

BERNARD BRODIE

Strategy in the Missile Age



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STRATEGY IN
THE MISSILE AGE

“In these windings [of special interest] the logical conclusion is caught fast, and man, who in great things as well as in small usually acts more on particular prevailing ideas and emotions than according to strictly logical conclusions, is hardly conscious of his confusion, one-sidedness, and inconsistency.”—KARL VON CLAUSEWITZ, *On War*

“And is anything more important than that the work of the soldier should be well done?”—PLATO, *The Republic*

STRATEGY IN THE MISSILE AGE

BY BERNARD BRODIE



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He is the author of the famous and widely-used *A Guide To Naval Strategy, Sea Power in the Machine Age*, and co-author of *The Absolute Weapon*.

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◀ PREFACE FOR PAPERBACK EDITION ▶

The occasion of putting this book into a new, paperback edition reminds one that some time has elapsed since the original publication, and that in the field of modern strategy time tends to deal severely with concepts as well as facts. On the whole this book has fared very well, but five years nevertheless warrant a statement about what one would do differently if one were writing the book today. I am indeed pleased that in the present instance such a statement need be neither long nor involved.

The fact that five years have elapsed is less important than that the date of publication preceded the coming to power of the Kennedy and subsequently the Johnson administrations, which have pursued an ideology in defense matters markedly different from that which infused the previous administration. Actually, speaking in a descriptive rather than a causative sense, this book as originally published in 1959 turned out to be a projection of the intellectual structure within which the defense doctrines and distinctive military postures of the Kennedy administration were to take shape. I might also say that though that structure, as represented in the book, was not by any means solely my own creation, I had nevertheless made some contributions to it, chiefly in the area of thought about limited war.

I mention this mainly to put into some perspective my later criticisms of certain administration defense policies that seemed superficially to be entirely in line with ideas advocated in the original volume. For example, my article "What Price Conventional Capabilities in Europe?" published in the May 23, 1963 issue of *The Reporter* systematically criticized what I held to be excessive devotion to the

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idea of resisting possible Soviet aggression in Europe mostly by conventional means—though I had apparently advocated comparable ideas in my Chapter 9.

One relevant fact and partial explanation is that when the book was written (some parts of it were first composed long before 1959), those sections that deal with limited war, and especially with conventional capabilities for fighting a limited war, had to be advanced against much intellectual opposition. Actually, my own writings, then classified, urging that more study and resources be devoted to limited-war capabilities date from the beginning of 1952 (when I first heard of the thermonuclear weapon to be tested in the following November), and at that time the views I was expressing met in some quarters not only opposition but amazed disbelief. It is difficult to recall now that at that time it was a completely accepted axiom—despite the ongoing Korean experience, which was regarded as entirely aberrational—that all modern war must be total war. This idea had been by no means completely dissipated at the time of the publication of the book in 1959.

In that respect the situation today is vastly different. The present frame of mind on relevant issues within the defense community of the United States would make unnecessary today the tone of advocacy sometimes manifested in the book. On the contrary, if it were being written today it would be more appropriate to point out (as I tried to do in the above-mentioned article and in other papers) the limitations and drawbacks attending possible over-emphasis of what is basically a good and necessary idea.

What other changes in circumstance are worth noting for this new edition? So far as concerns changes in the world of things rather than ideas, far the most important in the

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five years since publication has been the revolution in the degree of security built into the strategic retaliatory forces of the two major nuclear powers, especially those of the United States. I did indeed stress in the book the importance of such a change which was already beginning, but the degree to which it has in fact taken place has considerably outrun my expectations. Our Secretary of Defense, Mr. Robert S. McNamara, and other members of the Kennedy-Johnson regime, were quick to recognize the importance of this vulnerability problem and to push programs designed to cope with it. Among the most important of these have been the Navy's Polaris submarine and the Air Force's Minuteman missile programs. The former puts under water and the latter under ground in hardened silos the intermediate and the long range missiles of which the major part of our retaliatory capability is already or soon will be composed. Thus, in time of crisis, which may in fact include actual hostilities with our major opponent, the pressure for "going first" with our strategic forces is not only reduced but well-nigh eliminated. This change introduces immeasurably more stability into any crisis situation—a fact somewhat intriguingly reflected in the term "crisis management" that has lately made its way into the fashionable jargon of the times. Or, to use another term that has come into wide use of late, "escalation" to general war is far less to be feared from any commitment to limited war than was formerly the case—even, I would hold, if nuclear weapons should be used.

An interesting concomitant of the change I have just described has been the development of an obvious dilemma with respect to targeting for general war—a dilemma that was also anticipated in the book, on pages 289-94. Where

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both sides have large retaliatory forces of relatively low vulnerability, attack upon enemy cities looks more than ever unattractive. On the other hand, the likely accomplishments of a "counterforce strategy" become also relatively unpromising. This dilemma contributes to diminishing the incentives for going first in a strategic exchange. One is both less worried about the vulnerability of one's retaliatory forces and also less eager to get on with a not-too-promising target list. This new, or developing, situation is not without its special problems; certainly the utility of the "massive retaliation" threat against local aggression has diminished even further (if it is not already at zero), but the situation is nevertheless, in the net, far more salubrious and comforting than was the case in 1959.

One should not omit mention also of the revelations attendant upon the great Cuban crisis of October 1962 and its most successful resolution for the United States. What looked in the beginning like an extraordinarily bold and venturesome act on the part of the Soviet leaders turned out in its conclusion and its aftermath to underline the degree to which those leaders were determined to avoid hostilities with the United States—perhaps due in part to the fact that they were less given than our own leaders to distinguishing between local and general war and less ready to think of the possibility of keeping the former from graduating into the latter. At any rate, the conduct of the Soviet Union since that time concerning such trouble spots as Berlin has reflected a so much better perception of us and what we will tolerate or not tolerate that we have some reason for expecting that their relatively conciliatory policies will survive the replacement of Mr. Khrushchev by others in October 1964. Certainly the consequences thus far of this historic

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confrontation seem to have been from our point of view entirely salutary.

Against the above described changes, those involving developments in active anti-missile defenses are of quite modest importance. Though everyone agrees that producing a highly effective anti-missile missile defense would be of the first order of strategic importance, no sophisticated worker in the field has any expectation of such a thing occurring in the foreseeable future. There is indeed a considerable consensus that technological development in this area should be pursued and that significant though strictly relative gains are to be expected from doing so. But nobody expects anything like an impenetrable umbrella of anti-missile defenses to be erected over our cities or our own missile emplacements—certainly not within any meaningful time span—and no one expects the opponent to do significantly better. It is the old story of ingenuity in defense having to reckon with ingenuity in offense, with the latter having a large margin of the advantages.

The principle of civil defense has indeed made almost no progress since the publication of the book. Any reasoned exposition of the advantages of putting very modest proportions of our entire defense resources on developing such capabilities is likely to engender in this country impassioned outbursts of opposition. The reason seems mainly to be that while offensive missiles and devices for their protection promise to *deter* war, fallout shelters and the like appear to have minimum utility for deterrence and are urged mostly for the sake of saving lives if general war does in fact occur. It is not really surprising that many people derive an additional sense of security from attacking what could be of use only if the unthinkable happens.

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I suppose also that the considerable orientation of the book towards developing the historical origins of contemporary situations has had as much to do as my lucky guesses concerning the future in explaining the relatively small degree of obsolescence imposed by five years of time, during which events seemed to be moving so rapidly. At any rate, it is possible for me to envisage with great pleasure and minimal misgivings the reissue of this volume in a paperback edition. I should like also to express at this time my gratitude for the extremely favorable reception accorded the original edition and its several reprintings both in the United States and abroad.

BERNARD BRODIE

Santa Monica, Calif.

November 5, 1964

⌞ PREFACE ⌟

WHILE writing this book I tried to keep my prospective audiences distinctly in mind in order that I might better communicate with them. I kept first in my thoughts the officers of the American armed forces, especially those who are students in the several war colleges of the United States. However, I also hoped it would be useful to the rapidly increasing number of civilians, whether scholars, political leaders, or simply citizens, who are becoming seriously interested in national security problems. For their sakes I took added care to avoid the use of military jargon and to explain the few esoteric terms I did use.

The division of this book into two parts of quite different character may indicate a certain want of cohesion, but readers who lack the time or inclination to take that guided tour of the past which comprises most of Part I can plunge directly into Part II. My own view is that Part I traces the development of certain characteristics of modern military thinking which have had and continue to have great influence on national security policies in the United States and elsewhere, and which begin to look somewhat strange the moment one stops taking them for granted.

Some readers may regard it a blemish of the book that I nowhere hesitated to express a particular point of view, where I had one, rather than strain after a detachment which would mask my convictions. I tried to be objective, but not impartial. By that I mean that I tried honestly and earnestly to consider the various sides of a controversial issue before coming to my own conclusions, and I know I avoided any bias for or against the service mainly affected by the book's contents. Inherited axioms had almost no effect upon my

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thinking; I say "almost" because it is possible they had an inverse influence, due to my deep-seated impulse to shy at axioms. My military readers will no doubt make some correction for this defect when they notice it. I permitted myself to act the advocate especially where I was conscious of moving against a strong tide of opinion currently influencing national policy.

I was able to do this because the writing of the book, though carried out as a RAND Corporation project, was a one-man enterprise in which I was accorded full freedom to develop my thesis as I saw fit. Most of my RAND colleagues, I am sure, agree with most of what I say, and many agree essentially with the whole of it; but I am aware too that some whose opinions I respect differ from me on some of my conclusions. The RAND Corporation as such must therefore be exonerated from responsibility for my views.

Nevertheless, this book would have been a poorer one had I written it elsewhere. I am speaking partly of a general environment of thought within the organization, but I am aware also of obligations to specific persons in the RAND community. Those to whom I am especially indebted include J. F. Digby, M. W. Hoag, V. M. Hunt, H. Kahn, W. W. Kaufmann, A. W. Marshall, H. S. Rowen, T. C. Schelling, H. Speier, and A. J. Wohlstetter. Others who read the manuscript in whole or in part and contributed valuable criticisms and suggestions are A. W. Boldyreff, H. A. DeWeerd, A. L. George, H. Goldhamer, A. M. Halpern, O. Hoeffding, F. C. Iklé, P. Kecskemeti, B. H. Klein, M. M. Lavin, J. E. Loftus, R. N. McKean, and my wife, Fawn M. Brodie.

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⌞ PART I ⌟

ORIGINS OF AIR STRATEGY

< 1 >

INTRODUCTION

IN book VI of Milton's *Paradise Lost*, the Angel Raphael is recounting to Adam the story of the war in Heaven which resulted in the fall of Satan and his followers. After the first day of fighting, Raphael relates, the issue was still in doubt, although the rebellious angels had received the more horrid injury.

Gathered round their campfire that night, their leaders consider how they may overcome their disadvantage. Satan is persuaded that their inferiority is one of weapons alone, and he suggests:

perhaps more valid Armes,
Weapons more violent, when next we meet,
May serve to better us, and worse our foes,
Or equal what between us made the odds,
In Nature none: . . .

At this point his lieutenant, Nisroc, rises to exclaim enthusiastic agreement, finishing his speech with a promise:

He who therefore can invent
With what more forcible we may offend
Our yet unwounded Enemies, or arme
Ourselves with like defence, to mee deserves
No less then for deliverance what we owe.

All this proves to be mere window dressing, for Satan now announces that he has already invented the instrument which will shift the balance. The instrument, several of which are constructed at his direction during the celestial

night, turns out to be a field gun—which, as Raphael assures Adam, is likely to be reinvented by the latter's own progeny "in future days, if malice should abound."

The following day the rebel seraphs, exploiting to the utmost the advantages of tactical surprise, and skillfully applying techniques of psychological warfare, secretly bring up their field pieces and commit them at a critical moment to action. At first the infernal engines wreak dreadful execution. But the loyal angels, not to be surpassed in the application of science to war, in the fury of the moment seize upon the "absolute weapon." Tearing the seated hills of Heaven from their roots, they lift them by their shaggy tops and hurl them upon the rebel hosts. Those among the latter who are not immediately overwhelmed do likewise. In a moment the battle has become an exchange of hurtling hills, creating in their flight a dismal shade and infernal noise. "War," observes Raphael, "seemed a civil game to this uproar." Heaven is threatened with imminent ruin, and the situation is resolved in the only way left open—the direct intervention of God, who sends His only begotten Son to end the conflict. The Son of God succeeds without difficulty in casting the bad angels into outer darkness.

The war in Heaven dramatizes the chief dilemma which confronts modern man, especially since the coming of the atomic bomb, the dilemma of ever-widening disparity in accomplishment between man's military inventions and his social adaptation to them. Milton's angels were able to devise new weapons and apply them with a celerity which man has not yet attained. But even in an environment most favorable to peace, with an omniscient and all-powerful God as a directly interested party, these nearly perfect celestial beings suffered the outbreak among themselves of a civil war that

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was saved from being suicidal only by the fact that angels cannot die. Their superlative intelligence was reflected in the application of new techniques of warfare, but the origin of the war itself was marked by the absence or lapse of wisdom. Although Milton was conscious of the paradox, his experience with mankind, more limited in wisdom as well as capable of dying, persuaded him that it was not absurd.

Until recently the deadliest weapon known to man represented only a modest refinement of the field gun which Milton describes in his poem. Now, however, we can come much closer to matching, in kinetic-energy equivalents, the hills hurtling through space; we have thermonuclear weapons and the planes and ballistic missiles to carry them. Moreover, in the weapons field we are in the early stages of a swift technological evolution that seems to be still accelerating.

Within half a century we have had also two world conflicts that revealed something basically new in the nature of war. Before 1914 the wars to which civilized governments resorted were somehow, with a few exceptions, limited in their potentialities for evil. War had always been violent, but only rarely had the violence been uncontrolled and purposeless. War or the threat of war had a well-recognized function in diplomacy, one might almost say a regulatory function. Its institutionalized quality, reflected in an overlay of antique customs, traditions, and observances, tended to limit further a destructiveness already bounded by a primitive military technology. Poets and moralists agreed with politicians that while war always embraced the tragic and sometimes the senseless, the resort to it was often enjoined by honor as well as interest. Resort to war was not in itself wrong. There were, according to a time-honored distinction, just wars and unjust wars. Whatever its character, every war

offered opportunities for personal and group conduct that might earn the highest praise. The wise as well as the foolish cherished the noble emotions associated with terms like "valor," "gallantry," and "glory."

The first World War proved, and the second one confirmed, that the twentieth century not only had put into the hands of each great nation a war machine of far greater power than any known before, but also had seen a near-collapse of the factors previously serving to limit war, including that of common prudence. In the course of World War I, the original cause of the outbreak and the initial purpose with which each belligerent had entered the quarrel were forgotten. The war created its own objectives and stimulated commitments among the allies that made it practically impossible to end the conflict short of the collapse of either side.

Each side turned out, however, to have enormous reservoirs of strength. Over a century earlier Adam Smith had calmed a young friend's fear that England would suffer ruin in her wars against Napoleon with the comment: "Sir, there is a great deal of ruin in a nation." The twentieth century was to bring him undreamed-of confirmation. Military theories, which tend always to assume that the opponent's strength is brittle, collapsed in the face of the enemy's refusal to collapse. Each side revealed under test a previously unimagined capacity to endure losses in life and treasure.

Until our own century, the methods of fighting on land or sea were so limited, technologically and otherwise, that the damage caused could generally be contained by means of unhurried political decisions, usually made by others than the generals who did the fighting. If the war threatened to incur excessive costs or political risks, the politicians could

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usually halt it. The generals could busy themselves exclusively with the military operations, without bothering themselves about the complex and, to them, questionable motives of their governments. Social and political usage permitted the soldiers to indulge their contempt for the politicians or "frocks," whose interference in military matters they hardly tolerated.

So recent a conflict as World War I was characterized on both sides by such an attitude on the part of the soldiers, who in the main succeeded in having their way against the despairing and mostly helpless political leaders. The shambles left by World War I, however, reduced the independence as well as the prestige of the military. In the second World War the politicians were, except in Japan, much more the masters of events than in the first; but in the main they exercised their control through selective approval of military theories developed, as of old, in a fairly undefiled universe of "strictly military considerations."

Today, however, with truly cosmic forces harnessed to the machines of war, we have a situation for the first time in history where the opening event by which a great nation enters a war—an event which must reflect the preparations it has made or failed to make beforehand—can decide irretrievably whether or not it will continue to exist. Obviously, therefore, we cannot go on blithely letting one group of specialists decide how to wage war and another decide when and to what purpose, with only the most casual and spasmodic communication between them.

The Intellectual No-Man's Land

There exists in America no tradition of intellectual concern with that border area where military problems and

political ones meet. Although ideally the military approach to strategic problems needs to be extended and leavened by the relevant insights of the statesman, such insights are usually undeveloped among those civilian officials or politicians with whom the American military actually have to deal. The civilian official in the State Department will rarely know much about current military problems and will therefore have no feeling for their relevance to the issues in his own jurisdiction. The National Security Council is for that and other reasons mostly a monument to an aspiration. The aspiration is undeniably sound, but whether any real enrichment of strategic thinking has proceeded from it is another question.

The secretaries of Defense and of the three services usually tend toward a narrow view of their administrative function, and incline to avoid if they can intervention in what they call "strictly military decisions," though they are not always permitted to. Since they are normally selected for talents in fields other than the military and rarely tarry long in their high public posts, their modesty is probably for the best. To the extent that their curiosity about professional mysteries gets the better of their non-interventionist convictions, the service secretaries tend to become simply the chief civilian spokesmen for the special views of their respective services.

Administrative officers in other departments are bound to be more remote from military affairs and absorbed in a vast variety of other matters. So too are members of Congress. Yet the latter cannot escape intervention in military affairs through the machinery of appropriations and through investigations of alleged wrongdoing or errors of judgment. The consequences of such intervention can be far-reaching. Reasonably enough, the Congressman is quick to admonish

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himself and his colleagues not to be "armchair strategists." His obligation to vote on military bills forces him to come to some conclusions on military matters and he usually does so by deferring to whatever military spokesman he happens to like and respect, or to one who for some reason or other currently commands the most confidence. In a word, the politician tends to attach himself to the service faction that is most congenial to him or whose point of view is at the moment being given the most eloquent utterance.

Any real expansion of strategic thought to embrace the wholly new circumstances which nuclear weapons have produced will therefore have to be developed largely within the military guild itself. There are some institutional inhibitions to such expansion, and stimulus from outside the profession will no doubt assist the process of adjustment. But the professional military officer is dedicated to a career that requires him to brood on the problems of war, in which activity he finds himself with very little civilian company. He does not have to be persuaded of his need for seasoned political guidance; the problem is rather one of making such guidance available to him on appropriate occasions and at appropriate levels.

However, high level policy guidance is not all that matters. Now that we confront a situation where all-out war can destroy the national community, the soldier's plans for the defense of the country must take full account of this possibility and its implications. They must do so not merely in terms of some final adjustment at the National Security Council level, but intimately, at every stage in the evolution and development of those plans.

The basic fact is that the soldier has been handed a problem that extends far beyond the *expertise* of his own pro-

fession. He has learned to collaborate well enough with the physical scientist, to the mutual profit of both and to the advantage of their nation, but when it comes to military questions involving political environment, national objectives, and the vast array of value-oriented propositions that might be made about national defense, his liaison with people who are relatively expert in these fields leaves much to be desired. In this area the military are bound to be much less conscious of their need for assistance than they are in the field of technology. At the same time, specialists in the social sciences are usually insensitive to the existence of special military needs and also to their own deficiencies for meeting those needs.

One of the chief reasons for this failure of communications is the barrier of secrecy, in the main unavoidable but also disturbingly costly to the progress of understanding. This barrier conceals far more, relatively, than it ever has before. That is not primarily because the people who control security are more jittery than they were twenty years ago; it is mostly because the things protected are by their nature vastly more significant to all of us. An intercontinental ballistic missile carrying a thermonuclear warhead is something that can affect us much closer to home and much more immediately and entirely than, say, the radar mounted on warships, our most jealously guarded secret device when we entered World War II. The ship-borne radar was something remote from our homes and strictly tactical; the ICBM is, in the most compelling meaning of the word, strategic. Similarly, questions like whether or not our strategic bombers are carrying thermonuclear weapons in their practice flights, or any of a number of other questions that could be asked about missiles and weapons progress, are obviously more vital than

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any that could have been raised concerning the posture and disposition of our military forces prior to World War II. In short, it is not that our officials are more secretive, but rather that the things which must be kept secret are very much more important.

Yet we must not put too much blame on the security barrier for the general ignorance of defense problems. The amount of information available to the public on military and strategic affairs is very much greater than the casual observer would guess. To gather it systematically requires interest and effort. The security barrier unquestionably tends to depress such interest. Its effects, however, would not be critical if civilian scholars, especially those in the behavioral sciences, understood the stakes involved and also the opportunities available to them to contribute their special insights and skills to a great common problem. This book is in part intended to help them make that contribution.

The Traditional Military Depreciation of Strategy

Nevertheless, it is the military audience primarily that the analyst has to meet and communicate with on strategic problems, for they must remain the prime movers of change in this field. One of the barriers he encounters in trying to reach them is the general conviction, implicit throughout the whole working structure and training program of the military system, that strategy poses no great problems which cannot be handled by the application of some well-known rules or "principles," and that compared with the complexity of tactical problems and the skills needed to deal with them, the whole field of strategy is relatively unimportant.

This view is not often expressed in so many words, and it is therefore interesting to find a good statement of it by the

late Field-Marshal Earl Wavell, one of the most scholarly and urbane of modern generals. Captain B. H. Liddell Hart had commented somewhere that because of certain recent developments strategy was gaining in importance at the expense of tactics. "I cannot agree," said Lord Wavell:

I hold that tactics, the art of handling troops on the battlefield, is and always will be a more difficult and more important part of the general's task than strategy, the art of bringing forces to the battlefield in a favorable position. A homely analogy can be made from contract bridge. The calling is strategy, the play of the hand tactics. I imagine that all experienced card-players will agree that the latter is the more difficult part of the game, and gives more scope for the skill of the good player. Calling is to a certain degree mechanical and subject to conventions: so is strategy, the main principles of which are simple and easy to grasp. . . . But in the end it is the result of the manner in which the cards are played or the battle is fought that is put down on the score sheets or in the pages of history. Therefore, I rate the skilful tactician above the skilful strategist, especially him who plays the bad cards well.¹

Many generals, from Napoleon to Eisenhower, have asserted in one form or another the idea that the main principles of war "are simple and easy to grasp," but it is remarkable that even the reflective Lord Wavell, a man not easily ruled by traditional axioms, should have joined the chorus. The one fatal mistake of his own military career involved an error in strategic judgment, and in one place he candidly admits as much. In the early part of 1941—only one year before he wrote the passage quoted above—he gave his military approval to the British expedition to Greece and committed a considerable portion of his forces to it, without having first disposed of Rommel in the desert. In his mem-

¹ *Soldiers and Soldiering*, Jonathan Cape, London, 1953, p. 47.

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oirs he excuses himself on the ground that the Greek expedition would have been justified had he faced an ordinary commander in the Western Desert, but he "had not reckoned on a Rommel."² And he has nothing to say about the fate of the expedition in Greece.

In Wavell's reply to Liddell Hart, one notices the traditionally narrow conception of strategy as "the art of bringing forces to the battlefield in a favorable position," a conception which excludes consideration of the ultimate objectives of the campaign and even more of the war itself. With a broader view of strategy, Wavell might have sought to excuse the intervention in Greece. The idea that strategy, like bidding in bridge, "is to a certain degree mechanical and subject to conventions" betrays the almost universal assumption that the ends or objectives of the military effort are always given or obvious. As the Korean War indicates, however, the question of ultimate goals may be quite confounding the moment it is admitted to be a real question. For wars of the future it may well be the greatest single question facing us.

Even if one accepts for the moment Wavell's limited definition of strategy, one cannot help marvelling at the cavalier way in which he dismisses strategic decisions as not only less difficult but also less *important* than tactical ones. Less difficult, within the limits he applies, they certainly are. The "main principles" of war of which he speaks represent for the most part, as we shall later see, modest refinements upon common sense. In contrast to tactical problems, which make heavy demands on technical skill and which in war are always multiple and often presented under great stress, the strategic decision is as a rule simple and gross in its content, is usually made in relative freedom from the heat

² *Ibid.*, p. 78.

and vicissitudes of battle, and may be of a kind which is made but once in a campaign or even in the entire war. In the latter event, especially, how crucial that it be correct!

Even within Wavell's narrow definition of strategy, we find plenty of examples of costly mistakes. When Admiral William F. Halsey in the supreme test of his art at Leyte Gulf threw his entire vast Third Fleet against the wrong force, he effectively nullified both his own sterling qualities as a leader and fighter and the American advantage in possessing the far superior fleet. The American landing forces whose protection was his first responsibility did not suffer the disaster his action invited, but he did lose the opportunity the Japanese had placed in his hands to destroy their main fleet.

One thinks also of the arresting sentence with which Sir Winston Churchill qualified an otherwise harsh criticism of Sir John Jellicoe's conduct at Jutland: "Jellicoe was the only man on either side who could lose the war in an afternoon." What a world of meaning lies in that admission! No wonder Jellicoe was cautious! Perhaps he was too cautious, but his reasons for being so were good ones.

To use an example closer to the heart of our subject, let us remember that the Allied strategic bombing campaign in World War II is rarely criticized on tactical grounds. Early opinions that escort fighters were unnecessary even for daytime sorties proved wrong, and the lack of long-range fighters was remedied as soon as possible. There were a few other mistakes, but there is no serious dissent from the general consensus that, for a new type of operation, the whole job was magnificently handled. All the important and voluminous criticisms of the effort center upon questions that are essentially strategic. Were the basic military resources

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absorbed by strategic bombing too great in view of the returns? Could not these resources have been better used, even in the form of air power, for other military purposes? Were not the wrong target systems selected? And so forth. Whatever views one may have about the answers to these questions, or the spirit behind the questioning, the questions themselves are neither irrelevant nor unimportant.

Finally, as an example of sound strategy at the highest level of decision, after the United States entry into World War II the Allies elected to concentrate on defeating Germany and Italy first rather than Japan. What could have been more simple and more obviously correct? Yet we know this commitment was painful to certain high military authorities in the United States and, perhaps unconsciously, resisted by them. We also know how fortunate it is that the basic resolve behind that decision never faltered.

It is hard to escape the conclusion that Lord Wavell's view reflects a peculiarly professional bias. It is a commonplace that all professions, owing their very existence to the intensive specialization of their members, are characterized by particular group attitudes which often strike persons outside the group as being unduly narrow and limiting. Economists, for example, are often disdainful of the political or sociological considerations that qualify the application of their otherwise correct and valuable theories, and social reformers are often just as disdainful of economic reasoning. Physicians and lawyers, too, have their characteristic ways of looking at human problems. The military guild has its own brand of professionalism, to some facets of which we shall have occasion to refer in subsequent pages.

There is no doubt that tactics and administration are the areas in which the soldier is most completely professional.

The handling of battles by land, sea, or air, the maneuvering of large forces, the leadership of men in the face of horror and death, and the development and administration of the organizations that effect these purposes are clearly not jobs for amateurs. In these tasks there is no substitute for the hard training and the experience which the services alone provide.

During war the tests of command become far more exacting than in peacetime, and some officers turn out to be more talented than others—more imaginative in their adaptation to new tactical conditions, more inspiring as leaders, and sturdier in the face of adversity or unpleasant surprises. But unless the officer attains some independent and important command, he may never in his career have to make a decision that tests his insight as a strategist. Small wonder, then, that the services on the whole have paid relatively scant attention to the development of strategic theory. As a corps commander in the German Imperial Army once said to a young staff officer who sought to develop his own strategic ideas: "His Majesty only keeps one strategist [Schlieffen], and neither you nor I is that man."³

The professional officer, stimulated always by the immediate needs of the service to which he devotes his life, becomes naturally absorbed with advancing its technical efficiency and smooth operation. This task has become ever more exacting with the increasing complexity and rapidity of change in military technology. Nelson, whose flagship at Trafalgar was forty years old but equal in fighting capacity to the majority of the ships engaged, could spend his life learning and perfecting the art of the admiral without fearing that

³ Walter Goerlitz, *History of the German General Staff, 1657-1945*, Praeger, New York, 1953, p. 134.

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its foundations would shift under his feet. Today the basic conditions of war seem to change almost from month to month. It is therefore hard for the professional soldier to avoid being preoccupied with means rather than ends. Also, his usefulness to his superior hangs upon his skill and devotion in the performance of his assigned duties, rather than upon any broader outlook, and if there is one thing that distinguishes the military profession from any other it is that the soldier always has a direct superior.

Some conception of ends there has to be, but its formulation is not the stuff of day-to-day work. Presumably it is the province of a few in exalted rank, who have been prepared for their high responsibilities by passing slowly through the tactics-oriented lower ranks and whose advancement has been based primarily on their success in posts of command, that is to say on their qualities of leadership. The inevitable tendency is to accept as given the ends handed down by traditional doctrine, usually in the form of maxims or slogans. It is perhaps not surprising, therefore, that in modern wars the big blunders have usually been strategic rather than tactical. The Japanese attack at Pearl Harbor, for example, was for its time a beautiful piece of tactical innovation, and within narrowly defined limits it even made good sense strategically; but beyond those limits, what a colossally stupid thing to do!

Instances of grave tactical blunders are certainly not lacking in the history of war, but it is characteristic of tactical errors that they tend to be self-exposing, if not in relation to some theoretical ideal then at least in relation to the best the enemy can do. In the past, it has usually been possible for strong nations to recover from them, even if at heavy cost in blood and possibly strategic position. Strategic errors may or

may not expose themselves in some obvious fashion during the course of a war, or even afterwards, and they are therefore much less likely to damage the reputations of those responsible for them.

The French general staff's complete underestimation of the machine gun prior to World War I was a grievous tactical error for which the French nation paid bitterly in blood in the opening Battles of the Frontiers in 1914. But still more dangerous was the error of conception which had produced those battles where they occurred, which had sent the hastily mobilized French armies charging off to the east while the Germans wheeled down on their flank and rear. Moreover, the fact that the French and the British high commands continued throughout the war to mount offensive after useless offensive in the teeth of the same terrible and confounding weapon that had caused the initial French disasters is traceable less to gross tactical incompetence than to a narrow strategic doctrine which knew no horizons beyond the immediate needs of the battle. That doctrine left them no alternative to the "Big Push," whatever its cost. Because they recognized no other viable strategy they could not for three long years accept the fact that they had devised no tactical answer to the machine gun. Necessity, which frequently exists only in the mind, is less often the mother of invention than of obstinacy, and the obstinacy of those three years exacted from France a penalty which continued to exert its effects over the years, contributing to the collapse of 1940, and which cannot be fully summed up even now.

Today we are talking not about machine guns and barbed wire but about a weapon that may in a single unit destroy all of Manhattan Island and leave some of it a water-filled crater. We may as well admit that the strictly tactical prob-

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lem of destroying Manhattan is already absurdly easy, and time promises to make it no less easy. That is only to say that its protection, if it can be protected, is henceforward a strategic and political problem rather than a tactical one.

Why Look Back?

It is characteristic of our convictions, in strategy as in all affairs of life, that we tend to regard them as natural and inevitable. However, if we examine the history of the ideas contained in those convictions, we usually find that they have evolved in a definitely traceable way, often as the result of the contributions of gifted persons who addressed themselves to the needs of their own times on the basis of the experience available to them. Our own needs and our experience being different, we are enabled by our study to glimpse the arbitrariness of views which we previously regarded as laws of nature, and our freedom to alter our thinking is thereby expanded. Where new circumstances require fundamental adjustments in our thinking, such aids to adjustment may be very useful.

In the age of missiles, thermonuclear warheads, atomic-powered submarines capable of strategic bombing, and other comparably fantastic systems, it may seem atavistic to look back to strategic views which antedate World War I. However, while air power, in which we must now include long-range missiles as well as aircraft, is of recent origin, ideas about war and how to fight it are not. The original theories about the use of air power had to make some adjustment to pre-existing strategic ideas, and it is in that adjusted form that we have inherited them. Inasmuch as these theories evolved and developed in a pre-nuclear age, they may themselves be of dubious relevance to our times.

In any case, we should not deceive ourselves that we have the ability to start from scratch with completely fresh ideas and, guided merely by logic, to fashion a strategy according to the needs of the time. This is too much to expect of human beings. For better or for worse we shall be applying our intellects, as presently furnished, to new and baffling problems, and whether the results will be good or bad depends to some extent on the character of the furnishings—whether they are mere habits of thought which we have not reconsidered for a long time, or on the contrary, ideas which are old only because they have deserved a long life. In practical terms, therefore, we shall in the following pages attempt to scan the earlier development of strategic theory, particularly with respect to its influence on the development of air power doctrine, and then consider some of the strategic policy choices confronting us today.

A word is necessary about the definition of "air power." For the purposes of this study it will be convenient to accept a view that has always prevailed among airpower theorists—that *strategically* the term air power applies to that force of aircraft and missiles which is operated more or less independently of ground and naval forces for generally independent purposes. This does *not* imply or prejudice any position on the so-called "tactical use" of aircraft, either as to its importance or the methods of pursuing it. The use of air power in support of ground or naval operations simply forms a different subject, which we shall be concerned with only fleetingly in what follows. For that matter the tactics even of strategic bombardment operations will for the most part fall outside our purview. It is a subject mostly for specialists, and is in addition much more hedged about with security considerations than the broader issues we shall be considering.

2

PROLOGUE TO AIR STRATEGY

MILITARY STRATEGY, while one of the most ancient of the human sciences, is at the same time one of the least developed. One could hardly expect it to be otherwise. Military leaders must be men of decision and action rather than of theory. Victory is the payoff, and therefore the confirmation of correct decision. There is no other science where judgments are tested in blood and answered in the servitude of the defeated, where the acknowledged authority is the leader who has won or who instills confidence that he will win.

Some modicum of theory there always had to be. But like much other military equipment, it had to be light in weight and easily packaged to be carried into the field. Thus, the ideas about strategy which have evolved from time to time no sooner gained acceptance than they were stripped to their barest essentials and converted into maxims or, as they have latterly come to be called, "principles." The baggage that was stripped normally contained the justifications, the qualifications, and the instances of historical application or misapplication.

The Principles of War

The so-called "principles of war" derive from the work of a handful of theorists, most of them long since dead. Their specific contributions to living doctrine are not widely known, because their works are seldom read. The richness of their ideas is but poorly reflected in the axioms which have stemmed from those ideas. Nevertheless, those theorists have

enjoyed, in what is supposed to be the most pragmatic and practical of professions, a profound and awful authority.

Air power is too young to have among the theorists of its strategy more than one distinguished name, and he has carried all before him. Douhet's indebtedness to his precursors in the general area of military strategy was objectively small enough, and in his eyes even smaller. He refused to justify his ideas according to whether they did or did not accord with some inherited gospel, being much more interested in whether they accorded with the facts of life as he saw them. He was too proud of his intellectual independence to appeal to the authority of the old principles, even where they happened to support his own views. Indeed, his essential, correct, and enduring contribution lay in his turning upside down the old, trite military axiom, derived from Jomini, that "methods change but principles are unchanging." He insisted instead that a change in method so drastic as that forced by the airplane must revolutionize the whole strategy of war.

But Douhet's most devoted followers do not feel comparably compelled to emphasize the violent break with the past which their doctrine represents. Like military officers of other services, they are eager to acknowledge allegiance to the traditional principles of war, even when they have but scant familiarity with those principles.

Thus, the controversy over the proper role of air power has often, on its more intellectual fringes, revolved around the question whether the Douhet thesis (loosely, the supreme emphasis on strategic bombing) does or does not conform to the tried-and-true, "enduring" principles of war. On occasion the argument has taken the form of exegesis of venerated authorities like Clausewitz, who after all has been dead for

a century and a quarter.¹ Douhet is himself too controversial and for Americans too "foreign" to carry much weight in his own name. He is therefore rarely cited in support of a point of view, but a proposal for the use of air power that runs counter to his doctrines may well be crushed under the ponderous assertion that it "violates all the principles of war."

What are the ancient teachings to which appeals are so frequently made? More important, how do they derive such commanding authority? We are not here interested in the history of strategic thought for its own sake. On the contrary, we are concerned with a body of ideas or axioms to which *in our own time* millions of lives have been sacrificed, and on the basis of which great battles have been organized and fought. More to the point, we are concerned with a heritage of thought which even today dominates the great decisions of our national defense.

The so-called "principles of war" are usually presented in lists of some seven to eleven numbered maxims. They are supposed to be unchanging despite the fantastic changes that have occurred and continue to occur in almost all the factors with which they deal. In the world of ideas such durability is usually characteristic either of divine revelation or of a level of generality too broad to be operationally interesting.

¹ See, for example, Capt. Robert H. McDonnell, "Clausewitz and Strategic Bombing," *Air University Quarterly Review*, vi (Spring 1953), 43-54. This article is a reply to the book by Admiral Sir Gerald Dickens, *Bombing and Strategy: The Fallacy of Total War*, where Admiral Dickens argues that strategic bombing offends against the Clausewitzian doctrine "that the subjugation of an enemy is best accomplished by defeating its armed forces in battle." Replying to this and like objections, Capt. McDonnell asserts that what is needed is a "closer examination of Clausewitz's principles." For a more general effort to equate Air Force doctrine with the traditional principles of war, see Col. Dale O. Smith and Maj. John D. Barker, "Air Power Indivisible," *Air University Quarterly Review*, iii (Fall 1950).

In fact the hallowed "principles" are essentially common sense propositions which are generally but by no means exclusively pertinent to the waging of war.

The propositions usually stress the desirability of: avoiding undue dispersion of strength in order to maximize the chances for superiority at the decisive point (principle of mass or concentration); choosing firmly one's course of action and adhering to it despite distracting pressures (principle of the objective); pressing vigorously any advantage gained, especially after a victory in battle (principle of pursuit); seizing the initiative at the appropriate time and exploiting it to force a favorable decision (principle of the offensive); guarding one's forces and communications against surprise attack, even when on the offensive (principle of security); making good use of stealth and deception (principle of surprise); putting to the fullest effective use all the forces available (principle of economy of force); and so on.

There are occasional additions to or subtractions from this list, depending on the whim or bias of the individual compiler. Incidentally, the listing of principles of war is a modern habit or vice, and probably reflects a more general contemporary tendency to condense and encapsulate knowledge. Although older writers often referred to "principles of war," they did not attempt to define or specify what they meant. The first listing of principles in United States Army training manuals occurred in *Training Regulations 10-5*, of 1921, which simply named the principles without explanation.

Let us not deny the utility of these generalizations. We know, for example, that war as a whole, and individual battles, are always marked by a multiplicity of demands upon the leader's forces and that he is fortified in his resolution to ignore some of them by awareness of such a rule as that

called the "principle of concentration." It has had much confirmation in experience. Strategic writers often cite various historic violations of the rule which had unfortunate or disastrous consequences, as when the younger Moltke fatally compromised the Schlieffen plan in 1914 by successive reductions in the concentration on his right wing, first to strengthen his left and then to send reinforcements to threatened East Prussia.

It would be equally useful, and much more novel, to cite also instances where unreasoning devotion to a "principle" or slogan has proved unfortunate, as when Admiral Halsey declined on the basis of that same principle of concentration to divide his tremendous force at Leyte Gulf, electing instead to throw the whole of the great Third Fleet against a puny decoy force under Admiral Ozawa. Halsey could have divided his fleet in order to meet both enemy naval forces operating in his area, as some of his close associates expected him to do, and still have remained overwhelmingly superior to each. To achieve superiority is after all the whole reason for concentration, but he had been brought up on a slogan which historically has had a special appeal to the United States Navy: "Don't divide the fleet."² Thus the supreme embodiment of American naval might was deployed at a critical moment in simple obedience to an antique slogan. At Chancellorsville, Lee divided his force in the face of a greatly superior enemy, in order to carry out a maneuver

² See my review article, "The Battle for Leyte Gulf," *Virginia Quarterly Review*, xxiii (Summer 1947), 455-460. In U.S. naval history, the slogan "Don't divide the fleet" has been applied especially to a division of the main naval forces between the Atlantic and Pacific Oceans. In the days before the U.S. had a "two-ocean navy," it was axiomatic that she could be a first-rate naval power in one ocean but not in both simultaneously. However, this slogan served to refortify the more general and ancient idea that it is bad to divide one's forces in the presence of the enemy.

which won the battle for him. But one can hardly make a principle out of a brilliant gamble.

Because the classic principles are mere common sense propositions, most of them apply equally to other pursuits in life, including some which at first glance seem to be pretty far removed from war. If, for instance, a man wishes to win a maid, and especially if he is not too well endowed with looks or money, it is necessary for him to clarify in his mind exactly what he wants of the girl—the principle of the objective—and then to practice rigorously the principles of concentration of force, of the offensive, of economy of force, and certainly of deception.

It is not necessarily damning to the principles of war that they are applicable also to other pursuits but it does indicate that such principles are too abstract and too general to be very useful as guides in war. Their essential barrenness is perhaps suggested by the fact that recent interpreters have often confused the classic meaning of some of the phrases they employ. The term "economy of force," for example, derives from an interpretation governed by the nineteenth century connotation of the word "economy," meaning judicious management but not necessarily limited use. Thus, the violation of the indicated principle is suggested most flagrantly by a *failure to use* to good military purpose forces that are available—for example McClellan's failure at Antietam and Hooker's at Chancellorsville to bring their reserves into action. Of late, however, the term has often been interpreted as though it demanded "economizing" of forces, that is, a withholding of use.⁸

⁸ For a more extended discussion of the relevance and irrelevance of strategic principles, see my "Strategy as a Science," *World Politics*, 1 (July 1949), 467-488; for an historical account of the listing of principles, see

Sir Winston Churchill has said in one sentence perhaps all that needs to be said on this subject. "The truths of war," he concedes, "are absolute, but the principles governing their application have to be deduced on each occasion from the circumstances, which are always different; and in consequence no rules are any guide to action."⁴

If we wish to avail ourselves of whatever light the wisdom of the past can throw upon our present problems, we must go beyond the maxims which are its present abbreviated expression. The maxim may be the final distillate of profound thought; but it is likely to be such only at its first use, when it is still an apt expression and not yet a slogan. When it becomes common currency it is likely already to be counterfeit.

The Creators of Modern Strategic Thought

There is not much use in attempting here to summarize all strategic thinking before Douhet, since much of it is presently irrelevant, but it is useful to consider the way in which certain ideas of great current importance have been derived. Two are especially relevant to the present and future: first, the theory of the offensive (about the general validity of which there is no dispute but which has in the past taken some extreme and particularized forms); and second, the somewhat dimly lit idea that war should express and project national policy. The latter thought, embodied in Clausewitz's much-quoted but little-understood assertion that "war is a continuation of policy by other means," happens never to be

also the article by Lt. Col. M. L. Fallwell, "The Principles of War and the Solution of Military Problems," *Military Review*, xxxv (May 1955), 48-62.

⁴ *The World Crisis*, Scribner's, New York, 1931, p. 576.