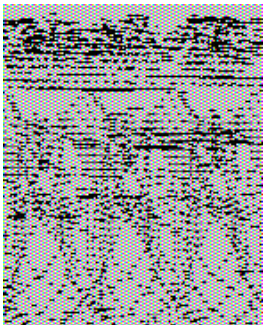

The Time Value of Military Force in Modern Warfare

The Airpower Advantage

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THESIS PRESENTED TO THE FACULTY OF THE SCHOOL OF ADVANCED AIRPOWER STUDIES, MAXWELL AIR FORCE BASE, ALABAMA, FOR COMPLETION OF GRADUATION REQUIREMENTS, ACADEMIC YEAR 1994–95.

Air University Press
Maxwell Air Force Base, Alabama

March 1996

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This publication has been reviewed by security and policy review authorities and is cleared for public release.

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Abstract

This study seeks to answer the question, "How can airpower help resolve time-induced tensions between political and military imperatives in the conduct of modern warfare?" To answer this question, the study begins by exploring time in the theory of war with an emphasis on time as a fourth dimension that provides a distinct perspective on warfare. With concepts gleaned from theory, this study analyzes the Arab-Israeli War of 1967, the Falklands War, and the Gulf War to determine the role airpower played in overcoming time conflicts and achieving political-military congruence. The study concludes that a time-based strategy was the mechanism through which airpower worked to resolve time-induced tensions between political and military imperatives. A time-based strategy is defined as one in which time is a paramount or extremely significant consideration. Such a strategy seeks to overcome time-induced tensions and achieve political-military congruence by employing forces and forms of military power with an appreciation of their abilities to contribute to this resolution and congruence. A time-based strategy also weighs operational risks and benefits with the goal of balancing them to achieve the greatest time benefit at the lowest risk. In addition to revealing a time-based strategy as the mechanism for overcoming time conflicts between political and military imperatives, the evidence also points to the prominence of airpower's role in that strategy. This link between time-based strategies and airpower has important implications for both the airpower theorist and the airpower strategist.

About the Author

Maj Walter D. Givhan was commissioned through Officer Training School (OTS) in 1981 and named Top Honor Graduate for his class. Graduating from Undergraduate Pilot Training in 1982, he remained at Columbus Air Force Base (AFB), Mississippi, as an instructor pilot in the T-37. After winning honors as Air Training Command's Flying Instructor of the Year for 1984, he went on to fly F-15Cs at Bitburg Air Base (AB), Germany, where he also served as the wing executive officer. During the Gulf War, Major Givhan served as US air liaison officer to French ground forces and received the French Croix de Guerre for his contributions. He subsequently returned to flying in the F-15C at Eglin AFB, Florida, where he was a flight commander and assistant operations officer. Major Givhan is a senior pilot with over 2,000 flying hours. He is a distinguished graduate of Squadron Officer School and Air Command and Staff College. He has a bachelor's degree in history from the University of the South, a master's degree in international relations from Troy State University, and a master's degree in airpower art and science from the School of Advanced Airpower Studies (SAAS). In July 1995, Major Givhan was assigned to the Checkmate Division of the Operations Directorate, Headquarters United States Air Force.

Acknowledgments

I acknowledge the support and assistance of several people who helped bring this study to fruition. I thank Col Phillip S. Meilinger for listening patiently to my ideas and encouraging me to pursue them when I called him from Eglin AFB before coming to Air Command and Staff College. After my arrival at the School of Advanced Airpower Studies, he continued to steer my thinking and provide valuable insight and advice as I developed the topic.

I owe a tremendous debt of gratitude to Dr Harold R. Winton who helped me take an amorphous mass of ideas and shape them into a coherent argument. His suggestions, criticisms, and encouragement were invaluable. I thank Maj James O. Tubbs and Maj Thomas Ehrhard for feeding me ideas and sources relevant to my study from their own research. Thanks are due as well to Air Vice Marshal Ron Dick, Royal Air Force (Retired), for sharing his experience and insight from the Falklands War. I thank Mr Floyd McGowin for the advice and encouragement he has provided since I began my career in the Air Force but particularly during my studies at the Air University.

Most of all, I thank my wife, Frances, for her steadfast love, support, and encouragement for which I could not have attempted this study much less completed this work.

Chapter 1

Introduction

In most of the great wars of history, there can be found military exploits calculated to feed the press rather than to beat the enemy. Statesmen at times become unduly impatient in regard to the inevitable slowness with which the obstacles to success are overcome in the field.

—1936 Command and General Staff School manual

This study is about time; more specifically it is about the tensions generated by conflicting considerations of time. As the opening statement from a 1936 Command and General Staff School manual illustrates, time-induced tensions between political and military imperatives have long characterized warfare. Even as political and military leaders have recognized the problem of these tensions, they have searched for ways to mitigate and overcome their effects. From the first moment man began to grasp the military implications of airpower, it has had a special appeal as a potential solution, but it was only the potential about which theorists could speculate. In addition to conquering the third dimension of elevation, airpower's special characteristics seemed to hold promise as well for conquering the fourth dimension of time. Now that airpower has advanced and matured to realize some of this potential, as demonstrated in recent wars, one can better appraise the extent to which airpower has succeeded in this regard.

Overview

In examining some of these recent wars from the perspective of time, this study concentrates on that central tension which often appears in war and goes one step further by seeking to answer the question: "How can airpower help resolve time-induced tensions between political and military imperatives in the conduct of modern warfare?" The question is important, if for no other reason than the implications it has for the congruence of political and military objectives. If one accepts Carl von Clausewitz's characterization of war as the "continuation of political intercourse, with the addition of other means,"[1] then that congruence is vital to the success of any military operation. In seeking to answer this important question, this study defines the terms and limits of the argument. Chapter 2 places these definitions in a theoretical framework, while the following chapters examine three historical studies through the

conceptual lens of that framework. After deriving a paradigm from these studies, I draw conclusions about some of the implications of this paradigm for airpower theory and practice.

Methodology

Although theory will serve as a guide to organize a coherent framework and derive a paradigm, the primary evidence for illustrating and analyzing the problem will come from three historical studies: the Arab-Israeli War of 1967, the Falklands War, and the Gulf War. Not only did airpower figure prominently in each of these cases, but airpower had also developed enough by the time of these cases to realize a great deal of its potential capability. In other words, there is less tendency in these cases to excuse a lack of airpower effectiveness with the explanation that airpower was still in its infancy. Additionally, these cases meet the following criteria:

1. There was a demonstrable tension between political and military imperatives.
2. There is evidence to support the interpretation that a significant component of this tension related to time.
3. The time-induced tension had operational consequences.
4. Airpower had a real or potential role in resolving the tensions.

In seeking an answer as to how airpower can help resolve time-induced tensions between political and military imperatives, I examine a variety of sources, both primary and secondary, to determine the political imperatives and military imperatives in each case. I analyze the time component of these imperatives to identify conflicts between the two as well as the operational consequences these conflicts presented. My examination of airpower's role concentrates on how airpower was employed in response to these time problems and what effect airpower had, if any, on resolving time-induced tensions. A unified analysis of these elements in the cases discerns and defines the mechanism, if one exists, through which airpower acted.

Definitions

Before proceeding with the argument, it is appropriate to define the major terms which compose the question, that is, what one means specifically by the terms *time, war, airpower, political imperative*, and *military imperative.*

Time is the "nonspatial continuum in which events occur in apparently irreversible succession from the past through the present to the future."[2] Time, in this sense, is an objective phenomenon that has both physical and psychological aspects. Other assumptions about time are that it can be observed, measured, manipulated, and exploited.[3]

For the purposes of this study, war is defined as organized social conflict between defined actors that involves direct violent action. This overlapping of conflict and war is consistent with the idea that conflict is a precondition for war, that there can be conflict without war but no war without conflict. The primacy of violence in the conflict as a condition for war is consistent with Clausewitz's idea that "War is thus an act of force to compel our enemy to do our will."[4]

One can define airpower as the ability to exploit the third dimension to affect a situation or adversary. Since the idea of exploiting the third dimension would include space, it follows that space power is part of airpower. *Aerospace power* might be a more technically correct term since airpower in this definition implies the ability to do something through space (space power), as well as the ability to do something through the air (airpower). Although the term *airpower* may sound awkward in a literal sense when used to encompass the two, it is less cumbersome and embodies the history and tradition of thought on the subject better than the term *aerospace power*.

Political imperatives are distinguished from military imperatives by defining them as those imperatives that stem from governmental interaction with citizens, organizations, and other governments which interaction does not include the application of force in the pursuit of objectives. Military imperatives, on the other hand, relate directly to the application of force, the management of violence, and the accomplishment of specific tasks in the execution of the military strategy sanctioned by political authority.

Limits of the Argument

This study is limited in that it concentrates on situations more appropriately characterized as war, even if limited, which featured military force as the prominent instrument of national power in pursuing objectives. It also focuses on three cases where time was a constraining factor, a situation which is not always the case. Therefore, the results of this study are limited in application to cases where such pressures are present.

Notes

1. Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton, N.J.: Princeton University Press, 1989), 605.
2. *Webster's II New Riverside University Dictionary*, s. v. "time."
3. Robert R. Leonhard, *Fighting by Minutes: Time and the Art of War* (Westport, Conn.: Praeger Publishers, 1994), 3.
4. Clausewitz, 75.

Chapter 2

Time in the Theory of War

In military operations, time is everything.

—The Duke of Wellington
30 June 1800

Viewing time as a nonspatial continuum in which events occur in a sequential, irreversible order as determined by time is the first step in conceiving of time as the fourth dimension. One can describe and define something fairly accurately through the spatial dimensions of length, width, and height, but to place it in its complete context, one must also describe its place in time. Since such a description usually involves a measurement, it is also consistent with the assumption that time can be observed and measured. Because time constitutes a fourth dimension, it is also a perspective from which one can view events. Just as one could view a series of buildings from the perspective of relative elevation—the third dimension—one can also view the same buildings from the perspective of relative time, that is, when they were built. As is always the case when one selects a particular perspective as the primary reference from which to examine a phenomenon, viewing things from that perspective brings certain aspects into focus which might not otherwise be visible and obscures others. Looking at things in this manner is also part of the process of deciphering their meaning. To continue with the previous example, knowing when one building was constructed would go a long way toward explaining why it looks the way it does as well as why its appearance differs or does not differ from the other buildings. Focusing on a certain dimension as a point of perspective, therefore, has significant value in understanding a phenomenon and relating it to other phenomena.

The idea that the reality of everything is rooted in the time continuum and that time thus links past, present, and future has led some to conclude the temporal perspective is not only a valuable perspective but the dominant and most important perspective. The purpose in mentioning these writers and their views here is not to support an argument that time is the most important dimension, rather it is the more limited aim of simply dramatizing how important many feel it is to view war from the time perspective. In *War and Anti-War*, Alvin and Heidi Toffler described how a US Army officer borrowed from their philosophy of time to write new military doctrine because he believed the military had to recognize time as the primary dimension.[1] In their view, the US won the Gulf War because it used a “fast-cycle, time-based

competitive strategy."[2] Robert R. Leonhard, another US Army officer, has written an entire book on the importance of time in war. Its thesis is simple: "the most effective way to perceive, interpret, and plan military operations is in terms of time, rather than space." He too insists that time is the dominant dimension in war.[3] Although they have not been as obvious in their declared intention as the aforementioned authors, war theorists of all eras have done just that. A review of their thoughts on the subject will contribute to understanding what time in war means.

War Theorists on Time

Carl von Clausewitz thought the time factor important enough to devote a chapter of *On War* to the "Unification of Forces in Time." In this chapter, Clausewitz argues against the piecemeal commitment of forces overtime and advances an early idea of parallel warfare by arguing that "the simultaneous use of all means intended for a given action appears as an elementary law of war."[4] In viewing the use of force from the time perspective and proposing time as the unifying element, Clausewitz seems also to appreciate the fact that such simultaneous use will have an effect beyond the mere cumulative addition of individual strengths.

Time emerges again in Clausewitz when he considers the effect of its passage on events in war, a concept he calls "duration."[5] Clausewitz recognizes that time is important in tactical engagements because forces weaken overtime in battle. At a higher level, he sees this weakening effect of time as something which "is less likely to bring favor to the victor than to the vanquished."[6] This view leads him to characterize a defensive war as a "waiting war," in which one counts on time to improve one's prospects.[7] Clausewitz recognizes, however, that the passage of time does not necessarily ensure that the strong will grow weaker and the weak will grow stronger. On the contrary, he allows for situations where the passage of time may also assist the conqueror, especially those where there is little chance of the defender receiving outside help.[8]

Having outlined the problems caused by the passage of time, particularly to the conqueror, Clausewitz offers advice about overcoming them. In proposing "The Plan of a War Designed to Lead to the Total Defeat of the Enemy," Clausewitz emphasizes the necessity of speed to the point of enunciating it as a principle. "The second principle is the rapid use of our forces," writes the theorist, "Any unnecessary expenditure of time, every unnecessary detour, is a waste of strength and thus abhorrent to strategic thought."[9] Also important in his estimation was surprise, which he viewed in temporal terms as a question of timing whose advantage was increased by the speed of such an attack.[10]

Other theorists echo many of these same themes in their works. Antoine Henri Jomini also emphasizes speed and its force-multiplying effect when he

writes, "The system of rapid and continuous marches multiplies the effect of an army, and at the same time neutralizes a great part of that of the enemy's, and is often sufficient to insure success. . . ."[11] Speed in destruction is the foundation of the basic principle laid out by Giulio Douhet: "*Inflict the greatest damage in the shortest possible time*."[12] Douhet was one of the first to realize the potential for airpower to accomplish this task and achieve the desired surprise in doing so. For B. H. Liddell Hart, the more timing increased the measure of surprise, the more it reduced the amount of force required to achieve an objective; in other words, speed in action had a force component all its own.[13]

Another temporal characteristic that Liddell Hart emphasized was tempo. In studying the French defeat by the Germans in 1940, Liddell Hart theorized that their loss turned on the time factor because they were unable to keep up with the tempo of German operations and became paralyzed as a result.[14] A more recent theorist who seizes on this idea and makes it the heart of his work is John Boyd. Boyd emphasized rapid tempo as the key to maintaining initiative. In Boyd's world, the speed at which one could perform the cycle of observing, orienting, deciding, and acting (OODA loop) determined tempo.[15] By performing this cycle of events faster than one's opponent, one could cause psychological dislocation similar to that described by Liddell Hart, achieve surprise, and maintain initiative.[16]

Running somewhat counter to this emphasis on speed is Mao Tse-tung's thought on the idea of protracted war. In this concept of a war named for its temporal orientation, Mao expands on Clausewitz's idea of a waiting war but makes the concept his own by providing the details to turn it into a viable strategy. Writing with a view to the specific case of China, Mao assumes that the balance of forces will change with the passage of time, thus making protraction of war at the strategic level the way to victory.[17] Waiting, however, is not sufficient in itself to ensure victory, and Mao proposes maintaining the initiative at the operational level through rapid mobile warfare across a broad front until the balance of forces favor a strategic counteroffensive.[18] Through this creative strategy, Mao manages to use the passage of time as a weapon (protraction), while still gleaning the advantages of rapid tempo at a lower, sustainable level. One suspects that both Clausewitz and Boyd would approve.

Characteristics of Time in War

Emerging from this review of how time has figured in various theorists' view of war is a picture of how various characteristics of time figure in enduring concepts of warfare. As one studies the picture, one first distinguishes the characteristics of time in general before beginning to see how these characteristics underpin much of what passes for "principles" and "laws" of war.

The five characteristics of time which appear in this review are duration, tempo, timing, sequence, and synchronization.[19] Duration involves the passage of time, and theorists have concentrated on the effects of this passage. Both Clausewitz's idea of a waiting war and Mao's concept of protracted war center on this characteristic. Tempo describes the frequency or pace of events in the time continuum. One can relate the concepts of speed and initiative to tempo as well as the principle of the offensive since it embraces the necessity of initiative.[20] As discussed previously, tempo and initiative were inextricably linked in John Boyd's world.[21] Timing has to do with opportunity and the choice of a particular moment in time for action or inaction. Timing is at the heart of the principle of surprise which bids one to "strike the enemy at a time or place or in a manner for which he is unprepared,"[22] and it figures prominently in the writings of all theorists. Sequence involves the order of events in time. The ability to understand this order and perhaps predict how it will unfold in the future is key to the concepts of genius and coup d'oeil which Clausewitz emphasizes.[23] Sequence and order also figure highly in Boyd's orientation phase of the OODA loop. Finally there is the characteristic of synchronization which implies the ability to orchestrate events so that they occur at appropriate points in time. To remain true to the principle of mass, which call for the concentration of forces at the proper time and place, one must synchronize forces.[24] In fighting a parallel war, synchronization of forces is also paramount to achieving the desired effects.

Physical and Psychological Aspects of Time

This review of time's prominence in the works of war theorists and the characteristics which emerge from their ideas leads one to the question of time's physical and psychological aspects. To the extent that this study has considered time as an objective phenomenon, one can assume certain physical aspects exist. Such a concept is consistent with the previously advanced ideas that time can be measured and that the reality of events is rooted in the time continuum. For example, both ideas find expression in the historical record that the Japanese attacked Pearl Harbor on 7 December 1941. Indeed, even the temporal characteristics of duration, tempo, timing, sequence, and synchronization are expressions of time's physical aspect. Time's physical aspect is only part of its character, however, for it has a psychological aspect as well, which stems from human perception. The perception of time primarily determines its psychological aspect. Depending on the conditions, one might view time's passage or duration as either fast or slow. In unfavorable conditions, for example, time might seem to drag. One can view surprise as the psychological aspect of unexpected timing. Synchronization can allow one to achieve shock effect through parallel attack, and psychological dislocation can result from rapid tempo. None of this is

revelatory, but it does emphasize that time has both physical and psychological aspects.

One can exploit or manipulate time to achieve one's ends by capitalizing on these physical and psychological aspects. In this construction, exploiting time would involve taking advantage of time's enduring physical aspects, such as a fixed duration of an event, for a particular gain. For example, if one knows that it will take three weeks for an enemy force to reach one's position, one can exploit the time by making defensive preparations. Manipulating time, on the other hand, might imply taking an action with the aim of changing the way one perceives time. Some possibilities for manipulation lie in the ability to compress or expand time frames (e.g., by accelerating or slowing the pace of activities), shorten or lengthen intervals, accelerate or decelerate tempo, and control timing. As for changing time to make it pass slowly or quickly or even to stop, affecting the perception of time, a psychological aspect, would seem the only way.

Political and Military Dynamics of Time

The meaning and implications of time in war usually spawn different considerations for political and military decision makers. Although there is wide agreement with Clausewitz's statement that "war is simply a continuation of political intercourse, with the addition of other means," there remain differences between the political and military imperatives that affect time considerations.[25] In fact, Clausewitz seemed to recognize those differences and sought mainly to warn the student of war that one should not make the mistake of dividing the political and military realms into two worlds with no connection.

> It is, of course, well known that the only source of war is politics—the intercourse of governments and peoples; but it is apt to be assumed that war suspends that intercourse and replaces it by a wholly different condition, ruled by no law but its own.
>
> We maintain, on the contrary, that war is simply a continuation of political intercourse, with . . . other means.[26]

Although war is not a disconnected, autonomous world, the addition of other means introduces different imperatives. In the domain of war, a military leader finds himself not only trying to satisfy the wishes of the political authorities, he also must address specific military problems which have time considerations all their own. For example, moving a military force from one location to another might require a certain number of days or weeks. Optimizing the timing of an attack to ensure success may dictate that it take place at a certain moment.

Political imperatives, on the other hand, derive from the relations between a government and its people, as well as between a government and other governments. The circumstances of these relations often differ markedly from

the circumstances of the military situation and so produce different time considerations. A government may hasten or postpone an action simply because domestic public opinion demands that it do so. International political pressure or considerations may have a similar effect. Seen in this light, the political sphere appears much more fluid and unstable, characteristics which account for some of the time disconnects with the more static and stable features of the military sphere.

A significant problem occurs when political imperatives and military imperatives come into conflict because of differing time considerations. Political imperatives may require a quick military response in a situation where distances, force readiness, logistical factors, and other military considerations might counsel postponing an attack. In another situation, the prudent military action might be an immediate attack, while a lack of domestic or international support forces political leaders to postpone any military move. Gen Charles G. Boyd described a similar predicament in the North Atlantic Treaty Organization (NATO):

> Thus at the very point when military intervention carries both the greatest potential pay off and the lowest risk, diverse national cultures and political structures can delay agreement on a course of action.[27]

Thus the differences between the meaning of time to the military and political decision makers center around the different demands of their specific situations and the tension between the physical and psychological aspects of time in those situations. The result of these differences is often, though not always, time-induced tensions between political and military imperatives.

Resolving these tensions in some way is essential to success. Unless these tensions are resolved, there can be no congruence of political and military operations, a situation which will likely result in failure to achieve the desired objective. Political considerations will remain primary, for "if war is part of policy, policy will determine its character";[28] however, the primacy of politics does not relieve the political leader of responsibility for seeking a way to resolve these time-induced tensions. It is incumbent upon both political and military decision makers to find a way to achieve congruence in this regard, and airpower may be an appropriate means to solve this problem.

Summary

Time is a fourth dimension which provides a valuable perspective from which one can view war. To a greater or lesser extent, war theorists throughout history have distilled five basic characteristics of time—duration, tempo, timing, sequence, and synchronization—which figure prominently in many of the principles, laws, and conclusions they have formed about war. Understanding the physical and psychological aspects of these temporal characteristics is key to exploiting or manipulating time in war. As political and military leaders seek to do that, they often find that different time

considerations emerge from their respective domains and create tension between their imperatives. In such situations, airpower has emerged as one approach to resolving time-induced tensions between political and military imperatives. The following case studies will illustrate some of those situations and use the theoretical framework outlined here to analyze the effect airpower had.

Notes

1. Alvin and Heidi Toffler, *War and Anti*-War (Boston: Little, Brown & Co., 1993), 11.
2. Ibid., 80.
3. Robert R. Leonhard, *Fighting by Minutes: Time and the Art of War* (Westport, Conn.: Praeger Publishers, 1994), xviii.
4. Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton, N.J.: Princeton University Press, 1989), 205.
5. Ibid., 209.
6. Ibid., 598.
7. Ibid., 601.
8. Ibid., 598.
9. Ibid., 624.
10. Ibid.
11. Antoine Henri Jomini, *The Art of War*, trans. G. H. Mendell and W. P. Craighill (Westport, Conn.: Greenwood Press, 1971), 176.
12. Giulio Douhet, *The Command of the Air*, trans. Dino Ferrari (1942; new imprint, Washington, D.C.: Office of Air Force History, 1983), 51.
13. B. H. Liddell Hart, *Strategy* (New York: Penguin Books, 1991), 281.
14. Ibid., 231–32.
15. John Boyd, "Organic Design for Command and Control," *SAAS Course 631 Readings Vol IIIB* (Maxwell AFB, Ala.: School of Advanced Airpower Studies, 1994), 105.
16. David S. Fadok, *John Boyd and John Warden: Air Power's Quest for Strategic Paralysis*, (Maxwell AFB, Ala.: Air University Press, 1995), 19.
17. Mao Tse-tung, "On Protracted War," *Six Essays on Military Affairs* (Peking: Foreign Language Press, 1972), 235.
18. Ibid., 275.
19. Leonhard, xviii.
20. Air Force Manual (AFM) 1-1, *Basic Aerospace Doctrine of the United States Air Force*, vol. 1, March 1992, 1.
21. Richard E. Simpkin, *Race to the Swift* (London: Brassey's Defence Publishers, 1985), 107. Worth mentioning here is that tempo is *not* distance divided by time as Simpkin defines it: "One can define the overall tempo of an operation as *the distance from the initial line of contact to the back of the final operational objective, divided by the time (in days) from the receipt of orders by the operational commander to accomplishment or abortion of the mission*."
22. AFM 1-1, 1.
23. Clausewitz, 102.
24. AFM 1-1, 1.
25. Clausewitz, 605.
26. Ibid.
27. Gen Charles G. Boyd, "The Role of NATO and the United States in Multinational Operations," in Group Capt N. E. Taylor, ed., *The Role of Air Power in Crisis Management* (London: Her Majesty's Stationery Office, 1993), 24.
28. Clausewitz, 606.

Chapter 3

The Arab-Israeli War of 1967

What distinguished Operation Moked was its awesome and smashing speed, along with its execution according to plan and the lessons learned from exercises leading up to the operation. The Egyptians were paralyzed.

—Col Eliezer Cohen

The dramatic Israeli air strike that began the Six-Day War of 1967 seized the public imagination and remains to this day an enduring image that leaps to mind when one brings up the war. The persistence of that image is in many ways proper, for it was through these initial air strikes that the Israelis achieved air superiority and paved the way for the quick victory which followed in a matter of days. Given the strength of that picture and the seemingly simple beauty of what happened, it is tempting to admire the Israeli achievement briefly, make a few appropriate comments about the importance of air superiority, and move on to more intractable and vexing problems. It would be easy to take such an approach—it would also be a mistake. Although the Israeli Air Force achieved air superiority, they accomplished more than they dreamed or were even aware of at the time. As they won air superiority, they also succeeded in temporarily paralyzing their most dangerous enemy through physical and psychological dislocation as well as satisfactorily resolving the tension between time-induced political and military imperatives. Yet even as they demonstrated this tremendous potential of airpower, they failed to exploit fully the opportunities created by air superiority and thus leave modern airmen a lesson about taking full advantage of such a situation. Given such nuances and complexities, the event deserves more than cursory attention.

The Course of the War

The proximate events leading up to the Six-Day War began in April 1967, when Israelis responded to Syrian artillery attacks with an air strike. This strike led to an air battle in which the Israelis shot down six Syrian aircraft. Tensions in the region were already taut and escalated quickly in the weeks following the incident, primarily through the actions of the Egyptian President Gamal Abdel Nasser. In quick succession,

Nasser moved 100,000 troops into the Sinai along Israel's border, demanded and obtained the withdrawal of United Nations (UN) peacekeeping forces, and closed the Straits of Tiran to Israeli shipping.[1] Other Arab nations rallied to Nasser's call; and Israel soon found itself surrounded by a hostile Arab force which included 328,000 troops, 2,330 tanks, and 682 fighters and bombers. The Israelis had 250,000 troops, 1,000 tanks, and 286 combat aircraft available to counter this threat.[2] Given the Arab actions and particularly the closure of the straits, a belligerent act in itself, war seemed inevitable in spite of international efforts to pacify the situation.

In the face of this threat, Israel decided to seize the initiative and launch a massive preemptive attack against Arab airpower on 5 June 1967. Penetrating Arab radar defenses at low altitude, the Israeli Air Force succeeded in destroying the air forces of Egypt, Jordan, and Syria in short order, catching many of the targeted aircraft on the ground. Having achieved air superiority, the Israeli Air Force turned to supporting the ground forces which had begun advancing minutes after the Israeli aircraft struck their first targets. Using rapid maneuver by armor, Israeli ground forces destroyed Egyptian armored forces as they captured the Sinai in a series of battles. Within three days another Israeli force secured the West Bank of the Jordan River and took the ancient city of Jerusalem. A final Israeli thrust encountered stiffer resistance from Syrian forces in the North but, with the help of Israeli airpower, succeeded in breaking through on 10 June and capturing the Golan Heights before a United Nations cease-fire took effect.[3]

Political Imperatives

In the weeks of May leading up to the war, many political factors, including doubt about their own military capabilities, drove the Israelis to put off a decision for war. There was also hope that international efforts by the UN, the United States, Great Britain, and France might defuse the situation and convince Egypt to lift the blockade.[4] Concern about the political cost of striking first worried Israelis as well. The US had consistently cautioned Israel against attacking and had warned Israel it would remain alone if it chose to attack first.[5] In spite of these pressures not to go to war, Israel had to concern itself with survival, and that issue overrode all other considerations. Rather than face slow strangulation followed by a coup de grâce from encircling Arab forces, Israel might survive and perhaps even progress by seizing the initiative, striking first, and taking out the Arab threat in a quick war. Conquering strategic areas to improve its future security would be an important goal of such a limited war.

Military Imperatives

Although war might be the only way out of its predicament, the Israeli military faced a monumental task if the nation chose that course. Internal lines of communication and unity of command seemed their only advantages as the Israelis surveyed a threat that surrounded them and outnumbered them in every category of men and equipment. In this situation, the primary military imperative was to defend Israel and not give up precious ground. It would also be important to keep the Arab forces from achieving unity of effort. One way to accomplish this task would be to seize and maintain the initiative while applying mass judiciously and quickly against divided Arab forces. In such a move, destroying Arab combat capability would be paramount so that the Israelis could shift forces to heighten the effect of mass without worrying about security. As a final concern, the Israeli military had to worry about controlling key terrain such as the Sinai, the West Bank of the Jordan River, and the Golan Heights.

The Time Problem

It is worthwhile at this point to examine the time-induced tensions between political and military imperatives that characterized this situation. In the time leading up to the commencement of hostilities, political imperatives generated by international considerations put off going to war while military imperatives of time argued that Israel act sooner rather than later in order not to lose the initiative or allow the forces aligned against it to gain any more advantage in preparation or numbers.[6] Once the war began, however, the situation reversed itself. The political situation of Israel demanded that the war be short, decisive, relatively cheap in terms of lives and materiel, and lead to peace (perhaps by trading land).[7] Because there was a good chance the superpowers might intervene early to stop the war, the Israelis needed to accomplish their political objectives quickly. Moshe Dayan, the Israeli Minister of Defense, was particularly concerned about such intervention and told his generals the duration of any campaign would be limited as a result.[8] Although the military commanders might welcome a quick and painless war, their imperatives were more concerned with doing the job of destroying Arab combat capability, particularly the Egyptian Army, and taking strategic objectives, such as the Golan Heights, however long that might take. No matter how good their performance, falling short of these objectives would be viewed as a failure.[9] A short war scenario taxed their ability to solve the military problem of achieving these objectives given that Arab forces encircled Israel. If Israel divided its forces to meet each threat separately, it meant less mass on each front which might lead to less momentum, a slower advance, and longer time for operations. Taking a sequential approach to defeating the individual Arab forces would allow greater concentration of force but also

threatened to prolong operations in the time it would take to swing the main effort from one area to another. In either situation, Israel's commanders had a difficult military problem which seemed to require more time than the political circumstances might allow.

Operational Consequences and Risk

The operational consequences of this situation were that the Israel Defense Forces (IDF) had to find a way to go on the offensive with numerically inferior ground and air forces, destroy Arab combat capability, and seize strategic territory all in a brief time frame. Faced with this difficult situation and its time conflicts, the Israeli military forces would turn to a plan which emphasized a smashing blow for air superiority as a way to deal with these consequences, but it was a plan which entailed risk.

The men who would employ Israeli airpower perceived the role of air superiority in a way that was little different doctrinally from the way US forces express it today. Joint Publication 1-02 defines air superiority as "that degree of dominance in the airbattle of one force over another which permits the conduct of operations by the former and its related land, sea, and air forces at a given time and place without prohibitive interference by the opposing force."[10] In their particular situation, the Israelis gave top priority to air superiority primarily to achieve freedom of action for their air forces and freedom of action for their ground forces, which might assist them in countering the numerical superiority of the opposing ground forces.[11] The small size of the Israeli Air Force and the fact it would depend upon many of its aircraft to swing between the air superiority and ground support missions made the initial battle for air superiority all the more critical to achieving these objectives.

Israel's plan, Operation Moked, was based in its broad outline on the Luftwaffe's initial strike during Operation Barbarossa.[12] It also owed a debt to Douhet's general principle that "it is easier and more effective to destroy the enemy's aerial power by destroying his nests and eggs on the ground than to hunt his flying birds in the air."[13] The basic idea was to catch enemy aircraft on the ground, hold them there by bombing the runways, then destroy them with rockets, missiles, and cannons on subsequent passes. The plan proved particularly prescient in the way it incorporated considerations for force composition, training, intelligence, timing, and targeting. Operation Moked was first of all a *living* plan which began in 1963 but was continually updated as intelligence and lessons from training required.[14] Gen Ezer Weizmann was the architect of its first pillar, an air force composed of fighter bombers that could both defeat an enemy air force and support Israeli ground forces. Weizmann was also relentless in his emphasis on training; "We always went on the assumption that we would be fighting the finest air force in the world, then set out to show that this was not the case."[15] The plan called for

this well-trained but small force to accomplish the formidable task of destroying the enemy air force in a short span of time. Given the scale of that effort, each plane would have to fly four to five sorties each day with only a few minutes turn between each sortie. Because the ideal of simultaneous attack was impossible, Operation Moked gave priority to destroying MiG-21s, the primary air-to-air threat, and Tu-16s, the strategic bombing threat to Israel's cities, as well as their bases; these were the first targets to be hit.

A final feature of Moked was its daring acceptance of operational risk: during the initial strike only 12 aircraft would defend Israel, eight in the air and four on strip alert. So shaky was the government's faith in Moked that Maj Gen Moti Hod, the new Israeli Air Force commander never directly told his political superiors that the air defenses would be so lean for fear that Israel's leaders might not accept such a risk. Instead, he only promised that the capital would not be subjected to "massive bombings."[16]

Airpower's Role

Had the Israeli government known how successful Operation Moked would be, it might not have been so hesitant in approving the preemptive strike. As it turned out, the results of Moked's execution exceeded the hopes and dreams of even its true believers in the Israeli Air Force, for it achieved not only air superiority but temporarily paralyzed Egyptian commanders with its shock effect as it successfully resolved the time-induced tensions between political and military imperatives. Nevertheless, a review of the follow-up support of ground forces reveals missed opportunities for fully exploiting air superiority and the potential of the Israeli Air Force.

Although they were unaware of it at the time, the Israeli plan for using airpower to achieve air superiority would help resolve time-induced tensions by using a weapon which could be drawn at the chosen time and wielded with quick, devastating results. The Israeli Air Force executed Moked almost flawlessly, achieving complete surprise as it did so. Taking off at 7:00 a.m. (Israeli time) so as to attack at 7:45 a.m. (8:45 a.m., Egyptian time), the first 40 aircraft struck the 10 most critical Egyptian airfields almost simultaneously. They caught the Egyptians at the most vulnerable time when their morning patrols had just landed and commanders were en route to work.[17] Only 10 minutes separated waves of aircraft, and each flight of four had seven minutes to work its target, which was time enough for a bomb run and a few more passes for strafing, missiles, and rockets. With ground crews working feverishly to turn around aircraft in less than eight minutes, some Israeli aircraft were off on another sortie less than an hour they had taken off.[18] Through the initial concentration on Egypt and the fast turnaround of aircraft, Israel was able to mass its air force in time and space to achieve its maximum potential.

The targeting aspects of the plan proved as sound as the timing. Fortunately for the Israelis, the Egyptian facilitated the task of attacking specific aircraft by concentrating types at particular bases. Such an arrangement made it easier for the Israelis to attack the MiG-21s and Tu-16s as a first priority. An additional advantage of the timing chosen by the Israelis was the opportunity it presented to target the Egyptian pilots as well as destroy their aircraft. The Egyptians lost 100 of their 350 qualified pilots in the first attacks, many of them killed by Israeli strafing.[19] The Israeli Air Force repeated its pattern of employment as it turned toward the other Arab air forces:

> By the end of the war's first day, Jordan's air force was totally destroyed, Egypt's had suffered heavy losses, and Syria's was severely stunned. Altogether, 25 Arab air bases had been attacked, and Israeli pilots claimed more than 300 aircraft destroyed.[20]

Virtually flawless execution of a brilliant plan gave Israel air superiority by the end of the first day. Although the Israeli Air Force continued some attacks against airfields the second day, they had already begun to turn their main effort toward supporting ground forces.[21]

Although they were probably unaware of it, the Israelis had achieved more than air superiority with Operation Moked. The speed and intensity of the initial attacks delivered such a shock to the Egyptian General Headquarters and especially the commander, Fieldmarshal H. Amer, that the Egyptian forces were unable to react with any coherent response. Things fell apart; the center did not hold. The original plan to advance was forgotten, and Amer issued confusing orders. When he finally did react, he ordered an unplanned withdrawal which he was later convinced to stop but not before the damage was done.[22] Egyptian forces were in disarray and thus easy prey for the Israeli ground and air forces. In inflicting such a shocking blow, the air superiority campaign had gone beyond its objectives and achieved important psychological as well as physical effects.

The success of the air superiority campaign and its dramatic effects contributed substantially to meeting the political imperative of finishing the war quickly, decisively, and with little loss of life or treasure. Although historians of the war typically separate the air and ground campaigns and linger long over the details of the latter, the speed with which military objectives were achieved was due in large part to air superiority and air support. Unfortunately, the Israeli plan did not take full advantage of airpower to support maneuver warfare; otherwise, the advance might have been even faster. Once it had switched roles to support ground forces, the Israeli Air Force lost much of its initiative to target and attack because the system worked on the basis of demands from ground units. Some commanders did not make full use of the availability and potential of air support in their scheme, so sortie rates actually dropped in response to slowing demand.[23]

IDF ground units conducted three separate operations, one against the Egyptian army in the Sinai, another against the Jordanian army on the West

Bank, and a third against the Syrian army in the Golan Heights. Flying both interdiction and close air support (CAS) sorties in support of the ground war, the Israeli Air Force had turned the bulk of its might against the Arab armies by the second day.[24] Israeli aircraft achieved great success in attacking vehicles and blocking key points such as the Mitla Pass, which was choked with over 150 abandoned or destroyed vehicles.[25] Had the Israelis employed a push, instead of demand, CAS system with provision for alternate interdiction targets if CAS were not needed, they could have made more effective use of their available airpower and perhaps shortened battles even more. Such a failure take advantage of airpower's ability to achieve synergetic effects in combination with ground forces represented a lost opportunity on the part of the IDF. Nevertheless, this shortcoming did not impede the Israelis significantly enough to keep them from attaining their military objectives in the time allowed by political constraints, although the Israelis had to race to secure the Golan Heights in time to accept the UN imposed cease-fire, effective at 6:30 P.M. on 10 June.[26]

Summary

Airpower worked to resolve tension between time-induced political and military imperatives by achieving significant results quickly, ensuring freedom of action quickly, and inflicting a profoundly upsetting psychological blow quickly. In the Israeli situation, political imperatives demanded a slow pace prior to hostilities then a fast pace once they began. The ground forces, which first took time to mobilize, were then perishable because the economy could not support indefinite mobilization. In contrast, the Israeli Air Force was a ready force, capable of waiting until the proper moment to respond, then responding swiftly with devastating results. Psychological dislocation accompanied the physical destruction it achieved and added to the effects obtained. An operation designed to secure freedom of action for air and ground forces also disoriented and shocked Egyptian commanders and was essential to achieving political objectives and satisfying political time imperatives during the conduct of a military campaign. As previously discussed, Israeli airpower worked to satisfy the political imperative to finish the war quickly, but decisively and cheaply. Nevertheless, there remained untapped potential in that airpower was not synchronized with ground maneuver in a way that maximized their synergy. Fortunately for the Israelis, the manner in which air superiority was achieved mattered as much as the achievement itself in terms of the results obtained and paved the way for success on the ground in spite of this shortcoming.

Nasser's many mistakes in approaching the war also contributed to the Israelis' good fortune and success in their military operations. At the same time he underestimated Israeli strength and attributed their previous successes to British and French assistance, he foolishly believed that Arab

numerical superiority translated directly into military superiority.[27] The way the Egyptians deployed their forces and fortified them also indicated that Nasser envisioned the coming war as a prolonged war of attrition and not one in which rapid attacks and quick maneuver would carry the day.[28] Most important, Nasser did not understand how important a dramatic first strike could be, either in terms of making it himself or being prepared to receive it should the Israelis deliver it. His gradual approach to increasing pressure on the Israelis, his slow march toward war, and the Egyptian air force's failure to take appropriate precautions against a surprise attack all bear out this inability to comprehend how devastating and decisive the first blow could be in the coming war.[29] These mistakes would ultimately prove costly and actually increase Israel's ability to make time work to its own advantage.

Notes

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Chapter 4

The Falklands War

However, with the elements of surprise and manoeuvre by this time largely lost, we were into a strictly attritive war, but one where you have to 'rob Peter to pay Paul'—ships for aircraft, aircraft for soldiers, soldiers for time, and time for ships. And we were rapidly approaching the point where our biggest enemy was time.

—Adm Sir John Woodward

In the Falklands War, Great Britain unexpectedly found itself stretching its NATO-oriented air and sea power to the limit in an effort to recover a group of islands which, although much closer to Argentina, nevertheless lay at the limits of Argentine air and sea power. Distance translated into time, and time remained a problem for both sides throughout the war. For the British, the problem consisted of deploying a task force thousands of miles to accomplish a limited, but daunting objective in the brief time that international and domestic political support afforded. It was a mission fraught with risk, and tolerance for risk by the British military commanders would play an important role in events. The Argentines, on the other hand, had to outlast the British politically and militarily in order to preserve their gains. Although airpower would figure prominently in the attempts of both sides to satisfy their imperatives, numbers, training, technical sophistication, operational risk, and the extreme demands of the situation would work to limit airpower's contribution in significant ways.

The Course of the War

Surprised by the Argentine invasion of the Falkland Islands on 2 April 1982, the British government hurriedly assembled a task force which included two aircraft carriers, destroyers, frigates, and other support ships. Air assets included 20 Sea Harriers and a variety of helicopters. The British based tanker and transport aircraft at Ascension Island which was more than 4,000 miles from Port Stanley in the Falklands.[1] The Argentine Air Force which faced this threat was a modern one that counted 180 fighter-bombers, including Mirage IIIs and A-4 Skyhawks, as well as nine squadrons of transports, auxiliary aviation, and trainers among its 450 aircraft. Naval aviation assets supplemented this force with 130 aircraft of their own, the most formidable being six Super Etendards, which were capable of firing

Exocet antiship missiles.[2] As far as the ground order of battle was concerned, the British initially dispatched a commando brigade, which was joined by an infantry brigade in early June. They would go up against a reinforced Argentine force in the Falklands, which, although scattered, numbered near 10,000.[3]

While the British task force steamed toward the islands, the US tried to no avail to negotiate a peace between the two countries. Combat began in earnest with the British recapture of South Georgia on 25 April. The first air attack on the Falklands proper came shortly after on 1 May when a British Vulcan bomber attacked the runway at Port Stanley. The fighting escalated throughout the month of May in spite of international peace efforts, as the Argentines tried to thwart the British invasion and succeeded in sinking five British ships at the high cost of 23 Argentine aircraft. In spite of their ship losses, the British established a foothold after their 21 May landing on San Carlos, a presence which they began to expand by 27 May in response to political pressure. Despite a scare in the close battle at Goose Green, the British made steady progress. With the exception of a devastating attack against landing craft on 8 June, Argentine air pressure on British operations subsided after the May onslaught, and the British secured the surrender of all Argentine forces on the islands by 14 June.[4]

Political Imperatives

For the casual observer, the Falklands War was an unlikely contest that sent him scurrying for an atlas and history book to figure out where and why these events were unfolding. Great Britain had claimed the Falkland Islands since 1833 and absorbed them into its empire. The dissolution of the British Empire after World War II did not affect the status of these islands in ways it affected other colonies. Instead, the Falklands and Gibraltar persisted as British possessions inhabited by persons of British descent, but claimed by neighboring countries.[5] Negotiations with Argentina about the status of the islands had dragged on since 1965 and had become part of the routine business handled by the British Foreign Office.

When business as usual suddenly turned to war, the British found themselves in an ambiguous situation. True, they were fighting about the violation of British sovereignty and the rights of British subjects of British descent, but there were less than 2,000 of these subjects on islands of questionable strategic value, which were a legacy of British colonialism and which lay 8,000 miles away. On one extreme, there were those who asked whether recapturing these islands was worth the loss of even one British life, while there were many closer to the middle who pushed for a political solution before and during the war. On 29 April 1982, a member of Parliament asked during debate, “Will the Prime Minister tell the House how many British and Argentine soldiers, and how many Falklanders, she is prepared to see killed . . .

to establish the sovereignty that she will later concede in negotiations."[6] Leaders of the Labor opposition were more moderate in tone but still anxious, as Michael Foot demonstrated in his questions on 26 April 1982:

> When will we return to the Security Council on these matters? In the meantime, how are we to ensure—indeed, to be absolutely sure—that there will be no dangerous escalation of the crisis in any way? What is the form of political control over military operations? In present circumstances that political control must be absolute and there must be no possibility of any mistakes whatever.[7]

Foot's questions point to the fact that Prime Minister Margaret Thatcher could only count on the Labor party's support in this crisis if the war remained strictly limited and tightly controlled.

International political support for the British cause was also shaky. Although the UN Security Council had passed a resolution demanding an Argentine withdrawal and the European Economic Community (EEC) had initially voted economic sanctions against Argentina, this support eroded over time. During May some members of the EEC dropped their sanctions. By June, Britain would have to veto a UN Security Council motion which called for a cease-fire.[8] This weak international base of support would combine with domestic political pressures to limit Britain's objectives and the time in which she could accomplish them. Rather fighting a general war with Argentina, Britain would limit her operations and objectives to retaking the Falklands themselves. Military operations in support of these objectives would have to be rapid, otherwise support could evaporate.

The Falkland Islands were a much more emotional issue for the Argentines, who still viewed the Malvinas as their stolen heritage. The military junta under Gen Leopoldo Galtieri, who was sworn in as president of Argentina in 1981, had decided to make 1982 "the year of the Malvinas."[9] The junta's intent was to reestablish Argentine sovereignty of the islands before the 150th anniversary of British rule, and they began to consider military options in case diplomatic efforts failed. An international incident involving Argentine workers on South Georgia Island accelerated events and forced the junta to act quickly in order to preserve the element of surprise.[10] The price of this quick action was the lack of a coherent plan and the extensive military preparation required to execute it.

The Organization of American States (OAS) was really the only formal source of international support the Argentines found in the wake of this action, although it found sympathy among nations diverse as Israel and China as well.[11] Domestic support in Argentina, on the other hand, was overwhelming: "a wave of indescribably joy and contagious festivity spread like wildfire throughout the land."[12] The junta, of course, was counting on this support to sustain its own fortunes at a time when the government was straining to hold control. Only days before the invasion, critics of the regime had staged the largest demonstrations since 1976.[13] In such a situation, Argentina's only political option was to fight a waiting war in hopes that domestic support would sustain it until a combination of military reversals

and international pressure forced Great Britain to back away from its objectives.

Military Imperatives

Although the Falklands are closer to Argentina than to Britain, distance would still pose a significant military problem to both sides, and that distance translated into time, whether it was time to get there, time to get supplies there, time over target, or time on station. The Falklands were 8,000 nautical miles (nm) from Great Britain and 4,225 nm from Ascension Island, Britain's nearest logistical base. The islands lie only 400 nm from the Argentine mainland, a fact that was to their advantage, but other factors—such as limited aerial refueling assets, an unwillingness to risk its aircraft carrier, and failure to build up airfields on the Falklands to support fighters—would make the distance every bit as critical to the Argentine side.[14] Some have speculated that had the islands been 100 miles closer to Argentina, the Argentines might have prevailed in their efforts to take the Falklands.[15]

The overwhelming distance confronted Great Britain's military with a power projection problem. Although once a maritime power, Britain had been focusing on its NATO role to the detriment of its expeditionary capability. Fortunately for the British, the timing of the Argentine attack worked in their favor; 18 months later and the Royal Navy would have retired and sold the *Hermes* and *Invincible* aircraft carriers that were the heart of the British task force.[16] As it turned out, the British were able to put together a joint task force with air, sea, and land components capable of undertaking the daunting operation. In deploying this force, the British military leaders had to find a way to take advantage of their technical sophistication and training to overcome the problems of distance, security, sustainment, and numerical inferiority. With limited resources of men and materiel, the British had to be careful lest they blow the operation with a rash move which could cost them dearly.

Military common sense dictated that the Argentines prey upon these factors of distance, limited resources, and caution which characterized the British operation. The primary task facing the Argentine military forces was strengthening their defense of the Falklands to make any British move against them too costly to sustain. Given Argentine numerical superiority in air and ground forces, reinforcing the Falklands with more troops, preparing defenses there, and increasing the capability of airpower to strike the British task force were obvious ways to accomplish this end. The air strategy in particular appealed to the Argentines, for it seemed that "the best way to stop the invasion was to sink the ships in the hope of either killing the troops before they went ashore or making the cost to Britain so high that Whitehall would opt to withdraw or negotiate."[17]

The Time Problem

A comparison of these political and military imperatives reveals some significant conflicts brought on by the demands of time. As far as Great Britain's political interests were concerned, the Falklands War had to be a quick one. Not only should it end quickly before international political pressure mounted against the British, but timely victories should punctuate its progress in order to shore up domestic support and send signals to the Argentines that continued resistance was hopeless. Military imperatives, on the other hand, counseled a cautious pace for British numerical inferiority and stretched lines of communication meant that its military commanders had to be deliberate and careful about each move. If the British lost an aircraft carrier or even a battalion in their haste to succeed, they might lose the war.

Politically, time seemed to be on the Argentine side. The longer they could hold on to the Falklands and plead their case to the international community, the greater the chance they might come away with a victory of some sort even if it meant initially withdrawing their troops. Therefore it was in the Argentines' interest to prolong the war in hopes that the British could not sustain the war politically or militarily. A prolonged war of exhaustion seemed the proper military strategy to accomplish this goal, but it was easier to articulate than to execute for the Argentine military. In spite of numerical superiority in most areas, the training and technical sophistication of the Argentine military did not compare favorably to the British in many areas and would hinder their efforts to carry out the strategy.

Such were the primary time-induced tensions between political and military imperatives which faced the British and Argentine forces in the Falklands War. More important than the tensions themselves were the operational consequences they wrought, for Clausewitz's view of war would hold. Political considerations would remain primary and often dictate moves whose timing and scheme were not optimal from a military point of view.

Operational Consequences and Risk

The political sense of urgency on the British side caused the British military commanders to move more quickly than they might have liked and to divide forces when it was not prudent. This operational consequence manifested itself early in the war in the retaking of South Georgia, as Admiral Woodward, commander of the British naval task force noted:

> Politically, it was clearly expedient to provide an early demonstration of force to support declared resolve, in the hope that a political solution might result. The plan to retake South Georgia as soon as possible and to push our surface and S/M [submarine] forces as far south as possible were driven by political need—which

> committed me to splitting my assets and denying myself my prime military requirement, a work-up of the full battle group.[18]

This would not be the last time that a British commander would find himself moving sooner than he would have liked and splitting his forces as he did so. In the battle for Goose Green, Brig Gen Julian Thompson would have to make the same sacrifices for political reasons, only this time the risks and costs would be much higher.

Political pressure determined the move on Goose Green in response to the events of the week prior. From 21 to 25 May, in the course of the San Carlos landing and establishment of a beachhead, the Argentines had sunk four British ships, including the *Atlantic Conveyor* which had contained vital lift helicopters for ground operations beyond the beachhead. By 26 May, the British War Cabinet, in the wake of these dire events and a new UN peace initiative, was questioning the lack of movement by British ground forces.[19] London needed a sign of progress, and Northwood, Great Britain's military headquarters, transmitted this requirement to General Thompson in specific terms:

> The radio-telephone was as clear as if the call had been coming from next door. As clear and unequivocal were the orders from Northwood. The Goose Green operation was to be re-mounted and more action was required all around. Plainly the people at the back-end were getting restless.[20]

In selecting the time and place of battle, General Thompson's political masters forced him to move before logistical preparations on the beachhead were complete and to divide his forces in the face of an enemy who outnumbered him. As it turned out, the battle was a close one decided by a British flank attack which, along with a timely close air support strike by Harriers, broke a stalemate.[21] The British battalion commander died trying to regain the initiative in what some would call a politician's battle. In spite of these tactical shortcomings, the battle for Goose Green accomplished the political purpose of sustaining public support by giving the British a badly needed victory.[22]

The British success at Goose Green marked a turning point in many ways, most significantly perhaps in that it represented the failure of the Argentines to thwart the establishment and expansion of a beachhead. The Argentines had counted on achieving at least a stalemate through air attacks and ground defenses, if not prevent a landing altogether. The furious air attacks of 21 to 25 May which had claimed four British ships had been part of that effort, but they had failed to stop the landing in spite of the heavy toll they took.[23]

One of the main reasons why the Argentines were able to inflict such losses on the British had to do with the level of operational risk the British were willing to tolerate. Rather than risk losing either or both of his carriers, Admiral Woodward had placed them well to the east of the Falklands after the first British ship was sunk. In Admiral Woodward's view, "the loss of one, much less both, carriers would immediately and seriously prejudice the whole operation and probably kill any thought of longer term operations."[24] The disadvantage of this decision was that it would significantly limit the

Harriers' already precious combat air patrol time and restrict their ability to intercept aerial attacks. Admiral Woodward was caught between Scylla and Charybdis: while staying further away limited his ability to protect other ships, he might lose that very ability altogether if he moved closer. The lack of complete air superiority over the landing area also meant that the British only had six hours each evening in which to move in and unload cargo and amphibious ships, a situation made worse by the shortage of heavy lift helicopters.[25] These conditions seriously slowed the logistics buildup and ultimately affected the tempo of ground operations. Although many criticized Admiral Woodward's decision, General Thompson, the ground commander whom he supported, thought it was a wise one:

> The policy of keeping the Carriers so far from the Falkland Islands was criticized by the ill-informed at the time and subsequently. Max Hastings was right to say that Admiral Woodward was the only person who could have lost the war in an afternoon. Admiral Woodward's skillfull handling of the Carrier Battle Group kept them safe and thus our air support intact.[26]

That air support would be vital in the battle for Goose Green and thus instrumental in pushing operations along in accordance with political imperatives, and subsequent events would prove the wisdom of Admiral Woodward in managing this operational risk.

The Role of Airpower

Although airpower in the Falklands War did not have the dramatic effect it did in the Arab-Israeli War of 1967, it nevertheless played a prominent role and contributed to overcoming some of the time-induced tensions between political and military imperatives. For the British, airpower functioned as one of the arms which struck first, as the arm which provided an important degree of security and freedom of action for all forces, and as the arm of a combined arms team which helped accelerate progress on the ground. Airpower for the Argentines was the key to prolonging and possibly preventing British operations around the islands. Ultimately the British made the best use of their airpower resources to solve time problems, although there was unrealized potential on both sides.

The attack on Port Stanley airfield by a Vulcan bomber on 1 May was another early demonstration of force and political resolve in addition to the retaking of South Georgia. Although it was a small attack, it was a classic use of airpower to strike first across large distances and achieve effects beyond the immediate and obvious ones. Damage to the runway was limited, but the attack probably ended any notions the Argentines might have of recovering fighter aircraft there after ship attacks.[27] Additionally, the British had demonstrated an ability to bomb distant airfields and thus threaten mainland Argentina. In reaction, the Argentines moved Mirage interceptors from the south to cover more of the mainland and its airfields. This move created more

problems for the Argentines and handicapped their ability to contest air superiority over the Falklands.[28]

Providing air superiority to protect the British task force became the top airpower objective for the British as the Argentines focused on destroying the British ships.[29] Stationing the carriers to the east made the job more difficult for the Harriers, who already had limited range, but they made up some of the disadvantage through their air combat skills, the technological edge of their aircraft, and the prowess of their launch crews in generating sorties. Although they were outnumbered three-to-one in aircraft, the British generated 2,000 sorties while the Argentines could only muster 455 sorties during combat operations.[30] In aerial engagements, the British took advantage of their air combat skills and the all-aspect kill capability of the US-supplied AIM-9L Sidewinder to claim 20 Argentine aircraft with no British losses in air combat.[31] In spite of these impressive numbers, Argentine aircraft were still able to inflict substantial losses on the British task force through 26 May; however, the attrition caused by British air defenses kept the Argentines from posing a significant threat to land operations after that date.[32] That degree of air superiority provided a freedom of action to British forces which helped accelerate the pace of operations, although a threat still remained.

Air support to ground operations also helped move things along, especially during the battle for Goose Green. A Harrier close air support strike was instrumental in breaking the stalemate during the battle and helping the British to regain the initiative. This strike silenced Argentinian air defense guns and artillery while boosting British morale at a critical juncture.[33] It also had a role in wearing down Argentine resistance. The promise of more Harrier attacks helped precipitate a surrender during negotiations with the Argentine defenders.[34] Unfortunately, the vulnerability of British carriers to attack by land-based airpower that resulted in moving them further east also limited the role British airpower could play in supporting ground operations.

In spite of these British advantages in the air, the Argentines pressed the attack against the British landings with their own airpower. With their fleet restricted from the exclusion zone by the submarine threat and the bulk of their army concentrated around Port Stanley, the Argentine air arm bore the burden of repulsing the British landing at San Carlos.[35] From 21 to 25 May, the Argentine pilots gallantly conducted mass attacks on the British task force which succeeded in sinking four ships and damaging at least 10 others.[36] Greater results might have been possible but for the limited number of Exocet missiles available to the Argentines and their problems with getting bombs to fuse.[37] The attrition of British ships was insufficient to stop the landing and expansion of the beachhead, however, and Argentine losses were too high to sustain. By the end of May, the mass attacks were no longer possible and the Argentines could launch only three or four pairs of aircraft a day.[38] In the end, Argentine airpower by itself could neither prevent the landing nor make its cost so high and prolonged as to be prohibitive.

Summary

Time posed serious challenges to reconciling military tasks with political imperatives in the Falklands War, especially for the British. Airpower figured prominently in resolving these tensions by striking early, providing security for forces, and supporting the ground advance; however, numbers and types of aircraft as well as the level of acceptable operational risk limited the contribution of airpower. If the British, or the Argentines for that matter, had had more carriers, more aircraft, longer range strike aircraft, and more inflight refueling assets, airpower might have played a more significant role. Nevertheless, the British made efficient use of their scant resources, which is one of the reasons they prevailed. The Argentines, although brave in pressing their attacks, could not overcome their deficiencies in equipment, training, and planning. In the end, the British managed to meet the time demands of their political imperatives; airpower functioning in a combined arms role contributed mightily to that achievement.

Notes

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Chapter 5

The Gulf War

Washington was signaling us to be ready to attack sooner rather than later. "I was over at the White House yesterday talking about possible D-day dates," Powell told me on December 11. "When I mentioned February 10 to February 20 as a possible window, everybody gulped." He told me that if the crisis weren't resolved before January 15, there was going to be real pressure for immediate military action. I replied that, if that were the case, we might have to launch the air attack and just keep bombing until the ground offensive was ready.

—Gen H. Norman Schwarzkopf

The Gulf War resembled the Falklands War in that the US found itself in an unexpected military confrontation which would require it to employ its forces in a theater thousands of miles away on very short notice. As in the Falklands War, political pressure would force action before military leaders were ready, and airpower would play a prominent role as a result. The Gulf War, however, was fought on a scale which would dwarf the Falklands War, and airpower's contribution to overcoming the problem of time was appropriate to that scale. In the Gulf War, airpower would strike before coalition land power had finished its preparations, and its effect on Iraq's fielded forces and ability to command them would allow the coalition ground forces to complete this devastation in a matter of days. Airpower's success in this regard would lead some to proclaim that airpower was the decisive force and had finally realized the potential Giulio Douhet and others had prophesied.[1] In the ensuing arguments, participants in the debate would often lose sight of what may have been incontrovertible: that airpower had acted first as a single instrument and later as part of a combined force after setting a standard for tempo and effects that would ultimately ensure the congruence of political and military operations in regard to time.

The Course of the War

The events of the Gulf War were set in motion by Iraq's invasion of Kuwait on 2 August 1990. By the following day, Iraq's forces had swept through the emirate and were poised on the Kuwaiti-Saudi border.[2] Iraq's dictator, Saddam Hussein used disputes between Iraq and Kuwait over territory and economic issues, including the amelioration of Iraqi debt, to justify his actions which culminated in the annexation of Kuwait on 8 August.[3] International

reaction to the invasion was strongly negative and would grow from unilateral condemnations to action by regional organizations as well as the UN. As the standoff continued, forces poured into Saudi Arabia to contain the Iraqi threat even as Saddam began to reinforce Iraqi divisions in Kuwait with an additional 250,000 troops.[4] A containment strategy complemented with economic sanctions gradually gave way to the conviction that offensive military action would be required to eject Iraq from Kuwait; and on 29 November 1990, the UN authorized the use of such force if Iraq did not withdraw by 15 January 1991. Diplomatic efforts to avert war failed, and the US-led coalition began offensive operations with air attacks on 17 January 1991.[5]

Rather than engage the dug-in Iraqi forces in ground battle immediately, coalition commanders chose instead to use air attacks to blind and weaken Iraqi defenses while continuing their preparations for the land war. Air operations would continue unaccompanied by significant ground action until late February, in spite of Iraqi attempts, such as the attack on Khafji and Scud missile attacks, to draw the coalition into a premature land war.[6] Gaining air superiority within days, coalition aircraft targeted the entire range of Iraqi military capability with relentless operations around the clock.[7] Although bad weather prolonged air operations, the coalition had achieved air supremacy and had reduced the combat effectiveness of Iraqi units enough to commence ground operations on 24 February 1991. Assisted by close air support and interdiction missions, coalition ground forces rapidly overcame Iraqi defenses and routed Iraqi ground forces. In full retreat and still unable to prevent the destruction wrought by coalition forces, the Iraqi forces agreed to a cease-fire and UN terms on 28 February 1991, 100 hours after the ground offensive began.[8]

Political Imperatives

Coming as it did at the end of the cold war, the Iraqi invasion of Kuwait challenged the US to define its post-cold-war foreign policy and assert its world leadership in a new environment. Although the US was quick to condemn the invasion, it was not immediately clear what action the US would take in response. After consultation with allies and a particularly invigorating conversation with British Prime Minister Margaret Thatcher, US President George Bush declared on 5 August 1990 that the "naked aggression" of the Iraqi invasion "shall not stand."[9] President Bush went on to outline the objectives which the US would pursue:

immediate, complete, and unconditional withdrawal of all Iraqi forces from Kuwait;

restoration of Kuwait's legitimate government;

security and stability of Saudi Arabia and the Persian Gulf; and

safety and protection of the lives of American citizens abroad.[10]

With this forceful declaration, Bush made it clear that the US would be aggressive and vigorous in leading the international opposition to Iraq's invasion. What was unclear was could he command the international and domestic support necessary to achieve these objectives.

The breadth and variety of international response was simultaneously a strength and weakness for the US-led coalition. Ultimately, almost 50 countries made some form of contribution to the effort, and 38 of those actually supplied forces of some sort.[11] Although the strength of this response would permit the marshaling of enormous force as well as the clout of a UN mandate, its disparate nature would demand careful leadership lest Iraq exploit its diversity to create divisions. In the same vein, it was questionable whether such a disparate coalition could survive the strain of war, particularly one that produced many casualties and pitted Arab against Arab.[12]

It was also questionable whether American political support at home could endure such a war. Early on even a senator of the Bush's own party urged caution, "Mr. President, I hope you will resist the calls that are being made for an offensive action," said Sen William S. Cohen (R-Maine).[13] As the US committed more forces in spite of public skepticism reflected in the opinion polls, Democrats grew more vocal. "It's as if the great armed force which was created to fight the Cold War is at the President's own disposal for any diversion he may wish, no matter what it costs," railed democratic Sen Daniel Patrick Moynihan of New York, "He will wreck our military."[14] Moynihan's colleague, Sen Sam Nunn (D-Ga.), conducted Senate hearings in December which featured many witnesses critical of Bush's policy. Nunn himself interrupted Gen Colin L. Powell, chairman of the Joint Chiefs of Staff, to say, "That's the major point here; I mean, the way you find out whether sanctions work or not is to—is to give them enough time to work."[15] A congressional vote in January that narrowly authorized the use of force underscored how tentative this support could be.

The Bush administration had to be sensitive to the fragility of this domestic and international support as it went about forming a viable strategy. Given the objectives Bush had articulated, war might be inevitable, but that war would have to be short and relatively bloodless, or support might crumble. Saddam Hussein, on the other hand, could be expected to exploit these weaknesses fully. As he had told the American ambassador to Baghdad before the invasion, "Yours is a society which cannot accept 10,000 dead in one battle."[16] In addition to haunting Americans with the ghost of Vietnam by promising a long, bloody war, Saddam also sought to divide Arabs from the rest of the coalition by appealing to pan-Arab sentiments and linking Kuwait's fate with the Palestinian issue. Success in either of these ploys would strengthen his chances for surviving the coalition's attempt to wrest Kuwait from his grasp.

Military Imperatives

Coalition military imperatives shifted quickly from a defensive orientation to an offensive orientation in response to changing political objectives. When the decision was first taken to send forces, the emphasis was on containing the Iraqi thrust to Kuwait and protecting the Saudi oil fields. Such a mission required quick response in order to deter and fast follow-up to make the deterrent force credible. Though challenging, such a defensive mission was a tractable problem given US capabilities. Rolling back the invasion was another thing, a task whose difficulty was orders of magnitude greater.[17] Such an undertaking could well require a ground offensive as part of a combined operation and thus significantly more troops; traditional wisdom had proposed a 3-to-1 advantage in numbers when attacking prepared defenses. Planning also had to be creative, detailed, and comprehensive, as one can see when considering the six military objectives in the operations order for Desert Storm:

1. attack Iraqi political/military leadership and command and control,
2. gain and maintain air superiority,
3. sever Iraqi supply lines,
4. destroy chemical, biological, and nuclear capability,
5. destroy Republican Guard Forces, and
6. liberate Kuwait City.[18]

In order to accomplish these objectives, coalition forces would target three Iraqi centers of gravity:

1. Iraqi National Command Authority;
2. Iraq's nuclear, chemical, and biological capability; and
3. The Republican Guard Forces Command.19

Given the size of forces needed to accomplish these objectives and the fact that more than 30 countries would make up the coalition supplying the forces, the task would be even more daunting, especially in terms of coordinating actions in time and space as well as maintaining unity of command and effort.

Iraq's military imperative was to delay any coalition offensive operations for as long as possible and to raise the cost of those operations to unacceptable levels. Adding troops was an important dimension of that strategy. By January 1991, estimates of Iraqi troop strength ranged as high as 540,000, a number which represented 42 to 43 divisions in theater.[20] By steadily fortifying these troops and their equipment, the Iraqis hoped to survive any air attack and remain ready to bleed the coalition's ground forces white when they launched an offensive. The Iraqi defenses sought to achieve this goal by channeling coalition forces into killing zones with their defenses, as they had done with some success in the Iran-Iraq War.[21] As a way of dividing those forces by bringing Israel into the fray, Iraq held its Scud missiles ready to attack Israel.

The Time Problem

What made the coalition's military problems even more daunting were the ambitious time constraints the political leaders imposed. While deploying and sustaining an enormous force capable of conducting offensive operations represented a time challenge in itself, planning their employment took time as well. At a point when he felt he still had a couple of months work to do in shoring up his defenses, General Schwarzkopf was told to begin offensive planning for an operation he had told Bush in August would not be possible for 8 to 12 months. He would later complain:

> I don't recall any time in military history when a theater commander has been asked to put together offensive plans for a force of three hundred thousand or four hundred thousand, been told to do it in a matter of a few days with no strategic guidance, and then been asked to defend that plan in detail.[22]

Not only was the plan expected to be ready to execute quickly, it was expected to achieve its objectives quickly once it was in motion, as Bush made clear in a meeting with Schwarzkopf on 11 November 1990:

> He listened attentively as I explained the battle plan for the ground campaign. After a moment, he looked at me and asked pointedly, "What is the shortest ground war you can visualize?"[23]

This political sense of urgency would soon manifest itself in the form of an actual deadline for Iraqi compliance, a deadline that also implied a date for the beginning of offensive operations. UN Security Council Resolution 678 of 29 November 1990 authorized the use of "all necessary means" if Iraq did not comply with previous UN resolutions by midnight, 15 January 1991.[24] Whether those means would be ready to use at that time seemed a secondary consideration. Lt Gen Calvin Waller told reporters that the ground forces would not be ready until some time in February, confirming that a significant time-induced tension existed between political and military imperatives.[25]

As for the Iraqis, playing the long game was still the politically correct move, but there remained the question of whether they were militarily capable of staying in the game long enough to win it or emerge with something they could call a victory.[26] The enormity and sophistication of the coalition military resources arrayed against the Iraqi commanders might have given them pause to wonder if there was not a tension between what was expected of them in terms of how long they were to survive and still inflict heavy losses and their capability to fulfill that political time objective.

Operational Consequences and Risk

The most significant operational consequence of these time-induced tensions was that US forces would have to attack Iraqi forces shortly after 15 January 1991, whether military preparations for a ground offensive were

complete or not. Although he understood the political reasons for acting early, General Schwarzkopf knew that his ground forces would not be ready for another month after the deadline. This situation meant that air operations would have to begin early and run alone until such time as the ground forces were ready. The British commander, Gen Sir Peter de la Billière, recalled how the situation worried the coalition commander:

> He was very frank about the conflicting pressures under which he found himself working. . . . This meant that the air war was going to have to run for several weeks and, even if it had to start early for political reasons, it would have to continue until he was ready on the ground. On this point he was adamant: nothing would induce him to start the land war until he was fully prepared. "Peter," he said, "if there's one matter I'll resign on, this is it. If they don't give me the time I need, I'll quit."[27]

Although political imperatives would force him to accept this situation, General Schwarzkopf obviously understood the operational risk it entailed. By beginning offensive operations with airpower alone and before ground preparations were ready, he was starting a war which he was not ready to fight with all the means at his disposal. As he already realized, he might be prodded into striking before he was ready if air operations did not go well. Another possibility was that air offensive might trigger an Iraqi ground attack which could also force him into premature action as well as disrupt his preparations. In either case, it was a risk he would have to accept and which he could only reduce by ensuring the soundness of his defensive preparations and urging along the pace of his offensive preparations. Finally, he would depend on the success of airpower in the opening phases to make that risk tolerable and worthwhile.

The Role of Airpower

The military leadership of the coalition ultimately turned to airpower as the solution to their operational dilemma. Airpower proved a ready force which could fulfill both political and military imperatives by commencing offensive military operations, defending and masking coalition ground forces as they prepared for offensive operations, making significant progress toward the accomplishment of theater military objectives, and degrading the tactical and operational effectiveness of Iraqi ground formations, particularly the Republican Guard. In addition to achieving quick results and paralyzing many Iraqi units, airpower combined with ground and naval forces to achieve synergistic effects, accelerate the decision on the ground, and minimize friendly casualties. As a direct result of airpower's important role, the coalition was able to commence operations shortly after the 15 January deadline and end them after achieving its objectives only six weeks later, thus resolving time conflicts between political and military imperatives.

At the outset of the crisis, airpower proved its value as a ready force which could respond quickly to deter and defend. Within 24 hours of notification, air

resources began deploying to the region; roughly 500 fighter attack aircraft had arrived in theater by 23 August.[28] At the same time fighters were arriving, airlift was bringing in combat personnel, 99 percent of whom would ultimately fly into theater, as well as supplies. In addition to serving in this defensive capacity, airpower employed according to the plan of Instant Thunder represented the only offensive possibility available to commanders in the early days.[29]

With the commencement of offensive air operations on 17 January 1991, coalition airpower set the tone and tempo of operations which would help preserve the initiative for the coalition throughout the war. In an effort to achieve nearly simultaneous attack, coalition planners orchestrated an intense first two days of attacks that tore apart Iraqi air defenses and struck the whole range of targets. They took advantage of every capability, from F-117s to Tornados to helicopters to drones, and launched over 2,700 sorties the first day.[30] Even more amazing was the coalition's ability to sustain this high tempo of between 2,000 to 3,000 sorties a day; by the beginning of the ground war, they had flown nearly 100,000 sorties.[31] In achieving air supremacy by 27 January 1991, coalition airpower had removed the Iraqi Air Force from the fight and provided a freedom of action for coalition ground forces which allow preparations to proceed unmolested.[32]

The same freedom of action left coalition airpower free to attack Iraq's political and military leadership, command and control, supply lines, weapons of mass destruction, and its ground forces, particularly the Republican Guard. The record of these attacks indicate effects beyond those annotated by the thousands of troops who deserted or were killed, or the numbers of tanks which were destroyed. The cumulative effect of constant attack, the loss of equipment and supplies, and the loss of life sapped the Iraqi soldier's will to fight:

> At least as important as the destructive force of airpower were its consequential effects: particularly dislocation and demoralization. It was the combination of all these effects which wrecked the Iraqi army as an effective and cohesive fighting force and paved the way for the rapid—and for the Allies relatively bloodless—liberation of Kuwait.[33]

Airpower also made an important contribution in keeping Saddam from drawing the coalition into ground operations prematurely in an effort to force a prolonged war of attrition. The Iraqi move on Khafji was an attempt to achieve this goal, but the movement then and immediately thereafter only increased Iraqi ground forces' exposure to air attack, and attrition of Iraqi equipment increased dramatically during that week.[34] Air operations during the Khafji battle also illustrated the coalition air commander's ability to shift effort and mass forces quickly in response to a need.[35] Essential to this capability were the coalition's massive inflight refueling resources (432 refueling sorties were flown the first day) and its flexible command and control system.[36]

Although airpower alone did not bring about the rapid and complete defeat of Iraqi forces, it provided integral support to the combined arms effort which finally did. The success of air operations prior to the land offensive was the major factor in ensuring the speed with which the ground forces accomplished

their objectives. In addition to reducing the combat effectiveness of Iraqi units, air attacks blinded the Iraqi forces and thus masked the movement of ground forces to the west.[37] Airpower in the form of theater airlift and helicopters assisted in expediting that move. Once ground operations began, a continuous "push" flow of CAS and interdiction sorties ensured the Iraqi divisions could not move or fight effectively, because airpower had either physically incapacitated them or psychologically demoralized them.[38] Airpower integrated effectively with ground maneuver and fires to achieve synergistic effects and thus enabled coalition forces to conclude the final phase with lightning speed (four days) and minimum casualties.

In contrast to the dramatic success of the coalition's use of airpower to overcome time conflicts, Iraq chose to let its air force languish in shelters before trying to find a safe haven for it in Iran. With the exception of Scud missile attacks, Iraq made little attempt, other than some air defense sorties, to use airpower to prolong the war and inflict attrition on the coalition. The Scud attacks, however, proved to be a cheap and effective way to divert coalition airpower from its preferred employment while also threatening to divide the coalition by bringing Israel into the war.[39]

Summary

In many ways the Gulf War represented the ideal time and place to employ airpower. The end of the cold war had freed resources from other obligations while also creating an atmosphere in which political and military cooperation were possible on a grand scale, Saddam Hussein's defensive strategy gave the coalition the time needed to deploy and prepare for offensive operations, and, finally, the desert environment would prove a favorable one for air operations. Although these circumstances would augur well for optimizing airpower's advantages, time conflicts between political and military imperatives still presented enormous challenges. Because of political requirements, airpower had to shoulder the burden of the war's prosecution in the early phases, maintain the initiative until ground preparations were finished, and ensure the land offensive would proceed quickly with little cost of life. Its success in overcoming these challenges in the context of a multinational, multiservice, combined arms effort ensured the congruence of political and military operations in terms of time, a singular achievement often overlooked by those who continue to debate about which force was decisive.

Notes

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3. Ibid., 28.

4. *Gulf War Air Power Survey (GWAPS): Unclassified Summary*, "What Happened" (Washington, D.C.: Department of the Air Force, 1993), 8–9.

5. Rick Atkinson, *Crusade: The Untold Story of the Persian Gulf War* (New York: Houghton Mifflin Co., 1993), 509.

6. Lawrence Freedman and Efraim Karsh, "How Kuwait Was Won: Strategy in the Gulf War," *International Security* 16, no. 2 (Fall 1991): 29–31.

7. *GWAPS*, 10.

8. Atkinson, 511.

9. *Conduct of the Persian Gulf War: Final Report to Congress*, 19.

10. Ibid.

11. Ibid., 20.

12. Freedman and Karsh, 5–6.

13. Bob Woodward, *The Commanders* (London: Simon & Schuster, 1991), 289.

14. Ibid., 324.

15. Ibid., 342.

16. Freedman and Karsh, 15.

17. Woodward, 261.

18. *GWAPS*, "What Was Planned," 14–15.

19. Ibid.

20. Ibid., 7.

21. Freedman and Karsh, 12.

22. H. Norman Schwarzkopf, *It Doesn't Take a Hero* (New York: Bantam Books, 1992), 370.

23. Ibid., 377.

24. Freedman and Karsh, 8.

25. Woodward, 345–46. General Waller's remark was accurate but worked against President Bush's strategy of putting maximum pressure on Saddam to withdraw before the 15 January deadline. Pentagon spokesmen worked feverishly to correct the impression that the coalition was not ready to strike by calling attention to the fact that air assets were ready to attack at any time.

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39. Ibid., 14.

Chapter 6

The Mechanism

Force and time in this kind of operation amount to almost the same thing, and each can to a large extent be expressed in terms of each other. A week lost was about the same as a division. Three divisions in February could have occupied the Gallipoli Peninsula with little fighting. Five could have captured it after March 18. Seven were insignificant at the end of April, but nine just might have done it. Eleven might have sufficed at the beginning of July. Fourteen were to prove insufficient on August 7.

—Sir Winston S. Churchill
on the Gallipoli Campaign in 1915

Time-induced tensions between political and military imperatives were evident in the Arab-Israeli War of 1967, the Falklands War, and the Gulf War. Analysis to this point has also indicated that airpower played a role in resolving these tensions. Although the study has elaborated in detail on how airpower resolved these tensions, it has yet to offer a general explanation of how airpower overcomes such conflicts; however, a unified analysis of the evidence can assist in identifying this mechanism. This chapter offers such an analysis as well as defines the mechanism which emerges from it. In this study, a global view of the evidence suggests that a time-based strategy was the mechanism through which airpower accomplished this task. Having identified the mechanism, this chapter defines what characterizes a time-based strategy as well as discusses its particular elements and considerations.

Identifying the Mechanism

Although none of the parties to the conflicts discussed in this study ever announced the use of a time-based strategy, the evidence suggests that some form of a time-based strategy was responsible for success in overcoming time conflicts between political and military imperatives. Israel, Britain, and the coalition all had significant political factors that pressured them to end their respective wars quickly. In other words, time became a paramount or extremely significant consideration in the accomplishment of their objectives. The very survival of the state was at stake in Israel's case, a situation which created a compelling sense of political urgency. Israel found itself surrounded by hostile Arab nations who seemed content to wait until Israel had been weakened by economic pressure (closure of the Straits of Tiran and pressure

of maintaining mobilization) before striking. In these circumstances, Israel chose to seize the initiative and begin the war itself; however, doing so meant Israel would stand alone and depend on its own political and economic resources to sustain its war effort. Therefore, the war had to be short and decisive.

Time pressures were also strong in the Gulf War, although Saudi Arabia was perhaps the only member of the coalition motivated by the core security interest of survival. Given the number and diversity of the coalition's members, one had to wonder how long the coalition could hold together, even with strong US leadership and UN authority. This time pressure soon manifested itself in the UN Security Council resolution which established an actual deadline for Iraqi withdrawal. A quick war was one way to minimize the exposure to this pressure. In addition to international political urgency, US domestic political considerations also argued for a short war.

In the Falklands War, on the other hand, time was an extremely significant but not a paramount consideration. International interest in resolving the conflict and domestic questions as to whether the Falklands were worth the price in British blood and treasure put pressure on British leaders to finish the war quickly; however, the urgency was not as pressing as it was in the other two cases. In the Falklands War, time pressure was more evident in the demand for signs of continued progress, as seen in the political prompting to break out from the beachhead, which resulted in the battle of Goose Green.

Given that "war is simply a continuation of political intercourse," military commanders had to respect the importance of political time imperatives in formulating employment options no matter how daunting their military tasks were.[1] To a greater or lesser extent depending on the specific circumstances, their strategy became time-based in essence, if not in name. Israel's commanders knew they had a narrow window of time in which to conduct their operations. At the same time they had the formidable task of defeating Arab armies on several fronts. A defensive war was not likely to defeat those armies or improve the security of Israel in the time required, so the Israeli strategy had to become offensive and time-based in order to satisfy political and military imperatives. British military commanders also bowed to time pressures in shaping strategy, as the early move on South Georgia and the battle for Goose Green illustrate; however, the hazards of risking his precious carriers made Admiral Woodward resistant to letting time imperatives completely govern his moves. Political time imperatives weighed much more heavily on General Schwarzkopf during the Gulf War. Time and again he had to shape his strategy with time as a paramount consideration whether he was considering the moment at which he would attack or the manner in which he would attack. His meetings with political leaders such as President Bush underscored the necessity of attacking soon after the deadline and making the ensuing war as short as possible.

Even as military commanders shaped their strategies with time as a primary consideration, evaluation of operational risks and benefits also had profound implications for their plans. Since the survival of Israel hung in the

balance, Israeli military commanders were willing to take enormous risks with the expectation of reaping equally great benefits. They divided their ground forces and left only 12 aircraft to defend Israel during the initial strike of Operation Moked. In the Falklands War, the British had to be more cautious. Security of the British Isles was not in jeopardy, but the British task force commander had to worry about the safety of his carriers. Losing a carrier might mean losing the war for lack of ability to prosecute it. As a result, Admiral Woodward balanced operational risk and benefits in placing the carriers east of the Falklands. In doing so he achieved a compromise between keeping them safely out of Argentine aircraft range and putting them close enough to make use of their airpower. The trade-off was not without cost, however, for it reduced the effectiveness of British air cover and lengthened the logistics buildup. Starting offensive air operations before ground preparations were complete constituted the chief operational risk General Schwarzkopf had to take in the Gulf War. Although he risked triggering an Iraqi attack which might disrupt his preparations and precipitate a premature ground war, he reaped the benefits of complying with political time constraints and having the air attack mask his movements.

A unified analysis of the evidence thus indicates a time-based strategy was the mechanism through which military commanders resolved time-induced tensions between political and military imperatives. In fashioning these strategies, military leaders sought to satisfy political time imperatives while also striking an acceptable balance between operational risk and benefits. In the British case, the acceptable level of operational risk limited the extent to which time considerations could dominate the strategy.

Defining a Time-based Strategy

Having identified a time-based strategy is the mechanism, the next logical step is to define a time-based strategy. Before attempting that task, however, it makes sense to explore briefly whether the conditions obtained in these cases are likely to be encountered in the future. More specifically, one must speculate time conflicts between political and military imperatives will characterize future wars. The short answer is that trends favor the reemergence of these time-induced tensions. In light of continued advances in communications and the integration of global interests, one can expect future wars to attract international attention and involvement just as the three wars that were discussed. International political considerations will, therefore, hold for the national political leaders even as they marshal domestic political support for their actions. The latter will obviously be more crucial for a democracy, but even more authoritarian governments cannot afford to ignore it. The speed of these interactions will continue to increase as information technology advances and will affect military leaders as well as political leaders.[2] The implications for theater warfare are significant:

> With time compressed over extended space and with that immense space rendered comprehensible by a technological *coup d'oeil*, an entire theater can become a simultaneous battlefield where events, as in the days of Napoleon, may determine national destinies. In addition, the horizontal, real-time communication link to the vertical continuum of war only reinforces the interaction of the people with the other two thirds of the Clausewitzian trinity.[3]

Even as they respond to political imperatives for action, military commanders will face daunting time-space problems whose resolution challenges even the latest technology. In other words, there are still likely to be situations where there is tension between political and military imperatives, a significant component of which has to do with time. One can also expect that commanders will have to analyze and manage operational risk well in order to overcome these tensions.

If time-induced tensions are likely to characterize future wars, then the mechanism of a time-based strategy is useful to those who will have to deal with those situations as well as to those endeavoring to understand past wars where these conflicts were present. With that double utility in mind, this study defines a time-based strategy as one in which time is a paramount or extremely significant consideration. Commanders form such strategies in response to situations where time-induced tensions between political and military imperatives are present. The aim of a time-based strategy is to resolve these tensions and make military operations congruent with political considerations. As it outlined a plan for employing forces, a time-based strategy would do so with time as the governing consideration. Such a plan would recognize the particular capabilities of specific forms of military power, airpower for example, in this regard and integrate them into a combined arms scheme which takes advantage of those capabilities. By appreciating the physical and psychological effects obtainable and their effect on time considerations, a time-based strategy seeks to use military force to accomplish political objectives. In doing so, a time-based strategy also weighs the operational risks and benefits in terms of time with the aim of balancing them to achieve the greatest time benefit at the lowest risk.

Summary

Analysis of the evidence in the three cases indicates a time-based strategy was the mechanism through which airpower worked to resolve time conflicts between political and military imperatives. As the participants executed these time-based strategies, operational risks and benefits influenced the degree to which time considerations prevailed in the individual cases. Some of the conditions which contributed to time-induced tensions in these cases are likely to persist and continue to produce those tensions in future wars, therefore it is useful to define the elements of a time-based strategy in order to prepare for the future as well as understand the past. A time-based strategy is one in which:

Time is a paramount or extremely significant consideration.

One seeks to resolve time-induced tensions and achieve political-military congruence.

One employs forces and forms of military power with an appreciation of their abilities to contribute to this resolution and congruence.

One weighs operational risks and benefits with the goal of balancing them to achieve the greatest time benefit at the lowest risk.

Notes

1. Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton, N.J.: Princeton University Press, 1989), 605.
2. Maurice Pearton, *Diplomacy, War, and Technology Since 1830* (Lawrence, Kans.: University Press of Kansas, 1984), 21–22.
3. David Jablonsky, "US Military Doctrine and the Revolution in Military Affairs," *Parameters* 24, no. 3 (Autumn 1994): 34.

Chapter 7

Implications

"You have to think fourth-dimensionally!"
"Yeah, I have a problem with that."

—Exchange between Dr Brown and Marty McFly
from the film *Back to the Future*

In addition to revealing a time-based strategy as the mechanism for overcoming time conflicts between political and military imperatives, the evidence also points to the prominence of airpower's role in that strategy. This link between time-based strategies and airpower has important implications for both the airpower theorist and the airpower strategist. It is the job of the airpower theorist to plumb the meaning and relevance of this relationship between airpower and time-based strategy and to continue interpreting its implications for airpower as well as its utility in guiding future action. Evaluating the usefulness of the time perspective, interpreting the relationship between airpower and time, and considering the idea of a four-dimensional model of warfare are among the worthwhile tasks for the airpower theorist. While the airpower theorist concerns himself with the implications for airpower doctrine and theory, the airpower strategist has the more pressing problem of determining the immediate utility of time-based strategies and airpower's role in them. Among the issues the airpower strategist must consider are the appropriateness of a time-based strategy, airpower's role in that strategy, and balancing the operational risks and benefits associated with the use of airpower.

Implications for Airpower Theory

Just as there is value in viewing war from the perspective of time, there is value in examining airpower from the temporal perspective as well. Although theorists have tended to concentrate on airpower's ability to exploit the third dimension as its defining feature, the importance of time in war as suggested by this study urges a consideration of airpower's ability to exploit the fourth dimension, which is time. An exploration of this ability to exploit the fourth dimension would contribute to a more complete understanding of airpower's nature. This shift in perspective demands a fundamental reexamination of airpower in the same manner that the advent of airpower forced a

reexamination of warfare from the aerial perspective.[1] Unfortunately, airpower theorists have tended to remain fixed on airpower's progress in exploiting the third dimension (elevation) while ignoring its potential to conquer the fourth dimension (time). Some viewed the Gulf War as the apotheosis of airpower's utility as an instrument of war, and one airpower theorist was inspired to call for a "three-dimensional model of warfare . . . based on a unique capability that defines the essence of airpower. That capability is the quick concentration of great power over any spot on the surface of the globe."[2] Although his idea of a three-dimensional model has merit, it is interesting to note that his use of the word *quick* brings time into model. Indeed, a four-dimensional model of warfare might describe the phenomenon more accurately and also encompass airpower's role and effects better in that it would include time as well as space. As demonstrated in this study, understanding how airpower can work to resolve time-induced tensions between political and military imperatives is one step toward forming such a unified view and comprehending the full potential of airpower as a force in war.

Implications for Airpower Strategy

While the airpower theorist ponders the larger questions about time and the very nature of airpower, the airpower strategist must put these ideas about airpower and time-based strategies to immediate use. The first step is to decide whether a time-based strategy is appropriate. In making this decision, the airpower strategist has to consider the political goals and the political conditions, both international and domestic, which form the context in which those goals are pursued. He must then evaluate the theater military goals as well as the theater conditions which will affect the accomplishment of those goals. By comparing the political and military imperatives which emerge from this analysis, he can determine if any tensions between the two relate to time. If such time-induced tensions are present, he must evaluate how prominent they are and whether they argue for accelerating or decelerating results. If time is a paramount or extremely significant consideration, then a time-based strategy is appropriate and the airpower strategist can begin to determine what role airpower can play in it.

In planning this role, an airpower strategist must appreciate the potential airpower has to overcome time-induced tensions. A superficial analysis would simply point to airpower's speed and range as the characteristics which enable it to overcome these tensions. Although these traits are important to airpower's potential, they are insufficient to describe the full potential of airpower to resolve time problems. Airpower's efficacy in this regard ultimately has to do with effects achieved and the way it achieves them.

In each of the situations described, airpower constituted a ready force, one which could be brought to bear quickly over long distance. A. G. B. Vallance aptly describes this characteristic as "responsiveness":

> In each structure terms, responsiveness demands quick-reacting combat air forces, supported by tankers and air transports to provide them with strategic and operational reach. It demands a procurement system which is as responsive as the front line it supports, one which is capable of providing the equipment enhancements needed to match the existing operational situation. And finally, responsiveness requires high levels of operational proficiency.[3]

In addition to readiness and training, flexibility is an important dimension of airpower's responsiveness because it implies that airpower is capable of responding to a variety of situations by performing a variety of actions with a variety of effects.[4] If airpower is truly responsive, it will not only strike first, it will achieve significant results as it does so. The earlier in the conflict such action takes place, the greater the chance the results will be significant:

> There is yet another reason to reach for an airpower solution. In every culture there is a direct relationship between time and the effectiveness of employing force. In essence, there is a "time value of war." The greatest likelihood of achieving objectives—with the lowest potential for casualties and collateral damage—exists at the beginning of a contingency.[5]

Another characteristic of airpower which helps overcome time problems is its ability to provide freedom of action in the form of air superiority or air supremacy. The Israelis and the coalition made it the foundation of their operations, while the British battled for it as best they could under the circumstances.[6] Such freedom of action assists in ensuring security of forces. It also helps accelerate the tempo of operations, whether air or ground, and high tempo will characterize well-executed air operations which seek to maintain initiative. Both operational proficiency and technical sophistication contribute to airpower's ability to achieve high tempo as Israeli, British, and coalition forces proved by their operations. For the Israelis and British, high tempo also served as a force multiplier.

Airpower's advantage in achieving mass by concentrating tremendous force quickly at any place and time is also the key to the effects it can achieve. Israel's Operation Moked masterfully exploited this capability as did the coalition's plan for the first two days of the air war. While the coalition effort came close to achieving simultaneous attack, the Israeli example shows that numbers, while nice to have, are not absolutely necessary to exploit this capability. Through airpower the Israelis concentrated force at diverse places in a narrow time frame and thus achieved effects similar to those obtained by simultaneous attack.

Synchronization that ultimately coordinates such effects is also important. Such synchronization is evident in the synergy which occurs when airpower is integrated properly with other forces. Whether it was the Israelis in the last three days of the 1967 war, the British at Goose Green, or the coalition in the 100-hour ground offensive, this synergy sped up operations and increased the destruction and demoralization wrought by the attack. In the final analysis, these physical and psychological effects that airpower achieves with speed, responsiveness, mass, high tempo, synchronization, and synergy are what

allows it to overcome time conflicts between political and military imperatives.

In addition to understanding how airpower works to overcome time conflicts, the airpower strategist must also appreciate the operational risks and benefits associated with the use of airpower. As he evaluates the operational risks and benefits in terms of time for a given airpower option, he should aim for the greatest time benefit at the lowest operational risk. Such choices are rarely easy, particularly when numbers of airpower resources are limited, as the Israeli and British situations illustrate.

Summary

Viewing war from the time perspective illuminates the necessity to align political and military operations in relation to this dimension. Achieving congruence in time is an important step toward achieving the ideal of a complete congruence of political and military operations as well as their objectives. If one holds with Clausewitz in subsuming war under politics, such a congruence is indispensable to success. In the real world, that alignment is difficult to attain for time conflicts often emerge between political and military imperatives in the course of war. In the cases considered in this study, airpower worked through the mechanism of a time-based strategy to resolve those tensions. Its success in doing so has important implications for airpower theorists and airpower strategists. To understand fully the nature of airpower, its role in warfare, its advantages as a form of military power, and the wisest way to wield it as a weapon, one has to think "fourth-dimensionally."

Notes

1. AFM 1-1, *Basic Aerospace Doctrine of the United States Air Force*, vol. 1, March 1992, 15.
2. Dennis M. Drew, "Desert Storm as a Symbol: Implications of the Air War in the Desert," *Airpower Journal* 6 (Fall 1992): 11.
3. A. G. B. Vallance, "The Gulf War: First Thoughts on the Use of Airpower in Crisis Management and Conflict," *The Hawk* (1991): 25.
4. Ibid.
5. Gen Charles G. Boyd, "The Role of NATO and the United States in Multinational Operations," in Group Capt N. E. Taylor, ed., *The Role of Air Power in Crisis Management* (London: Her Majesty's Stationery Office, 1993), 24.
6. R. A. Mason, "The Air War in the Gulf," *Survival* 33 (May–June 1991): 226.

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