such a course would permit the enemy an initial advantage.

(b) Facility of Execution. This subject has to do with the relative ease or difficulty of carrying out the several courses of action. On the basis of the existing situation, each course of action may be compared with all the others to determine their relative merits with regard to the facility of execution. Consideration is given to the action involved against the several physical objectives; to the movements needed in making new dispositions; to the relative adequacy of the forces as to numbers and types of weapons; and to the measures required for freedom of action.

A review of the previous discussion of these elements (Chapter IV) may be very helpful in connection with this comparison. As to freedom of action, for example, the commander may ask himself which course is best from the standpoint of using the initiative to advantage; and which course of action lends itself best to the advantageous use of surprise. As the commander reflects on these matters, other similar questions may be suggested.

(c) Utilization of Own Strength and Exploitation of Enemy Weakness. In his original visualization of each course of action, the commander has naturally considered how to utilize his own strength to best advantage, and how best to exploit enemy weakness. In fact, especially in a detailed tactical estimate, these considerations may have been predominant in envisaging the courses of action. A careful evaluation of the merits of each course of action in this respect is accordingly necessary before a choice is made.

With regard to acceptability of consequences as to costs, the commander considers the following:

(1) General. The process of putting a course of action to proof as a tentative solution of the problem remains incomplete until the course has been tested to determine its consequences as to costs, so far as these can be visualized in advance. The process involves an evaluation of the diminution in total advantage which will result in the event of failure, and a comparison of gains with losses in the event of success. The situation to be expected, if the course of action is carried out, is visualized in order to determine the future effect on the creation or maintenance of an ultimately favorable military situation.

In testing each course of action for acceptability as to its consequences (page 31), the commander considers the cost of success, the cost of failure, and the possible gain and loss in perspective with the united effort as a whole. Questions which he may pose include: If the course of action is successful, will the costs be so prohibitive as to adversely affect the successful accomplishment of the further effort? If a tactical situation is under consideration, will the costs prevent the accomplishment of the strategical aim? If the course of action fails, what will be its effect? Will it cause the entire plan to fail? Will its failure affect, for example, the national morale?

If the command—and ultimately the State—can afford the losses and other disadvantages which will be incurred as a result of either the success or the failure of the contemplated effort, a course of action may be considered as acceptable from the standpoint of consequences as to costs.

As previously noted with respect to suitability, it may be desirable to consider, with regard to consequences, the detailed operations which may be involved in each course of action.

Courses of action involving excessive consequences as to costs are rejected. Notation is made of the relative degree of acceptability, with respect to consequences as to costs, of those courses of action which are retained.

(2) Details. (a) The Results of Success and of Failure. Each

course of action is examined to visualize the situation which would be brought about for the commander and for the enemy in case of success or of failure. The relative possibilities of recovery toward a more favorable situation are weighed. This consideration involves relative risks, for it may be that a certain course, otherwise satisfactory, might entail intolerable conditions should failure ensue.

The costs are measured in terms of fighting strength. It has to be considered whether the sacrifices involved are worth the gains which will follow; whether the objectives if attained will be sufficiently valuable when the need of fighting strength to accomplish further aims is considered.

(b) Comparison of gains and costs. When costs are found to be in excess of the over-all gains, this fact may be the basis for rejecting any courses of action which are less desirable than others. However, retention of a course found to be costly may be justified for sound reasons.

When, as in the example given previously (page 96), the commander receives a directive such as "Deny enemy base sites in the area ABCD by capturing X Island", he carries through his estimate of the situation in the usual manner. He notes, however, that the capture of X Island has been indicated as a predetermined course of action. He makes a proper survey of the factors of relative fighting strength. He considers all pertinent courses of action. He goes through this procedure in order to reach an understanding of all the elements of his problem. He wishes to understand the necessary background. He realizes the importance of a grasp of the considerations which have led higher authority to arrive at the predetermined course of action.

By carrying through the usual estimate procedure, including the analysis of all pertinent courses of action, he assists himself to arrive at a proper concept of the action to be taken to capture X island. In this way he establishes a sound basis for formulating a detailed plan (in the second step), for inaugurating planned action (in the third step), and for supervising this action (in the fourth step). He also establishes a basis for any constructive representations which he finds it

advisable to make to higher authority (page 15).

In another example previously given (page 96), the higher commander indicates only the predetermined course of action (by a directive "Capture X Island") and omits the statement of the true underlying task. The subordinate, on discovering this fact, deduces the underlying task and carries through the estimate procedure, modified, as explained for the previous example. In addition to the merits as previously stated, this method has a further advantage. The deduction of the underlying task enables the commander to judge whether any advisable or necessary deviation or departure from the predetermined course of action (page 15) involves merely a variation from the letter of his instructions or, more important, from their spirit.

For instance, the directive, as in the case previously discussed, may have been "Capture X Island". The higher commander when issuing this order, may have stated his own general plan to be "This force will protect the base at A." The commander, on receipt of this directive, then deduces his true task. This is "Deny enemy bases in area ABCD" ("by capturing X Island"—a predetermined course of action), the purpose of the mission being "in order to protect the base at A".

Now it may be found that the enemy, unconcerned as to X Island, is moving to reinforce Y Island and to use it as a base to attack the base at A. The commander then properly decides to capture Y Island, instead of X Island. By his identification of the predetermined course of action as such, and by his correct deduction of the true underlying task, the commander has established a sound basis for the solution of his problem. He can now, with confidence, defer or abandon the capture of X Island, and can devote his efforts to the capture of Y Island. His confidence is justified because he knows his decision to be in accordance with the spirit of his instructions.

Naturally, if the higher commander directed, "This force will protect the base at A——", and added, later in his directive, "Deny enemy base sites in area ABCD by capturing X Island", the subordinate commander's deductions would have been made more easily.

The full play of the reasoning power is called for in the process of visualizing courses of action and of selecting the best. This process is the crux of the first

step. Here the knowledge of the relationship between cause and effect is applied. Here, also, the commander is brought fully to realize that, to reach a sound decision, there is a requirement for a studied development of each stage by which the human mind passes from recognition of a necessity for action to the ultimate conviction as to the best course to pursue.

As essential background for the utilization of his intellectual powers in this process, the commander requires knowledge of the capabilities and limitations of the technique of his profession and of the weapons of his calling. To the necessary knowledge gained through his own experience, either in actual warfare or in peacetime exercises simulating this experience, he adds the equally essential familiarity with the science of war, and with the lessons to be drawn from historical instances of success and failure. In effect, it is here brought home to him that, on a fundamental basis of earnest thought, mental ability, character, knowledge, and experience, finally rests the soundness of decision (see page 219).

The Decision. The word "decision" has the primary meaning of a conclusion. A decision (conclusion) is essential as a starting point for further procedure. Sound decision is the essential preliminary to wise planning and effective action.

The range within which military decisions may fall extends from the instantaneous resolve to meet an emergency, to the conditional intentions of a distant future. Within this range will be found many decisions which the commander is necessarily called upon to reach during the four steps toward the attainment of an assigned objective.

The course of action, or the combination of courses, as finally selected by the commander upon the termination of the first step, represents his conclusion as to his outlined plan for the attainment of his assigned objective. This conclusion will indicate, specifically or inferentially, his general objective, as selected by himself, and—in proper detail—the action required for its attainment. (See pages 88 and 95). The conclusion is thus his Decision, which provides the general plan, or the basis therefor, from which he will, in the second step, develop a detailed plan of operations for his force.

Illustration of the foregoing process may profitably be initiated with respect to the highest echelon involved in the case of a State. The primary national objective of organized government (Chapter I, page 7) is the ensurance of envisaged prosperity and of essential security for the social system which is the fundamental basis of the community. This aim, as embodied in basic policy (see

pages 8 and 9), is the objective visualized by the people of the State, or by its policy-forming elements, in the capacity of an organized government.

For the maintenance of the condition represented in this policy, or for the creation of such a condition not already existing, an appropriate task of the State, as the political embodiment of the national will, might be to maintain or establish friendly (at least, not hostile) governments and social systems in those key localities of the world whence, otherwise, effective threats may arise.

The national mission (the mission of the State) then becomes:—

> (Task) To maintain or establish friendly (at least, not hostile) governments and social systems In those key localities of the world whence, otherwise, effective threats may arise,
>
> (Purpose) in order to ensure envisaged prosperity and essential security for the social system which is the fundamental basis of the community.

A national estimate of the situation, by the highest authority of the State, to determine the effect to be attained for the accomplishment of the foregoing mission, takes account of the possibilities of accomplishment through psychological, political, economic, or military pressure, or by combinations thereof. As a result of this accounting, the State adopts a national Decision which indicates the best way of accomplishing its mission.

To carry out this Decision, each of the primary subdivisions of the State's organization is assigned a specific task or tasks, whose total effect is designed to achieve the result embodied in the national Decision. The task of each such primary subdivision is linked to a purpose which is the attainment of the objective indicated in the national Decision.

In like manner, each organization of the national armed forces is governed in its action by a task assigned to it as a result of a Decision made by the proper authority on the next higher echelon. Each commander is thus provided with a mission which consists of an assigned task and of a purpose as indicated by the general objective decided upon by his immediate superior.

The Second Step

The second step, that of resolving the required action into detailed military

operations, may now be undertaken unless the Decision reached in the first step is intended for future reference only. During the second step the commander, if he carries the procedure through to its logical end, visualizes his proposed operations as tasks, in order to ensure their proper formulation. He may, if it is his intent to issue a directive or directives for the execution of his plan of operation, or a part thereof, arrange his procedure so as to facilitate the third step.

The common characteristic of problems of the second step is that they deal with matters pertaining to the support of the action decided upon in the first step, and that they are properly problems for the commander who made that Decision, and not for his subordinates, to solve. Such problems are appropriately termed subsidiary problems. Their full solution involves subsidiary estimates, subsidiary decisions, and, not infrequently, distinct subsidiary plans and subsidiary directives.

Each detailed operation derived, during the second step, from the outlined plan of operations (as embodied in the basic Decision) is determined upon the basis of an estimate procedure essentially similar to the basic estimate. There is thus a series of subsidiary estimates for this purpose. Such estimates tend to be abbreviated and informal, since the necessary data, and often much of the consideration as to the subsidiary courses of action, may be available from the basic estimate.

Unless the detailed operations are of such a character as to require development into subsidiary plans as a basis for subsidiary directives, such operations are merely embodied, in the form of tasks or otherwise as may be appropriate, in the basic plan. In the excepted cases, where subsidiary plans, in detailed form, are necessary or desirable, such a plan may be the result of a more formal and specialized subsidiary estimate.

Chapter VII is devoted to a discussion of the second step.

The problem involved in the first step has been conveniently termed the basic problem because it is directly concerned with the attainment of the assigned objective (page 81). The solution of the basic problem in the first step, and of its corollary in the second step, completes the planning stage.

The Third Step

The third step consists of the formulation, and—if appropriate—the issue, of the directives which convey to the subordinate the will and intent of the commander. From the mental standpoint, the third step begins when the commander forms the intent of immediately promulgating his directives for the execution of the planned action. Whether or not the third step is partially combined with the second, its problem is a separate one. Its complete solution inaugurates the action planned in the second step.

The third step is discussed and developed in Chapter VIII.

The Fourth Step

The fourth step, which calls for mental effort in the solution of the problem of supervising the action, requires a constant, close observation of the unfolding of the original situation. The procedure employed is customarily termed The Running Estimate of the Situation. Only an alert commander can invariably determine whether the situation is unfolding along the lines desired by him, as promulgated in the directives of the third step. In effect, the commander, after action is begun, considers the changing situation as a variable in the problem presented for his solution by the original (basic) situation. With the march of events, he is, therefore, constantly critical to detect whether variations from the original situation are in accordance with his design or whether these variations have introduced new incentives which demand modification or alteration of his plan, or its complete abandonment.

The fourth step is discussed and developed in Chapter IX.

Sequence of Events in the Four Steps

When all of the elements of the entire procedure of the four steps are present, they take, from the viewpoint of the same commander throughout, the following form:

(1) First step: The commander, confronted with a strategical situation (page 83), makes a strategical estimate and comes to a strategical Decision. The problem, the estimate, and the Decision are basic.

(2) Second step: The commander now is confronted with a particular problem, one proceeding from his basic problem and involving the details of a plan of execution to carry out the Decision reached in the first step; this problem consists, itself, of numerous other problems of detail, which require solution by the commander himself. The basic Decision has embodied an outlined plan, strategical in nature, for an operation to accomplish the motivating task of the first step. This plan requires resolution into the detailed operations necessary for its full accomplishment.

Each such detailed operation, as part of the outlined plan embodied in the strategical Decision, calls for a proper estimate. Though usually not formal in nature, more especially if the necessary data can be found in the basic estimate, such estimates are fundamentally the same as for the basic problem. The assembly of such detailed operations results in the formulation of a basic plan.

At this point, additional problems may present themselves, these being frequently tactical in nature. Such, for example, may be sortie plans, approach plans, and Battle Plans. Other specialized plans (training, intelligence, logistics, etc.) may be needed. The data essential for the solution of such problems are more detailed than for the usual strategical basic problem. In some instances, such subsidiary plans may be developed directly from the basic Decision by procedures distinctive of the second step. In other instances, solution may require an additional subsidiary estimate, along the lines typical of the first step. These subsidiary estimates lead to subsidiary decisions, which in turn require to be resolved into the necessary detailed operations.

(3) Third step: In the third step, the directives, if the basic problem was strategical in nature, will be of a strategical character. However, if subsidiary tactical problems were also involved, tactical directives will frequently be included. Logistics directives and other specialized instructions may also be a feature.

(4) Fourth step: The supervision of the planned action, in the fourth step, may involve a new strategical problem, perhaps several. In such event each new basic problem will initiate a new series of problems, with corresponding directives, as described above. Changes in strategical plans may be called for. If no strategical changes are involved, there may nevertheless be introduced one or more new

tactical or logistics problems, with corresponding changes in the subsequent procedure. The fourth step may, however, merely involve changes in supporting plans (tactical, logistics, etc.), with resultant changes in the directives involved. Finally, the fourth step may involve changes, for clarification, in the directives formulated in the third step.

Variations in the foregoing procedure are frequent. The most usual is perhaps the case where the commander, receiving a tactical (instead of a strategical) mission, solves such a tactical problem as a basic problem in the first step; resolves his Decision into detailed tactical operations in the second step; issues a tactical directive or directives in the third step; and supervises his planned tactical action in the fourth step.

Phraseology as to "Course of Action", "Operation", and "Task". It is important to avoid the possibility of becoming confused because each of the terms "a course of action", "an operation", and "a task", is correctly visualized as "an act or a series of acts". In the first step, the selected course of action (see page 104) indicates the "act or series of acts" decided upon as representing, in general terms, an effort for attainment of a specified objective and is therefore stated as a comprehensive method of attaining that objective. The Decision thus adopts this course of action as a general plan of operations, or as a basis therefor.

In the second step, the required action is developed to place it upon a practical, workable basis as a detailed plan to be executed. The "act or series of acts" represented by the selected "course of action" has now become a detailed "act or series of acts". As such, it is now susceptible of being assigned, in whole or in part, to subordinate commanders as "tasks". The cycle within that particular echelon is completed when the tasks are thus assigned. The commander has thereby charged his immediate subordinates with the commission of specific "acts or series of acts".

Each such subordinate commander necessarily decides on the best method of accomplishing his assigned task, i.e., on the course of action (act or series of acts) which will best accomplish the effort required of him. The procedure (for each commander on that echelon) thus begins anew until an echelon is reached where the character of the required action has already been determined as a matter of routine (see page 84).

The Use of a Form in the Solution of Problems

The natural mental processes (see page 19) are employed in all of the four steps. The processes, in each step, require modification to an extent dependent upon the factors to be evaluated.

A form has been adopted for the application of the mental processes in the first step. This form, long known to the military profession as The outline of The Estimate of The Situation (see Appendix), sets forth in a logical manner and order the several considerations likely to influence the selection of correct military objectives in problems of wide, as well as of lesser, scope. The use of this form is conducive to uniformity of reasoning. It centers the attention upon essentials, in order to ensure that no material factor bearing on the solution of the problem is overlooked. It guides thought along a specific path and, through the influence of suggestion, deliberately increases the expenditure of mental effort.

The procedure indicated in the form contributes to the Decision reached as a result of an Estimate of the Situation, only to the extent that it provides an outline for, and encouragement of, systematic analysis and reasoning.

To prove successful in stimulating rather than stifling creative thought, flexibility is a characteristic of any form capable of application in such dissimilar circumstances as may be presented by the varying scope of military problems. The Estimate Form is such a flexible guide. If a commander, in solving a problem, feels the need of greater flexibility, he may, of course, modify or adapt the form to his particular needs. In so doing, however, he bears in mind that departure from orderly processes of reasoning, on which the form is based, tends, through possible neglect of fundamental considerations, to lead to the omission of essential features of the analysis.

On the other hand, a rigid following of the form may frequently cause much repetition. This may be avoided, unless desired for emphasis or other appropriate reasons, by reference back to preceding portions of the estimate. It is also to be noted, however, that the Estimate Form is adapted to a progressive procedure. Very frequently the earlier consideration of some aspect of the problem can later be expanded both in scope and in proper detail by reason of additional information which has become available during the intervening stages of the procedure.

The distinction between certain strategical and tactical problems (page 83) may introduce variations in the handling of the Estimate Form, and may affect the weight to be given the various factors. The use of the Estimate Form, as described in Chapter VI, applies in full to problems which embrace the complete

scope of broad strategical concepts. It is suitable also for problems of limited scope, for which certain modifications or abbreviations are required. When applied to problems of a detailed tactical nature, the emphasis on the factors of fighting strength is somewhat different from that for strategical problems. For certain subsidiary problems (page 106), the Form may be closely applicable or may require considerable adaptation. In no case is it difficult to modify the Form to suit the requirements of the problem.

An estimate of a relatively broad strategical situation may normally be reduced to writing, because time is usually available. On the other hand, an estimate of a localized tactical situation frequently requires almost instantaneous decision. Except in the preparation of plans to meet contingencies, such an estimate can rarely be given the elaborate form frequent in estimates of situations which are broadly strategical in nature. When such tactical plans are prepared well in advance of the event, the commander bases the estimate upon various assumptions as to the circumstances of a probable situation.

The written solution of tactical situations under various assumptions is a valuable feature of training to this end.

During the second step, i.e., the resolution of the action, as embodied in the Decision, into the detailed operations required, the method considered most helpful is to arrange the procedure on the basis of the salient features of a military operation (page 39 and Section III of Chapter IV). This procedure facilitates not only the determination of the necessary operations, but also the later formulation of directives.

The second step, like the first, makes use of the estimate procedure. This is inevitable, in view of the fact that the mental processes are identical (page 106) for the solution of the problem of both steps.

The application of the estimate procedure to the second step may be tested, aside from the logic of the theory involved, by careful analysis of examples. For instance, if the basic Decision was to determine the location of enemy forces in the area ABCD, this becomes the basis for a plan embodying the best method of determining the location of such enemy forces (an operation, or a series of operations). One method of procedure (course of action) to achieve this objective may be to search the area by aircraft; another may involve a search by cruisers; another by destroyers; another by submarines; etc. The operation or operations finally determined upon may be any one of these, or a combination of two or more of them, perhaps of all of them. The fundamental procedure leading to this

conclusion is identical with that of the basic estimate.

There are a number of possible variations of the fundamental mental processes applicable to the second step, according to the facility and the preference of the commander. Practice seems to develop such facility (see also page 94) that entire plans, each properly integrated with respect to physical objectives, relative positions, apportionment of fighting strength, and freedom of action, may be visualized separately from each other.

At the other extreme, the elementary procedure is to utilize these salient features of such a plan, successively, to suggest detailed operations. The features after the first are then used either to adapt or to complete the operations suggested by preceding features, or to suggest new operations. This elementary procedure, being the simpler and more methodical of the two, is the one explained hereafter (Chapter VII).

However, there are various possibilities as to procedures intermediate between these extremes. One such procedure would visualize operations primarily on the basis of correct physical objectives, adapting and completing such operations by reference to the other features; the procedure would then utilize relative positions, etc., to suggest additional operations, which in turn may be similarly adapted or completed. The commander is of course at liberty to use the procedure best suited to his own working methods and to the particular situation; naturally, he bears full responsibility for any errors due to a faulty choice of procedure.

From the standpoint of the exercise of mental power in the solution of military problems, the second step may be taken to include the assembly of the commander's conclusions in the form of directives. The third step begins, however (page 107), when the commander forms the intent of immediately promulgating such directives.

The third step makes use of the Order Form. In our naval service, this form is applicable, with certain modifications, to all written directives pertaining to operations other than routine. The subject matter is presented in a logical sequence which experience has shown to be effective. The Order Form assists in the solution of the problem by providing a comprehensive vehicle with which all echelons are familiar.

In the fourth step, i.e., the supervision of the planned action, the prime essential is the maintenance by the commander of a Running Estimate (page 107). For this purpose there is a definite technique of which the Estimate Form

provides the basis, and by means of which the solution of this important problem is aided.

Conclusion As To the Approach to the Solution of Military Problems

The foregoing considerations indicate that planned attainment of a military objective requires the application of mental effort in four distinct steps.

The sequence of the four steps necessarily is fixed because of the consequential relationship among the problems typical of the several steps. The mission, in the first step, furnishes the nature of the appropriate effect desired. Until modified or revoked by higher authority, it clearly remains the governing influence throughout the entire range of mental effort which, in conjunction with the moral and physical effort, is calculated to result finally in the attainment of the assigned objective.

The procedure involved, being natural and universal, is fundamentally the same even in those tactical situations where the commander performs all of the steps in almost instantaneous succession. The Estimate Form, as presented herein, is adaptable to military problems of any nature. The systematic approach represented in the Form is subject to adaptation by the competent commander—provided that the essentials are preserved—in any manner appropriate to his personal preference and to the nature of his particular problem.

The essentials of the military Estimate of the Situation, as a specialized use of the natural mental processes, are inherent in the proper application of the Fundamental Military Principle (see page 82). The Estimate Form merely provides a more detailed guide for the use of the Principle. Facility in the use of the Principle will enable the competent commander, once he has formed a proper understanding of the basis for solution of a problem, to solve the problem correctly without reference to the Estimate Form. Reference to the Form may be necessary in problems of broad scope, in order to ensure a complete survey of factors of fighting strength. Time, in such cases, is usually available for purposes of a detailed study. Subject to this exception, the Principle, alone, may be used effectively as a basis for sound military decision,—a fact of particular significance where time (page 22) is an element of immediate concern.

That this procedure may be successfully and repeatedly applied in the fast-moving events of the decisive tactical engagement is, more particularly, the goal

of mental preparation for the exercise of command.

PART II

THE EXERCISE OF PROFESSIONAL JUDGMENT IN PLANNING

CHAPTER VIToC

THE SELECTION OF A CORRECT OBJECTIVE

(Including the Determination, in Proper Detail, of the Action Required for its Attainment)

The First Step—The Solution of a Basic Problem (The Estimate of the Situation)

The type of problem distinctive of the first step, now to be discussed, is a basic problem. It is the most likely type when an organized chain of command is in effective operation, the incentive for solution being derived from a directive issued by higher

authority (Chapter V).

The problem of the first step is described by the question, "What objective should I select, and what action (in outline) should I take for its attainment, in order to achieve the objective assigned to me by higher authority?"

The procedure for solution of the type of problem distinctive of the first step is that already indicated as applicable to all military problems, i.e., a specialized employment of the natural mental processes (Chapter II) through the application of the Fundamental Military Principle. The studied application of the Principle is assisted through the Estimate Form which provides a more detailed guide.

The fundamentals of the Estimate Form have already been discussed (Chapter V). Except for emphasis, or to afford a basis for further detailed discussion, the basic matters previously dealt with are not repeated in the present chapter. It is therefore advisable, before studying the details applicable to the first step, to make an adequate review of the pertinent portions of the preceding chapter. With the necessary background thus provided, the Estimate Form can be followed with a minimum of distraction caused by reference to related subjects.

For special emphasis, it is repeated here (see also page 110) that the Estimate Form is a flexible guide. The commander is of course at liberty to vary the procedure according to his particular needs and the nature of his problem; however, he will bear in mind that errors of commission or of omission arising by reason of departure from the essential features of the procedure may disrupt orderly reasoning.

The Estimate Form is divided into sections and sub-sections, each of which presents a subject for consideration. The Form follows, sequentially, the salient features of the natural mental process described in Chapter II. It will be seen, from an examination of the section headings listed below, that Section I has to do with establishing the basis for solution of the problem; Sections II, III, and IV relate to the actual process of solution through consideration of various courses of action; while Section V states the conclusion reached.

I. Establishment of the Basis for Solution of the Problem.

II. Determination of Suitable, Feasible, and Acceptable Courses of Action.

III. Examination into the Capabilities of the Enemy.

IV. Selection of the Best Course of Action.

V. The Decision.

A tabular form inserted in the Appendix lists the foregoing headings and their principal subdivisions within the Estimate Form. For convenience, the appended Form also includes page references to the discussion in this chapter.

SECTION I

ESTABLISHMENT OF THE BASIS FOR SOLUTION OF THE PROBLEM

As noted in the Fundamental Military Principle, each objective, prior to its selection, and each operation, prior to its adoption, requires examination from the standpoint of suitability, feasibility, and acceptability. Suitability involves the factor of the appropriate effect desired; feasibility involves the factors of the means available and opposed, as influenced by the characteristics of the theater; and acceptability involves the factor of the consequences as to costs.

In order to establish a sound basis for the solution of a military problem, one which will permit the tests for suitability, feasibility, and acceptability (see pages 98-102) to be intelligently applied, it is necessary that the factors involved be studied.

A. The Appropriate Effect Desired.

The appropriate effect desired, the first factor listed, is the goal toward which the commander is working. He is enabled to form an understanding of this essential aspect of his problem through (1) a grasp of the salient features of the situation, (2) a recognition of the incentive to solution, and (3) an appreciation of the assigned objective. He expresses this understanding by (4) formulating the mission.

The sequence in which the commander takes up these considerations is a matter for his own choice. Usually, directives from higher authority (see Chapter VIII as to the Order Form) give him, first, information as to the situation; thereafter, such directives assign him a task (or tasks) involving one or more assigned objectives. For this reason, the sequence so indicated is the one utilized

here.

(1) Summary of the Situation. Before the commander can decide whether he wishes to maintain the existing situation or to change it, he requires a mental picture of its salient features. On beginning the Estimate, the available information is therefore briefly summarized. The picture presented here will show in broad outline (page 79) the opposing forces as disposed in localities which constitute relative positions with reference to each other. Details are reserved for Section I-B of the Estimate.

The appropriate data are noted on the chart, and study of the chart goes hand in hand with the development of the Estimate.

The summary of the situation may include statements as to present activities of own and enemy forces. It may recite significant occurrences. It does not attempt to compare or to deduce; such processes are deferred until Section I-B. The commander extracts, from the information furnished by higher authority, such data as are pertinent to his own problem. He includes these data in his own summary, supplementing them by information from other sources, to the extent deemed advisable. In the exercise of judgment as to the content of his summary, the commander is influenced by the fact that the summary is the point of departure for visualizing the appropriate effect desired.

(2) Recognition of the Incentive. In basic problems (the type now under discussion, see page 117), the commander finds his incentive in directives received from higher authority. Under the procedure of the Estimate, a notation of that fact, with a citation of the directive(s), is all that is required to indicate that the commander has formed a proper recognition of his incentive.

(3) Appreciation of the Assigned Objective. A correct understanding of the nature and of the involvements of the assigned objective is, naturally, an essential to the establishment of the basis for the solution of a problem of the first step.

At this stage of the Estimate the commander cannot, however, expect always to reach a final conclusion as to this matter. He will have opportunity for further consideration, later, in Section II. It will be realized that, after intervening portions of the Estimate have been worked out, the commander will be in a position to examine the assigned objective again, and to make a more thorough analysis.

In a basic problem, the commander is assigned his objective by higher authority, usually in the form of an assigned task. Although, as stated on page

84, such task may be expressed by one of various methods, a properly conceived task always indicates, either specifically or inferentially, an objective (or objectives).

Whatever method of expression may have been employed by higher authority, the commander will facilitate his appreciation of the assigned objective if he now sets down his assigned task, scrutinizes it carefully, and then makes note of the objective which is either specifically or inferentially indicated by that task. (See pages 52-54).

The commander's basis for solving the problem is not complete, however, with merely a statement of his own objective. Full visualization of the effect desired is not obtained until the commander appreciates not only the result which he, himself, is required to accomplish, but also the next further result which is expected to eventuate as, at least in part, an effect of his accomplishment. His goal, as an "effect desired", includes not only the effect desired of him by higher authority, but also the effect which his immediate superior desires to be accomplished by that superior's entire force.

Occasionally, full appreciation of the commander's objective will require, also, consideration of the further effects desired by yet higher successive echelons.

The natural requirement is that the goal be so clearly defined as to obviate any material doubt as to the implications involved in the commander's assigned objective. When the goal has been thus defined, there results a linking of effect and further effect, of objective and further objective,—in short, of task and purpose,—the importance of which has previously been emphasized (page 48).

In making notation of this further objective for the solution of problems typical of the first step, the commander normally sets down the general plan of his immediate superior for the employment of the latter's entire force. When the linking of objective to objective, echelon by echelon, has involved no complication, the immediate superior's general plan will be a sufficient indication of the purpose for which the commander is to carry out his task.

(4) Formulation of the Mission.

The linking of the commander's assigned task to the general plan of his immediate superior permits the commander to formulate his mission (page 87). His assigned task becomes the task of his mission; his superior's general plan becomes the purpose of his mission. In this manner he crystallizes into a clear statement the part of the common effort which he is to carry out, indicating the assigned objective he is himself to attain, as well as the further objective to

whose attainment his effort is to contribute.

In establishing the basis for solution of his problem with respect to suitability, the commander may have considered his assigned objective before studying his situation. If so, he may now desire to modify his earlier statement of that objective, before incorporating it in the formulation of his mission, to the end that a more clear-cut and concise expression may be obtained.

The relationship (restated from page 87 for emphasis) is expressed in the following;

My assigned task is to be accomplished for the purpose of carrying out my designated part of my superior's general plan.

This formula is customarily simplified to the following:

(Task) (statement of the assigned task),

(Purpose) in order to assist in the successful execution of (statement of the superior's general plan).

The words "assist in the successful execution of" may frequently be understood and therefore omitted.

The mission, thus formulated, clearly indicates the appropriate effect desired, i.e., the factor which establishes the basis for the solution of the problem from the standpoint of suitability.

B. Relative Fighting Strength.

As indicated in the Fundamental Military Principle, the second and third requirements for a sound solution of the problem are feasibility of accomplishment and acceptability of the consequences as to costs.

Both requirements have to do with the factors of relative fighting strength. Fighting strength is derived from the means available as influenced by the characteristics of the theater. Relative fighting strength is determined by a weighing of these factors against the means opposed, as influenced also by the characteristics of the theater.

These are the factors, then, which are next studied in the Estimate. They are studied in order to complete the establishment of the basis for the solution of the problem.

The factor of consequences, as listed in the Fundamental Military Principle, is related to the factors pertinent to feasibility. This is true because consequences are assessed, in the Estimate, on the basis of the envisaged results of proposed actions. These results are necessarily predicated on the grounds established by consideration of the factors of relative fighting strength. The study of relative

fighting strength thus provides not only a sound basis for the determination, later, of the feasibility of courses of action, but also of their acceptability with respect to consequences as to costs.

Particular emphasis is placed on the conclusion as to relative fighting strength, to the end that specific advantages may be ascertained. Such a study is primarily concerned with information:—its collection, its analysis, its evaluation, and its interpretation so as to convert it into military (naval) intelligence (page 76), with a view to its use by the commander in the solution of his problem. Information as to forces present and as to their positions is of course prerequisite to a clear comprehension of the possibilities as to physical objectives, as to relative positions, as to apportionment of fighting strength, and as to freedom of action.

The commander may choose whether he shall, in his estimate, first consider the means available and opposed, or reverse the order and give priority to the characteristics of the theater. In a particular situation, the significance of these characteristics is frequently determined by the capabilities and limitations of the means available and opposed. For this reason, these means are first discussed in this treatment, which thereafter includes the analysis of the characteristics of the theater.

The capabilities and limitations of the means, and the significance of the characteristics of the theater, may be expressed in terms of certain specific factors (page 25). Each of these factors may influence, or be influenced by, any or all of the others. Situations occur in which certain factors exert little or no influence. Yet, in other situations, these same factors have a paramount effect.

The classification of factors utilized in the following treatment is applicable to most military problems.

A list of pertinent factors, to be of real use in the solution of problems, is required, first, to be complete, so that no factor will be overlooked, and, second, to be simple, so that, as far as practicable, all similar data may be discussed under one heading.

With respect to the factors set forth in succeeding pages, the solution of a particular problem may call for a different listing.

Such listing may involve, in some cases, the contraction or the omission of certain of the headings.

In other cases, an expansion will be necessary or desirable under certain headings, in considerably greater detail than shown here. For example, Section I-

B of a National Estimate may involve reference to several volumes of printed books or of similar data, while, even in ordinary strategical situations, numerous charts, books of sailing directions, and other compilations may require study. Where such references are not standard and generally available, they may be appended, preferably in condensed form.

The proper listing of pertinent factors will depend on the nature of the problem.

(1) Survey of the Means Available and Opposed.

The application of power, actually or by threat, is dependent on the ability of the human and material components of fighting strength to develop energy and to exert effort for purposes of combat (page 8). These components, as ranged on one side or the other, constitute the means available and opposed. (See page 31). Analysis of these means requires a classification of the various factors which influence the situation.

For a broad strategical estimate made by the State, economic and political factors require intensive study; physical objectives, relative position, apportionment of fighting strength, and freedom of action are all involved in such a survey.

For a strategical estimate made by a high military commander, these factors frequently enter to a lesser extent. Such a commander is concerned only with the effect which these factors will have on the operations projected for the particular theater involved in his problem. From his point of view, the economic and political factors often have little bearing on the elements of a favorable military situation. In such a case, the commander concentrates in this section on the factors more directly relating to the armed forces; his important considerations deal with such matters as numerical strength, types of weapons, disposition, and factors as to freedom of action.

For strategical estimates of lesser scope, the commander further restricts his study accordingly.

In detailed tactical estimates the commander requires an exhaustive comprehension of the fighting capabilities of his own and the enemy armed forces, because his selection of physical objectives and his use of relative position are affected by such considerations. This is manifestly true for studied

tactical estimates made in advance to meet contingencies, but its import is not always fully understood in its bearing on the unfolding situation after the battle begins. At that time, the most precise knowledge is called for, under the then rapidly changing conditions. (Chapter IX.)

In the Form treated herein, those matters particularly applicable to broad estimates are included under "general factors". These are followed by the factors more directly applicable to the armed forces.

(a) General Factors. (i) Political Factors. The prosecution of the war is directly influenced by such internal conditions as the strength of the national government and its capacity for unified effort, the moulding and maintaining of a firm public opinion in support of war aims, the neutralization of subversive propaganda, and the degree to which the government can make available necessary resources, both domestic and foreign.

External relations modify the conduct of war, always affecting broad estimates of the employment of national forces. The wartime factors which influence these relations include the effect of the clash between foreign opinion and national policy, the national bias of interested neutrals and of unneutral non-belligerent governments, and the normal attitude of such neutrals and non-belligerents toward each belligerent. The diplomatic skill of the opposing governments and the ability of propaganda to sway public opinion abroad may well determine the manner in which neutrality will be enforced.

Alliances, including those that are known and those that are secret, directly influence an estimate. When a war of any importance breaks out in any part of the world, all States are affected to some degree. One may have an alliance which, though not requiring active participation in the war, will call for collaboration with the efforts of a belligerent. Another alliance may require active participation, while still another State may attempt to maintain strict neutrality. Every State remaining at peace will thus be in a status ranging from that of a non-belligerent, with more or less close ties to one of the contestants, to a position of strict impartiality. The estimate of the international situation becomes more complex as the magnitude of the war increases. A correct appreciation of the status of each State concerned is of first importance in any broad estimate of the conduct of war.

(ii) Economic Factors. The capacity, organization, and mobilization of industry influence the rapidity and adequacy with which material is prepared for, and supplied to, the armed forces. The acceptance by the civilian population of

sacrifices, caused by the diversion to war uses of the productive capacity of industry, will have a direct bearing upon the industrial capacity of that State.

The ability and willingness to finance the war effort, which includes the ability to tax, to float internal loans, and to create foreign credits, may well determine the extent and duration of the national capability for war.

The dependence of a nation upon the continuation of foreign trade, including the necessity of obtaining new markets and new sources of supply, affects its strength. No State yet has complete autarchy. Thus, there is the necessity of obtaining from foreign sources certain of the raw materials which are indispensable to the war effort. As each belligerent may endeavor to deny sources of raw materials to the other, a portion of the fighting power may be required for trade protection.

(iii) Psychological Factors. The maintenance of a stable morale (page 72) at a high level is a primary concern. Such stability inures the nation or command against the full effects of surprise, fear, disappointment, despondency, and other weakening moral influences, while at the same time taking full advantage of those influences which strengthen the moral fiber of a people.

Training and experience influence morale, playing a part difficult to overestimate. They provide a basis for evaluating discipline. A study of the history of the State may prove valuable in estimating the present condition in this respect; a nation or command which may be classed as a veteran has an advantage over a beginner at the art of war.

Another important factor relates to the existence of the skills necessary for the production and use of the material means of war. The control of skilled personnel is a psychological consideration of great importance.

Unity of effort, or the lack of it, especially between management and labor, may be one of the most important factors of the estimate.

Special attention is desirable as to national inventiveness and versatility in the production of new and surprising means of war or in development of methods that in any way contribute to a successful war effort.

Racial or national characteristics may affect the estimates of morale and training. Reactions of various races or groups to the conditions of war have been sufficiently recorded, on the basis of past performance, to prove of some value. Service traditions may furnish clues for correct evaluation of psychological factors.

While only the physical elements of fighting strength are susceptible of quantitative comparison, failure to take account of mental and moral factors may involve serious error. Nevertheless, in many situations, such factors remain relatively indeterminate until subjected to test. Inferences may be drawn, and deductions made, on a basis of peace-time observation and of historical precedent. In these, racial and national characteristics may figure prominently. History, however, has taught that, in a conflict between modern industrial and military nations, it is unwise to entertain any assumption other than that of moral equality until such time as the conflict has demonstrated the existence of a difference, and the degree thereof, or unless prior experience, observation, and acquaintance unquestionably warrant otherwise.

(iv) Information and counter-information measures. Operations of war are tremendously affected by the information which each belligerent possesses of the others. It is therefore of vital importance to weigh the efficiency of the belligerents in the employment of means of obtaining, denying, and utilizing information.

There may appropriately be considered present, probable, or possible use or non-use of indirect methods such as: study of press, captured documents, and material; reports from other friendly units; interrogation of prisoners of war, deserters, inhabitants, and escaped or exchanged prisoners; radio direction-finding; efficiency of cryptography; interception of enemy radio, telegraph, telephone, and mail communications; espionage; censorship; propaganda; efficiency of communications systems, ashore and afloat, which include all means of interchange of thought. In this connection it will be recalled that information, however accurate and appropriate, is useless if it cannot be conveyed in time.

The direct methods of obtaining information are military operations intended for that purpose, such as observation, reconnaissance, scouting, trailing.

Counter-information measures are no less important than those pertaining to collection of information. Such measures include all provisions for secrecy, such as censorship, counter-espionage, cryptography, control of own communications, security of documents, camouflage, and applicable tactical operations.

(b) Factors More Directly Applicable to Armed Forces, (i) Vessels, including aircraft. The numbers and characteristics, of the ships and aircraft of the various nations of the world are known with less and less accuracy from the time when war becomes a probability. The information available is given intense and

comparative scrutiny, under the specific headings of the factors of the Estimate Form as later enumerated.

(ii) Land forces, including land-based aviation. Important facts concerning the land forces of the enemy, including his land-based aviation, will be known, probably, to a lesser extent than in the case of the naval forces. The value of a comparison—naval, land, or air—may depend upon whether the intelligence service has improved the accuracy of these data, maintained them up to date, and collected accurate additional information.

(iii) Personnel. The status of enemy personnel as to the sufficiency of numbers effectively to man all implements, as to training, morale, skill, stamina, and willingness to accept the supreme sacrifice, can seldom be accurately known. Unless there is positive information to the contrary, the wise commander will assume in this respect that the status of the personnel available to his opponent is at least equal to that of his own command. Full consideration will be given to all known facts concerning own personnel, to the end that its worth in any proposed situation may be properly evaluated.

The basic discussion of the psychological factors (page 125) is applicable here as to the respective armed forces. Personal characteristics of commanders, so far as known, deserve full study, since they have an important bearing on relative fighting strength. The military value of the various units and forces is a similar consideration. The present attitude and past actions of enemy commanders and of their commands, and the factor of racial, national, and service characteristics, may furnish clues for correct evaluation in this connection.

(iv) Material. The material characteristics of the commander's own implements of war are generally known to him. The characteristics of enemy material can only be estimated from such data as have become available, but are not to be underestimated.

Material characteristics embrace armament, life, and mobility.

Armament relates to the caliber and number of guns, and to other weapons such as torpedoes, mines, depth-charges and aircraft (with their own weapons). It also includes chemical agents and other instrumentalities, together with the types, potentialities as to range, and the number or amount of each available, both for immediate use and as replacements. Ammunition supply is a factor here. In the evaluation of foreign armaments, sufficient data are often available to make a reasonable estimate, but care is desirable not to underestimate.

Life is the ability to withstand punishment; it is expressed in terms of

standards which can be clearly visualized. For a vessel, life is the ability to absorb damage while carrying out its assigned task. In the absence of definite factual data, evaluation of the life of foreign vessels will sometimes prove difficult. Here, again, an underestimate is dangerous.

Mobility is capability of movement. It is compounded of the elements of speed, radius, and the ability to operate under imposed conditions of weather, visibility, hydrography, and other possible obstacles to certain and free movement. Mobility is one of the most important factors pertaining directly to relative position, to apportionment of fighting strength, and to freedom of action. Closely related factors are the organization, disposition, and methods of operation of the enemy, and of own forces. Accurate knowledge of these factors, before an operation, greatly enhances the possibilities of dealing effectively with the enemy.

The condition of the implements of war embraces such factors as the efficiency of motive machinery, the integrity of underwater compartments and other material construction, and physical endurance. The last applies not only to material, but also to living beings, and involves the ability to withstand the wasting effects of operations, whether due to fatigue, hardship, disease, worry, wounds, or other causes. Here again, it is obvious that the commander will often have only an imperfect idea of the condition of the enemy in this respect. His experience will lead him to form an accurate estimate of his own condition. Definitely, unless he has positive information to the contrary, he assumes that the condition of the enemy is no worse or better than his own. (See also the psychological factors, page 125 and the personnel factor, page 127).

(v) Logistics support is of primary concern to the commander. In the naval service, this is particularly true of the strategical estimate. While the factor may also have some bearing on a tactical estimate, logistics support will rarely change sufficiently, during a naval battle, to affect the outcome. This support exercises a dominant influence upon the fighting power of armed forces. It is concerned with the availability, adequacy, and supply of the following:

Material: items such as fuel, ammunition, weapons, aircraft, food, clothing, spare parts, repair materials, animals, and general supplies.

Personnel: military and civilian; number and quality of replacements.

Facilities: factors such as bases; manufacture and repair

facilities, afloat and ashore; shelter; sanitation; hospitalization; recreation; transportation; education; counter-espionage; counter-propaganda.

The limitation imposed upon operations by logistics represents the final limit of a commander's plan of action.

(2) Survey of the Characteristics of the Theater of Operations.

The characteristics of the theater of operations exert an influence, always important, sometimes paramount, upon the possibility of attaining the objective, and upon the strategical and tactical operations that may be employed.

At this point in his estimate the commander utilizes his charts, intelligence reports, and hydrographic publications to make a factual study of the theater. This study is not for the purpose, at this time, of drawing any conclusions as to possible courses of action, but to furnish data which will assist in consideration of later sections of the estimate. The study may be made under several important headings, as follows:

(a) Hydrography. A study of the hydrography will determine the depth of water, the existence of shoals, the presence of unusual currents, the rise and fall of the tides, the availability of channels, and other pertinent features. These are recorded for later use.

Shallow water may permit mining or may prevent the operation of submarines. On the other hand, the ability to mine in shallow water may be curtailed by strong currents or by the rise and fall of the tide. Again, the depth of water, the strength of currents, and the range of the tide may determine the feasibility of netting the entrance to a port or base. In a tactical action, advantage may be taken of shoals to limit the freedom of action of the enemy, without, however, interfering with that of one's own forces.

(b) Topography. The topography of the area is also frequently of interest to the naval commander. In actions close to the shore, the character of the coast may play an important role. A high bluff, combined with considerations as to light, may create a very definite advantage or disadvantage in a naval tactical situation.

Topography may be a most important consideration in determining what bases are to be used. The commander makes note of the topography of the various

possible bases; later in his estimate, the natural features lending assistance to the defense of the various sites may play an important part in the selection of bases.

The use of channels may depend upon the topography of the bordering land. Questions arise as to whether such land can be seized and held, or, if in friendly hands, whether it can afford adequate protection to the channel.

In any landing operation, the topography of the area to be occupied may be the controlling factor.

(c) Weather. The seasonal weather in the theater will have a direct bearing upon operations. The use of aircraft, the employment of light forces, the habitability of ships over long periods, the use of smoke, the range at which a gun action may be fought, the effect of spray and gases,—these considerations are but some of the matters which will be affected by weather.

The possession of, and the position of, meteorological stations within the theater are of growing importance in the successful planning of coordinated air, submarine, and surface operations.

(d) Daylight and Dark Periods. It may be well under this heading to put in tabular form the times of sunrise, sunset, moonrise, moonset, the phases of the moon, and the duration of morning and evening twilight. When, for example, the commander is considering night destroyer attacks, the operation of submarines, or the type of protective screens he desires to use, he may profitably refer to these tabulations.

(e) Relative Location and Distance. No part of the study of the characteristics of the theater is of greater importance than that pertaining to relative location and distance. At this point it may be found advantageous to place in tabular form the distances between the important positions within the geographical area of the theater. This study furnishes knowledge as to the availability of certain localities for use in support of, or in cooperation with, forces at other localities, and as to distances in relation to steaming capabilities of the various units which make up the commander's force.

(f) Lines of Transportation and Supply. The usual sea routes which pass through the theater are an important subject of study; also, particular focal points, defiles, and restricted waters which are, or may prove to be, critical areas with respect to own or enemy forces. Other items are the significant routes from home or enemy territory, i.e., the lines of communication, the terminal points, and the flanking positions along these lines.

(g) Facilities and Fortifications. The facilities for the support, upkeep, and repair of the units of the commander's forces and of the opposing force, as well as the fortifications existing within the area, may require consideration. Other features which may render a port or base of value, or which may indicate a possible necessity of denying it to the enemy, also merit attention.

(h) Communications. In strategical estimates, more particularly in broad ones covering large theaters, study of communications involves not only those means under the commander's control, but also his relation to the system of regional and national communications operated by his government. Examination is made into the established physical stations; such examination includes radio, cables, and perhaps land wires.

In tactical estimates the means of communication which affect the engagement are more directly those under the control of the commander. An examination into the organization of the means to meet conditions prevailing in the theater is appropriate here.

Another aspect of communications is that of maintaining all forms against enemy interference. The importance of this feature in planning may not safely be overlooked, and careful study is indicated to provide for guaranteeing communications during action. The characteristics of the theater, as they relate to this feature, are considered here.

For the same reason, consideration of interference with enemy communications is included, so far as significance attaches to them with respect to the theater of operations.

This portion of the Estimate Form varies greatly with the type of problem under consideration. However, in all estimates, this is the place where the commander searches the theater for factors affecting communications for the particular problem.

With the completion of this subsection of the estimate, the commander has assembled and placed in workable form the information to which he expects to refer in the succeeding parts of the estimate.

(3) Conclusions as to Relative Fighting Strength.

Having surveyed the means available and opposed, as well as the characteristics of the theater of operations, the commander will find it useful to summarize the pertinent information available, in order that the strength and weakness of own and enemy forces can be readily visualized and compared. Thus the existing advantages and disadvantages are made apparent, and conclusions are drawn as to relative fighting strength.

A satisfactory procedure is to place strength and weakness factors in parallel columns for own and enemy forces. From careful consideration of the facts so far determined in Section I-B, there are extracted and expressed briefly the pertinent strength and weakness factors.

It is usually easier to determine all the strength and weakness factors in detailed tactical estimates than in broad strategical estimates.

The former deal in relatively more factual terms, with definite comparisons such as with respect to maximum speeds, numbers and caliber of guns, numbers and types of aircraft, numbers and types of torpedoes, and other such items which give the factual basis for comparison.

In broad strategical estimates, this factual basis is present, e.g., as to distances, radii of ships, geographical locations of forces, and the like. But other factors may not be so definite, especially as regards enemy forces. For example, it will often be difficult for the commander to say that the enemy's logistics problem is easier or more difficult than his own, unless he has a good idea of the amount of fuel, ammunition, and stores available to the enemy within the time limits involved. The evaluation of training, spirit, health, and courage of personnel is, as previously noted, relatively easy to determine for own forces, but more or less of a conjecture in regard to the enemy.

The value of the entries in the parallel columns at this point of the estimate will depend upon the skill of the commander in judging the factual data contained in all of the known factors of strength and weakness. The proper entries to be made will depend upon circumstances. In one estimate, for example, the anti-aircraft armament available to a carrier group will be of vital importance. In another estimate of the same carrier group, anti-aircraft defense will be of no importance because no enemy aircraft can be employed in the situation being estimated. Again, in a local tactical situation, if the ships involved have just been fueled, the economical steaming radius may be of no

immediate importance. And while the total amount of high-test gasoline which can be produced in a State in the coming year may be vital to a broad strategical estimate involving war against trade, that information may be of little use in a tactical estimate of a localized, fleeting situation.

Thus, in determining what factors to evaluate, and in assessing their relative value, the commander considers only such as can possibly affect the effort to be made in the theater under consideration. The summary of strength and weakness factors is, then, a summary of those factors which the commander considers will affect the character of his effort. This summary indicates the relative importance of such factors.

A mere list of facts will not serve the purpose. What is needed here is a series of evaluations and conclusions which may result from a study of the pertinent details.

With the circumstances attending his particular problem clearly in mind, the commander carefully reviews each of the factors of fighting strength in the theater; he classes each as either a strength or weakness factor for himself or his opponent, and enters it in the proper column. A strength factor for one is not necessarily entered as a weakness factor for the opponent:—what is required is a well-digested summary of the factors which give to either side an advantage or a disadvantage as compared to the other.

NOTE

The Estimate procedure has, to this point, established the basis for the solution of the problem through evaluation of the factors pertaining to the requirements of suitability, of feasibility, and of acceptability of the consequences as to costs.

On this basis, the commander is ready to consider such courses of action as may be pertinent. To this end, he has a choice of procedures. He may first consider courses of action for himself. He may prefer, however, to consider first those which are applicable to the enemy.

If the commander considers his own courses of action first, this procedure has an advantage in that it narrows, later, the scope of enemy courses which are pertinent to his situation. This is true because consideration of enemy courses may in such a case be restricted to those which give promise of countering, effectively, his own courses of action.

This procedure may also have a certain psychological advantage, in that the commander may thereby avoid becoming unduly impressed by the potentialities of enemy action. Occasionally, prior consideration of enemy courses may tend to put the commander, unnecessarily, on the mental defensive.

First consideration of his own courses of action is especially appropriate for a commander whose mission requires him to assume the initiative, particularly when the relative fighting strength indicates that he can compel enemy action to conform to his. This is frequently the case when enemy action will chiefly affect details rather than the general trend of the operations.

These reflections indicate that first consideration of his own courses of action will very frequently be advantageous to the commander. Such a sequence is therefore indicated preferentially in the Estimate Form, and next discussed. However occasions may arise when consideration in the reverse order is preferable. Sometimes the prior consideration of enemy potentialities has the advantage of making the commander's estimate more complete with respect to the obstacles which he is to overcome. Furthermore, when the effectiveness of his future action is seen to depend chiefly upon what the enemy can do, or when the initiative lies manifestly with the enemy, and when the commander's mission requires him to frustrate enemy action, rather than to assume the initiative himself, the prior consideration of enemy courses of action may be indicated.

The commander may therefore consider the subject matter of Sections II and III in the order hereinafter followed, or he may reverse that order.

SECTION II

DETERMINATION OF SUITABLE, FEASIBLE, AND ACCEPTABLE COURSES OF ACTION

A. Analysis of the Assigned Objective.

In order further to clarify the problem, consideration of the commander's courses of action may profitably commence with an analysis (page 53) of the assigned objective. Section I-A contained an appreciation of this objective on the basis of the salient features of the situation. A close examination is now possible in the light of the additional information furnished by the full details (Section I-

B) as to the means available and opposed, and as to the characteristics of the theater (page 121).

Accordingly, the mission (page 121), is now again stated, and is restudied. The task is thoughtfully examined anew, in view of the forces and positions now known. The purpose is scrutinized with equal care, because it indicates the further end in view for the common effort. Now, obstacles to success which, in Section I-A, could not fully be appreciated can be examined against the background afforded by visualization of the enemy's ability to oppose the attainment of the assigned objective.

This analysis calls for such discussion by the commander as is essential to better understanding of his assigned objective. Some restatement and repetition may be desirable as to the subjects already discussed under the appreciation of the assigned objective. In solving certain types of problems, where simple estimates, only, are required, there may be no necessity for further treatment. Even in these cases, however, the commander restates his mission in this subsection, in order to ensure a clear comprehension of its task and purpose, as a sound basis for his further solution of the problem.

B. Survey of Courses of Action.

The Fundamental Military Principle (page 41) represents an equation (page 23) based on five factors: the appropriate effect desired, the means available, the means opposed, the characteristics of the theater, and the consequences as to costs. Of these five factors, all but the last (the consequences as to costs) have by this time, in the course of the estimate, been assigned values as definite as the commander's information and his study permit.

From this point on, the problem is to evolve tentative solutions (courses of action) and to test them (page 98), severally, by reference to the factors. The tests as to suitability and feasibility can now be made with reference to the known factors. The test as to acceptability of the consequences involves an unknown factor. However, for each tentative solution of the problem, a value can be assigned for this factor, because all five factors are interdependent (page 32 and following), so that the value of any of them can be set by a study of the others. It is through this procedure that evaluation of the consequences factor is accomplished (an application of the corollary Principle of the Acceptable Consequences as to Costs, page 35).

By means of the standard tests, the several tentative solutions are also compared to each other in the light of envisaged enemy action, so as to enable the commander to select the best solution.

The commander now, as a result of his reflective thinking as to courses of action, makes a list of those which he has visualized for himself. There may be one course of action, or many; ordinarily there are several.

Examples of courses of action have been given in the basic discussion of the subject (pages 89 and 92). In listing his courses, the commander can add to clarity of thought and of expression by visualizing the objective embodied in each course and by envisaging also, the action, expressed in proper detail, for its attainment. This process is naturally the more important when the objective is inferred rather than specifically expressed, and when the action involved calls for more description than can be obtained merely by stating the objective.

For example, the commander may include a course of action such as "to raid enemy trade in the area EFGH". The objective is here inferred; it is not clearly stated. The commander may therefore be well advised to add a notation of what the objective is; indeed, more than one objective may be involved. Objectives thus inferred might include, when specifically stated, the infliction of damage on enemy trade, the infliction of damage on enemy combatant forces protecting such trade, the disruption of enemy supply arrangements, or such others as may be applicable.

This clear visualization is essential to the establishment of the relationship between the assigned objective and the objective inherent in the course of action (page 89). If, for instance, the motivating task is to "divert enemy forces to the area EFGH", the commander may consider the course of action "to raid enemy trade in area EFGH". By infliction of damage to, and by disruption of, enemy supply (objectives of his raiding), he expects to accomplish the diversion of enemy forces to the area EFGH, because the enemy will wish to protect his trade against such raids. The relationship between the assigned objective and the objective inferred in the course of action is thus made clear.

With regard to expression of the action to be taken, the commander may properly desire to be more explicit than by merely saying, for example, "to

destroy the enemy". Here the objective is clear (it is "the destruction of the enemy"), but the expression of the action is so general that additional description may be needed. Examples of more explicit statement have been given previously (page 89).

On occasion the higher commander may predetermine the commander's course of action for the attainment of the objective assigned to the latter. Circumstances under which such procedure may be properly applicable, and the effect which it has on the commander's estimate, have been previously discussed (page 86).

C. Application of Tests for Suitability, Feasibility, and Acceptability.

The courses of action which the commander has envisaged are now subjected to test (page 98). This essential stage in thought is intended to put the courses of action to proof as tentative solutions of the problems. The principle here recognized is that suggestion has no logical nor rightful claim upon action or belief until it has received adequate confirmation. Such confirmation is, in part, provided by these tests.

The tests applied are for suitability, for feasibility, and for acceptability as to consequences. Each of these tests is a separate one. Each course of action is formally subjected to test. When the tests are completed, the courses of action stand classified in these respects. During these tests, some courses of action may be rejected; such are then omitted in the final classification.

These formal tests are not to be confused with the preliminary tests already given by the commander to each course of action as it occurs to mind. Necessarily, there is such a preliminary test, because the commander does not wish to entertain inappropriate courses of action. For a competent commander, the mental power to envisage solutions of a military problem is so much grounded in experience that appropriate suggestions are most likely to occur; in fact, discriminating thought with respect to military problems is natural for such a commander. This immediate discrimination is, however, merely the preliminary test. It prevents setting up wooden soldiers only to knock them down, but it does not necessarily subject each suggested solution to a thorough analysis.

The commander may apply the tests to each course of action as it occurs to his

mind. This procedure, however, may be rendered impossible by the fertility of suggestion; perhaps the commander has thought of several courses of action practically simultaneously. It is, therefore, often better to apply the tests to all of the courses of action, in turn, during a separate stage of the process of thinking. This is the procedure indicated herein, as standard, by the sequence of steps in this section of the Estimate. The process of testing, itself, may bring to mind those combinations of courses of action previously referred to (page 93).

The degree of formality characteristic of the tests varies with the nature of the problem. In a broad strategical estimate, these tests may be searching and extensive; they may then consume much time. Yet, if the commander, in making a quick decision of great urgency in actual battle, does not apply the tests, he may adopt a course of action leading to tragic results. In such circumstances, the competent commander, under pressure of danger, grasps the whole complex situation without loss of time. He is not carried away by any chance impressions. He does not overlook what is significant in the unexpected event. Because he is mentally prepared for the exercise of command (page 114) he sees things in their true proportions (page 4). In immediate response, he coolly chooses the same course of action which he would adopt if he had time for careful deliberation.

In making the tests, the commander rejects courses of action found unsuitable in that they will not, if successfully prosecuted, contribute to the attainment of the objective. He does not, as yet, reject courses of action found to be promising of only partial accomplishment of the task, because there may be later possibilities of effecting combinations to this end.

The commander also rejects, at this point, courses of action found to be infeasible of accomplishment. He is careful, however, not to reject, abruptly, any which may later be found to be feasible in combination with other courses.

Similarly, the commander now rejects courses of action found to involve excessive consequences as to costs. Here, again, however, he bears in mind the possibilities of later combinations.

The commander does not, as yet, make a selection of one course of action in preference to another. He merely desires to restrict further thought, toward his Decision, to those which are found, on the basis of the estimate so far, to be suitable, feasible, and acceptable. He may, however, make a selection to the extent of effecting proper combinations whose applicability has already been demonstrated.

The commander also takes stock, at this stage of the estimate, of the relative

degree of suitability, feasibility, and acceptability of retained courses, so far as can be substantiated.

D. Listing Retained Courses of Action.

The foregoing process indicates to the commander the courses of action which may properly be retained as suitable, as feasible, and as acceptable. He therefore draws up a list of retained courses and classifies them according to the degree of their suitability, of their feasibility, and of their acceptability with respect to consequences.

This list does not necessarily represent the final combinations of courses of action; the incomplete solutions may yet become part of the course of action finally selected. Also it is not impossible that combinations already made will subsequently be recombined as a result of further analysis.

It may be apparent to the commander at this time that he does not have, as yet, any course of action which fulfills the test of suitability as to scope, either originally or by combination. A later conclusion is made (Section V) as to final combinations to achieve full scope. This conclusion, however, may point the way, as later observed, to a Decision adopting an objective short of that which would, if achieved, lead to the accomplishment of the motivating task.

SECTION III

EXAMINATION INTO THE CAPABILITIES OF THE ENEMY

While the commander realizes that the Fundamental Military Principle (page 41) governs the enemy's problem no less than his own, he has to accept more of hypothesis and conjecture (the so-called "fog of war") in applying the principle to the enemy's situation. The method of reflective thinking utilized (Section II) for the commander's own problem calls for certain further safeguards in application to the enemy capabilities, since they are of course usually not so well known to the commander as are his own.

Capabilities, in the meaning applicable herein, indicate actions which the force concerned, unless forestalled or prevented from taking such actions, has

the capacity to carry out. Such potentialities of the enemy are of course among the vital factors to be considered in estimating the situation. In his estimate, however, the commander's interest is not confined to what the enemy will probably do; probabilities are subject to change, and do not, therefore, cover the whole field of capabilities. The commander is not exclusively interested in what the enemy may intend to do, or even in what the enemy may be known, at the time, to intend to do; such intentions are also subject to change. The commander is interested in everything that the enemy can do which may materially influence the commander's own courses of action.

In reaching a conclusion as to enemy capabilities, the commander makes an estimate from the enemy's viewpoint and considers that the enemy commander, faced with the counterpart of his own situation, is endeavoring to attain objectives in furtherance of his own mission. Each commander is endeavoring to create for himself a favorable military situation, and to prevent his opponent from succeeding in the same intent. The physical objectives for each may be the other's armed forces; certain positions, sea areas, harbors, or territory may also be likely physical objectives.

In such a parallel building up of plans, it is possible that the opposing forces may not come, at least for a time, into actual conflict. More especially in the initial stages, the respective plans may lead to operations in different parts of the theater. Again, the geographical direction of search may cause the forces to miss contact. Moreover, unless one commander definitely makes provision to seek out and engage, the two forces, each on the defensive, may find themselves "shaking fists" at each other across an ocean area.

Notwithstanding this possibility, however, a conclusion, on an insufficient basis, that the enemy will or will not seek him out and engage him, or that the enemy will or will not do anything else, may be fraught with the most serious consequences for the commander. Accordingly, in estimating the enemy's situation, he puts himself in the enemy's position, while subordinating his own hopes and desires. He credits the enemy with the possession of good judgment and of the resolution and ability to apply with skill the fundamentals of effective warfare, subject, naturally, to the justified conclusions which the commander has drawn (Section I-B) on the basis of the available factual data as to relative fighting strength.

A. Survey of the Enemy's Problem.

This portion of the commander's estimate pertains, of course, to the existing situation as viewed by the enemy. This fact, alone, may inject into the problem certain factors which differ from those applicable with respect to the commander's view of his own problem, as determined to this point.

(1) Summary of the Enemy's Situation.

Frequently it may happen that the enemy does not have certain significant information. The fact of such lack of information may have been established by the conclusions drawn as to relative fighting strength (Section I-B). If this be the case, notation of the fact is made at this point in the commander's estimate of the enemy's situation. If doubt exists as to the extent and accuracy of the enemy's information, it will be desirable to credit the enemy with any knowledge which it would be dangerous for the commander to conclude was not available to his opponent.

In summarizing the enemy's situation, the commander may brief the procedure by indicating those significant features of his own situation, as summarized in Section I-A and as particularized in Section I-B, which he does not consider are known to the enemy. The commander will also indicate here any items of important information as to which he has only a suggestion or an inkling, but which he considers may be known in greater detail to the enemy.

(2) Analysis of the Effect Desired by the Enemy.

It may appear on first thought that the best basis for determining the pertinent enemy courses of action is to make a deduction of the enemy's mission. Sometimes, undoubtedly, this is the case. However, it is not always possible to deduce the enemy's mission correctly. If the deduction is incorrect the remainder of the estimate will be on an unsound basis. If, as may happen, the enemy's plan has been captured, or if, by some other method, conclusive information has been obtained, it may be possible to state the enemy's mission. Even then, however, the enemy's mission may sometimes be changed. It is thus evident that the commander, by restricting his thought, may frequently fail to consider all of the enemy capabilities which may materially influence his own course of action.

With this precaution in mind, the commander, at this point in his Estimate, proceeds to analyze the effect desired by the enemy. The commander intends to use his deductions, if such use appears to be sound, to narrow the field of

consideration as to enemy courses of action. However, he reminds himself that such restriction will be dangerous unless it is established on sound grounds.

The first mental act toward determining the effect desired by the enemy is to form a reasoned opinion as to the situation which the enemy wishes to maintain or to create. The maintenance or creation of this situation, existent or to be brought about, is an enemy objective.

From earlier association with the enemy, from intelligence of his peacetime preparations, and from a knowledge of his political and military history, his broad current policies are generally matters of common report. The motives impelling the enemy to action may thus be evident. Past or present tendencies of the enemy, along certain specific lines of endeavor, may be known. These may be corroborated by the enemy action which has recently occurred.

In military undertakings of major scope the objectives of the enemy are often difficult of concealment. A survey of the objectives which the enemy has been pursuing may allow a reasoned opinion to be formed as to the enemy's immediate objectives,—whether, at least, his future action will be offensive or defensive. The importance to be attached by the enemy to certain physical objectives may be indicated by the broad aims known to exist. Present composition and disposition of the enemy's forces may betray the effort which he intends. Circumstances, clearly disadvantageous to the commander's forces, may disclose what his enemy's aim may be for maintaining or creating a favorable (enemy) military situation.

However scant or incomplete the data from such sources or from others, the commander seeks to gain, by piecing together, a composite basis of workable value in arriving at a sound conclusion as to the enemy's future action.

The enemy objective thus visualized may serve as the purpose of the enemy's mission. The situation thus envisaged may be specific or broad in nature, depending on the soundness of the deductions. This, in turn, will depend on the extent and character of the information available.

It may now be possible to deduce a definite task, which when accomplished, will attain the indicated purpose. However, as previously stated, it is not desirable to be unduly specific. The commander reflects on the several possibilities which if carried out will attain the purpose. By being inclusive instead of restrictive in this matter, he avoids the danger of overlooking enemy capabilities. Moreover, the information available will not always justify the derivation of a specific task.

By this process of reasoning, the commander may arrive at a studied opinion as to the enemy's appropriate effect desired. The commander's safeguard is that he has not been too restrictive or specific. He expects to encompass within his conclusion the limits of the enemy's objectives and actions, so that his own planned action will not fail to cover all enemy action which can materially influence the situation.

Situations may be encountered when, in the equation referred to in Section II-B (page 135), no value can be assigned the factor of the appropriate effect desired which will constitute a sufficient basis for deducing enemy courses of action. Such situations are not unusual, especially in problems of lesser scope. In such cases, the commander is compelled to consider all possible enemy courses of action which can materially influence his own plan. Therefore, in instances of this nature, it is apparent that the procedure of giving first consideration to the commander's own courses of action affords the advantage of (see page 134) narrowing the field as to the enemy capabilities.

B. Survey of Enemy Capabilities.

If, then (to repeat, because of the importance of the matter), the commander believes that he has, in the deduced enemy effect desired, a sufficient basis for evolving all pertinent enemy capabilities, he now proceeds, by the mental process described in Section II, to list the enemy courses of action which he thinks merit attention. If there be no adequate basis, the commander will find it desirable to list all enemy courses of action which can materially affect his own effort.

The survey of fighting strength (Section I-B) has established, through consideration of the "means available and opposed", and of the "characteristics of the theater", the limitations of enemy capabilities from the standpoint of feasibility. Because, however, so much of the enemy's situation is usually conjectural, it is important to give the most searching attention to the comparison summary in Section I-B,—in fact, to consider fully every element of weakness and strength, and of advantage and disadvantage. Such a study will disclose every possibility which the enemy might exploit. The commander may thus determine, for example, the enemy strength which can be moved into positions within time limits that can affect the commander's courses of action; he can also examine into possibilities of obtaining information concerning the enemy's

moves.

Such a study enables the commander to envisage the enemy operations which presumably can materially affect his own plans. He may now list the presumed capabilities of the enemy, in the form of courses of action, for purposes of further analysis. Naturally, he lists courses which appear to be suitable, feasible, and acceptable as to consequences, but formal tests are deferred until the next phase of the estimate.

C. Application of Tests for Suitability, Feasibility, and Acceptability.

Having listed pertinent enemy courses of action as described above, the commander next tests them for suitability, for feasibility, and for acceptability as to their consequences.

The procedure is the same as for his own courses of action (Section II). However, since the enemy's appropriate effect desired, if deducible at all, is often only an approximation, the test for suitability is usually less rigid or absolute than for the commander's own courses of action. By the same token, since the enemy's fighting strength will usually include elements of conjecture and hypothesis, the test for feasibility may be less reliable than when applied to the commander's own courses. In fact, if there are any reasonable doubts as to feasibility of an enemy course of action, it is properly retained for further consideration. The same considerations and the same safeguard apply with respect to acceptability of the consequences.

D. Listing Retained Enemy Courses of Action.

All enemy courses of action which, after test, are retained for further study are now listed by the commander.

While it is manifestly of advantage to the commander if the number of enemy courses can reasonably be reduced to only a few or even to one, it is important that no material enemy capability be neglected because of undue restriction of the field.

The previous analysis will have indicated, at least, in some cases, the degree

of suitability and feasibility, and will have enabled the commander to form a considered opinion as to any preference, from the enemy viewpoint, on the basis of consequences as to costs.

In many instances, therefore, it will be possible to arrange retained enemy courses in order of priority, i.e., the more likely being listed before the less likely. In case of doubt, the higher priority is awarded by the commander to enemy courses which are more dangerous from his (the commander's) point of view.

In other instances, no priority can properly be indicated.

As a result of this study, the commander may now be able to combine certain enemy courses. In any case, he closes this portion of the estimate with a list of them, classified so far as he finds justifiable, and thus made available for further effective use in the estimate.

SECTION IV

SELECTION OF THE BEST COURSE OF ACTION

The extent to which detail is desirable in Section IV of the Estimate will vary with the nature of the problem (page 95). Experience usually demonstrates, however, that an estimate in only the necessary detail escapes the danger inherent in undue detail which would tend to befog the main issues. As the commander proceeds with his estimate, he will recognize the need for additional examination into details, and will conduct such examination accordingly.

A. Analysis and Comparison of Retained Courses of Action.

The next step in the estimate is the natural one of comparing the commander's retained courses of action with those of the enemy which have been retained for further study. This process consists of executing, in imagination, the plan contained in each of the commander's courses of action, against that in each of the enemy's. One method is for the Commander to take the initiative with each of his plans and mentally to push it through with vigor. By this procedure, he concentrates his thought on the effect to be produced, on the changed situation

which that effect will bring about for the enemy, on the modification in the enemy's effort which will be caused, on the resulting obstacles which these modifications will create, and on the provisions which will have to be made to overcome the obstacles.

It will at once be apparent that the commander may have to re-estimate the enemy situation during this analysis. Such necessity arises because of the changes made by his own course of action upon the enemy situation. The commander will desire to reach a studied conclusion as to what counter action the enemy may take when the nature of the planned action against him becomes evident. This re-estimate of the situation may be brief, as it is an adjustment of factors which are familiar through previous examination. Sometimes the re-estimate will have been made mentally, before reaching this point, and adjustments may already have been made in the written estimate, in anticipation of this contingency. Sometimes the commander may find it desirable, after reaching this point, to re-write, at least in part, his original enemy estimate (Section III). The particular procedure adopted is unimportant; the important feature is to recognize that such a re-estimate process is normal, and especially so with reference to this portion of the Estimate.

The foregoing discussion illustrates the point that an examination into enemy capabilities is not complete if the commander puts himself in the enemy's place merely for the purpose of estimating the original situation from the enemy viewpoint. In addition, the commander examines each of the enemy's modified problems which the changed situation, created by the execution of the commander's plan, has superimposed upon the enemy's original problem. Thus only can the commander analyze the various ways whereby the enemy may oppose his own proposed courses of action. Thus only may sound conclusion later be reached, in the next subsection of the estimate, as to what course of action, or combination of courses, is the best.

The comparison of plan against plan thus far has been restricted to the method whereby the commander takes the initiative with each of his own retained courses of action. Another method is to imagine the enemy as taking the initiative, carrying through each of his courses against each of the commander's courses. This method is applicable, for instance, to cases where the enemy is able to initiate action which, by its nature, would frustrate the execution of any of the commander's courses. The choice of methods is a matter of judgment on the part of the commander.

It is rarely that courses of action can be compared without resolving each, to

some extent, into the detailed operations which it comprises. However, this analysis is confined, as previously explained (see page 145), to the details whose consideration is necessary for purposes of a sound comparison. In some cases there may be need for study in the greatest detail. Generally, however, the requirement can be met by considering for each operation the kind of action, the types of weapons, and the physical objectives.

During the progress of these analyses of the impact of operations upon each other, there may occur to mind further operations which an alert and awakened enemy may undertake in opposition; the counter to these operations may also suggest itself.

The use of the chart, with positions and forces plotted, is here frequently essential; in tactical problems diagrams and tables showing possibilities of position, distance, speed, maneuver, gun ranges, relative strength in types and weapons are useful.

Through the procedure described above, the commander is afforded further opportunity to test his courses of action, as to suitability, feasibility, and acceptability. He can, once more, view each of his courses from the standpoint of its suitability. The visualized enemy action may introduce considerations, not previously realized, as to whether certain of his own courses are suitable to the appropriate effect desired, when results are envisaged on the basis of the possible opposition. As to feasibility, the analysis permits him to make a further estimate of the enemy capabilities with respect to obstructing or preventing the desired outcome of his (the commander's) courses of action. In addition, by visualizing the pertinent operations involved, he enables himself to evaluate the costs to be expected.

Should the commander conclude, at this stage, that further consideration of any of his courses, so far retained, is not justified, he will naturally reject such courses so as to confine further analysis within narrower limits.

Should he find, during his analysis, that further combinations should be made among his retained courses, he makes such combinations and uses them in his comparison.

However, he defers, until the next subsection, his choice of the course to be

finally selected, or his conclusion that none can justifiably be adopted. The process of comparison is confined to deduction, rearrangement, and justified rejection, preliminary to weighing and selecting in the next subsection.

B. Determination of the Best Course of Action.

The commander is now ready to ponder over his retained courses of action as further analyzed in the light of enemy opposition. All of these courses, if carried out, are presumably competent, in varying extent, to attain the appropriate effect desired. He will now examine and consider them with the specific intent of coming to a conclusion as to which one, or which combination, he will select as the best. The analysis of each course of action in comparison with each enemy course has made possible a comparison, to this end, of the commander's retained courses with each other.

At this point, therefore, the commander again assembles his retained courses of action.

He includes the combinations which the preceding analysis has indicated belong properly together. He then considers the final tabulation in the light of the considerations now to be noted.

The conclusive tests are now made for suitability, for feasibility, and for acceptability as to consequences. Because of the importance of this terminal analysis, it is desirable that the tests be as precise as possible.

The commander now has, in addition to his list of the retained courses of action, a summarized comparison of each with the others, under the several pertinent headings. He next examines this all-inclusive summary, with the intent of selecting the best course of action.

It may be found that one, or another, or a combination, is best. Again, there is the possibility of considering, as best, a course of action which, if carried out, will only complete an initial stage toward the accomplishment of the motivating task.

If the result of the analysis has demonstrated that there is no satisfactory course of action, this fact is here stated, with a notation as to the reasons for such opinion. In this case the commander faces a dilemma.

Usually a task imposed on the commander by higher authority will be a

carefully considered assignment of part of the superior's planned effort. The commander may expect normally to find that his own estimate of the situation will yield courses of action which, if successfully carried out, will accomplish the task assigned. The reasoned plan of the superior is a safeguard in this respect.

Nevertheless, realism requires that the commander be fully prepared to meet the possible dilemma:—When he cannot envisage a course of action for accomplishing the assigned task, or when, of the several courses of action under consideration, he finds none satisfactory, what is he to do? (See page 70).

Under these circumstances the commander reviews his estimate in all its aspects. By minute re-examination he endeavors to find ways of accomplishing his assigned task. If he cannot accomplish the task, he seeks for ways whereby he can further such accomplishment so far as is reasonably feasible. If unable, in any degree, to further the accomplishment of his task, he endeavors to contribute, so far as he feasibly and acceptably can, to the accomplishment of the purpose of his mission.

It is to be expected, of course, that, if unable to accomplish his assigned task, the commander will make constructive representations (page 103) to higher authority. The latter may then assign additional forces or may otherwise alter the problem,—for example, by assigning a new task. However, a situation such as described may occur when the commander is alone in a distant theater or when for other reasons he finds himself unable to communicate, in time, with higher authority.

In such a situation the commander is under the necessity of determining, for himself, a task which is suitable, feasible, and acceptable under the circumstances (page 52).

It is evident that, at some point in the foregoing procedure, the commander has been forced to abandon the solution of his basic problem, because he has found that there is no sound solution. He has not completely abandoned the solution of his original problem, because he has not yet exhausted all of its possibilities. However, the solution of the original problem has unquestionably entered a new phase, or step.

The new step presents the commander with a new problem, a phase in the solution of the original problem; the new problem is related to the abandoned basic problem, because it arises out of the same situation, which has not changed. The new problem is, however, differentiated from the basic problem because it is based on a different incentive. The incentive for the solution of the new problem arises directly out of a decision made by the commander himself, i.e., his decision that no sound solution for the basic problem can be found. The new problem is one for the commander himself to solve, i.e., it cannot properly be delegated to a subordinate for solution, because its solution is necessary as a

basis for the commander's detailed plan. For these reasons the new problem is, by definition (page 106), a subsidiary problem, of the type distinctive of the second step.

At what point in the solution of the original problem does the commander abandon the basic problem and proceed with the solution of the new, subsidiary problem which has arisen as described? There are various possible answers, all with a basis of reason, to this question.

From the standpoint of theoretical precision, it might be said that the basic problem is abandoned when the conclusion is reached that its motivating task cannot be accomplished. It might also be said that the basic problem is abandoned when the conclusion is reached that the commander can in no way contribute toward the accomplishment of the motivating task.

Practical experience indicates, however, that the basic estimate can profitably be utilized until the conclusion is reached that no contribution can be made to the purpose of the mission. At this point a new estimate, subsidiary to the basic estimate, necessarily begins. This view is confirmed, theoretically, by the fact that, at this point in the procedure, a radical change occurs with respect to the appropriate effect desired. In such circumstances, the commander concludes that he cannot contribute, in any degree, to the accomplishment of his immediate superior's general plan.

The incentive for the solution of the subsidiary problem will therefore arise, on the basis thus adopted, when the commander has concluded that he cannot contribute to the accomplishment of his basic mission, and that he is under the necessity of evolving a new mission for himself. His basic Decision (see discussion, hereafter, of Section V of the Estimate Form) will reflect this conclusion and will thereby afford him a basis for the solution of his subsidiary problem.

Problems of the foregoing nature, where the commander justifiably departs from his instructions, are not unusual during the first step. However, they are scarcely typical of that step so long as an organized chain of command is in effective operation. In the more usual case, the commander, at this point in his estimate, makes note of his selected course of action. Whether he selects a single course or a combination, the selection is thereafter known as the best course of action (singular).

SECTION V

THE DECISION

In the final section of the Estimate the commander is concerned with a decision as to the selection of an objective or objectives determined by himself, for the attainment of the appropriate effect desired. This decision also indicates, in proper detail, the action to be taken for the attainment of the commander's selected objective. The decision reached at this point becomes the commander's general plan of action or provides the basis therefor. It is accordingly so important that when it has been formally stated in a basic problem it is thenceforth known as the Decision.

The Statement of the Decision. Frequently the statement of the Decision may be merely a restatement of the best course of action. Such phraseology is often adequate, provided, naturally, that the selected course of action has been, itself, correctly expressed (page 95). Sometimes, however, the commander may desire, at this point in his estimate, to develop such expression more fully. He may at this point develop his selected course into a general plan, or he may defer this development to the second step.

In any event the commander now scrutinizes his selected course of action to ensure that its expression conveys exactly the meaning which he has in mind.

He bears in mind, also, that his Decision will settle the pattern of his future action. If the selected objective is inferred, rather than specifically stated, the commander will then ensure that the inference, with all its vital implications, is plain.

As to the statement of the action required to achieve this objective, the commander realizes that the pattern laid down by the Decision is merely a shape or general outline. The details will be introduced later. The Decision covers the general outline of the action contemplated for the entire force.

If, for example, only a part of the commander's force is to act, while the remainder is to remain inactive, the Decision will cover not only the kind of activity but also the extent of the inactivity. However, for convenience in stating the Decision, such inactivity may be inferred, rather than expressly stated, so long as the meaning is made clear. Thus, if the force, except for a raiding task group, is to remain inactive for the time being, the Decision may properly be "to raid enemy communications in the area —— with a task group consisting of

——", so long as the commander is satisfied that the implication is clear, under the circumstances, that the remainder of his force is to remain inactive.

The commander may properly include brief summarizing remarks as to the methods, broadly viewed, whereby he intends to take action. However, he introduces such detail only to the extent that he feels amplification is needed, either for his own benefit or for the assistance of others who may use his estimate.

Deductions or inferences which the commander wishes to note may, at this point, be included with the Decision as corollaries (see next page).

Where combinations of courses of action have been made in selecting the best course, the meaning can sometimes be improved at this point by modification of the previous wording.

When, as previously discussed (page 151), the commander has concluded that he cannot feasibly or acceptably adopt any course of action which will accomplish his task, contribute in any measure to its accomplishment, or even contribute in any degree to the accomplishment of the purpose of his mission, he records that fact in his Decision. His study of the problem will by this time, however, have given him the necessary data for a conclusion as to what his new mission should be. He therefore closes his basic estimate with a Decision, coupled with a purpose therefor, (see below), which will serve as a new mission, i.e., as an appropriate effect desired. This provides a basis for his solution of a subsidiary problem whose incentive is derived from this Decision.

Of course, if the commander has had time and opportunity to represent his situation on this basis to higher authority, and has received a new task therefrom, the new task, coupled with the purpose also indicated by higher authority, will provide the mission for the solution of a new basic problem.

The Purpose of the Decision. The purpose of the Decision is identical with the motivating task,—provided, of course, that the Decision, if carried out, will accomplish that task in full. When stated, the purpose is usually connected with the Decision by the words "in order to".

If the commander has concluded that he will take action by stages, the Decision may cover only the first stage. In all cases where the Decision will only partially accomplish the motivating task, appropriate words to link the Decision to its purpose may be such as "to assist in" or "preparatory to".

The statement of this purpose, in connection with the Decision, is frequently

helpful and is sometimes necessary in making clear the exact relationship between the Decision and the motivating task. In the next planning step, where the detailed operations are determined, this purpose is an important guide because each detailed operation is expected to contribute to the accomplishment, not only of the Decision, but also of the motivating task.

Corollaries to the Decision. The Decision may involve certain deductions or inferences, either delimiting or amplifying its nature. The commander may find it desirable to make note of these matters in connection with his Decision. He may later wish to use these notes when formulating his plan. Since these matters relate to deductions or inferences which naturally follow as results of the Decision they are properly referred to as "corollaries" to the Decision.

The nature of such corollaries may best be shown by an example. It is supposed, for instance, that the commander has made the Decision "to guard the Eastern Caribbean barrier against enemy penetration". During the course of his estimate of the situation, he has come to the conclusion that his operations to carry out this Decision will extend into the area limited by Port X on the north, and Port Y on the south. This conclusion is a deduction, which immediately assumes importance when the Decision is made. The commander states this deduced conclusion here, in connection with the Decision, for future guidance in resolving the Decision into detailed operations, as well as for later use in his directives to limit the action of his subordinates.

No particular form is specified for such corollaries. It is satisfactory to list them as Corollary I, Corollary II, etc. They do not constitute a part of the Decision.

Relation of the Decision to the Detailed Plan and Directives. The Decision is the basis for the commander's plan of action for his entire force. This plan is promulgated in one or more directives. The Decision, as it appears in the Estimate, is not yet the concern of subordinate commanders. It does not become their concern until it is used in directives. As incorporated in the commander's detailed plan and in his directives, the Decision, whether further developed or not, constitutes the commander's general plan and is referred to in those terms.

The Decision, as it appears in the Estimate, is not bound by any rigid specifications as to form. Later (Chapter VII), when the commander prepares for the inauguration of planned action by the formulation and issue of directives, he assumes the obligation of conveying the substance of his Decision to his subordinates in clear language. At that time he will again have to subject its

expression to scrutiny, and may find that he has to make modifications solely for clarification.

CHAPTER VIIToC

THE RESOLUTION OF THE REQUIRED ACTION INTO DETAILED OPERATIONS

(The Second Step—The Solution of Subsidiary Problems)

The problem of the second step may be stated in question form as follows: "What action should I take for the attainment of my objective as selected in the first step?"

For convenience a tabular form, inserted in the appendix, page 224, gives page references to the principal subdivisions of this Chapter.

Having arrived at his basic Decision, the commander, if he wishes to put it into effect, will proceed to formulate a plan of action which can be cast into the forms of directives for execution. In making such a plan, he provides for operations in the detail proper for his situation. He thereby expands the general plan, indicated in or developed from his basic Decision, into a complete plan which can readily be placed in the Order Form (Chapter VIII) as a directive or directives for the guidance of his subordinates.

The procedure involved in formulating such a detailed plan of action has been described previously in general terms (Chapter V). The method of determining the salient features of the operations required has also been discussed (in Section III of Chapter IV). Therefore, these matters are not repeated at this point.

The problems distinctive of this procedure (the second step, as described in Chapter V) are subsidiary problems, in the sense that the incentive for their

solution arises by reason of a decision already made by the commander, i.e., the basic Decision, and because they are problems which the commander recognizes are to be solved by himself and not by his subordinates.

Assumptions. The commander's plan has been derived from an estimate of the situation based on the best information available to him. Complete and accurate information is frequently lacking; hence, many military plans consider contingencies which, to make a plan possible, have been accepted in the estimate as assumptions.

The word assumption, when used to denote a basis for a plan, signifies "the taking of something for granted". It does not mean a conjecture, guess, or probability. The proposed action, resulting from a decision made under an assumption, is designed to be taken only upon the disclosure of the truth of the assumption. The fact that the assumption upon which the plan is based may prove false indicates the advisability of developing several plans based upon various sets of assumptions.

It would be erroneous to believe that all contingencies can be foreseen, and to be content with a particular set of plans, all of which may prove to be wrong. It is not to be expected that a plan based upon assumptions will, in all respects, be suitable for use in an actual situation. For example, it will seldom occur that an elaborate Battle Plan, based upon assumptions as to the various types, dispositions, and strengths of forces present, the weather conditions, and the intent of the enemy, can be used without changes.

On the other hand, a plan for the sortie of a fleet from a harbor under assumptions that high visibility exists, that airplanes can operate, and that hostile submarines will be the only force in opposition, may frequently be found entirely applicable to the actual situation, or so nearly so as to require only slight modification. It is possible so to standardize such plans that only minor variables need be indicated when the plan is to be used.

The visualization of valid and useful assumptions frequently makes the most serious demands on professional knowledge and judgment.

Alternative Plans. The word "alternative" is generally applied to contingent plans intended to accomplish a common task, but developed from varying sets of assumptions. "A choice between several" is the meaning of the word as here used. When such choice becomes necessary in a situation not yet clarified, that plan will be selected which has been derived from the set of assumptions considered by the commander as most likely to be correct. The selected plan is

usually called the plan or the "accepted plan", and the other plans, coming from other less likely but still possible sets of assumptions, are called Alternative Plan No. 1, Alternative Plan No. 2, etc.

Naval tactical situations particularly lend themselves to the drawing up of alternative plans in advance. There are numerous general categories of such tactical plans. Among these the Battle Plan is of paramount concern. Others include plans for sortie, entrance, defense while cruising, etc. In each category, alternative plans may be developed, based on various sets of assumptions.

Alternative plans evolved in advance of detailed information may be found useful as a general basis for action. Circumstances may prove to be different from those previously visualized. The correct procedure is to keep the plans up to date, testing them, by the latest information, in a Running Estimate (Chapter IX). The commander will thus have a foundation for sound decision in the circumstances which actually arise.

Still another use of alternative plans merits consideration. Early coordinated action during actual operations may be demanded although neither time nor the information available has permitted a detailed estimate. If the commander has drawn up, in advance, plans based on assumptions as to conditions that conceivably might exist, he will be better able to appreciate the situations which actually arise. He can thus direct the necessary action with more rapidity and understanding than if completely unprepared because of lack of planning. If he informs his subordinates of his proposed action under certain assumed conditions, he will facilitate cooperation, because better mutual understanding will exist. The advance alternative plans here discussed are not necessarily confined to problems confronting a commander during actual war operations. They may profitably be drawn up in peace, and may be the basis of training exercises.

Application of the Essential Elements of a Favorable Military Operation

In the solution of the problems distinctive of the second step, the commander starts with a consideration of the salient features of a favorably progressing military operation. This procedure is appropriate because any series of these problems, considered as a whole, pertains to the single problem of determining the most effective operation, or series of operations, for carrying his basic Decision into effect. If the action contemplated in the basic Decision is of such a

nature as to call for successive included efforts in more than one stage, the commander limits his consideration, should he find such restriction advisable on sound grounds, to the operation or operations included in the first stage.

On this basis, the commander considers, first, the feature of correct physical objectives. He has first to determine what his correct physical objectives will be.

This determination may or may not present a perplexity. Frequently, the procedure of the first step (Chapter VI) will have plainly indicated one or more, perhaps all, of the physical objectives involved. In some cases, also, the basic Decision will have plainly pointed out the action to be taken, and with respect to what physical objectives. In these instances, the commander may, with little further analysis or none, set down the operations which he considers necessary or desirable with respect to these physical objectives.

In other cases, however, the action indicated in the Decision, though plainly indicating the commander's intent—that is, his calculated line of endeavor—may not have designated the numerous physical objectives as to which his effort is to be exerted. For example, the Decision "to interrupt enemy trade on the southern maritime routes" is quite clear, but what are the numerous exertions of force required, and with relation to what physical objectives? Immediately there is a perplexity. Guided by the analysis made in his previous estimate of the situation, the commander now determines what the physical objectives are, action as to which will contribute to the accomplishment of the effort. The sum total of the actions taken against these physical objectives is properly equivalent to the accomplishment of the action indicated in his Decision. He may not be able at this time to determine all of the correct physical objectives, but he can determine certain correct ones (for the method, see Section III of Chapter IV).

The correct physical objectives having been determined, so far as can be done at this time, the commander studies each thoroughly, developing the possibilities of certain effective actions (operations) with reference thereto. For instance, in the case of a commander who has been ordered to "interrupt enemy trade on the southern maritime routes", he might develop one operation "to bomb enemy facilities at Port X", and another "to capture or destroy enemy shipping along trade routes" (with an indication of the routes involved).

The operations thus developed are now listed in a definite sequence, in order to provide a proper basis for the further procedure. The commander may find it desirable to state them in their order of importance. Sometimes, however, it may be found advantageous to list the operations in chronological sequence, i.e., in the order of their execution. This point is further discussed hereafter (pages 166 and 192). The commander is at liberty, of course, to use either method according to its helpfulness in enabling him to visualize the elements of his problem.

The commander now considers the second feature: advantageous relative positions. He may already occupy an advantageous geographical location or locations (see pages 64 (bottom) and 65 (top)), or he may desire to improve his positions in certain respects. An advantageous position might be between the enemy and his base, in order to deny it to him. Another advantageous position might be to windward of the enemy, for the purpose of making a destroyer attack under the protection of a smoke screen.

The commander now reconsiders, from the viewpoint of "advantageous relative positions", the operations deduced with respect to "correct physical objectives". As a result of this reconsideration, he may find that certain of these operations may be retained without change, whereas others may require modification.

Suppose, for example, that two of the operations listed are those noted above, viz:

> "To bomb enemy facilities at Port X", and
>
> "To capture or destroy enemy shipping along trade routes between the —— parallels of north latitude and the —— meridians of west longitude."

From the viewpoint of relative position, it may appear that the first operation is not affected seriously, if at all. Therefore, this operation may be left unchanged. However, the second operation may be definitely affected by relative position, because the best method of interrupting enemy trade may be to employ raiding forces in focal areas. Therefore this operation might be altered to the form, "to capture or destroy enemy trade by raiding focal areas" (with a designation of the areas).

The commander's study is now likely to suggest operations which were not

apparent when the analysis was confined to the correct physical objectives, alone. New physical objectives may appear to require attention. If so, all such new operations are added to the list compiled.

The commander may now study his list of operations, compiled to this point, from the standpoint of the third feature, proper apportionment of fighting strength. However, if the commander considers such apportionment now, his subsequent study of the fourth element—"adequate freedom of action"—may develop a need for further operations which will in turn call for a re-analysis as to his apportionment of fighting strength. Therefore, for purposes of this discussion, it is assumed that the commander now defers consideration of such apportionment, and that he proceeds at this point to study measures for ensuring adequate freedom of action.

This study requires consideration of such matters as training, morale, surprise, secrecy, cooperation, intelligence, logistics, and provisions (communications, location of the commander, and the like) for effective exercise of command. (See page 76). The commander exercises his judgment as to the degree of detail in which such matters should be treated, according to the nature of his problems.

If any such subject—for example, communications—involves the development of a subsidiary plan (page 168), the measures noted in connection with the formulation of the basic plan may be stated along broad lines, such as: "To provide for effective communications." Any specific matters of considerable importance may also be included,—for example, as to secrecy with respect to the use of communications. Other details may then be deferred until the commander takes up the necessary subsidiary plan. Otherwise, all pertinent operations in connection with these measures are naturally noted at this point.

Certain of these measures for freedom of action are now to be discussed in some detail because of their important bearing on basic plans.

In certain operations contemplated by the commander, there may be a requirement for additional training, sometimes of a special nature. This may be true, for instance, if an operation involves the landing of an expeditionary force. Conditions permitting, the commander will naturally desire to make provision for training exercises. If time or other conditions do not permit necessary

training, he may find it desirable to modify his plans accordingly. The salient features of a subsidiary training problem are discussed hereafter (page 176), and may well be considered at this point in developing the basic plan.

The commander may already have noted, in considering operations suggested by his previous study of the situation, a need for certain action as to security, secrecy, and intelligence. Any additional operations of this nature, not previously noted, may well be incorporated at this point.

Security of his own plan, and secrecy therefor, are important considerations with reference to intelligence activities. The requirements as to intelligence and counter-intelligence features are primary considerations as to any plan. Such considerations involve the collection of information and its conversion into intelligence. The hampering of enemy intelligence activities is a related consideration.

The collection of useful information, and its denial to the enemy, call for a definite plan. When information has been collected, it is subjected to the processes (page 122) of analysis, evaluation, interpretation, and dissemination. Collection, to be consistently effective, calls for specific directives to, or requests on, the appropriate collecting agencies. Analysis determines the source of the information and the circumstances under which it was obtained. Evaluation determines its degree of reliability. Interpretation consists of drawing conclusions; when information thus takes the form of facts (so far as they can be ascertained) and of sound conclusions drawn therefrom, it becomes military (naval) intelligence. It is then disseminated to those concerned and is used in the solution of the commander's own problems.

The basis for collection of such data is the determination of the essential elements of information desired by the commander. The notation of these essential elements, for later incorporation in his directive(s), naturally constitutes a primary feature of his basic plan. The essential elements of information are frequently formulated as questions—e.g., Will the enemy do this? Is the enemy doing that? What are the principal topographic features of Y Island, with respect to so and so?

These questions cover the essential matters of perplexity as to enemy courses of action and as to the characteristics of the theater. Each enemy course of action, for example, may provide the basis for a question; or, if the scope of the problem has narrowed sufficiently, such question may deal with one of the enemy's possible operations, related to a course of action which he may be

pursuing or is known to be pursuing.

On the basis of the essential elements of information, the commander provides for proper reconnaissance activities by the several collecting agencies under his command, or for appropriate requests to be made by him on other collecting agencies. A sound plan will always make adequate provision for such measures.

These subjects are treated in more detail in the later discussion (page 177) of intelligence problems.

In connection with freedom of action, the commander will also make adequate provision for logistics support. In its unrestricted sense, the term "logistics" relates to the supply and movement of a military force, and to such related matters as the disposition and replacement of ineffective personnel. Logistics measures, as comprehended in the development of the basic plan, exclude movement primarily of a strategical or tactical nature, but include movement related primarily to supply and similar matters. This requirement gives rise to the necessity for logistics measures which may further call for operations such as to provide fuel oil and supplies at rendezvous X and Y, and tender facilities at port D. An incidental requirement will relate to movements of train ships. Hence, the commander formulates these, also, and includes them in his list of operations for later assignment as logistics tasks. (Page 166). Fuel oil may likewise be required at Port D, but if the commander knows that ample fuel oil is in store there, no operation to cover this feature is required of him.

The solution of logistics problems is further discussed hereafter (page 179).

The commander has now, it may be presumed, evolved all of the operations that his analysis tells him are appropriate with respect to correct physical objectives, advantageous relative positions, and freedom of action. Therefore, he now studies all of these operations from the viewpoint of the remaining element —proper apportionment of fighting strength. This consideration involves, initially, a determination of what forces will be necessary to carry out the

operations listed. The commander thereby determines the requirements, as to forces, for each such operation.

For example, the operation "to locate an enemy force" may require the use of several types of naval vessels and aircraft. The commander determines what method of search is best for the purposes of this specific operation; thereafter, he determines what forces are necessary to conduct the search. The procedure has previously been indicated (in the Principle of the Proper Means to be Made Available—page 34).

In this study the commander will often find it necessary to divide some of the more extensive operations into component parts, suitable for later assignment as tasks for subordinates. Fundamentally, there is no difference between an operation and a task, except that the latter includes also the idea of imposing on another person, or assigning to him, a definite amount of work or duty (page 84). At this stage, then, the commander deals with components suitable for performance by available weapons, in the usual units, or combinations of units, in which they are effective. Of course, when an operation meets this requirement without subdivision into components, it need not be subdivided.

These component parts are not yet actually tasks, because the commander does not plan to assign them at this time to any one for execution. However, the components are visualized as clearly, and are formulated as definitely, as is possible at this point. The requirement is that they be acts that available forces can perform.

The method of breaking down an operation into component parts is one of analysis and deduction. Having visualized the manner whereby the operation can contribute to the accomplishment of the effort, the commander has now to determine the means to be employed to this end. Experience and knowledge tell him what numbers and types of ships, aircraft, and other weapons, if properly employed, will attain the effect desired.

Each component part will indicate both the action and the physical objectives of the action. For each component, the commander estimates what forces are required. He knows the extent of the armed forces available, and he can, if his total force is adequate, adjust matters to allow each component a force capable of carrying it out.

For example, a component operation might call for a search by destroyers, but the commander might find that his destroyers were in such poor relative position as to prevent them from reaching the point of origin in time. Therefore he would

be unable to conduct the search by using destroyers alone. He might now consider a search by aircraft. A study of this proposal might indicate that it could be carried out in part by aircraft, but that available aircraft were inadequate to carry it out in its entirety. In such event, consideration would be in order of the possibility of conducting this search by use of other forces also, e.g., submarines and cruisers.

In case the commander believes an indicated operation to be infeasible, he first restudies that operation to see whether he can modify it, without adversely affecting the accomplishment of the effort. He may even find that he can eliminate it by including its essential features in some other operation.

If the commander finds that his forces are inadequate for the accomplishment of an effort in one stage, but that they are adequate for its accomplishment in successive stages, he may draw a conclusion as to which of the operations he can carry out first. On this basis, he may proceed with the formulation of tasks to include these operations, leaving the remainder to a future time (see page 56).

It may be that all operations set down cannot be accomplished by the forces available, but that they will be possible of accomplishment if other forces are provided. This knowledge, of the sum total of forces required for the action indicated in the Decision, is an essential. It is only by such a searching inquiry that the commander ensures that the operations resolved from the Decision will result in a full solution of his problem. Usually the forces available will be found adequate, because the superior who provided them gave consideration, on his part, to the requirements. However, if the forces available are not deemed adequate, the commander either modifies the operations, or restricts them, or subdivides them into parts for performance in succession by stages. In any such case, conditions permitting, he makes constructive representations, together with a report of the facts, to his superior (see page 103).

Testing for Suitability, Feasibility, and Acceptability.

Each of the operations finally deemed necessary or desirable is now tested as to its suitability, its feasibility, and its acceptability as to consequences. The considerations involved have been explained previously (Section III of Chapter IV) and are therefore not repeated here.

The testing process will eliminate those operations found not suitable,

feasible, or acceptable.

In addition, the tests may lead to the elimination of operations which, while both suitable and feasible, do not contribute enough toward the accomplishment of the effort to warrant their retention. For example, among the operations listed might be one to capture X island and one to capture Y island, both suitable and feasible. The commander, having analyzed these proposals, might conclude that the capture of Y island would not constitute a sufficient contribution to warrant its adoption as an operation at this time. Therefore, he might omit this operation, or he might defer it to a later stage.

A feasible operation may similarly be rejected or deferred out of preference for another which can more readily be accomplished.

The tests may also reveal important facts as to the relative consequences with respect to costs. For example, two operations might both be acceptable as to this factor, but one might be less acceptable than the other. Accordingly, the less acceptable operation might be omitted, or might be deferred for the time being.

Upon the completion of the tests, all operations retained are listed for further development.

The Formulation of Tasks

The correct resolution of the Decision into the detailed operations required is further ensured by the visualization of these operations as tasks. Tasks so formulated (page 162), become a basis for the preparation of directives.

To prepare a plan as a basis for directives, or for use as such, the commander first finds it desirable to formulate and assemble the various tasks. The tasks are formulated as a result of his study of (1) those operations which do not require to be broken down, and which may now be rewritten as tasks, and of (2) the component parts of the more extensive operations (See page 162, bottom).

Each of the tasks, as now listed, is tested for suitability, for feasibility, and for acceptability with respect to the consequences as to costs. In view of the fact that the operations have all been thoroughly tested, this process now becomes not a formal analysis but merely a check.

The Organization of Task Forces and Task Groups

The commander now classifies the tasks on the basis of their suitability for accomplishment by appropriate task forces or subdivisions thereof, i.e., task groups. In so doing he endeavors to avoid forming any more classifications than are necessary for the accomplishment of the full effort.

Note: In the remainder of this work, the term Task Group, except as may otherwise be indicated, will be understood in the inclusive sense of either "task force" or "task group".

Tasks are assigned to task groups on the basis of such factors as the nature and geographical location of physical objectives, the existing disposition of the several units, their capabilities, and their freedom of action. The last-named may be the determinant, and, because of the importance of such considerations, tasks which would otherwise fall to one group might be assigned to another. Features influencing a change might include lack of training of the personnel available in the first group, or the special qualifications of a particular commander, or a justified desire to adhere to a previously determined permanent task organization.

Logistics tasks, i.e., those requiring operations for placing logistics measures in effect, require the same careful consideration as do combat tasks. (See page 162).

Certain tasks apply to all of the task groups, or pertain to the general conduct of the common effort. Among such may be provision for security, for unity among the subdivisions, and for intelligence activities (page 160). In order to avoid repetition, these tasks are assembled in one group.

The commander analyzes the requirements of fighting strength for each task group. He then, from the means available to him, assigns the necessary strength to each group, making adjustment between the theoretical requirements and the actual strength available.

He is familiar with the types of vessels and aircraft constituting his command, and with their military characteristics; with the capabilities and cooperative qualities of his commanders; with the degree of training of his various units; and with the geographical location of physical objectives. He recognizes that each task requires adequate strength for its accomplishment. Because these requirements have been thoroughly considered during the study of the effective apportionment of fighting strength, he is able to make adjustments as necessary.

The commander now fully organizes each classification of tasks and its corresponding task group by naming the task group (or task force), by making notation of its composition and of the rank and name of its commander, and then by listing the tasks of each group. The principal task (or tasks) may be listed first, the other tasks following in the order of their importance. If preferred, the sequence of tasks may be chronological. Also, either major or minor tasks may be listed chronologically. (See pages 158 and 192).

If the chronological sequence of tasks is utilized, that fact, in order to avoid confusion, is clearly indicated.

Thus organized, the whole plan can be transferred almost bodily into the Order Form (Chapter VIII).

Application of the Fundamental Military Principle to the Determination of Objectives Embodied in Tasks

In formulating tasks for the several task groups, the commander has now visualized, for each such group, an objective (or objectives) for the subordinate to attain. In selecting these objectives, the commander has placed himself, mentally, in the subordinate's situation, visualizing the problem which the subordinate is to solve. On this basis the commander has apportioned the strength needed for the attainment of the objectives assigned to his subordinates. This procedure, of evident importance, is frequently one of considerable difficulty, because a higher commander, lacking detailed information of the situation which may confront a subordinate cannot always anticipate all the obstacles to the latter's success.

In formulating tasks, and in apportioning strength, by the procedure already described, the commander has applied the Fundamental Military Principle. Now, to ensure the practical adjustment of means to ends (page 66), the commander reviews the process in the light of that Principle, so that he may be assured that he has selected a correct objective (or objectives) for each subordinate. By using the tests indicated in the Principle, the commander confirms the suitability of each objective so selected, satisfies himself of its feasibility of attainment, and assures himself that the costs involved will be acceptable. If these requirements cannot be so satisfied, necessary adjustments are in order.

These tests may frequently be of a routine nature, by reason of the previous

painstaking tests of the several operations involved. However, such final tests cannot be omitted without incurring the danger of selecting incorrect objectives for subordinates to attain.

The Assembly of Measures for Freedom of Action

Having completed the classification of his tasks, the commander next assembles the measures determined upon as necessary for ensuring adequate freedom of action.

When the subject matter is not too bulky, these measures are incorporated in their proper place in the basic plan. Otherwise, instructions as to these matters will be issued as annexes.

The various measures are assembled under the classification shown below:

(a) Measures required for security, for cooperation, and for intelligence activities.

(b) Measures for logistics support. These cover provision for procurement and replenishment of supplies, disposition and replacement of ineffective personnel, satisfactory material maintenance, sanitation, battle casualties, and the like.

(c) Measures for the exercise of command. These include provision for communications, location of rendezvous, zone time to be used, and the location of the commander.

This classification corresponds to that used in the Order Form (page 193). Experience has indicated that such a classification facilitates the transmission of instructions to subordinate commanders.

If desired, the material which will be required to be incorporated in paragraph (1) of the Order Form (see pages 190, 191, 219 and 221) may be also assembled at this point.

The Preparation of Subsidiary Plans

As previously noted (page 106), certain subsidiary problems require the preparation of subsidiary plans to be included with the directive as annexes. In broad strategical estimates, the solution of such subsidiary problems involves a vast amount of mental effort; even in restricted estimates, these problems may require most intensive thought. It is therefore appropriate at this point to discuss, in some detail, the nature of these subsidiary problems.

During the solution of his basic problem and later, during the process of evolving his basic plan, the commander may become aware of the need for further action of a supporting nature with respect to his basic mission, distinct from that which he intends to assign as tasks to subordinate commanders. If the nature of this action involves perplexity, he will be confronted with new problems to be solved. When he recognizes that such problems exist and are to be solved by himself, this awareness is a recognition of the incentive.

For example, one of these problems may involve a battle in which the entire force will participate, or perhaps a sortie requiring coordination of the several subdivisions of his force. Others will be concerned with measures recognized as

necessary for ensuring freedom of action.

These problems give rise to the subsidiary plans previously referred to (page 106). They are not necessarily subsidiary in importance; even the Battle Plan, the basis for the culmination of tactical effort, may result from the solution of a subsidiary problem. The word "subsidiary", as here used, merely indicates that the problem has its origin in the commander's own Decision.

When the incentive is thus recognized during the solution of the basic problem or during the second step, the commander solves these new problems, and includes their solutions as a part of the directives prepared for the carrying out of the basic plan. As will be seen later (Chapter VIII), there is a prescribed place for such solutions in the usual form in which directives are issued. Often, however, because of extent and bulk, these solutions are included with the directives as annexes.

The commander will desire to provide for all contingencies, but he can rarely, during the planning stage, see completely into the future, so as to foretell all pertinent events which may befall. During the unfolding of events, therefore, unforeseen subsidiary problems will probably arise. Whether visualized during planning, or encountered during the execution of the plan, these problems have the same relationship with the basic problem. Reference is later made (Chapter IX) to subsidiary problems which arise during the action.

Subsidiary problems, according to their nature in each case, may be solved by the procedure distinctive of the first step or by that distinctive of the second. In many instances either may be applicable, the choice being a matter of convenience.

Battle Plans, for example, can demonstrably be formulated by the use of either procedure. Thus, a Decision "to destroy the enemy in a daylight fleet engagement" may be used as the basis for an Estimate of the Situation, by the procedure distinctive of the first step, in order to reach a decision as to the plan, in outline, for the contemplated engagement. However, the same result can also be attained through the procedure distinctive of the second step, with the basic Decision as the point of departure.

A solution also can be reached by a method which is, in effect, intermediate between the procedures of the first and second steps. For example, the basic (broad strategical) Decision noted above can be taken, in a detailed tactical Estimate, as the only suitable, feasible, and acceptable course of action. Then, in Section IV of the Estimate, a study of the more detailed operations involved can

be developed into an outlined plan for the battle. Thus, a single course of action, expanded to include the outlined plan so developed, can then be adopted as the decision and can in turn be expanded by second-step methods into a detailed tactical plan.

On the grounds of simplicity, the procedure distinctive of the second step is preferable, when it is applicable to the particular problem. Therefore, when a subsidiary plan is to be developed directly from a basic Decision, this is frequently the better procedure. This comment is applicable not only to battle plans but also to other subsidiary plans such as sortie plans, entrance plans, and logistics plans. The commander may find it necessary, however, to expand the study of fighting strength made in Section I-B of the basic estimate, in order to obtain the detailed data needed for formulating the subsidiary plan.

In spite of the relative simplicity of the second-step method, cases occur where the procedure of the first step is nevertheless preferable. For example, a basic Decision making provision for a major campaign, divided into stages of some scope, may involve, as part of one of these stages, an operation to capture an island. Such an operation may itself require a considerable effort on the part of the whole force; yet the operation may be so specialized or localized, or both, with reference to the entire effort contemplated in the basic Decision, that the solution of this subsidiary problem can best be accomplished through the procedure distinctive of the first step.

The commander will therefore necessarily be the judge, in each case, as to the particular procedure to be adopted.

There are wide variations in the requirements of the Estimate Form, when used for the solution of subsidiary problems. This is natural because these problems vary widely in nature. They include, on the one hand, problems dealing directly with the conflict of armed forces, for which the Form is especially designed. On the other hand, these problems include those dealing with the factors related to freedom of action. To be suitable for this purpose, the Form requires modification in varying degrees. Certain examples are included in the latter part of this chapter (page 176 and following).

The application of the procedure of the first step to the solution of such subsidiary problems requires provision for deriving, in each case, a (subsidiary) mission appropriate to the problem. Of the two elements of the mission, the (subsidiary) purpose is first determined, because the (subsidiary) task will necessarily be suitable to the (subsidiary) purpose. These elements of the

(subsidiary) mission may be obtained from one or more of the operations into which the basic Decision has been resolved. They may also be obtained from a preceding subsidiary problem, already solved.

In illustration of the preceding, discussion is first centered on a strategical problem of usual type, involving a subsidiary tactical problem calling for the detailed employment of weapons in a naval engagement. Other illustrations will deal with subsidiary problems relating to particular aspects of freedom of action.

In the first example it is supposed that the commander has already solved a basic problem of broad strategical scope, and has arrived at a Decision which contemplates an engagement. A further logical act of planning is now to develop a Battle Plan. Such development involves the solution of a subsidiary problem. In this case the commander is supposed to have found it desirable to solve this subsidiary problem by the procedure distinctive of the first step.

In this problem, the situation summarized is an imaginary one. It may eventuate either through the natural future developments of the situation existing at the time of the solution of the basic problem, or it may confront the commander during the execution of the plans derived from the Decision of that (basic) problem. The Battle Plan finally to be formulated will be for use under the conditions assumed in this situation.

The commander will desire to draw up a Battle Plan as a provision for the situation which he believes most likely to eventuate. However, as he cannot be certain that this situation will occur, he may also desire to assume other situations, i.e., prepare in advance for other contingencies. It is then necessary for him to solve several problems, each differing from the others in the assumptions (page 155) as to the form the situation may take. The summary of the situation therefore requires a brief statement of the conditions which are assumed. In addition, such parts of the basic problem may be included as are deemed pertinent to the new problem in hand.

In his new problem the purpose of the (subsidiary) mission may readily be obtained from the basic problem. Suppose the assigned task, motivating the estimate of the basic problem, to have been to "prevent enemy convoy from reaching destination". This, the motivating task of the basic problem, then becomes a suitable (subsidiary) purpose for the mission of the subsidiary problem.

For the mission of the subsidiary problem, a motivating task, suitable to the purpose thus determined, will be found in the Decision of the basic problem.

Suppose the Decision in this case to have been "to destroy the enemy convoy". The task thus determined for the subsidiary problem becomes an assigned task in the sense that it is assigned by the commander to himself, instead of to a subordinate; however, it is also an assigned task in the sense that it has been indirectly assigned by the immediate superior, because it has been derived, in the basic estimate, from the motivating task which was directly assigned by the superior.

The two elements, of task and purpose, when linked together, enable the commander to visualize the appropriate effect desired, as the basis for his subsidiary estimate,—a procedure identical with that followed in a basic estimate. As in the latter, the commander can now formulate his subsidiary mission, as:—

(Task) To destroy the enemy convoy,

(Purpose) in order to prevent it from reaching its destination.

The mission of the subsidiary problem is thus seen to be identical with the basic Decision linked to the purpose of that Decision.

However, this is not always the case. A subsidiary problem may merely involve the execution by the commander, i.e., under his own immediate direction, of a designated part of his general plan. Or, such a problem may involve execution, by the commander, of one or more of the detailed operations for the accomplishment of his general plan or of a part thereof. The commander may also find it necessary to solve numerous subsidiary problems of relatively restricted scope pertaining either to his general plan or to a part thereof or to the detailed operations involved.

In some of these cases the purpose of the subsidiary mission may be readily apparent. In others, its nature may become clear only after the application of considerable mental effort. In every case the determination of a proper (subsidiary) purpose involves visualization of a situation which the commander desires to bring about or to maintain. The (subsidiary) task, appropriate to the (subsidiary) purpose, will always necessarily be suitable to the latter. This task is then the motivating task for the solution of the particular subsidiary problem in hand. This will be the case whether the commander makes a simple mental solution or produces a more complex one in which the formal written estimate of the situation is employed. In the former instance, the brevity of the mental process tends to obscure this fact.

An example might occur in a situation where the commander has received an

order to "Protect the base at A". It is then supposed that, after estimating the situation, he has reached the Decision "to deny the enemy the use of base sites within effective bombing range of A", the purpose of the Decision being, of course, "in order to protect the base at A". The action required might then be undertaken in two stages. The first stage might be confined to the area ABCD. If, then, all available base sites in this area, except Y island, were already securely in friendly hands, the commander would find it necessary to make provision for an operation to deny the use of this island to the enemy. If this operation is of such a nature that the commander desires to execute it under his own direct control, instead of assigning it to a subordinate, it presents a subsidiary problem which the commander, himself, has to solve.

The commander has now determined the necessity of solving a subsidiary problem relating to the accomplishment of a designated part of his general plan. He has also determined the necessity of solving another subsidiary problem presented by an operation pertaining to the first stage of the accomplishment of his general plan.

Each subsidiary problem requires an estimate of the situation although "the brevity of the mental process tends to obscure this fact" (page 172).

In making his basic estimate, the commander may have discovered the need for these subsidiary estimates. In this case, he may have included them in his estimate, as "estimates within the estimate" (page 83), in his analysis of the operations involved in the various courses of action which he considered. For instance, his basic Decision may have included the capture of Y island, and he may have covered this feature by a corollary to that Decision, as follows:

> Corollary: As a first stage, to deny the enemy the use of available base sites in the area ABCD, by capturing Y island.

However, the commander may not discover the desirability or need of solving these subsidiary problems until the second step, when resolving the basic Decision into the detailed operations required. In this case, he might make due provision at that time for the operations involved in the subsidiary problems. The mental procedure would be the same in either event.

The commander may find, however, that he prefers to make a separate, subsidiary estimate with respect to the determination of the stages of his operation, including the details as to the performance of the first stage. In this case he finds a proper mission for his subsidiary estimate in the basic Decision, linked to its purpose. This mission would be as follows:—

(Task) To deny the enemy the use of base sites within effective bombing range of A,

(Purpose) in order to protect the base at A.

During the subsidiary estimate the commander may discover, in his study of the area ABCD, the necessity for an operation to deny Y island to the enemy, and may even go so far, in this study, as to decide on the capture of this island. The decision, settling on this area as the scene of the first stage of his effort, may then include provision for the capture of the island, as follows:

Decision: To deny the enemy the use of base sites in the area ABCD as a first stage toward denying him the use of all base sites within effective bombing range of the base at A.

Corollary: To capture Y island.

However, the commander may not take up the matter of denying Y island, specifically, to enemy use until he studies the detailed operations required for the accomplishment of the action involved in his first stage. In such event, he may make provision for the capture of the island in his subsidiary plan for the execution of the first stage. He may find, on the other hand, that he prefers to make a separate, subsidiary estimate as to this feature. If so, the mission for this subsidiary estimate would be identical with the decision (less the corollary, but plus the purpose of the estimate), i.e.,—

(Task) To deny the enemy the use of base sites within effective bombing range of the area ABCD as a first stage

(Purpose) toward denying him the use of all base sites within effective bombing range of the base at A.

During this estimate the commander considers the various courses of action whereby he can deny to the enemy all bases in the area of the first stage. Concluding that Y island is the only base site not securely in friendly hands, and that the best method of denying it to the enemy is to capture it himself, he reaches a decision as follows:

Decision: To capture Y island, in order to deny to the enemy the use of the only available base site in the area ABCD.

In each of the foregoing cases, the commander is said to have "deduced" the mission for his subsidiary problem. As has been demonstrated, the process of deduction is merely the application of the natural mental processes through the use of the estimate of the situation. Whether the estimate is formal or informal, detailed or brief, written or mental, is immaterial; in any case, the estimate results in a decision which provides, with its purpose, a proper mission for the succeeding problem which has been presented by solution of its predecessors.

In logical sequence, from problem to problem, the procedure outlined in the preceding discussion enables the commander to derive a correct mission for the problem involving the capture of Y Island. Clear visualization of such a subsidiary mission is frequently of great importance, and may be difficult unless the procedure has been carefully traced from each problem to the next. In this particular example, if the commander finds that the capture of Y Island is of such a specialized and localized nature (page 170) as to call for a formal estimate (as may frequently be the case in capturing a well-defended island base), he will be especially desirious of deriving a correct (subsidiary) mission as a basis for this estimate. In this instance a correct mission would be:—

(Task) To capture Y Island,

(Purpose) in order to deny to the enemy the use of the only available base site in the area ABCD.

This mission is identical with the decision, linked to its purpose, of the preceding subsidiary problem.

Subsidiary problems relating to training (page 160), when solved by the procedure distinctive of the first step, involve estimates of the situation very similar to those explained previously (Chapter VI).

Section I-A of such a training estimate will include a summary of the salient features of the existing situation, from the strategical or tactical viewpoint, together with a statement of the salient features of the operations to be carried out for which the projected training is designed. The incentive will be found in a previous decision calling for the operations which require the training to be given. The assigned objective will be the making of adequate provision for training appropriate to the projected operations. The (subsidiary) mission will be:—

(Task) to provide appropriate training,

(Purpose) in order to contribute to freedom of action during the operations contemplated. (In each particular case the operations contemplated will be indicated by proper phraseology in the mission or by reference to the preceding summary of the situation.)

Section I-B of a training estimate will take account of the training factors cited in the Estimate Form (Chapter VI) for a basic problem, but will specify details

with respect to both own and enemy forces. This section will also cover existing facilities for training, as well as the characteristics of the theater which have now or may have a bearing on the training to be given.

Section II will discuss the various possible procedures for affording the appropriate training.

Section III will deal with any measures which may be adopted by the enemy (through actual attack, through propaganda, or any other methods) to hinder or prevent the desired training.

Section IV will be devoted to the selection of the best training procedure.

Section V will state the decision as to the essentials of the training to be given and as to the method of giving the training. The decision will be in such detail as to constitute a general plan, or a proper basis therefor, from which a detailed plan may be developed.

A detailed training plan, developed from the foregoing decision, will assemble the necessary information and assumptions, will state the general plan for training, and will prescribe the appropriate training tasks. It will also include any proper coordinating measures, make provision for the logistics of the training plan, and finally provide for the exercise of command and for supervision over the training.

A training plan may be briefed by annexing appropriate documents,—e.g., a program and a schedule. The commander will ordinarily issue a schedule for training to be given under his own supervision; he will usually issue a program for training to be given by his subordinates, who will in turn prepare their own schedules.

Subsidiary problems involving intelligence (page 160), when solved by the procedure distinctive of the first step, call for an intelligence estimate along the lines indicated, in general, in Chapter VI.

Section I-A of the Estimate will include a summary of the salient features of the present situation and of the contemplated strategical and tactical operations. The incentive, to be found in a previous decision of the commander, will be noted. The assigned objective will be the making of provision for adequate

intelligence of the enemy and of the theater of operations. The mission will be: —

> (Task) To make provision for adequate intelligence of the enemy and of the theater of operations,
>
> (Purpose) in order to contribute to freedom of action in the operations contemplated.

Section I-B of the intelligence estimate will take account of the factors as to intelligence and as to related matters which are noted in the Estimate Form (Chapter VI) for a basic estimate.

Section II will consider the possible procedures for obtaining information, i.e., for its collection, including reports from collecting agencies.

Section III will consider the capabilities of the enemy as to counter-intelligence measures.

Section IV will compare the various procedures open for the collection of information and for reports thereof.

Section V will include a decision as to the essential elements of information desired. The decision will be in sufficient detail to serve as a general plan (or a basis therefor), to be developed into a detailed plan for obtaining information and for converting it into intelligence.

A detailed intelligence plan will include appropriate information and assumptions. It will state the general plan for obtaining intelligence. This statement will include the essential elements of information desired. The plan will include appropriate tasks for information-collecting agencies, with times and destinations for reports of information. The task for each collecting agency will be based on the general plan (above); such task will also be synchronized with the projected operations prescribed for such agency in current Operation Orders (Chapter VIII). The agency's inherent capabilities—its limitations as well as its powers—will be given due consideration. Requests to be made on collecting agencies not under the commander's control will be noted in the information (as to own forces) given in the plan (see above).

Logistics arrangements will include, for example, provisions for handling prisoners of war, the disposition of captured documents and other materials, and the supply of maps, charts, and photographs. Counter intelligence measures will be specified where applicable. These include such matters as censorship, press relations, camouflage, and propaganda. Finally, the plan will include provision for the rendition of routine and special reports, for special charts (or maps)

accompanying or pertinent to such reports, and for any intelligence conferences.

The essential elements of information desired are frequently stated in question form. Each question deals with an enemy course of action or with one or more of the enemy operations pertaining to such a course (page 161).

The tasks assigned to collecting agencies, or the requests made on collecting agencies not under the commander's control, will call for information (negative, if desired, as well as positive) as to specific indications of the enemy's action—past, present, or intended—and of the characteristics of the theater as related thereto. The indications to be sought for and reported are carefully determined by the commander in expectation that information obtained as to such matters will enable him to draw conclusions which will answer the questions posed by the essential elements of information.

For example, essential elements of information, with corresponding indications, may be as follows:

Essential Elements	Indications
1. Will the enemy patrol the trade route from A to B?	a. Presence or absence of enemy forces (number and types of vessels) between meridians—and—, as far north as—and as far south as—.
	b. Times enemy forces observed in area noted.
	c. Apparent activity of enemy forces so noted.
2. Will the enemy cover focal	a. Presence or absence of enemy forces (numbers and types of vessels) in (a specified area or areas).

points M
and N?

b. Times enemy forces observed in areas noted in a, above.

c. Apparent activity of enemy so noted.

d. Has M or N been prepared as a naval base; an air base for seaplanes, for land planes? Is M or N readily accessible to enemy battleships? What are the characteristics of the available entrances to sheltered anchorages? (Etc.)

Another type of subsidiary problem which may call for a separate subsidiary plan relates to logistics (page 162). This problem is particularly applicable to the planning stage, because the contingencies which it involves can, to a considerable degree, be foreseen. In this case the situation which the commander usually desires to bring about is adequate freedom of action with respect to supply and related matters. He wishes to solve this problem so completely during the present step that a logistics plan, concurrently executed with his basic plan, will require minimum subsequent attention.

A logistics estimate by the procedure distinctive of the first step will include in Section I-A a summary of the pertinent features of the existing strategical and tactical situation, and of contemplated strategical and tactical operations. It will also include a statement of the salient features of the existing logistics situation. The incentive, to be found in a previous decision of the commander, will be noted. The assigned objective will be the making of adequate provision for logistics support. The mission will be:—

(Task) to make provision for adequate logistics support,

(Purpose) in order to contribute to freedom of action in the operations contemplated. (In each particular case the operations contemplated will be indicated by proper phraseology in the mission or by reference to the summary of the situation).

Section I-B of the estimate will take account of the logistics factors cited in the Estimate Form (Chapter VI) for a basic estimate, but will specify details to the further extent necessary.

Section II will discuss the various possible procedures for affording appropriate logistics support of the various categories.

Section III will discuss enemy actions to hamper or prevent adequate logistics support.

Section IV will deal with selection of the best logistics procedure.

Section V will state the decision as to the essential elements of the logistics support to be afforded, in such detail as will constitute a general plan (or a proper basis therefor) from which a detailed plan can be developed.

A detailed logistics plan, developed from the foregoing estimate, will assemble the necessary information and assumptions. It will state the general plan for logistics support. It will then provide for appropriate action as to each type of logistics support, or will state proper tasks for the several subdivisions of the force concerned therewith. It will include, also, any coordinating measures. It will, finally, make provision for exercise of command with reference to logistics support, as well as for any necessary or desirable time elements and similar considerations.

From all of the foregoing discussions it is apparent that the numerous possible subsidiary problems are all related to the basic problem either directly or through an intervening subsidiary problem. The nature of this relationship is seen through the (subsidiary) purpose, determined for the particular (subsidiary) task; therefore, the understanding of the problem involves a statement or visualization of the (subsidiary) purpose in each case.

PART III

THE EXERCISE OF PROFESSIONAL JUDGMENT IN THE EXECUTION OF THE PLAN

CHAPTER VIIIToC

THE INAUGURATION OF THE PLANNED ACTION

(The Third Step—The Formulation and Issue of Directives)

In the discussion which now follows, it is demonstrated that, if the second step (Chapter VII) has been carried through completely, the formulation of directives requires only the completion of details of the Order Form, which is explained. The various types of naval plans and directives are also described.

Scope of the Third Step. As previously stated (in Chapter V, on page 107), the inauguration of the planned action (the third step) begins when the commander forms the intention of immediately promulgating, as one or more directives, his solution of the problem represented by the second step. The third step ends at the moment when the problem becomes one of supervising the planned action in the course of its execution.

Military Plans and Military Directives. A plan is a proposed scheme, procedure, or method of action for the attainment of an objective. It is one of the essential links between decision and action.

A directive, in the general sense, initiates or governs conduct or procedure. It is the means by which one's will or intent is made known to others. Sometimes the word is employed as a synonym for "order"; at others, it carries the

significance of various instructions ranging from the simple to the complex; at still others, it denotes a plan formulated to be placed in effect in a particular contingency or when so directed. In all cases, a directive, to be suitable as a guide for others, has as its origin a plan.

The words plan and directive are used herein as follows:—A plan may exist only in the mind. Even if formulated and set down in writing, it may receive no distribution. A plan continues to be exclusively a plan so long as it concerns the originating commander alone, and it never loses its identity as a proposed procedure or method of action. When, however, the commander forms the intent of promulgating the plan immediately, the plan becomes also a directive. At this point, as noted in the preceding paragraph ("Scope of the Third Step"), the execution phase begins, from the standpoint of the exercise of mental power, with the inauguration of the planned action.

A directive may therefore be (1) an order effective upon receipt, in which case it may be an order placing in effect a plan already issued; or a directive may be (2) a formulated plan which the commander intends to issue immediately to his subordinates.

Accordingly, certain written instruments prepared under the designation of plans are also included under the classification of directives. In the use of these terms hereinafter, the distinction between a plan viewed as a basis for a directive, and a plan intended to be promulgated as a directive, will be indicated in the context.

Whether written or mental, the complete plan will cover the scope of the Decision, and will be the commander's method of procedure for his future conduct of operations. A commander may, or may not, formulate his complete plan in writing, or embody it in a formal directive which will provide for the execution, in full, of the Decision of his estimate. He may find that his plan divides into several parts, and he may make separate provision for the execution of each of these parts. While the integrity of a plan depends upon the soundness of its essential details, the plan is properly formulated as a directive or directives projected in detail, only so far into the future as the commander's estimate of the situation assures him of reasonable freedom of action (see page 57).

Where the commander divides his plan into parts for separate accomplishment, he will naturally exercise care that each part is, in itself, the suitable basis for a complete and homogeneous plan. Successful execution of all these plans results in the complete accomplishment of his Decision.

Directives required to further the success of a particular operation may be issued without awaiting formulation of the entire plan. Parts of the plan may be transmitted as fragmentary directives to guide the action of subordinates in instantaneous or early execution. Such cases are far more frequent than are those in which a formal written plan, to guide either the operations in their entirety or a part thereof, is prepared and distributed as a directive. Effective action by the subordinate is thus not delayed by the absence of complete written directives.

The commander, more especially during war, may be the only individual who is conversant with the entire plan. He may consider that the necessity for secrecy is paramount, or that there are features to whose details he is unwilling to commit himself until the situation is clearer. However, he may usually expect to disclose its scope and general features to his immediate superior, and the plan in its entirety to his next junior; or, in the interests of mutual understanding, to all his subordinates of the next lower echelon or even to his entire command. The scope of the plan also may be a determining factor. If the plan covers an entire campaign or an extended series of operations, its dissemination is less likely and less general than if it is concerned with only a minor operation.

During peace, in exercises simulating war, the complete plan is frequently given circulation for purposes of training.

Subsidiary Plans. Subsidiary plans, discussed in Chapter VII (page 168), are frequently issued as annexes to the Operation Plan (page 196) which carries into effect the basic Decision. The commander will be the judge as to whether alternative subsidiary plans are necessary or desirable under the circumstances.

Essentials of Military Directives.

General. By the issue of directives, a commander communicates to his subordinates his plans or such parts of them as he desires. Directives may be oral or written, or may be transmitted by despatch.

Whether a directive is to be effective upon receipt, or under specified conditions, or at a specific time, or upon further instructions from the commander, will be evident from its nature, or will be prescribed in the body of the directive itself.

The manner of determining the details of a plan has been discussed in Chapter VII. The matter contained therein is pertinent to the preparation of a plan that is

not to be issued as a directive as well as to one that is to be so issued.

The various categories of directives customarily employed in our naval service, and standard forms for these, are described hereinafter.

The essentials of a military directive which is designed to govern the execution of a plan are:

(a) That it indicate the general plan for the common effort of the entire force.

(b) That it organize the force with a view to the effective accomplishment of this plan.

(c) That it assign tasks to the subdivisions of the force, such that the accomplishment of these tasks will result in the accomplishment of the plan adopted for the entire force.

(d) That it make appropriate provision for coordination among subdivisions, for logistics support, and for the collection of information and the dissemination of intelligence, that it state the conditions under which the plan is to become effective; and that it indicate the location of the commander during the period of execution.

Some of these essentials may have found their expression in previous instructions, or may be unnecessary because of the state of mutual understanding. On the other hand, the directive may include annexes in the form of alternative and subsidiary plans, letters of instructions (page 188), and other material designed to be of assistance in the intelligent accomplishment of the assigned task.

In issuing a directive, whether written or oral, except such a fragmentary order as has previously been described (page 184), a commander has the following definite responsibilities:

(a) To ensure that subordinates understand the situation,—therefore, to give them pertinent available information.

(b) To set forth clearly the general plan to be carried out by his entire force, as well as the tasks to be accomplished by each subdivision of his force.

(c) To provide each of these subdivisions with adequate means to accomplish its assigned task.

(d) To allow subordinate commanders appropriate discretion within the limits of their assigned tasks, without, however, sacrifice of the necessary coordination.

He will also bear in mind that a directive will best convey his will and intent and will be most easily understood by his subordinates if it is clear, brief, and positive.

Clarity demands the use of precise expressions susceptible of only the desired interpretation. Normally, the affirmative form is preferable to the negative. The importance of clarity has been summed up in the saying, "An order which can be misunderstood will be misunderstood". If misunderstandings arise on the part of trained subordinates the chief fault often lies with the person who issued the directive.

Brevity calls for the omission of superfluous words and of unnecessary details. Short sentences are ordinarily more easily and rapidly understood than longer ones. Brevity, however, is never to be sought at the expense of clarity. The attainment of brevity often requires considerable expenditure of effort and of time. But time is not to be sacrificed in the interests of obtaining brevity in directives, when the proper emphasis should rather be on initiating early action.

Positiveness of expression suggests the superior's fixity of purpose, with consequent inspiration to subordinates to prosecute their tasks with determination. The use of indefinite and weakening expressions leads to suspicion of vacillation and indecision. Such expressions tend to impose upon subordinates the responsibilities which belong to and are fully accepted by a resolute superior.

Restatement of the Decision for Use in the Directive

Except where special considerations exist to the contrary, it will be found that the expression of the Decision for use in a directive will most clearly indicate the intent of the commander if stated in terms of the objective to be attained by his force (i.e., of the situation to be created or maintained) and of the outlined action for its attainment (page 104). Such expression is usually possible in problems of broad strategical scope (page 88). In other cases difficulty may be encountered. For instance, in tactical problems dealing with the detailed employment of weapons, the action may necessarily be couched in the terms of a series of acts

(see page 95).

No precise form is prescribed; thoughts clearly expressed are more important than form. It is customary to begin with "This force (or group) will", and then state with brevity the Decision as (and if) modified, adding the motivating task which is the purpose of the Decision. The motivating task is connected with the preceding statement by words such as "in order to", "to assist in", or "preparatory to", as the case may be.

Since his original expression of the Decision in the first step (Chapter VI), the commander has studied the operations required to carry it out. He therefore has gained a knowledge, which he did not then have, of how his action is to be carried out. He may now be able to compile a brief of these operations, applicable to all of them and therefore informative to all subordinate commanders. He may be able to say how, or even where and when, the effort of his force will be exerted.

As an illustration, if his Decision is "to destroy enemy battle-line strength", his operations might be described "by gun action at long range during high visibility". Should the commander, solely for the purpose of making his intent clearer to his subordinate commanders, now decide to include the latter phrase in the re-wording of his Decision, he may do so at this point.

It may sometimes be necessary to restate the Decision for another reason. It will be recalled that the commander is frequently obliged to recognize that he cannot carry out all of these operations, and that he therefore decides to issue a directive to carry out certain ones selected for the first stage (page 164). In such a case, he may not now be able to use the full Decision as originally determined. In that event he couches the Decision in terms of the partial accomplishment inherent in the operations to be undertaken.

Standard Forms for Plans and Directives

Form. Experience has shown that military directives usually give best results if cast in a standard form well known alike to originator and recipient. Such a form tends to prevent the omission of relevant features, and to minimize error and misunderstanding. However, a commander may find that lack of opportunity to facilitate mutual understanding by personal conference requires that one or more subordinates receive instructions in greater detail than a standard form

seems to permit. A letter of instructions may then be appropriate. The commander himself is the best judge as to the application of a form to his needs of the moment, and as to the necessity for adherence to form in whatever particular.

Useful as form is, it is important to keep in mind that it is the servant and not the master.

The standard form in use in our naval service, long known as the Order Form, is applicable, with certain modifications, to all written plans and directives.

The Order Form will now be described in detail from the standpoint of its general application to all classes of directives, including the commander's written plan, whether or not promulgated as a directive.

The Order Form. Because of established usage, and for other reasons noted hereinafter, it is desirable that certain clerical details be handled as follows:

(a) To minimize errors, all numerals are spelled out, except paragraph numbers and those in the heading.

(b) For emphasis, and to minimize errors, all geographical names and names of vessels are spelled entirely with capitals.

(c) To standardize arrangement and facilitate reading, a narrow left-hand margin is left abreast the heading and the task organization, and a wider margin is left abreast the paragraphs.

(d) For the same reasons, the main paragraph numbers are indented in the wider margin.

(e) For emphasis, the task-force or task-group titles of the task organization, wherever occurring, are underlined.

The sequence in which the subject matter is presented is a logical arrangement which experience has shown to be effective. Since every item has a definite place in the form, formulation is simplified, and ready reference is facilitated.

In a written directive, the prescribed paragraph numbering is always followed, even if no text is inserted after a number. This practice serves as a check against accidental omission, and as confirmatory evidence that omissions are intentional. For example, if there is no new information to be disseminated, the paragraph number "1" is written in its proper place, followed by the words "No further information".

When the subject matter to be presented under any one paragraph is voluminous, it may be broken up into a number of subparagraphs. Except in paragraph 3, these subparagraphs are unlettered.

The Heading contains:

In the upper right-hand corner in the following sequence:

(a) The title of the issuing officer's command, such as NORTHERN SCOUTS, or ADVANCED FORCE, etc., preceded by the titles, in proper order within the chain of command, of all superior echelons or of such higher echelons as will ensure adequate identification.

(b) The name of the flagship, as U.S.S. AUGUSTA, Flagship.

(c) The place of issue: for example, NEWPORT, R.I., or, At Sea, Lat. 34°-40' N., Long. 162°-20' W.

(d) The time of issue: that is, the month, day, year, and hour; for example, July 12, 1935; 1100.

In the upper left-hand corner in the following sequence:

(e) The file notations and classification: SECRET or CONFIDENTIAL, the classification being underlined and spelled with capitals. This classification is repeated on succeeding pages,

(f) The type and serial number of the directive, such as Operation Plan No. 5, the words Operation Plan being underlined. This is repeated on succeeding pages.

The Body. The task organization, which consists of a tabular enumeration of task forces or task groups, the composition of each, and the rank and name of its commander, is the beginning of the body of the directive. It is customary to omit the name of the issuing officer from any task force or task group commanded by him. Any unit included in a force named in the task organization is, by virtue of that fact, directed to act under the command of the commander of the specified force.

When so desired for additional ready identification, task forces and their subdivisions may be numbered. In our naval service, systematic methods for such numerical designation are indicated from time to time by proper authority. Numerals for this purpose are entered in the task organization to the left of the title of each appropriate task force or subdivision thereof. The numerals may be placed in parentheses.

The directive is addressed for action solely to the commanders of the task forces or task groups listed in the task organization.

Train vessels assigned exclusively to particular combatant task forces are listed among the units of those forces in the task organization. If the directive is to be used for assigning tasks involving strategical or tactical movement directly to the Train, or to any Train units, such units are grouped together to form a separate task force. If instructions to the Train are to be issued in another directive, the Train need not appear as a separate force in the task organization. As a matter of general custom, the Train is usually not included as a task force unless it is to accompany, or act in tactical concert with, some one or more of the combatant task forces listed.

Each task force named in this table, together with its numerical designation, is

preceded by a separate letter, (a), (b), (c), etc., and its assigned task is set forth in a similarly lettered subparagraph in paragraph 3.

Paragraph 1 is the information paragraph. It contains such available information of enemy and own forces as is necessary for subordinates to understand the situation and to cooperate efficiently. Paragraph 1 contains no part of the tasks assigned by the commander. Information of the enemy and that of own forces, and assumptions where pertinent, are usually set forth in separate unlettered subparagraphs.

When deemed advisable, unless secrecy or other considerations forbid, paragraph 1 may include statements of the general plans of various higher echelons in the chain of command. A statement of the general plan of the next higher commander will frequently be included. For the same reasons, the commander will often include in this paragraph a statement of his own assigned task, unless, of course, this point is adequately covered in the statement of his general plan in paragraph 2. Inclusion of such matters may enable subordinates to gain a clearer visualization of the relationships existing among the several objectives envisaged by the higher command.

To promote cooperation, paragraph 1 may also state the principal tasks of coordinate forces of the commander's own echelon; for like reasons, the principal tasks of other task forces of the command not listed in the task organization may be included. Where the immediate superior has prescribed particular methods to other forces for cooperation and security, these may also be set forth as a matter of information. (See page 167.)

In this paragraph, distinction is drawn between information which is based upon established facts, and that of merely probable accuracy. The latter is not to be confused with assumptions which, in Operation Plans, are accepted as a basis. (See page 155.)

When writing their own information paragraphs, subordinate commanders do not necessarily copy verbatim the information contained in the order of their superior. Good procedure calls for them to digest that information, select what is essential, and present it with any additional information considered necessary. Care is taken to include necessary information of coordinate task forces.

Paragraph 2 states the general plan of the complete force under the command of the officer who issued the directive. If several directives are issued for carrying out a single, complete plan (see, for example, discussion of fragmentary orders, page 184), then paragraph 2 is usually the same in all of them. The

amount of detail given in this paragraph is sufficient to ensure a clear comprehension by the subordinates as to what is to be accomplished by the force as a whole. It is customary to begin with the words, "This force will", followed by a statement of the general plan and, unless secrecy or other considerations forbid, by the purpose of the effort embodied therein. (See Restatement of the Decision, page 187).

Paragraph 3 assigns individual tasks to all of the task forces listed in the task organization. This paragraph is divided into as many subparagraphs, (a), (b), (c), etc., as there are task forces enumerated in the task organization. Each subparagraph commences with the designating letter in parentheses, followed by the title of the task force, underlined.

Normally the tasks for each task force are stated in order of their importance. If preferred, however, the sequence of tasks may be chronological, i.e., in the order of their execution. Each method has certain advantages, according to the nature of the situation. Where the chronological sequence is utilized, that fact is clearly indicated, in order to avoid confusion. (See also page 166). After the statement of the tasks, these subparagraphs conclude with such detailed instructions as are necessary.

In cases where the entire force is listed in the task organization, the proper formulation of tasks requires that the accomplishment of all the tasks of paragraph 3 result in the accomplishment of the general plan set forth for the entire force in paragraph 2. On the other hand, where several directives are issued, each to a different part of the force, with a paragraph 2 common to all, then the accomplishment of the tasks of all of the paragraphs 3, of the several directives is properly equivalent to the accomplishment of the general plan prescribed in the common paragraph 2.

Where two or more task forces have identical task assignments, only the common subparagraph need be written after the title of the task forces concerned, thus:

(a) Submarine Detachment,

(b) Air Patrol, (assignment of the common task or tasks).

If the Train has been included as a separate force of the task organization, it will be given its tasks as to tactical and strategical movement in a separate subparagraph of paragraph 3.

In order to avoid repetition, task assignments and instructions which apply to

all task forces, or which pertain to the general conduct of the operation, are embodied in a final subparagraph, designated as 3(x). It is particularly necessary that there be included in this subparagraph the measures (e.g., as to cooperation, security, intelligence, and the like) pertaining to freedom of action and applicable to the force as a whole. Any tasks or instructions applicable to individual task forces, only, will have been included in the appropriate earlier subparagraph(s) (i.e., 3 (a), (b), (c), etc.). To avoid repetition in these subparagraphs, coordinating instructions applying to more than one task force may also be included, when convenient to do so, in paragraph 3 (x).

Paragraph 3 (x) of Operation Plans and Battle Plans prescribes, in addition to other applicable matters, the time and/or manner of placing the plan in effect.

Paragraph 4 is the logistics paragraph. It sets forth the availability of services and supplies, and describes and gives effect to the general plan for the logistics support of the operation. If the information and instructions as to logistics are long and detailed, they may be embodied in a separate logistics plan, which is referred to in paragraph 4, and is attached as an annex.

Paragraph 4 is not used for assigning tasks as to movement, either for the Train or for any other subdivision of the force.

Paragraph 5 is the command paragraph. It contains instructions considered necessary for the control of the command during the operation, such as the plan of communications, zone time to be used, rendezvous, and location of the commander. Paragraph 5 completes the body.

The Ending consists of the signature, the list of annexes, the distribution, and the authentication, as noted below:

> The Signature of the commander issuing the directive, with his rank and command title, is placed at the end, for example: John Doe, Vice Admiral, Commander Northern Scouts.
>
> Annexes consist of amplifying instructions which are so extensive as to make them undesirable for inclusion in the directive itself. They contain detailed instructions, in written form or in the form of charts or sketches. Separate Communications, Logistics, Sortie, Movement, Cruising, Intelligence, Scouting, Screening, Approach and Deployment Plans may be, and frequently are, disseminated as annexes to a directive. Alternative Plans may also be annexed.

Annexes are referred to in the appropriate paragraph of the body of the directive, and are listed and serially lettered in capitals at the end near the left-hand margin, immediately below the body and the signature, and above the distribution.

The Distribution indicates to whom the directive will be transmitted and the medium of transmission. The recording of this distribution in the directive is essential for the information of all concerned.

Standard distribution may be indicated, as Distribution I, II, etc.

Authentication. Unless signed by the issuing officer, each copy of the directive distributed is authenticated by the signature, rank, and designation of the Flag Secretary, with the addition of the seal whenever possible.

Campaign Plans. Campaign Plans (see page 196), when communicated to officers on the highest echelons, are usually, in the Order Form, modified as follows:

Heading. No change.

Task Organization. Not usually used.

Paragraph 1. In addition to the information to be furnished, a statement is given of the assumptions (page 155) forming the basis of the plan.

Paragraph 2. No change.

Paragraph 3. This shows the stages into which the campaign has been divided; the several operations which will be undertaken in each stage, and the order of their accomplishment; and usually the forces to be made available for the first stage.

Paragraph 4. No change.

Paragraph 5. No change.

If it be found desirable, however, to employ a letter of instructions instead of a formal directive, this may be done. In this case the letter sets forth the essential features of the subject matter as above described for the Order Form.

Sample Outline Form. For convenient reference, the outline form of an Operation Plan is appended (see page 219). The Operation Order follows the same form, the essential difference being that the Operation Order makes no provision for assumptions, and is effective upon receipt unless otherwise provided in the body of the Order.

Types of Naval Directives

Naval directives in common use are: War Plans, Campaign Plans, Operation Plans, Operation Orders, Battle Plans, and Battle Orders.

Basic War Plans designate operating forces, assign broad strategical tasks to these forces, and, where required, delimit theaters of operations. These plans also assign duties to the supporting services such as naval communications, etc. Requirements as to logistics plans are also included. Accepted usage designates, as Contributory Plans, the subsidiary plans which are prepared in support of Basic War Plans.

Campaign Plans. A campaign, as initially visualized, is a clearly defined major stage of a war. A campaign, after it has passed into history, sometimes bears the name of a leader, or a seasonal or geographical designation. It may consist of a single operation, or of successive or concurrent operations. The operations of a campaign have properly a definite objective, the attainment or abandonment of which marks the end of the campaign. (See also page 37, as to operations.)

A Campaign Plan indicates what might be called the "schedule of strategy" which the commander intends to employ to attain his ultimate objective for the campaign. Such a plan usually sets forth the stages into which he proposes to divide the campaign, shows their sequence, and outlines:

(a) The general plan for the entire campaign.

(b) The general plan involved in each stage and the order of accomplishment, so far as the commander has been able to project his action into the future, and usually,

(c) The forces to be made available for the first stage. The Campaign Plan is primarily for the guidance of the commander himself. When necessary for information or approval, it is forwarded to higher authority. To provide the necessary background, it may sometimes be furnished to the principal

subordinates. In any case, the interests of secrecy demand that its distribution be extremely limited.

Operation Plans. An Operation Plan may cover projected operations, or may be contingent upon the occurrence of a particular event, or combination of events. It may be issued in advance of the event. It is placed in effect at a specified time or by special order, as prescribed in the body of the plan itself. It provides for either a single operation, or for a connected series of operations to be carried out simultaneously or in successive steps. It is prepared for dissemination to task-force commanders.

Usually, an Operation Plan covers more complex operations than does an Operation Order, and projects operations over a greater time and space. It allows more latitude to subordinate commanders, and provides for less direct supervision by the issuing officer. It has typically the distinguishing feature of including, in paragraph 1, the assumptions upon which the plan is based.

To provide for eventualities under varying sets of assumptions, the commander may formulate several alternative Operation Plans (see pages 155 and 156).

Operation Orders. An Operation Order deals with an actual situation, usually of limited scope, in which the commander considers that he possesses sufficient reliable information to warrant an expectation that certain specific operations can be initiated and carried through to completion as ordered. The Operation Order does not include assumptions and, unless it contains a proviso to the contrary, is effective upon receipt.

Under the conditions obtaining in modern warfare, there are few occasions where the Operation Plan will not accomplish the full purpose of the Operation Order. The use of the Operation Plan removes the undesirable feature of imposing possible restriction on the latitude allowed the subordinate without, in any degree, lessening the authority of the commander.

Battle Plans. A Battle Plan sets forth methods for the coordinated employment of forces during battle. If prepared in advance, it usually is based on certain assumptions which are clearly stated in the plan.

Battle Plans may merely include provisions for a particular combat, or they may include provisions for a connected series of separate or coordinate engagements, possibly culminating in a general action, and all directed toward the early attainment of a specified tactical objective. Such combats may range in scope from engagements between small forces to engagements between entire

fleets.

Battle Orders are generally limited to the despatches required to place a Battle Plan in effect, and to direct such changes in plan, or to initiate such detailed operations, as may be necessary during the progress of battle.

CHAPTER IXToC

THE SUPERVISION OF THE PLANNED ACTION

(The Fourth Step)

The discussion in Chapter IX invites attention to the special considerations which influence the supervision of the planned action. The Running Estimate, which employs the procedure typical of the fourth step, is described in detail.

Nature of Discussion. As explained previously (Foreword, page 4), the vast and important subject of the execution of the plan is treated herein, as to details, chiefly from the standpoint of the mental effort.

After the commander has issued a directive placing a plan in effect, it is his responsibility to supervise the execution of the planned action. Through the collection, analysis, evaluation, and interpretation of new information (page 161), he will be able to maintain a grasp of present progress and of future possibilities. He will correct deficiencies and errors in the plan and in its execution. He will guide the direction of effort toward the attainment of the objective. He will ensure that his forces conform their movement in correct relation to the physical objectives and to each other. He will reapportion strength to meet new conditions, through comparison of his accrued losses with respect to those he has anticipated. He will take appropriate measures for freedom of action.

If a new plan is needed, the commander will evolve one and adopt it. If the old plan requires changes as to its larger aspects, he will make such changes. Otherwise, he will modify details of his plan as the situation may demand, always, however, endeavoring to retain the integrity of the larger aspects. He will issue additional directives as may be required from time to time.

Goal of Planning. The function of planning (Part II, preceding) is to afford a proper basis for effective execution. Effective action, therefore, is the goal of planning.

Otherwise, planning is aimless, except as a mental exercise. Such mental exercise, though it be with no thought of specific application in the realm of action, has nevertheless the same fundamental aim as if the planning were so intended. The aim of such mental exercise is the inculcation of habits of thought which will provide a sound basis for effective action.

Importance of Execution. Sound planning is, as explained in previous chapters, the best basis for consistently effective action. Yet, important as planning is, the effective outcome of plans depends upon their execution.

While an unsound plan affords no firm basis for successful action, recognition has long been accorded to the companion fact that a perfect plan, poorly executed, may not provide as firm a foundation for success as a reasonably good plan, carried out with resolution.

No plan, moreover, can be confidently expected to anticipate all eventualities. Notwithstanding every effort to foresee all possibilities, unexpected changes are to be regarded as normal. This fact emphasizes the importance of effective supervision of the planned action.

The importance of such supervision reaches its maximum during actual hostilities; then (page 4) the necessity for alert supervision creates an accentuated demand for the intelligent application of mental power to the solution of military problems. Professional judgment then assumes supreme importance because vital issues may hinge upon the decisions reached during the development of the action.

Conditions in War. Standards of performance in peacetime exercises cannot be a conclusive guide as to what may be expected under the conditions of war. In the conduct of hostilities against a strong and determined enemy, men and materiel do not always function at their best. Commanders undergo extreme strains. Orders are often misinterpreted or go astray. Men, and the machines which they operate, frequently give less effective service than under the

conditions of peace.

In war, mistakes are normal; errors are usual; information is seldom complete, often inaccurate, and frequently misleading. Success is won, not by personnel and materiel in prime condition, but by the debris of an organization worn by the strain of campaign and shaken by the shock of battle. The objective is attained, in war, under conditions which often impose extreme disadvantages. It is in the light of these facts that the commander expects to shape his course during the supervision of the planned action.

The Incentive. During the supervision of the action, problems calling for decision may derive their incentive, as already noted (page 79) either from a directive issued by superior authority, or by reason of a Decision which the commander himself has already made, or because of a recognition, by the commander concerned, of an incentive originating from the demands of the situation.

In the event that the incentive appears in the form of a new task assigned by a higher echelon, the commander's problem may become, relatively, simple. In such a case he is relieved of the necessity of recognizing for himself that the time is ripe for a new decision. This fact, however, in no wise alters his fundamental responsibility for taking action, or for abstaining therefrom, in accordance with the actual demands of the situation (page 15) in the event that the assigned task requires modification or alteration, or, further, in the event that circumstances even call for a departure from his instructions. Should modification, alteration, or departure be in order, the commander is responsible for recognition of the fact that the demands of the situation have introduced further problems.

Such recognition, therefore, irrespective of whether higher authority has issued instructions covering the new situation, constitutes an incentive to take action. No commander is justified in taking wrong action, or in taking none, merely because no instructions have been received. The ability to recognize the fact that the situation presents a new problem is therefore a primary qualification for command.

Recognition of New Problems. The supervision of the planned action, as the fourth step (see Chapter V) of the exercise of mental effort in the solution of military problems, therefore constitutes in itself a problem, in that it involves fundamentally the ability to recognize the existence of new situations which present new problems for solution. To recognize such new problems requires a

constant, close observation of the unfolding of the original situation.

Only an alert commander can invariably determine whether the situation is unfolding along the lines which he desires and as promulgated in the directives formulated in the third step (see Chapter V and Chapter VIII). In effect, the commander, after action has begun, considers the changing situation as a variable in the problem presented by the original situation. With the march of events he is, therefore, constantly critical to detect whether variations in the original situation are in accordance with his design or whether these variations demand a departure from his plan.

Nature of Readjustments Required. If variations in the original situation are in accordance with his design, the commander has the assurance that all goes well, and that the unfolding of the situation is following his intent. However, if this is not the case, changed circumstances may demand recognition of the fact that a new problem has presented itself. In this event a new incentive, arising from the demands of the situation, calls for the solution of the new problem by the procedure distinctive of the first step (Chapter VI).

Should directives of higher authority introduce a new incentive, the commander solves such a new problem, also, by employing the procedure distinctive of the first step.

On the other hand, the commander may find that the changed situation motivates merely a modification of his previously determined operations and of his directives already in force. In other words, while his basic problem (Chapters V and VI) may remain the same, need may arise for certain deviations from the decisions arrived at in the first and second steps of its solution. Should this be the case, each such problem will require solution by a return to the procedures described (Chapter VII) with reference to the second step.

In the event of a demonstrated need, not for any change of plan, but for a clarification of directives, the procedure involved is that distinctive of the third step (Chapter VIII).

The commander may not safely view the succession of events with complacency, even though the situation appears to be unfolding according to plan. Perhaps the enemy may be purposely lessening his opposition, in order to prepare for the launching of an offensive elsewhere. As the situation unfolds, everything is viewed with intelligent suspicion.

It is also possible that, during the progress of an operation, an unforeseen opportunity may present itself to take advantage of a new situation and to strike

the enemy a more serious blow than that originally intended.

Unwise caution is to be avoided no less than undue temerity. Where a change appears, after proper consideration, to be indicated, no hesitancy is justified in abandoning the original plan. Blind adherence to plan is to be condemned no less than unwarranted departures from predetermined procedure. Obstinate insistence on the use of a certain method, to the exclusion of others calculated to attain the same effect, may jeopardize the success of the effort. Undue emphasis on the particular means to be used, and on the manner of their employment, may exact a penalty by obscuring the objective.

On the other hand, undesirable departures from plan involve a corresponding penalty, because changes, unless duly justified by the situation, increase the possibility of failure. Frequency of such changes, to the point of vacillation, is a sure indication of a lack of aptitude for the exercise of command.

Importance of the Will of the Commander. It is accordingly clear that qualification for the exercise of command requires the mental capacity to recognize the need for changes in plan, or for no change. No less essential, however, are the moral qualities required to carry justified changes into effect, or to resist the pressure of events in favor of changes not justified by the situation. (See also pages 8, 9, and 72.)

Hence the universal importance accorded, by the profession of arms, to the will of the commander. This is the quality which, together with the mental ability to understand what is needed, enables the commander to bend events in conformity with his plan (page 47), or, where such shaping of circumstances is infeasible, to ensure for his command every possible advantage which can be obtained.

A recognized defect of certain forms of theoretical problems lies in the fact that they indicate, themselves, the time when a Decision is needed. In other words, they fail to vest the commander with responsibility for the decision that the time has come for a Decision to be made. Hence the great importance, from the viewpoint of timing, of those problems and exercises which partake more fully of the reality of war. The successful conduct of war, notwithstanding its demand for utmost mental power, is founded predominantly on those moral qualities (see pages 9 and 72) which spring less from the intellect than from the will.

Problems Involving Modifications of the Basic Plan

Relatively minor deviations from decisions reached during the first and second steps of the solution of a military problem are frequently required during the action phase, because of incentives arising from the demands of the situation. Such requirements will not occasion serious dislocation in the predetermined effort of the competent commander.

However, more momentous situations are also to be expected. These will present new problems for the commander to solve. Such new problems, so long as they do not challenge the integrity of the basic plan, will not prevent the competent commander from proceeding with his predetermined effort if he takes appropriate action in due time to control the unfolding situation. To maintain such control may call for the exercise of outstanding qualities of the mind and of the will.

For example, it is assumed that the commander's basic Decision was to destroy an enemy convoy, the purpose of the Decision being to prevent the convoy from reaching its destination. Now, it is supposed that, during the supervision of the action planned for the destruction of the enemy convoy, the commander receives information of a hostile reinforcement. It is further supposed that this reinforcement, if it joins the enemy convoy's escort, can jeopardize the success of the basic plan.

The commander is now confronted with a serious situation which, if not controlled by action of the right kind, at the right time, and at the right place, may result in shattering his basic plan. However, if the commander takes action along correct lines in due time, he can still preserve the integrity of his basic plan and so continue to control the shaping of the situation.

Having re-examined his solution of his basic problem and found it sound, the commander finds himself under the necessity of resolving a perplexity as to what to do about the enemy reinforcement. In this case, he concludes that his proper action is to prevent the enemy reinforcement from protecting the convoy. This task, self-assigned because of the demands of the situation, becomes the basis for the mission of his new problem, the mission being:—

> (Task) To prevent the enemy reinforcements from protecting the convoy,
>
> (Purpose) in order to contribute to the eventual destruction of the convoy.

The commander now considers the various courses of action open to him for the accomplishment of this mission. He also considers the enemy courses of

action. He then considers each of the former in relation to each of the latter. He compares, on this basis, each of his retained courses of action with the others and so selects the best course of action. Finally, he arrives, in this manner, by the same process as in a basic problem (Chapter VI), at a decision as to the best course of action. Should this decision be to sink the enemy reinforcement, its statement linked to its purpose, would be:—

> To destroy the enemy reinforcement, in order to prevent it from protecting the convoy.

Problems Challenging the Integrity of the Basic Plan

During the planned action, a change in the situation may have the effect of challenging the integrity of the basic plan. The commander is then faced by a problem calling for the exercise of the highest order of ability. While problems of this type probably occur with least frequency, they are the most important of those which may be encountered during the fourth step.

Because such a problem, arising from the demands of a new situation, requires a re-estimate of the basic situation, the essential procedure is the same as for a basic problem (Chapter VI), but certain modifications necessarily appear.

Summary of the Situation. While a commander will rarely find himself operating without instructions, the importance of problems arising when no directive applies is not lessened by the fact that such problems may infrequently occur. When the commander is faced with a situation not covered in orders of his superior, action may be necessary before he can inform higher authority and receive instructions. Usually this situation will be an emergency. Often it will not allow time for a written estimate. The fact that such a situation has arisen, and the reasons causing the commander to conclude that it has arisen, are appropriately included in Section I-A of the Estimate, under the "Summary of the Situation".

Recognition of the Incentive. The conclusion on the part of the commander that the situation requires him to make provision for its maintenance, or for a change, which in either case calls for a departure from his basic Decision, constitutes a recognition of his new incentive.

Appreciation of the Objective. Frequently the new incentive will indicate that the objective embodied in the commander's present task is no longer suitable, but

that the purpose of his mission still applies. By modifying the objective indicated in his assigned task, but adhering to that in the purpose of his mission, he may be able to visualize a new objective which will be appropriate to the new circumstances. In this case the retained purpose assists the commander to select a new objective which he can confidently adopt as the basis for a new task which he assigns to himself.

If neither the commander's task nor the purpose of his mission apply in the new situation, the evolution of a proper new objective may be much more difficult. Under such circumstances the commander, by the use of such information as may be in his possession, will first endeavor to deduce an objective whose attainment constitutes a suitable purpose. Such a deduction will be made on the basis of the larger circumstances of the war, the campaign, or the operation. Having made this determination, the commander will then deduce a task appropriate to the new situation and in furtherance of the adopted purpose. (See Chapter IV, page 52.)

Formulation of the New Mission. An appropriate new task having been determined, as well as a proper purpose, the commander is now in a position to formulate his mission. The procedure to this end is the same as described (Chapter VI) with respect to the estimate of a basic problem.

Other Items of the Estimate. For such problems of the fourth step, other items of the Estimate Form require no essential modification of the procedures described (Chapter VI) as applicable for the first step.

The Further Procedure Applicable to Such Problems of The Fourth Step

After the commander has reached his new decision, the further course of events may call for the resolution of the required new action into detailed operations and for the inauguration of a new planned effort. In such case, these procedures are accomplished through processes essentially similar to, and fortified by the experience gained in, those distinctive of the second and third steps. (Chapters VII and VIII, respectively).

The new planned effort having been inaugurated, its supervision continues, in turn, through the critical observation and the appropriate action described herein as distinctive of the fourth step.

The Running Estimate of the Situation

The procedure employed in the constant, close observation of the unfolding of the situation—to the end that justified changes of plan may be initiated, while those uncalled-for may be avoided—is known as the "Running Estimate of the Situation". Such an estimate, as indicated by its name, is intended to keep pace with the flow of events, so that the commander may be assured, at any time, that his concurrent action will be based on sound decision. To this end, there is a definite technique for which the standard Estimate Form provides the basis. This technique is an aid for solution of the problem involved in the supervision of the planned action.

Aim of the Technique Involved. Any procedure adopted to this end is properly intended to assist in the supervision of the planned action, but not to restrict the commander to particular methods. Flexibility is a prime consideration. The ultimate aim of the technique is (see also page 114) the rapid and successful exercise of mental effort in the fast-moving events of the tactical engagement. It is under such conditions, more especially, that effective supervision of the planned action becomes a problem calling for every facility that can be afforded the commander.

Nature of the Technique. The solution of this problem requires mentally or in writing according to the particular case, (a) the assembly of information as to events bearing on the situation, and (b) the organization of this knowledge in a manner permitting its ready use. Accordingly, it will be found helpful, where circumstances permit written records to be kept, to provide for (a) a journal (a form of diary) of events, with a file to support it, and (b) a work sheet to organize applicable information in proper form for use. The journal affords a basis for the work sheet. The latter in turn facilitates the procedure, continuous while the action lasts, of estimating the situation so that a Decision maybe rendered at any time desired.

Where written records are unnecessary or impracticable, the same fundamental process is nevertheless employed. The fact that the process is then wholly mental, without extraneous aids, involves no change in the basic character of the essential procedure.

Journal. The journal, to serve the purpose indicated above, is kept in a form permitting entry of essential data as to information needed for the Running Estimate. Such data may include (see the suggested Form, next page) the appropriate heading of the journal, the entries applicable to each item of

pertinent information, and the authentication with which the journal, for any chosen period, is closed.

JOURNAL

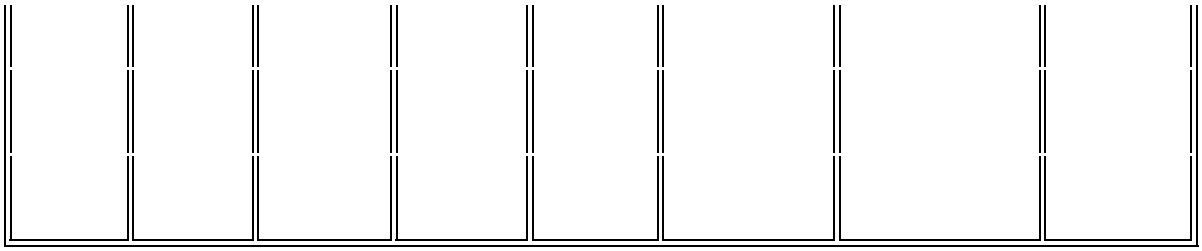
(Organization, staff subdivision, etc.)

From: .....
(date and hour)

To: .....
(date and hour)

Place: .....

TOR	TOD	Time Dated	Serial No.	From	To (Action)	Incidents, Messages, Orders, etc.	Action Taken



The heading of the journal is completed by inserting the designation of the organization and, where appropriate, the staff subdivision concerned, as well as the date and hour of beginning and closing the journal, and the place (or general area) where the commander is located.

Each entry includes, where appropriate, a time notation: for example, as to the occurrence of an incident; the receipt (TOR) or despatch (TOD) of a message; the receipt or issue of an order. The serial number assigned to the entry is recorded. The "time dated" is the date and hour of the incident, or, in the case of the message or order, the date and hour appearing thereon.

Entry of the nature of incidents or of the content of messages and orders, etc., is made under the heading "Incidents, Messages, Orders, etc."; for example:

As to an incident:

Enemy bombed light forces in screen from northward.

As to a message:

Our troops held up on Beach A since 0500 this date.

In the case of a message or order, the source and the action addressee(s) are recorded in the columns marked "From" and "To (action)" respectively. The content of the despatch or order then follows. The amount of detail to be included depends upon the needs of the work sheet (see below) in its capacity as a basis for the running estimate of the situation. Further details can be ascertained, if needed, by reference to the journal file.

The action taken ("None" entered, if none is taken) is indicated briefly under that heading. In the case of the above entry as to the enemy bombing light forces, the "action taken" might, for example read:

Prepared for torpedo attack.

A single journal may be maintained for the commander concerned; or, if so desired, separate journals may be kept, for their respective purposes, by the several principal officers of his staff.

The journal itself and its use are readily adaptable to informal methods of preparation and maintenance. The Journal Form may be prepared hastily, as needed or desired. Where appropriate, the Journal Form may be made up in quantity by printing, multigraphing, or other practicable methods.

Journal File. The file to support the journal is merely an assembly of the records (messages, records of oral orders, and the like) from which the journal is compiled. Each item of the file bears a serial number corresponding to that of its entry in the journal. An ordinary spike-file is frequently adequate for safe-keeping of these records while in use. When the journal is closed, the corresponding journal-file is filed with the journal, in accordance with standing instructions or in compliance with any particular disposition directed by the commander concerned or by higher authority.

Work Sheet. The usual form of the work sheet follows the form of the estimate of the situation. A single work sheet may be kept for the commander concerned, or, if so desired, separate work sheets may be maintained, for their respective purposes, by the several principal subdivisions of his staff. If a single work sheet is maintained, entries by the several staff subdivisions may be facilitated by

dividing the work sheet among them, provided that the entire document can always be promptly assembled for use as needed.

The work sheet, while an important official document, is ordinarily informal in nature. The various headings, items, or titles (other than the main heading) are merely copied, ordinarily, from the usual Estimate Form. An example of a work sheet is as follows (see next page):

WORK SHEET

(For Running Estimate of the Situation)

.....
(Organization, staff subdivision, etc.)

From: .....
(Date and hour)

To: .....
(Date and hour, if pertinent)

Place: .....

I. Establishment of the Basis for Solution of the Problem.

A. The Appropriate Effect Desired.

(1) Summary of the Situation.

(Note: No other heading would be entered on the first page.)

* * *

(2) Recognition of the Incentive.

(Note: No other heading would be entered on the (initial) (second) page.)

* * *

(3) Appreciation of the Assigned Objective.

(Note: No other heading would be entered on the (initial) (third)

page.)

(4) Formulation of the Mission.

(Note: No other heading would be entered on the (initial) (fourth) page.)

* * *

B. (Note: This and subsequent headings are entered in the manner indicated as to Section I-A, above.)

The remaining necessary headings and subheadings of the Estimate Form would be entered similarly, in due order, on succeeding pages.

The use of a voluminous work-sheet is facilitated by entering item headings in a narrow column at the left, and by cutting away unused space below the several headings in such column, so that all the headings (or the more important ones) can be seen at a glance. A person using the work-sheet can then readily find any page desired.

The main heading (top, first page) is filled out in the same manner as for the journal.

The other headings, for subdivisions of the work sheet, are ordinarily transcribed from the usual Estimate Form, according to the needs for the purpose of the particular work sheet. Such needs will vary with circumstances. As has also been noted, the Estimate Form, itself (Chapter VI), varies with the situation. For these reasons, the work-sheet form is necessarily flexible, and will rarely be prescribed in detail. Reproduction by printing, etc., will not be so frequent as in the case of more rigid forms. The work sheet is authenticated only if it is filed (see below), or if authentication is desired for other reasons. The work sheet is, in fact, as indicated by its name, merely a vehicle to facilitate the performance of important mental work.

When the work sheet has served its purpose, it is usually destroyed. It is not, ordinarily, a permanent record, since such purpose is served by the journal and its file. When a formal Estimate is made up from the work sheet, such Estimate may serve the purpose of an additional record. If no formal Estimate is made up for a given period and the commander desires the corresponding work sheet to be preserved for record, he may so direct.

Ordinarily, the work sheet is not destroyed or filed (and a new one started) at any specified time. The work sheet is kept current by marking out old entries no

longer applicable; by inserting new entries; and by inserting fresh pages when old ones have been filled. The old pages, unless otherwise desired, may be destroyed.

A separate page of the work sheet is ordinarily used for each item under which entries are to be made. This procedure applies not only to principal headings, but also to subordinate titles, according to the convenience of the user.

The procedure of devoting a separate page, initially, to each item of the form enables additional pages to be inserted, where needed. Manifestly, the amount of space needed for particular items of the form cannot always be foreseen. The entries, for example, under the "Summary of the Situation", in Section I-A of the Estimate Form, may require little space or a great deal, depending upon the occurrence of events and upon the period of time covered by the particular work sheet. The same considerations are applicable as to other items.

When a work sheet is used as the basis for rendering special reports (e.g., as to intelligence or operations), its form follows that used for such reports. It is, therefore, in essence, merely an outline-form, for entry of applicable data.

Procedure as to Entries. When a report, a plan, a dispatch, or other pertinent item is received, its applicable content may first be entered on the chart (or charts) maintained by the commander (or by his staff). Thereafter the usual procedure would be an entry in the journal, followed by a corresponding entry in the work sheet. The document so received and recorded would then be placed in the journal file. This procedure is subject to proper variation, as desired. Immediate entry of data on the chart enables the commander and staff to study the implications of the item, without waiting for completion of routine clerical work.

Outgoing messages, instructions, etc., after approval or signature by the commander, are handled by a similar routine. Where applicable, such routine involves appropriate entry on the chart, in the journal, and in the work sheet. The routine of entry is preferably based on a copy (or copies), in order to avoid delay in dispatch.

Staff Organization and Functioning. The commander may desire important documents to be handed to him at once, on receipt. He may, of course, call for them at any time. He naturally will not, however, permit any unnecessary delay to occur in the usual routine disposition of such items. The routine exists to assist him, and its arbitrary disruption, if he has properly defined the essential routine in the first instance, cannot but work to his disadvantage.

Few things are more disturbing to the functioning of a staff than undue eccentricity on the part of the commander or of senior members of the staff. For instance, a personal habit to be rigorously suppressed—a habit not infrequently in evidence, especially under strain of active operations—is that of absent-mindedly pocketing documents needed in the work under way. This subject might, but for limitations of space, be illustrated by numerous other examples whose homely character may not safely be permitted to detract from their considered importance to unity of effort.

Where circumstances permit, it is desirable that incoming and outgoing items be reproduced in quantity sufficient to supply separate copies for the commander and for the several interested members of his staff.

A competent staff brings to the commander's attention all the items necessary —but only those necessary—for his proper performance of his duties. Inordinate attention by the commander to unnecessary detail cannot but tend to distract his attention from his proper duties.

The importance of smooth and effective functioning of a staff emphasizes the need for an established, though flexible, procedure. Such procedure, if reasonably standardized, facilitates unity of action, not only within staffs, but also among the several commanders, and their staffs, throughout the chain of command.

The same fundamentals apply as to staff organization. If proper functioning of staffs is generally understood, and if staffs are correctly organized to perform their functions, the basis for their sound organization will become a matter of general understanding. Such organization, so understood, becomes a powerful influence in behalf of unity of effort.

Staff functions—i.e., characteristic activities of staffs—divide fundamentally into two classifications. These may be referred to, for convenience of terminology, as "general" and "special".

The latter have to do with the characteristic operations of the command, rather than of the commander; they therefore relate to such matters as routine administration and to the technical aspects of movement, of the use of weapons, and of supply, sanitation, and hospitalization. The administrative, technical, and supply staff, thus broadly considered, may be said to be concerned with special functions relating to the operations of the command.

By contrast, the functions of the commander, as such, have to do with the necessary supervision of these special functions and, more especially, with the

important duty of planning for the future employment of the command. The supervisory and planning activities may, for purposes of differentiation from the specialties noted above, be properly described as general functions. They relate more particularly to the duties performed personally by the commander or, where such duties become too onerous for performance by one person, by specifically designated members of his staff.

In our naval service, the higher commanders are provided, where appropriate, with a chief of staff, who coordinates and supervises the work of the entire staff. Provision is also made, where the nature and amount of the work to be done calls for such assignment, for the detail of additional staff officers to perform the important general functions mentioned above. Appropriate provision is also made for staff officers to care for the special functions inherent in the character of the particular command.

The important general functions referred to are those relating to intelligence duties, and to operations. Intelligence duties have to do with the collection of information as to the enemy and the theater of operations, the analysis of this information, its evaluation, its conversion into intelligence by the process of drawing conclusions, i.e., by interpretation, and, finally, its dissemination to the command or to other appropriate destinations (page 161). Intelligence estimates and plans have been discussed previously (Chapters VII and VIII).

Operations, in the sense in which the term is employed in this connection, relate to the strategical or tactical activities of the command, as distinguished from routine functions pertaining to such matters as administration and supply. Operations, therefore, as a term employed in contradistinction to intelligence activities, refer more especially to the performance of the commander's own force, while intelligence functions are oriented more particularly with respect to the activities of the enemy. Operation plans, which may include subsidiary intelligence plans, have been discussed previously (Chapters VII and VIII).

Further details in this connection are touched on hereafter with respect to rendition of reports and estimates.

Reports. The work-sheet facilitates the rendition, at any time, of such special reports as may be required by higher authority, or by the commander from his staff. The appropriate staff officer is prepared at all times to render a report, oral or written, informal or formal, brief or detailed, of the situation of the command and of other friendly forces, or of the situation with reference to the enemy.

No less important than rendition of reports to the commander and to higher

authority is the duty of the staff, or of the commander if he lacks such staff assistance, to insure that subordinate commands receive pertinent information at the proper time. Cooperating friendly forces will also require such information. This need is sometimes met by the issue of periodical reports or bulletins. However, during the intervals between such reports, and at all times when such reports are lacking, it is a primary duty of the commander and staff to ensure that all concerned are informed as to the situation. The work sheet is a valuable aid for the performance of this duty.

Oral Estimates. When called for by higher authority, or by the commander from his staff, oral estimates of the situation can be rendered promptly and effectively by reference to the work sheet. Estimates called for by the commander are presented by the appropriate staff officers. Presentation is made to the commander or, if so directed, to the chief of staff, the latter being prepared to render, in turn, an estimate to the commander. Oral estimates desired by higher authority are made by the commander, or by the staff officer concerned, at the direction of his commander.

Partial estimates may be called for from time to time as to particular aspects of the situation.

In the larger staffs, the work is facilitated if each principal staff officer is prepared to present his appropriate portion of the estimate. In such case the intelligence officer deals with matters relating to the enemy; the operations officer deals with those relating to own forces, etc. The entire staff acts as a team in the presentation of a well-rounded estimate which will bring all pertinent matters to the attention of the commander so that he may arrive at a sound decision.

Should the commander call also for recommendations as to the decision or decisions to be made, the appropriate members of the staff will be prepared to submit their views. They will be prepared, as well, to answer at any time the calls of higher authority for information, for the conclusions of the commander, or for his recommendations. Should the commander have no staff for the performance of the foregoing functions, such detailed duties devolve upon him personally.

Certain further aspects of estimates of the situation, with reference to the circumstances obtaining during the supervision of the planned action, are noted under the discussion of written estimates, which follows.

Written Estimates. The foregoing remarks as to oral estimates are no less

applicable to those submitted in written form, whether formal or informal, partial or full, brief or detailed. The nature of an estimate, as to these characteristics, will largely depend on the time element. A long and detailed estimate, often desirable when time is available, may be wholly impracticable when the press of events requires rapid decision. The written estimate, even if informal, partial, or brief, would frequently be out of place in situations where an oral estimate would be adequate or, if not adequate, would be all that could be accomplished under the circumstances of the case.

Special Remarks as to Entries

Entries on Charts. Entries on charts are made by the usual conventional signs and symbols. Colors are employed where appropriate. Information not yet confirmed is indicated as doubtful; e.g., by a question mark. Special remarks, comments, or other notations may also be entered, but in such a manner as not to obscure other data on the chart.

Where operations of land forces are involved, maps are prepared by the methods prescribed for own land forces. The higher naval staffs, or those of forces specially designated for such operations, may include army officers who will look after these matters; marine officers may also be assigned such duties.

Special charts or maps are those prepared for special purposes. A chart (or map) maintained to show the existing situation is known as a "situation chart" (or map). Charts (or maps) prepared for particular operations are known as "operations charts" (or maps).

Entries in Journals. Entries in journals, already referred to, are purely factual. Such entries may be complete copies of the content of incoming or outgoing orders or messages. Again, as already indicated (page 209), entries may consist of condensations of such matters. The oral instructions of the commander are also appropriate items for entry, when the matter is of sufficient importance. The journal may also make note of the movements of the commander, his staff officers, and other persons. Other pertinent happenings may also be made the subject of entry.

Entries in Work Sheets. Entries in the work sheet, since it is the basis for estimates of the situation, are both factual and otherwise. All matters entered in the journal are normally appropriate for notation in the work sheet. Information

not yet confirmed is indicated as doubtful. The work sheet is also the proper place for notation of matters of conjecture (noted as such) and for other like items related to estimates of the situation. The various considerations influencing the commander and staff, with respect to current operations, are proper entries in the work sheet. Its informal character affords wide latitude as to entries which may be considered worthy of record in this manner. The underlying consideration is that anything may and should be entered which will be of value in preparing estimates or rendering the special reports for which the work sheet is to provide the basis.

A succinct running account of the situation is kept posted to date under the appropriate heading of the work sheet.

Entry is also made of the incentive which motivates the solution of the problem presented by the situation. Notation is made as to whether the incentive arises from a task imposed by higher authority or is derived by the commander from other sources (see page 200). In either case, the work sheet is the proper place for the entry of such facts and of the reasons which have led the commander to regard this incentive as motivating his actions in the situation existing at the time.

Information of the enemy, after receipt from the various collecting agencies (radio, observers, subordinate forces, etc.), is subject to the usual procedures of analysis, evaluation, interpretation, and dissemination (page 214). Analysis determines the source and the circumstances which led to the dispatch of the message. Evaluation determines its degree of reliability. Interpretation calls for drawing conclusions. The resulting intelligence is then disseminated to those concerned, either within the command or elsewhere.

Since information of the enemy does not become intelligence until converted thereinto by the process of drawing conclusions, this important procedure is recorded briefly in the work sheet. Such record makes available, for inclusion in estimates or in reports, the reasons which have formed the basis for such conclusions.

Information of friendly forces, with any deductions drawn therefrom, is similarly entered in the appropriate portions of the work sheet.

The facts and conclusions as to fighting strength of own and enemy forces are important entries. The summary of fighting strength includes proper conclusions as to the relative fighting strength of the opposing forces, own and enemy's.

The work sheet is also the proper document for other entries pertinent to

estimates of the situation: e.g., the determination of own courses of action, the examination into enemy capabilities, and the selection of own best course of action. The commander's decisions, as rendered from time to time, are also entered for purposes of temporary record.

Summary

The work sheet, therefore, if properly utilized, contains the Running Estimate of the Situation, and is supported by the journal and the journal file. By the use of the Running Estimate and its supporting documents, the commander is enabled to keep himself apprised of the developments of the situation. On this basis he is able to detect the necessity for any changes in his plan and to arrive promptly at decisions in accordance with such needs. These decisions become the basis for new or modified plans and directives, to cause the action of his command to conform to changes in the situation.

Where the full procedure described in this Chapter is unnecessary or impracticable, a suitable modification without fundamental change will be found applicable. The mental process, even if no records are kept in writing, applies to the supervision of the planned action in every situation.

CONCLUSIONToC

The discussion of "Sound Military Decision" now closes with a brief review of the application of mental power to the solution of military problems.

Mental power, which includes the ability to arrive at sound solutions of military problems, is a recognized essential component of fighting strength because (page 18) it is the source of professional judgment.

The procedure most likely to ensure sound solutions is the studied employment of a natural mental process, differing in no fundamental respect from that effectively utilized in all other human activities. The basic mental procedure remains unchanged, irrespective of the nature of the problem,—be it simple or complex, its solution instantaneous or slow. The procedure is especially adapted to the needs of the profession of arms through the use of the Fundamental Military Principle. By outlining the essential elements involved, this Principle, a valid guide for the solution of military problems, covers the full scope of the application of mental power as a recognized component of fighting strength.

It is more especially during the swift-moving action of the tactical engagement that moral capacity to command, and mental ability to solve military problems, experience the maximum pressure of events. It is then, also, that the responsibility of the commander creates an added demand for intelligent application of mental power because of the vital issues which may hinge upon his decisions. That this pressure be successfully sustained, and this responsibility effectively discharged, is the goal of any system of mental training in the profession of arms (page 114).

On a fundamental basis of earnest thought, mental ability, character, knowledge, and experience, finally rests the soundness of decision.

OUTLINE FORM OF AN OPERATION PLAN

Image of form

File Notations SECRET (or CONFIDENTIAL) Operation Plan	TITLES OF THE SUPERIOR ECHELONS, TITLE OF THE FORCE, NAME OF SHIP, Flagship. PLACE OF ISSUE,

No. ——— Date and hour of issue.

TASK ORGANIZATION.

(a) Task Force Title, Rank and name of its commander. Composition of Task Force.

(b) (Similarly enumerate other Task Forces after appropriate letter (b), (c), etc.)

1. Information. Information of enemy and own forces affecting the Plan and needed by subordinate commanders. If no further information is available, the statement "No further information" is inserted. Distinction is made between matters of conjecture and of fact. If desired, indicate the tasks and general objectives of higher echelons and of coordinate forces of the commander's echelon, and of other forces of the command, not listed in the Task Organization. If desired, include general measures prescribed by the immediate superior for cooperation and security.

   Assumptions. Statement of the assumptions upon which the Plan is based. Assumptions are things taken for granted as the basis for action.

2. The general plan for the whole force actually under the command of the officer issuing the Plan, and, if desired, the methods of executing it, and its purpose. If additional matter is needed to convey clearly the will and intent of the commander, such matter may be added.

3. (a) Title of Task Force (a), followed by a statement of the principal task, other tasks, and detailed instructions for the particular Task Force. Tasks may be stated, if preferred, in chronological order. Include directions as to cooperation, security, and intelligence activities.

   (b) Title of Task Force (b), followed by a subparagraph of similar substance and arrangements as in (a) above.

   (x) Instructions that apply to all Task Forces or that pertain to the general conduct of the operation, including, if desired, coordinating instructions applying to more than one task

force. Include, particularly, measures for cooperation, security, and intelligence activities. Include statement of the time and/or manner in which the Operation Plan is to be placed in effect.

4. Broad instructions concerning logistics measures necessary to the operation, or reference to Logistics Annex, if one has been prepared in connection with the operation.

5. Measures necessary to the exercise of command, such as plan of communications, zone time to be used, rendezvous, and location of Commander during operation.

(Signature)
Rank,
Title of Command.

ANNEXES.

A. (Name)
B. do

DISTRIBUTION

(Authentication)

(Seal)

NOTE—The Operation Order (see page 196) follows this Form except that it makes no provision for assumptions, and is effective on receipt unless otherwise provided in the body of the Order.

TABULAR FORMSToC

TABULAR FORM OF
THE ESTIMATE OF THE SITUATION

Section Page

On the reverse side, page 224, will be found a Tabular Form of the Resolution of the Required Action into Detailed Operations.

CAUTION. This folder is merely a guide, provided in order to facilitate reference to the subject matter of Chapters VI and VII. It is not possible to arrive at sound military decision by its use alone.

TABULAR FORM OF
THE RESOLUTION OF THE REQUIRED ACTION
INTO DETAILED OPERATIONS

INDEX

INDEXToC

C

Typographical errors corrected in text:

Page 8: circumtances replaced with circumstances
Page 61: skillfull replaced with skillful
Page 172: therof replaced with thereof
Page 175: caried replaced with carried

unless you comply with paragraph 1.E.8 or 1.E.9.

1.E.8. You may charge a reasonable fee for copies of or providing access to or distributing Project Gutenberg-tm electronic works provided that

- You pay a royalty fee of 20% of the gross profits you derive from the use of Project Gutenberg-tm works calculated using the method you already use to calculate your applicable taxes. The fee is owed to the owner of the Project Gutenberg-tm trademark, but he has agreed to donate royalties under this paragraph to the Project Gutenberg Literary Archive Foundation. Royalty payments must be paid within 60 days following each date on which you prepare (or are legally required to prepare) your periodic tax returns. Royalty payments should be clearly marked as such and sent to the Project Gutenberg Literary Archive Foundation at the address specified in Section 4, "Information about donations to the Project Gutenberg Literary Archive Foundation."

- You provide a full refund of any money paid by a user who notifies you in writing (or by e-mail) within 30 days of receipt that s/he does not agree to the terms of the full Project Gutenberg-tm License. You must require such a user to return or destroy all copies of the works possessed in a physical medium and discontinue all use of and all access to other copies of Project Gutenberg-tm works.

- You provide, in accordance with paragraph 1.F.3, a full refund of any money paid for a work or a replacement copy, if a defect in the electronic work is discovered and reported to you within 90 days of receipt of the work.

- You comply with all other terms of this agreement for free distribution of Project Gutenberg-tm works.

1.E.9. If you wish to charge a fee or distribute a Project Gutenberg-tm electronic work or group of works on different terms than are set forth in this agreement, you must obtain permission in writing from both the Project Gutenberg Literary Archive Foundation and Michael Hart, the owner of the Project Gutenberg-tm trademark. Contact the Foundation as set forth in Section 3 below.

1.F.

1.F.1. Project Gutenberg volunteers and employees expend considerable effort to identify, do copyright research on, transcribe and proofread public domain works in creating the Project Gutenberg-tm collection. Despite these efforts, Project Gutenberg-tm electronic works, and the medium on which they may be stored, may contain "Defects," such as, but not limited to, incomplete, inaccurate or corrupt data, transcription errors, a copyright or other intellectual property infringement, a defective or damaged disk or other medium, a computer virus, or computer codes that damage or cannot be read by your equipment.

1.F.2. LIMITED WARRANTY, DISCLAIMER OF DAMAGES - Except for the "Right of Replacement or Refund" described in paragraph 1.F.3, the Project Gutenberg Literary Archive Foundation, the owner of the Project Gutenberg-tm trademark, and any other party distributing a Project Gutenberg-tm electronic work under this agreement, disclaim all liability to you for damages, costs and expenses, including legal fees. YOU AGREE THAT YOU HAVE NO REMEDIES FOR NEGLIGENCE, STRICT LIABILITY, BREACH OF WARRANTY OR BREACH OF CONTRACT EXCEPT THOSE PROVIDED IN PARAGRAPH F3. YOU AGREE THAT THE FOUNDATION, THE

TRADEMARK OWNER, AND ANY DISTRIBUTOR UNDER THIS AGREEMENT WILL NOT BE LIABLE TO YOU FOR ACTUAL, DIRECT, INDIRECT, CONSEQUENTIAL, PUNITIVE OR INCIDENTAL DAMAGES EVEN IF YOU GIVE NOTICE OF THE POSSIBILITY OF SUCH DAMAGE.

1.F.3. LIMITED RIGHT OF REPLACEMENT OR REFUND - If you discover a defect in this electronic work within 90 days of receiving it, you can receive a refund of the money (if any) you paid for it by sending a written explanation to the person you received the work from. If you received the work on a physical medium, you must return the medium with your written explanation. The person or entity that provided you with the defective work may elect to provide a replacement copy in lieu of a refund. If you received the work electronically, the person or entity providing it to you may choose to give you a second opportunity to receive the work electronically in lieu of a refund. If the second copy is also defective, you may demand a refund in writing without further opportunities to fix the problem.

1.F.4. Except for the limited right of replacement or refund set forth in paragraph 1.F.3, this work is provided to you 'AS-IS,' WITH NO OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTIBILITY OR FITNESS FOR ANY PURPOSE.

1.F.5. Some states do not allow disclaimers of certain implied warranties or the exclusion or limitation of certain types of damages. If any disclaimer or limitation set forth in this agreement violates the law of the state applicable to this agreement, the agreement shall be interpreted to make the maximum disclaimer or limitation permitted by the applicable state law. The invalidity or unenforceability of any provision of this agreement shall not void the remaining provisions.

1.F.6. INDEMNITY - You agree to indemnify and hold the Foundation, the trademark owner, any agent or employee of the Foundation, anyone providing copies of Project Gutenberg-tm electronic works in accordance with this agreement, and any volunteers associated with the production, promotion and distribution of Project Gutenberg-tm electronic works, harmless from all liability, costs and expenses, including legal fees, that arise directly or indirectly from any of the following which you do or cause to occur: (a) distribution of this or any Project Gutenberg-tm work, (b) alteration, modification, or additions or deletions to any Project Gutenberg-tm work, and (c) any Defect you cause.

Section 2. Information about the Mission of Project Gutenberg-tm

Project Gutenberg-tm is synonymous with the free distribution of electronic works in formats readable by the widest variety of computers including obsolete, old, middle-aged and new computers. It exists because of the efforts of hundreds of volunteers and donations from people in all walks of life.

Volunteers and financial support to provide volunteers with the assistance they need are critical to reaching Project Gutenberg-tm's goals and ensuring that the Project Gutenberg-tm collection will remain freely available for generations to come. In 2001, the Project Gutenberg Literary Archive Foundation was created to provide a secure and permanent future for Project Gutenberg-tm and future generations. To learn more about the Project Gutenberg Literary Archive Foundation and how your efforts and donations can help, see Sections 3 and 4 and the Foundation web page at http://www.gutenberg.org/fundraising/pglaf.

Section 3. Information about the Project Gutenberg Literary Archive Foundation

The Project Gutenberg Literary Archive Foundation is a non profit 501(c)(3) educational corporation organized under the laws of the state of Mississippi and granted tax exempt status by the Internal Revenue Service. The Foundation's EIN or federal tax identification number is 64-6221541. Contributions to the Project Gutenberg Literary Archive Foundation are tax deductible to the full extent permitted by U.S. federal laws and your state's laws.

The Foundation's principal office is located at 4557 Melan Dr. S. Fairbanks, AK, 99712., but its volunteers and employees are scattered throughout numerous locations. Its business office is located at 809 North 1500 West, Salt Lake City, UT 84116, (801) 596-1887, email business@pglaf.org. Email contact links and up to date contact information can be found at the Foundation's web site and official page at http://www.gutenberg.org/about/contact

For additional contact information:
Dr. Gregory B. Newby
Chief Executive and Director
gbnewby@pglaf.org

Section 4. Information about Donations to the Project Gutenberg Literary Archive Foundation

Project Gutenberg-tm depends upon and cannot survive without wide spread public support and donations to carry out its mission of increasing the number of public domain and licensed works that can be freely distributed in machine readable form accessible by the widest array of equipment including outdated equipment. Many small donations ($1 to $5,000) are particularly important to maintaining tax exempt status with the IRS.

The Foundation is committed to complying with the laws regulating charities and charitable donations in all 50 states of the United States. Compliance requirements are not uniform and it takes a considerable effort, much paperwork and many fees to meet and keep up with these requirements. We do not solicit donations in locations where we have not received written confirmation of compliance. To SEND DONATIONS or determine the status of compliance for any particular state visit http://www.gutenberg.org/fundraising/pglaf

While we cannot and do not solicit contributions from states where we have not met the solicitation requirements, we know of no prohibition against accepting unsolicited donations from donors in such states who approach us with offers to donate.

International donations are gratefully accepted, but we cannot make any statements concerning tax treatment of donations received from outside the United States. U.S. laws alone swamp our small staff.

Please check the Project Gutenberg Web pages for current donation methods and addresses. Donations are accepted in a number of other ways including checks, online payments and credit card donations. To donate, please visit: http://www.gutenberg.org/fundraising/donate

Section 5. General Information About Project Gutenberg-tm electronic works.

Professor Michael S. Hart is the originator of the Project Gutenberg-tm concept of a library of electronic works that could be freely shared with anyone. For thirty years, he produced and distributed Project Gutenberg-tm eBooks with only a loose network of volunteer support.

Project Gutenberg-tm eBooks are often created from several printed editions, all of which are confirmed as Public Domain in the U.S. unless a copyright notice is included. Thus, we do not necessarily keep eBooks in compliance with any particular paper edition.

Each eBook is in a subdirectory of the same number as the eBook's eBook number, often in several formats including plain vanilla ASCII, compressed (zipped), HTML and others.

Corrected EDITIONS of our eBooks replace the old file and take over the old filename and etext number. The replaced older file is renamed. VERSIONS based on separate sources are treated as new eBooks receiving new filenames and etext numbers.

Most people start at our Web site which has the main PG search facility:

http://www.gutenberg.org
This Web site includes information about Project Gutenberg-tm, including how to make donations to the Project Gutenberg Literary Archive Foundation, how to help produce our new eBooks, and how to subscribe to our email newsletter to hear about new eBooks.

EBooks posted prior to November 2003, with eBook numbers BELOW #10000, are filed in directories based on their release date. If you want to download any of these eBooks directly, rather than using the regular search system you may utilize the following addresses and just download by the etext year.

http://www.gutenberg.org/dirs/etext06/
    (Or /etext 05, 04, 03, 02, 01, 00, 99,
     98, 97, 96, 95, 94, 93, 92, 92, 91 or 90)

EBooks posted since November 2003, with etext numbers OVER #10000, are filed in a different way. The year of a release date is no longer part of the directory path. The path is based on the etext number (which is identical to the filename). The path to the file is made up of single digits corresponding to all but the last digit in the filename. For example an eBook of filename 10234 would be found at:

http://www.gutenberg.org/dirs/1/0/2/3/10234

or filename 24689 would be found at:
http://www.gutenberg.org/dirs/2/4/6/8/24689

An alternative method of locating eBooks:
http://www.gutenberg.org/dirs/GUTINDEX.ALL
*** END: FULL LICENSE ***

linked image
back

linked image
back

linked image
back