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**FIGHTING TO GET ALONG:
DOCTRINE AND INTERSERVICE RIVALRY**

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Doctrine and Interservice Rivalry

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ABSTRACT

FIGHTING TO GET ALONG: DOCTRINE AND INTERSERVICE RIVALRY by Major
Nicholas J. Clemens, USAF

Our theories on interservice rivalry are wrong. Why, in the midst of one of the largest draw downs in military history are the services working so closely? Has the bureaucratic process suddenly changed? Or were we just looking at the wrong factors? Most organizational theorists view interservice interaction from the perspective of the Washington, DC bureaucratic and political arena. Their bureaucratic and political outlook has all but filtered out the fundamental service interaction process from view. Removed from the battlefield and operational environment, these theorists have thus missed the root factors that actually govern how the services interact. War fighting doctrine and the proper distribution of combat power on the battlefield are the two root factors that operational military commanders are concerned about. The proper application of these factors assures physical survival for the country and the minimum loss of life to allied forces.

The focus of this study is the examination of the two primary variables that shape service interaction. Operational war fighting doctrine is the first and primary factor. The secondary factor is the desired equitable or efficient distribution of combat power in a theater of operation. This study shows how these two variables combine to define four categories of service interaction. These categories are cooperative, competitive, adversarial and toleration. Air support of combat troops is examined during the Korean, Vietnamese, and Gulf Wars.

Interaction categories are established for these wars based on the governing service doctrine and perceived adequacy of support or distribution of combat power. A predictive tool to gauge how services will interact is thus made available through the study of these interaction categories.

The idea that military leaders are driven by bureaucratic politics and money is challenged. This study also challenges the commonly accepted notion that an equitable distribution of money or regulatory constraints alone can assure proper service interaction. The establishment of a common war fighting vision and doctrine between services is seen as the primary factor in determining service cooperation and future success on the battlefield. Further, if services are to continue to cooperate in a resource constrained environment, the primary concern of military leaders should be the development of joint or integrated war fighting doctrine.

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BIOGRAPHY

Major Nicholas J. Clemens (BS, New Jersey Institute of Technology; MS, Catholic University) is a Nuclear Research Officer. A recent graduate of the inaugural class of the School of Advanced Airpower Studies, he was just assigned to the Operations Directorate at the Joint Chiefs of Staff, The Pentagon. Also a graduate of Army Command and General Staff College, his previous assignment was as a Staff Scientist at the Defense Nuclear Agency, Alexandria, Virginia. Previous assignments in various aspects of nuclear research were at Andrews AFB, Maryland, and Kirtland AFB, New Mexico.

CHAPTER 1

WHY ARE THE SERVICES GETTING ALONG?

Something is wrong with our theories about interservice rivalry. Why, in the midst of one of the largest draw downs in military history are the services working so closely? Has the bureaucratic process suddenly changed? Or were we just examining the wrong factors.

As the end of the cold war became a reality, western nations fought a massive conventional war in the Middle East that few would have predicted. This war came as this nation's armed forces were preparing for an unprecedented reduction in both personnel and material. For the first time since the end of World War Two, America's military was preparing for a real and significant draw-down. Since the summer of 1990, the US Armed Forces have had their budget authority cut by over 25%. In direct defiance of conventional organizational political theories and many military observers' predictions, these events did not trigger a round of intense interservice fighting. In fact, service cooperation is at a post-World War Two high. The Air Force, Army, Navy and Marine Corps have behaved more cooperatively than any of our current organizational political theories would have predicted. Will it continue? And more importantly, what is to be done to encourage this outbreak of military cooperation to continue?

Service doctrine is the catalyst that drives how the services fight and prepare for war. Doctrine, not desired capabilities, is the fundamental basis for service budget requests. The "battle of the budget" is shaped by "fighting" over desired capabilities. Capabilities that are primarily mandated by the threat and operational doctrine. We have not control over the threat. However, service operational doctrine is the heart and soul of the respective service organizations. Thus, organizational theorists have missed the fundamental underpinnings of service interaction. Doctrine forms the basic relationship between the services. Everything else is just superficial manifestations of a fundamental doctrinal interaction process.

As the military budget shrinks, each service must reconcile its doctrine against its new but restricted capabilities. Bureaucratic or political models do not address the role of doctrine and its relationship to available resources.¹ To fully understand what has happened and how to encourage continued service cooperation, events must be examined in light of the doctrine that forms the basic war fighting vision of the services.

This paper introduces a theory of interservice interaction based on two variables, doctrine and a resource distribution. The resulting model is an outgrowth of existing theories. The key variable is doctrine. How each service views war, its doctrine for execution of battle, defines how the respective military organization interacts with other services. The second variable, the allocation of a resource or

how combat power is distributed on the battlefield defines how services will react given the particular state of their war fighting doctrine. This resource can be any item that a service desires (i.e., manned bombers, a particular force structure or a specific task organization on in a theater of operations). The goal is to predict the type of service interaction that can be expected given the doctrine and distribution of some desired resource.

The literature is rich in research dealing with corporate and governmental models to explain organization interaction.² But, the interaction of service departments is a complex process. Military doctrine defines not just how an organization will compete with another group, it also provides for the physical survival of that organization and individuals in war. To fail on the battlefield is to die, whereas to fail in the boardroom only sends one to the “want ads.”

Graham Allison’s and Morton H. Halperin’s works typify the breath of current organizational theories. Their models fail to take into account the role of doctrine and resource distribution in forming the types of interaction that military organizations commonly find themselves in. Lacking is a military oriented model that uses variables unique to military structures. Doctrine is the key variable unique in its use and importance in military structures.

The reorganization of Army reserve units in the wake of the Vietnam war is a good example of how important doctrine is when analyzing service actions. Then Army Chief of Staff, Creighton W. Abrams, Jr., faced the prospect of significant force reductions in the active duty force. He had basically two choices involving the use of the Army Reserve. He could create whole active and reserve units that could operate independent of each other. Conversely, Abrams could create more active duty units that were not fully manned. The manning could be filled out in an emergency using reserve units. In this latter case active units would be dependent on their supporting reserve components. Abrams selected the latter, which makes the active duty Army dependent on reserve units.³

This action contradicts standard bureaucratic and political theories that predict a fight for autonomy on the part of the active duty forces as the supply of personnel and equipment is decreased through force reductions.⁴ However a fundamental doctrinal principal was at stake. A nation must not go to war without support of its people. Clausewitz is the most quoted proponent of the need for a bond between the nation’s army and its citizens.⁵ The Army sees the citizen soldier or reserves as the key for providing this bond. Hence, Abrams selected a bureaucratically unfavorable plan that supported basic war fighting doctrine.

To explain these seemly odd relationships a model is developed that uses doctrine and the level of perceived resources to correlate changes in the way services interact with one another. The following

four forms of interaction become describable when these two variables are linked: cooperative, competitive, toleration and adversarial. As the military related resources decrease in the coming years, it must be realized that doctrine, not the “budget battle,” is the key attribute that drives service interaction. A model that explains interservice interaction is crucial in understanding how the services interact and in fostering joint cooperation and planning in a resource limited future.

The purpose of this paper is to introduce a military interaction model that better explains service interaction using doctrine and perceived resources as key variables. Each of these two variables will be assumed to exist in one of either two states as shown in table Error! Bookmark not defined below.

Table 1.

Variable Types

Variable	Variable State or Type	
Doctrine	Disjoint	Common
Resource Distribution	Non-Equitable	Equitable

The four variable types- disjoint, common, non-equitable, and equitable, combine into four possible states of interaction between two service components. These states form the interaction categories that explain how individual services may interact with each other. The interaction categories and the variable types forming those categories are summarized in table Error! Bookmark not defined. below.

Table 2. Interaction Categories

Interaction Categories	Doctrine State	Resource Distribution
Cooperative	Common	Equitable
Competitive	Common	Non-Equitable
Toleration	Disjoint	Equitable
Adversarial	Disjoint	Non-Equitable

The model can thus be used to predict how two services may interact given the state of the two variables, doctrine and the perceived resource distribution.

The next table displays the desirability of the four interaction categories. Notice it is the doctrine variable that is primary. It drives the interactions into one of either two states.

Table 3.

Category Desirability			
Quality of Categories	Interaction Categories	Doctrine State	Order of Preference
Desirable States	Cooperative	Common	1
	Competitive	Common	2
Undesirable States	Toleration	Disjoint	3
	Adversarial	Disjoint	4

This approach to organizational interaction is interesting because it explains otherwise confusing relationships between the military services. Recruiting is one example. The military services have been able to cooperate exceedingly well in the area of recruitment. Many recruiting stations are joint efforts where facilities and programs are shared to some extent. In this case the desired resource, recruitment candidates, is equitably distributed between the services. Service doctrine is not disjoint. Each service views the method of recruiting from a common vantage point. Hence, a cooperative interservice interaction results.

On the other hand, the carrier and manned bomber debate between the Navy and Air Force during the late forties and early fifties shows how antagonistic an adversarial relationship can become. Both services perceived their basic doctrine as being threatened. The two key issues were over the best way to deliver nuclear weapons via air and who would control those weapon systems. The distribution of scarce resources, in this case money, was seen as non-equitable on the part of the Navy.

A final example illustrates the competitive interaction category. Two major portions of the US nuclear triad contain missiles. The Navy controls the sea leg of the triad that consists of submarines equipped with intercontinental ballistic missiles (SLICBMs). The Air Force controls the land based portion that also consists of intercontinental ballistic missiles (ICBMs). The third portion consists of Air Force manned bombers. The important factor here is that neither service has ever perceived its doctrine to be threatened by the other over control of these systems. Both services have a common vision as to how deterrence is to be achieved and what would happen if war were to come. However, funding has been constrained. Funding translates to services capabilities. The two services have always tried to maintain some form of equitable distribution of capabilities in this area because of the common doctrine that demands a balanced triad. A competitive relationship has thus resulted. Table Error! Bookmark not

defined. below summarizes these and other three examples of how these variable states combine to predict interaction between two military services.

Table 4.

Interaction Examples

Interaction Categories	Air Force--Army	Air Force --Navy
Cooperative	Air Defense	Recruiting
Competitive	AirLand Doctrine	ICBM Force
Adversarial	Airlift (Vietnam)	Bomber & Carrier
Toleration	Close Air Support (Vietnam)	Centralized Air Control (Vietnam)

At first glance this model may appear to be a simple restatement of existing work done by others.⁶ It is not. This model is a refinement of this work applied to the specific domain of US military service interaction within the Department of Defense. For example, Allison, in Essence of Decision, describes pre-established routines as a part of his organizational model two description. Organizational health is also defined as consisting of bodies assigned and dollars appropriated to an organization.⁷ Halperin would use the term “organizational essence”⁸ for a similar concept. Both Allison and Halperin developed these concepts for general application within the government. It can be argued that military doctrine is only these factors described by Allison and Halperin under a different rubric. However, as will be described later, military doctrine, its use, function and form, is unique to the military. As such, a one-to-one correspondence between the general organizational factors developed by Allison and Halperin and military doctrine does not exist.

Further, Allison does not tell the reader which factors are crucial or more important in the decision process. His models contain added descriptive factors that thoroughly explain the decision process but only cloud the predictive nature of his models.⁹ The model presented here is meant to simplify the understanding of service interaction by looking at a military unique variable. Secondly, unlike Allison this model is meant to be predictive. Further, these models emphasize the decision process not intergroup interactions. Finally, unlike Halperin, who restricts his work primarily to the bureaucratic process, this model, through the use of doctrine, broadens the domain of investigation to

include the war environment. Thus, a theory of organizational interaction is developed for the military that includes the primary function of armed forces.

The body of this paper is divided into two major parts. Part one develops the military interaction model and part two contains the case study. The model is developed in two steps, sections one and two, in part one of this report. In section one the general attributes of competing paradigms are covered. Allison's and Halperin's models are emphasized. What the existing models fail to account for with respect to service interaction is explained. The second section develops the military interaction model. Variables and the interaction categories are defined. In short, the model is completely developed. An appendix also contains a brief summary of the major organizational decision theory models.

The second part of this paper consists of a case study. Air support of ground forces in three wars, Korea, Vietnam and the Gulf War, is reviewed from a doctrinal and resource perspective. The case study demonstrates the predictive nature of the model and shows how the variables may be applied. Part two ends with a brief overview of implications for future service interrelationships and the added capability that cooperation and a common vision provide to a fighting force.

It is interesting to observe how Army and Air Force interactions are driven first by doctrinal influences and then by resource considerations. The overarching lesson to learn is that service success and cooperation can only be achieved through a common vision of war. The services must share a common doctrine. Without it, bureaucratically forced cooperation will only result in context dependent short term fixes that neither maximize efficiency nor assure military success.

Chapter One Notes

- 1 The linkage of doctrine and resources to a resulting interaction environment has not been examined in the literature. Carl H. Builder, The Masks of War, (Baltimore: John Hopkins University Press, 1989) (Hereafter cited as, Builder, Masks) tries to examine the relationships in the American military. He misses the role of doctrine as a formative factor in this process. Others such as Morris Janowitz, The Professional Soldier, (New York: The Free Press, 1960) and Samuel P. Huntington, The Soldier and the State, (Cambridge: Harvard University Press, 1957) examine social and political aspects of the military. Janowitz's and Huntington's books are well researched. However, these books are broad in scope and do not explicitly address how service doctrine influences service interaction.
- 2 Amos Drory and Tsilia Romm, "The Definition of Organizational Politics: A Review, Human Relations, Vol. 43, No. 11, (1990) :1133-1154.
- 3 Harry G. Summers, On Strategy II: A Critical Analysis of the Gulf War, (New York, NY: Del Publishing, 1992). (Hereafter cited as Summers, Strategy II) 71-74.
- 4 Graham T. Allison, Essence of Decision: Explaining the Cuban Missile Crisis, (Boston: Harper Collins, 1971) (Hereafter cited as, Allison, Essence), and Morton H. Halperin, Bureaucratic Politics & Foreign Policy. (Washington D.C.: The Brookings Institution, 1974) (Hereafter cited as Halperin, Politics) (Hereafter cited as Halperin, Bureaucratic), both claim that organization health is defined by manning and funding. As such, organizations should seek freedom of action or autonomy by maximizing these two quantities. Planned dependence on reserve forces under a weaker units contradicts this expectation.
- 5 Carl von Clausewitz, On War, Edited & Trans. Michael Howard and Peter Paret, (Princeton, NJ: Princeton University Press. 1989) (Hereafter cited as Clausewitz, On War), 89.
- 6 See footnote above and Allison, Essence, Halperin, Bureaucratic, and John D. Steinbruner, The Cybernetic Theory of Decision, (Princeton: Princeton University Press, 1974) (Hereafter cited as Steinbruner, Cybernetic Theory).
- 7 Allison, Essence, 82-83.
- 8 Halperin, Bureaucratic, 28.
- 9 Allison states that these models were meant to be descriptive in nature. But, many people use these models to predict the action of actors.

CHAPTER 2

COMPETING PARADIGMS

The Duality of Light

The bureaucratic and organizational theorists have created a theory for military interaction that only examines one of the dual natures of military interaction. The aspect of military interaction examined by these theorists concerns primarily the political and bureaucratic aspects of service interaction. Most authors view these factors as the primary driver behind the interaction of services.¹ Additionally, the current body of literature is primarily concerned with explaining one of two cases dealing with the military establishment.² However, as has been outlined in the introduction there is another aspect of military interaction that deals with doctrine and how military organizations view warfare. This interaction of doctrine and war fighting is the more fundamental aspect of interservice interrelations and drives the military political and bureaucratic process that most organizational theorists have observed.

Researchers such as Allison, Builder and Halperin view interservice rivalry in terms of political and bureaucratic process because they have chosen a research perspective and theoretical paradigm designed to observe such events. The structure of the models used by these individuals are all based in some degree on an organizational theory. Therefore their models and frames of reference are not attuned to observing the undying forces that truly shape interservice interaction.

To add to the confusion, military leaders at the top echelons of command are forced to operate in two worlds. The first world is that of politicians and bureaucrats. Like chameleons, many military leaders have successfully changed their outward appearance and modes of operation to operate within this area.

...the national security environment and the process of decision making in security affairs. ..[is] a complex milieu dominated by bureaucratic politics. Such politics is not of the electoral sort, but rather politics played according to the rules of bureaucratic dynamics, involving as actors elected public officials, appointed political executives, and highly trained professionals, all competing for power and influence. Given these harsh but inevitable realities, those military professionals called upon to enter the game must learn to play by the rules --Whether they like it or not --lest they fail.

...In the final analysis, we are calling for professionals [military officers] to act more like politicians, because, in fact, in the highly bureaucratized and politicized atmosphere of Washington, everyone who is a success is part politician, part bureaucrat, part specialist.³

This is the environment studied by Allison, Builder Halperin, Posen and others. The second

world is uniquely military. In this environment, command overpowers many of the bureaucratic and political processes. The commander's vision has more to do with the combat effectiveness of a unit than its organization, funding level, influence and manning. In short we are talking about the commander's coup d'oeil and the unit's esprit de corps.⁴ These organizational theorists were not wrong. They just did not observe the fundamental phenomena.⁵

The current body of literature is primarily concerned with explaining one of two cases dealing with the military establishment. The first case deals with the decision process in terms of some organizational theory. The goal of these authors is to explain the high level decision process as a function of organizational or political parameters.⁶ The second case concerns the relationship of the decision process to national strategy.⁷ Most works on this subject are concerned with explaining national strategy in terms of various organizational inputs. Service doctrine and interactions appear in these studies as driven by organizational influences. In any case, current organizational models do not seek to explain service interactions. Rather, their goal is to explain the decision process. These are two fundamentally different qualities.

The focus of both classes of study is on national policy or strategy at the highest levels of government. In general, service interaction is viewed as a manifestation of political and bureaucratic processes. Because most authors have focused on strategic national policy concerns, the role of doctrine as a driving force behind service relationships has been ignored.⁸

What is not Explained

Allison and Halperin would have the reader believe that the best way to explain high level governmental policy is through an examination of the bureaucratic or political process. This approach, "Is taken to be validated every time aspects of an international event can be partially explained by a lobbying air force, an ambitious ambassador, an elitist foreign office, a campaigning politician or a devious intelligence agency."⁹ The bureaucratic political approach may be applicable for the domain of interest originally studied by Allison and Halperin. However, there are numerous attributes that make the military profession unique with regard to all corporate and civilian governmental institutions. These differences will be outlined in detail later. It is currently sufficient to just note that bureaucratic models were not developed to explain military interaction.

Allison's and Halperin's models were developed to explain the highest levels of the governmental decision process. Halperin writes in Bureaucratic Politics & Foreign Policy,

My aim is to give the reader a feel for the process by which decisions are made and actions taken by the American government in the field of national security.¹⁰

Allison's objective is a bit broader. He writes,

My aims in this book are two. On one hand, I examine the central puzzles of the Cuban missile crisis. ...On the other hand, I explore the influence of unrecognized assumptions upon our thinking about events like the missile crisis. ...This study (Essence of Decision) identifies the basic frame of reference used by most people when thinking about foreign affairs.¹¹

There are some key points to realize. First, military decisions made in the realm of international affairs are not totally a product of the governmental political system. They are based on advice from military leaders. Second, this advice comes from organizations that are different from their civilian counterparts because of the formalized emphasis on command and the unique inherent requirements of duty placed on military members. Finally, military decisions, policy and advice tend, for better or worst, to be focused at least one layer down from the grand policy level of decision making. Military leaders tend to focus on primarily the element of national power where their expertise lies. That is the use of the military. Therefore, it should not be surprising that military leaders tend to answer with military oriented solutions.

Most of the discussion has been concerned with a review of the bureaucratic forms of management theory. Steinbruner's Cybernetic theory offers an approach to the decision process that is psychologically based. The individual is the constant across all organizations. On the surface it would be expected that his model would be applicable across all organizations and at all levels. Steinbruner explains why and how people use the cognitive process to filter information. However, each individual will have a slightly different type of filter (cognitive process) in much the same way different cars have different shaped and sized air filters. The process is always the same. From the car analogy, air is exchanged through tiny holes in a paper material. The military interaction model discussed shortly describes the filter itself, not the process of air exchange that is general to all filters. Steinbruner has described the general of Cybernetic decision theory. The military interaction model is an example of a specific type of cognitive process unique to the military. In this specific case doctrine plays a crucial role in how military individuals understand and relate to the decision process.

Throughout this discussion Steinbruner's model has been favored above the others examined. This is because of the analogy to the role that doctrine plays in the execution of war and the role of individual commanders in shaping how a conflict is fought. However, all the models have an inherent shortcoming with regard to explaining interservice rivalry. These models were designed to explain the decision making process. As such, much emphasis was placed on rational vice irrational processes. The models describe the decision process and leave the interaction mechanism to be inferred. As such, the true nature of service interaction has been misunderstood because the improper tools, tools designed to

explain the decision process, have been used.

The service interaction model developed in the next section focused on war fighting doctrine and how that doctrine drives service relationship. This is the essence of the military, its soul and purpose for being. Victory in war demands survival in battle. Further service doctrine is derived to survive in war not just to compete with other organizations. This relationship forms the basis for service relationships. It is fundamental. Political and bureaucratic models describe only the most observable facets of service interaction as it occurs in the civilian public arena. The model provides a formalized structure using doctrine as its base and a second variable that is a measure of the distribution of combat power in a theater of operation.

What is proposed is essentially a change of variables. Doctrine will be viewed as the driving function instead of bureaucratic or political processes. The focus will be on operational interservice relations. Organizational theory will be used as an important tool for analysis, but not as the driving function.

Chapter Two Notes

- 1 The appendix contains a synopsis of what these organizational theorists specifically have to say about interservice rivalry.
- 2 See C. Kenneth Allard, Command Control and the Common Defense, (New Haven, CN: Yale University Press, 1990) (Hereafter cited as, Allard, Command) , Alain C. Enthoven and K. Wayne Smith, How Much Is Enough? Shaping the Defense Program, 1961-1969, (New York, NY: Harper & Row, 1971), Halperin, Bureaucratic, Samuel P Huntington. The Common Defense, (New York, NY: Columbia University Press, 1961) Edward N. Luttwak, "Refocusing the Military Profession," Marine Corps Gazette, June 1981, Barry R. Posen, The Sources of Military Doctrine: France, Britain, and Germany Between The World Wars, (Ithaca, NY: Cornell University Press, 1984), (Hereafter cited as, Posen, Military Doctrine) Steinbruner, Cybernetic Theory, Warren Trest, "The Legacy of Halfway Unification," Air University Review, September - October 1986, Max Weber, Essays in Sociology, Trans. H. H. Gerth and C. Wright Mills, (Oxford: Oxford University Press, 1946)
- 3 Richard T. Mattingly, Jr. and Wallace E. Walker, "The Military Professional as Successful Politician," Parameters, (March 1988), 50.
- 4 See Clausewitz, On War, 100-114, Ardant du Picq, Battle Studies Ancient and Modern Battle, Trans. John N. Greely and Robert C. Cotton reprinted in Roots of Strategy Book 2, (Harrisburg, PA: Stackpole books, 1987), and U.S. Army, FM 25-100 Training the Force, (Washington, D.C.: Department of the Army, 1988). Coup d'oeil is the presence of the commander. The ability to see and anticipate events in battle. It goes beyond leadership. It is the coalescing of the operational art, leadership and charisma.
- 5 A quick review of a commonly known physics problem may help to explain this dilemma by analogy. Light is known to have two basic mutually exclusive traits. The great physicist Newton thought of light as consisting of individual particles and argued that only a corpuscular theory of light could explain sharp shadows. On the other hand, optics experimenters such as Thomas Young, used wave theory to explain how light is defracted through double slits. The true nature of light was hotly debated with one or the other major paradigm taking presidency depending on what particular property was being examined. By the early twentieth century Young's theory, supported by the work of James Maxwell and others, became favored theory. It took the work of Albert Einstein (Theory of Relativity) and Louis de Broglie (Matter has Wave Properties) to set the stage for the realization that light can and does have a dualistic nature. Carl Jacobi and William Hamilton had independently developed a theory of dynamics in the 1850s that supported Einstein and de Broglie. Their work was esteemed but their insight was ignored until Schrodinger showed how to modify the Hamilton-Jacobi theory of dynamics to account for the wave like properties of particles. Just as light has an elusive dual nature, so also does the military. Individuals are forced to live in both the civilian political world and the world of war fighting. The essence of the military is war fighting. It is this world that should take precedence
- 6 For two exemplary works see Allison, Essence or Halperin, Bureaucratic
- 7 See Builder, Masks and Posen, Military Doctrine

8 Posen, *Military Doctrine*, comprehensively examines doctrine in a book length work. However, Posen does not see doctrine as the driving force behind service interaction. Rather, he uses organizational theory to explain doctrine development. Then he shows how doctrine effected the national strategy of the countries studied. Posen's work falls under the second case outlined above. Builder, *Masks*, has also completed a book length study of service interaction. The thrust of his book is descriptive. He "paints" stylized pictures of each service and then shows how these service characters play in the bureaucratic and political environments to further organizational objectives. Missing in Builder's analysis is a discussion of war fighting doctrine and how the need to survive on the battlefield, as opposed to the corridors of the Pentagon, shapes service interaction.

9 Lawrence Freedman. "Logic, Politics and Foreign Policy Processes: A Critique of the Bureaucratic Politics Model," International Affairs, Vol. 52, No. 3, (July 1976), 434

10 Halperin, xi

11 Allison, Essence, v

CHAPTER 3

MILITARY INTERACTION MODEL

War is an experimental science where experiments cannot be performed.

--Henri Poincare' (1854-1912)¹

This chapter is about a new way of looking at old problems. The major organizational theorists outlined in the preceding narrative brought with them certain assumptions and frames of reference, the most critical being the idea that military organizations are just like other business or governmental units. This assumption is not accepted. The profession of arms is unique because it can require the sacrifice of one's liberty and even life for the attainment of national or societal goals.² The military sometimes takes on the trappings of their civilian counterparts. However, the bureaucrat, industrialist or statesman is not under the same all encompassing obligation that the soldier is. Nor does a bureaucracy compete with other countries. This one distinction makes all the difference in the world.

The bureaucratic theorist studies the bureaucracy and only observes the outer workings of the military in an environment separated from the root causes of disagreement and debate between the services. By looking at the military in the realm of Washington politics and bureaucracy, these researchers have only observed the outer manifestations of a deeper and fundamental debate on how war should be fought. Cast in the language of politics, this debate loses most of its form and meaning.³ To understand interservice relations the observer must go beneath the bureaucratic facade and study the root causes of doctrinal disagreement.

Doctrine

Doctrine is different things to different people. Any single definition of doctrine would be lacking for some specific application. A simple listing of a number of definitions would not tell the whole story either. The Joint Chiefs of Staff Publication 1, Dictionary of Military and Associated Terms, defines doctrine as :

Fundamental principles by which the military forces or elements thereof guide their actions in support of national objective. It is authoritative but requires judgment in application.⁴

The Army defines doctrine as, "The condensed expression of its approach to fighting campaigns, major operations, battles, and engagements."⁵ Doctrine is both descriptive and prescriptive of the act of waging war. Doctrine operates at all levels of war.

Barry Posen writes of doctrine in The Sources of Military Doctrine,

Military doctrine includes the preferred mode of a group of services, a single service, or a subservice for fighting wars. It reflects the judgments of professional military officers, and to a lesser but important extent civilian leaders, about what is and is not militarily possible and necessary.⁶

A common thread running through all these definitions is the idea that military doctrine has something to do with the execution of war. War is unique to the profession of arms. War, is “composed of primordial violence, hatred, and enmity.”⁷ War is what makes the military profession unique and doctrine is the substance that binds the individuals that make up this profession. This may seem like a statement of the obvious, but as will be seen, this distinction is overlooked when organizational theorists attempt to make doctrine fit the confines their governmental or civilian oriented models.

From the organizational standpoint the following discussion emerges concerning what Morton H. Halperin, Bureaucratic Politics and Foreign Policy, terms organizational essence.⁸ Organizational essence is defined by three determining elements. They are missions, capabilities and influence. According to Halperin, organizations seek to secure their existence through increased capabilities, influence and missions. Graham T. Allison, Essence of Decision, describes organizational health as consisting of bodies assigned and dollars appropriated to organization. For Allison these two variables translate to missions, capabilities and influence.⁹ As with Halperin, Allison is concentrating on a bureaucratic organizational process.

The result of this type of analysis leads to the following picture of the services. The first examples, are taken from Halperin¹⁰

[Air Force:] Since its inception as a separate service in the early postwar period, the dominant view within the Air force has been that its essence is the flying of combat airplanes designed for the delivery of nuclear weapons against targets in the Soviet Union. . . .¹¹

[Navy:] Naval officers agree on the general proposition that the essence of the Navy is to maintain combat ships whose primary mission must be to control the seas against potential enemies.

[Army:] Career Army officers agree that the essence of the Army is ground combat capability. They tend to deprive of funds those functions which they view as peripheral, such as advisory roles in Military Assistance Advisory Group (MAAG) missions, air defense, and the so-called “Green Beret” counterinsurgency forces.

[Marine Corps:] The Marine Corps sees itself as an elite combat unit primarily designed for amphibious operations --that is, the landing of shiploads of armed men under combat conditions against a hostile force.

The emphasis of these pictures is totally on missions and the type of weapons needed for those missions.

These four pictures of the services form the primary frame of reference that Halperin uses to explain examples of interservice conflict within his book. One example cited by Halperin concerns close air support (CAS).¹²

The CAS mission involves the use of air power to support the ground elements of an army that are in contact with enemy forces. AFM 1-1 defines CAS as follows:

Close Air Support objectives are to support surface operations by attacking hostile targets in close proximity to friendly surface forces. Close air support can support offensive, counter-offensive, and defensive surface for operations with preplanned or immediate attacks. All preplanned and immediate close air support missions require detailed coordination and integration with the fire and maneuver plans of friendly surface forces. Close air support missions requires access to the battlefield, timely intelligence information, and accurate weapons delivery.

Close air support enhances surface force operations by providing the capability to deliver a wide range of weapons and massed firepower at decisive points. Close air support can surprise the enemy, create opportunities for the maneuver or advance of friendly forces through shock action and concentrated attacks, protect the flanks so friendly forces, blunt enemy offensive, and protect the rear of surface forces during retrograde maneuvers.¹³

For comparison the army definition of CAS is taken from FM 100-5 and reads as follows:

Close air support missions support land operations by attacking hostile targets in close proximity to friendly surface forces. Close air support can support offensive, counteroffensive, and defensive surface force operations with preplanned or immediate attacks. All preplanned and immediate close air support missions require access to the battlefield, timely intelligence information, and accurate weapons delivery

Close air support enhances land force operations by providing the capability to deliver a wide range of weapons and massed firepower at decisive points. Close air support can surprise the enemy, create opportunities for the maneuver or advance of friendly forces, blunt enemy offensives, and protect the rear of land forces during retrograde operations.¹⁴

The important point to realize is that the Army and Air Force have always understood the need for CAS and its potential impact on the battlefield. The critical area of “disagreement” has always been in the priority of execution and the best way to efficiently use limited resources.¹⁵ The Air Force has usually argued for centralized control of air assets and a priority of missions starting with achieving air superiority first.

A successful CAS campaign requires the close coordination of air and ground units. During the Second World War Ninth Air Force deployed subordinate tactical elements with microwave ground control radars with tactical elements of the 12th Army Group. For example, the 2d Armored Division had three radio equipped air support parties that traveled with the front line troops to directly support coordination of CAS missions.¹⁶ Following the war, the Army and the Army Air Forces approved Field

Manual 31-35, Air Ground Operations. This manual outlined the structure of the complex Tactical Air Control System (TACS) hinted to above. However, the TACS was quickly dismantled after the war. When the Korean war began only three TACS squadrons were available.¹⁷ The Army and Air Force had to rebuild this system from scratch.

Why did this happen? Organizational theory would seem to predict that the services would resist dismantling an in place organization. The decade of the fifties was marked by an ever increasing reliance on nuclear weapons for the defense of the country. All services were drawn to nuclear weapons as a way to fight the future war. Related doctrine was thus developed and forces were configured. The nuclear approach was not just limited to the Air Force.¹⁸ The Air Force concentrated on the strategic missile and bomber missions as part of our overall deterrent posture. The Navy's emphasis was on submarine warfare and the carrier task force as a means to project nuclear power. This concentration on nuclear deterrence, dictated by the civilian leadership, biased all three services against conventional warfare. The war in Vietnam initially suffered from similar problems. It was not until after Vietnam that the Army began to revamp its doctrine.

The Army went through five phases of maneuver doctrine between the end of the Second World War and the establishment of its current doctrine, AirLand Battle. During the fifties the emphasis was on nuclear operations.¹⁹ It was not until the predecessor of AirLand Battle, FM 100-5 (1976) that maneuver doctrine became emphasized.

FM100-5 was the "capstone" manual to an entire family of doctrinal manuals that constituted a wholesale replacement of the Army's then-current tactical doctrine. It attempted to present an overarching concept of warfare from which all other manuals dealing with separate parts of the Army would follow. ...

To this end, FM 100-5 made several assertions about future combat. According to the manual, the US Army must prepare to fight outnumbered and win and to win the first battle, points that the authors acknowledged were not part of the Army's historical tradition. Also emphasized was that the tank was "the decisive weapon" of ground combat, but that it could not survive on "the modern battlefield" except as part of a "combined arms team" that included all the other branches of the Army and tactical air forces. ...

In addition to the active defense, the 1976 edition of FM 100-5 introduced the term "Air-Land Battle" for the first time. The chapter titled "Air-Land Battle" only described the joint procedures agreed to by the Air force and Army for cooperating in areas of mutual interest, such as airspace management, air logistics" aerial reconnaissance, and electronic warfare. The use of this term and the dedication of a chapter to its discussion signaled the Army's strong interest in a new concept of theater warfare that recognized the total interdependency of the Army and Air Force and that sought to describe their activities within the theater in a single, unified battle.²⁰

During this time period the Air Force also experienced change in its basic doctrine. However,

this change was not as dramatic as those experienced by the Army. The basic tenets of air power doctrine have not changed significantly from the end of the Second World War. AFM 1-2²¹ has undergone many revisions since it was first published in April 1953.²² Initially AFM 1-2 drew from the experiences gained from World War Two. The basic text was updated to include lessons from the Korean and cold war in 1955. Five characteristics unique to aircraft, range, speed, flexibility, mobility, and penetration ability were the basis of an offensive oriented doctrine. The concentration was on how to apply force if deterrence failed and the emphasis was on direct attacks against the enemy's heartland.

At present the goal has not been to exhaustively outline the development of basic Air Force or Army doctrine. The point to understand is that far more fundamental factors were shaping the conflict between the Army and Air Force besides bureaucratic politics. The root cause of the problem between the Air Force and Army was a different view of how war was to be fought.

The brief outline of the issues surrounding doctrinal development gives a fundamentally different picture of the services than a bureaucratic theorist would have predicted. Doctrine was being developed as both a descriptive and prescriptive explanation of how war was to be fought. Doctrine was shaped by the overall civilian guidance handed down from the President. Then specific ways of fighting and winning war within the bounds set by the Commander-In-Chief were developed. This doctrine dealt with fighting and winning battles and implementing national security objectives. Conflicts between the Army and Air Force concerning CAS were more of a function of how each service viewed war than a battle for money and power. Contrary to what would be predicted by bureaucratic theory, the Army supported an increase in the Air Force budget to buy dedicated CAS aircraft. The problem was that the Air Force had a basically different view of what was needed to fight the projected future war. As will be shown in the case study, once a common view of war could be agreed upon, the problem of integrating CAS between the Army and Air Force became solvable.

Herein lies the root of the problem with regard to an organizational or bureaucratic approach to defining interservice conflicts. These "red tape" models filter the essence of the conflict so it is unobservable. What is seen is the mere result of forces operating beneath the view of the organizational theorists.

Further there is a cause and effect relationship that is misinterpreted. Organizational theorists assume that the driving force behind interactions is the bureaucratic or organization process. This process is "powered" by the organization's desire for health or influence.²³ Therefore all actions within a bureaucratic environment are related to this primary driving force. However, with regard to doctrine this is not the case. The primary motive force behind doctrine is physical survival on the battlefield. All military leaders know that if the current doctrine is wrong, people will unnecessarily die. This is why

compromise is sometimes so hard to achieve.²⁴ The stakes are high, but not from an organizational viewpoint. In the final analysis a nation is unlikely to strip itself of its military because of bureaucratic inefficiency.

It is now clear that a significant discontinuity exists between the world view of organizational and bureaucratic theorists and the individuals they are attempting to understand. By restricting their study to the bureaucratic process at the highest levels of government, these theorists have established a mental cognitive trap that blocks the crucial information that they are trying to study. It is as if they were looking for a red pencil mark on a white paper through red colored glasses. To understand interservice relations, this “red tape” filter must be removed. Military doctrine needs to be viewed not as a result of the bureaucratic process, but as an independent force governing how military organizations’ view, not them selves, but war, the fundamental process of military organizations.

Variable Categories

Doctrine is the first and most important variable in the model. As can be seen, doctrine plays a complex role in the establishment of service relations. These relations are not limited to those described by the bureaucratic process. When two organizations interact through their doctrinal beliefs they are “testing” their view of future war against the other organizations’ outlook. If the view of future war is consistent between the two organizations then the two organizations have a common understanding of how that war is to be fought. The state of doctrine between the organizations is defined as “common.” If there are major areas of disagreement or misunderstanding, then the doctrine of the two organizations is threatened because one or more of the views of the future war must change to accommodate a common understanding of how joint force action (i.e., war fighting) under a unified command will be executed.

The second variable in this two variable model is the distribution of a desired resource. The actual make-up of this variable is context dependent. For example, it could be the number of sorties assigned to support CAS operations under a particular operations plan. Typically this variable would be measured by the number of weapon systems available for a particular mission. Numbers of aircraft could translate to sorties available under a particular operation plan. The key concept is that we are dealing with the perception of the distribution of some resource. When dealing with war fighting doctrine, this resource almost always deals with the equitable distribution of combat power.²⁵

From another perspective, the limited resource could be the number of troops authorized by Congress. But, the US Armed Forces have never had to compete between each other for manpower. Following the end of the Second World War, force levels were independently determined by each

service and were based on how each service separately viewed its role in some future war. Current force reductions are geared at selectively reducing force numbers in rough proportions. Thus, it is hoped that the distribution between services of the limited number of military jobs authorized by Congress will continue to be viewed as equitable because of historical precedent. This approach may be harmonizing in the short run. But, fundamental doctrine concerning force level manning should be examined in light of these reductions to see if the post World War Two distribution is still the most desirable mix.

The bureaucratic theorist would seek to measure the resource distribution variable, in terms of money or budget dedicated to the resource. However, this approach can be misleading. The problem of force levels is a good example. The bureaucratic approach would concentrate on levels of funding as a measure of health within an organization. It would be assumed that any organization would strive to maintain its size and budget as a way of “healthful” growth. Conflict would be seen as a “battle” between bureaucratic organizations for money and manning as an end unto itself. More money would equate to more people that would mean more missions and power.

The approach outlined above ignores the role of doctrine in the basic formulation of military service needs. The number of desired individuals in uniform is determined by the basic doctrine of how the US plans to use its military force. Our current doctrine of “Forward Presence” demands fewer troops stationed abroad than the old cold war doctrine of “Forward Deployment.” The doctrine of using reserve units instead of a total active force also decreases manning requirements. Advances in technology and tactics have also led to the ability to wage war with less manpower.²⁶ By using the two variable military model a desire to cut force manning can be predicted based on emerging doctrine. The purely bureaucratic approach predicts quite the opposite.

The identification of the desired resource is important. The actual selection of the particular resource is dependent on the issue under study. In the example above, the resource examined would be manning. When contrasted with doctrine, this second variable provides a dimension of analysis not available under standard bureaucratic and political models. The temptation to recast or project this two dimensional approach onto the one dimensional bureaucratic or political model domain should be avoided. This added dimension provides a better way to predict service interaction and offers ways to improve relations and overall force posture.

With the resource to be studied in light of related doctrine defined we will now describe the two possible states that this resource may be found in. Each service will either perceive the distribution of scarce resources as equitable or non-equitable. This perception can be based on many things. Usually historical precedents is used as a basis.

For example, the Navy has always argued that naval power must be controlled by naval officers. The underpinning doctrinal assumption is that naval warfare is fundamentally different from land warfare. The Air Force has made similar arguments in the past concerning air warfare. These two doctrinal outlooks were never challenged during the late forties and when future resources became scarce there was a significant “battle” between the Air Force and Navy over how a limited amount of money should be spent between carrier aviation, a Navy function, and manned bombers, an Air Force function. A disjointed doctrinal view of war led to a view, on the part of the Navy, that resources were not equitably distributed between itself and the Air Force.

The trends are clear from these examples. Doctrine is a driving factor behind service interactions. The catalyst for these interactions is the balancing of limited resources. In the case of war fighting doctrine this balancing act involves the distribution of combat power on a potential battlefield. Individual, human well being lies in this balance, not some abstract perception of organizational health. Having established the primacy of our two selected variables, we will now turn to defining the interaction categories.

Interaction Categories

The four interaction categories vary along a two dimensional matrix consisting of doctrine and resource distribution. These are respectively, the primary and secondary variables and they define the working boundaries of the interaction categories. These two variables tell us how to classify the service interactions within the four interaction categories.

The interaction categories themselves also have certain qualities associated with them. These qualities are not determining factors. The interaction category determines the environment. They are only descriptive of the overall environment within each category. An understanding of these qualities gives a more complete picture of what it means to be operating within a particular interaction category.

To completely understand each of the four interaction categories, their respective resultant environments will be examined using the attributes of resources, risk, end state, bargaining, negotiation focus and result of negotiations. Each term will be defined within the context of each explanation. The goal here is to accurately define the resultant interaction categories. As such, additional information beyond what is required to simply bound the interaction category is given to complete the interaction category description.

A cooperative environment is characterized by teamwork and a general satisfaction among the individual team members. Complete harmony and self-actualization are not necessary. Thus, the

environment is low threat regarding organization survival. The driving or forcing function would be the solution of a non- threatening problem. The environment can be thought of as benign. Group consensus, common norms and goals would already be in use. Negotiation within this type of environment would be characterized by cooperation, compromise and consensus.

The problem-solver argues that the nature of social relations is such that there is, in theory if not always immediately evident in practice, an infinite range of possible goals and possible means from which an actor can select.²⁷

Since there is no threatening function, the resource creating the problem could be thought of as “unlimited” within the bounds of the process under study. The result of negotiations is conflict resolution as opposed to conflict settlement.

By conflict resolution is meant a situation in which all those concerned --no matter how respectable or deviant, how murderous or humane, how greatly or little concerned, how strong or weak --establish relationships, no matter how close or how distant, which, without fear or favor and with full knowledge of the situation and its structural characteristics, are in essence acceptable to all according to their individual predilection. Moreover, such ties should reflect ‘perfect knowledge’ so that the danger of structural violence making such actors ‘happy slaves’ is avoided²⁸

The distinction between conflict resolution and conflict settlement may be inconsequential to the realist. However, in the long term as individuals and groups are forced to live with the solution, the underlying and unresolved problems will impact on group dynamics. In some cases, as recently in the Soviet Union, these unresolved problems may take years to surface and work themselves out. Such problems manifest themselves in the individual service’s doctrine.

The perception of unlimited or fairly shared resources shapes the cooperative process. In the first case the demand for a particular resource is below what is generally available. In the second case individuals perceive that limited resources are fairly distributed and the expectation is lowered to coincide with the existing supply. Recruitment of individuals for pilot training is a good example of the first case. Each service operates in a “free market system” where there have always been more applicants than openings. An example of the second case is the current “build down” effecting the military today. All the services have accepted sharp and significant cuts in their force structure. The current perception is that these cuts are mandatory and have been applied fairly across the services. However, the cooperative atmosphere of today may give way to a competitive or adversarial environment as resources become more scarce or cuts begin to effect the implementation of basic service doctrine.

The following table summarized the attributes of a cooperative environment.

Table 5.

Cooperative Environmental Factors

Resources	Unlimited
Risk	Nonthreatening
End State	Win -- Win
Bargaining	Noncoercive
Negotiation Focus	Problem Solving
Result	Conflict Resolution

A competitive environment is characterized by the limitation of a desired resource and the need for that resource by two or more separate organizations or individuals. A competitive environment can occur given any level of group development. The result of negotiation within this type of environment is conflict resolution based on consensus building and understanding of common norms and goals. The environment yields a process where participants discover mutually beneficial long term solutions to problems.

The following table summarized the attributes of a cooperative environment.

Table 6.

Competitive Environmental factors

Resources	Limited
Risk	Threatening
End State	Win -- Win
Bargaining	Noncoercive
Negotiation Focus	Problem Solving
Result	Conflict Resolution

An adversarial environment is characterized by the combination of a competitive situation with an expected “win-lose” end state. This is the critical distinction between a purely competitive environment and an adversarial environment. The military, in general, may have a slight bias to operate in the adversarial environment. Clear lines of authority, standard operating procedures and a tendency to think in terms of win-lose models add control to armed conflict. This is required when dealing with the potentially barbaric task of killing an enemy. However, in the domains of statesmanship, politics or bureaucratic interaction there is no need for such a controlling and restrictive outlook. However, due to

tradition, many military leaders shy away from the political realm.²⁹

An adversarial system is distinguished from a purely competitive system by the requirement that one or more parties lose in relation to a winner. Within a competitive system where the sought after resources are unlimited, there can be a win-win outcome. Adversarial systems are inherently win-lose and involve systems with limited resources. A key tool used by individuals operating in an adversarial environment is coercive bargaining. Coercive bargaining has as its aim the imposing of one's will on another to gain an advantage. It is not surprising that this definition closely parallels definitions of war known to many military leaders. Clausewitz writes of war as, "An act of force to compel our enemy to do our will."³⁰ Sun Tzu, the earliest known military theorist writes. "All warfare is based on deception.... Victory is the main object in war."³¹ Common to this outlook of violent conflict is an anticipated win-lose end state. Conflict is seen as a contest between two parties. On the field of battle this outlook may be required. However, in the realm of bureaucratic politics it is not. In fact, it can be a hindrance.

Not all military people have such a one dimensional outlook toward conflict. However, this picture of conflict forms a common thread through the three US services. Militaristic language has even found its way into the business environment. Phrases as "attack the objective," "shell the competition" or "take no prisoners" are becoming more common in the business environment. Although individuals within the military may be progressive, organizational history and traditions serve to color the way the military bureaucracy operates. The bias is toward win-lose frames of reference.

The goal of bargaining and negotiation becomes settlement of the problem to your group's advantage. Hidden agendas are the norm in this type of environment. The players are concerned with the outcome or end state of the negotiation and not solving the problem. In many cases problem avoidance is instituted to "force" a solution or settlement. The root causes of the problem are often left unresolved to surface later.

Table 7.

Adversarial Environmental Factors

Resources	Limited
Risk	Threatening
End State	Win -- Lose
Bargaining	Coercive
Negotiation Focus	End State
Result	Conflict Settlement

Some common threads that distinguish an adversarial system are now apparent. First, there must be competition for resources that are limited or perceived to be limited. This factor is the primary attribute that sets this environmental category. Second, this competition must result in a win-lose outcome for two or more of the participants. Third, compromise and consensus may be part of the process, but the overriding outcome results in a winner and a number of losers. Fourth, the competitive process defines who wins and who loses.

An environment classified as toleration is akin to the just described adversarial environment. The key difference is that the resource variable is unlimited and a quasi win—win end state can be pictured by both sides if the status quo is maintained. The availability of resources is the factor that allows interacting organizations to simply “ignore” the problem and continue as best as possible. The table below summarizes the toleration environment.

Table 8.

Toleration Environmental Factors

Resources	Unlimited
Risk	Threatening
End State	Win—Win (Status Quo)
Bargaining	Coercive
Negotiation Focus	End State
Result	Conflict Settlement

The toleration environment is characterized by discord and an underlying dissatisfaction of the

current system. It generally occurs as a transition phase to either the more desirable interaction environments of cooperation or competition of the less desirable category of an adversarial environment.³²

The four interaction categories and the quality of their respective environmental traits are summarized below.

Table 9.

Environmental Traits Summary

Traits	Cooperation	Competition	Toleration	Adversarial
Resources	Unlimited	Limited	Unlimited	Limited
Doctrine	Common	Common	Disjoint	Disjoint
Risk	Nonthreatening	Threatening	Threatening	Threatening
End State	Win -- Win	Win -- Win	Win -- Win	Win -- Lose
Bargaining	Noncoercive	Noncoercive	Coercive	Coercive
Negotiation Focus	Problem Solving	Problem Solving	End State	End State
Result	Conflict Resolution	Conflict Resolution	Conflict Settlement	Conflict Settlement

Although not discussed, the primary variable, doctrine state, has been added. The barraging method, negotiation focus and expected results are qualities that are determined by the interaction environment. Together they make the cooperation and competition interaction categories the desired primary states over the adversarial and toleration states.

Application

What this analysis portends is an approach to solving interservice rivalries that goes beyond the bureaucratic solutions suggested or tried in the past. An example of such a solution is the Key West agreements negotiated as part of the early unification of the services under a single Department of Defense.³³ Rather than concentrate on organizational or bureaucratic solutions, attempts should be made to unify the basic doctrine of the services so that a common vision can be obtained as to what the spectrum of war will look like across various environments and how each service will contribute to the

fighting of such wars. The types of interaction environments that foster the development of a common vision encompass traits like Noncoercive bargaining, a negotiation process focused on problem solving. The goal of such interactions is usually conflict resolution. Then and only then will long term and beneficial competitive or cooperative relationships develop.

Chapter Three Notes

- 1 Ladislav Mysyrowicz, Anatomy of a Defeat: Five Studies of the Principle Origins of the French Military Collapse 1919-1939, (Lausanne: University of Geneva, 1973) Quoted in Gidon Y. Akavia, "Defensive Defense and the Nature of Armed Conflict," Journal of Strategic Studies, No.1, Vol. 14, March 1991. 32
- 2 Huntington Soldier, 11, writes: "The direction, operation, and control of a human organization whose primary function is the application of violence is the peculiar skill of the officer. It is common to the activities of the air, land and sea officers. It distinguishes the military officer...."
- 3 Curtis E. LeMay, writes in AFM 1-1: Basic Aerospace Doctrine of the United States Air Force, (Washington, D.C.: U.S. Air Force, 1984) (Hereafter cited as, AFM 1-1, 84), introduction that, "the very heart of warfare lies doctrine. It represents the central beliefs for waging war in order to achieve victory. Doctrine is of the mind, a network of faith and knowledge reinforced by experience which lays the pattern for the utilization of men, equipment, and tactics. It is the building material for strategy. It is fundamental to sound judgment."
- 4 Office of the Joint Chiefs of Staff, JCS Pub. Dictionary of Military and Associated Terms, (Washington, D.C.: Office of the Joint Chief of Staff)
- 5 U.S. Army, FM 100-5, Operations, (Washington, D.C.: Department of the Army, 1986) (Hereafter cited as, FM 100-5), 6.
- 6 Posen, Military Doctrine, 14
- 7 Clausewitz, On War, 89.
- 8 Morton H. Halperin, Bureaucratic Politics & foreign Policy, (Washington, D.C.: The Brookings Institution, 1974), see chapter Three for Halperin's complete discussion.
- 9 Graham T. Allison, Essence of Decision Explaining the Cuban Missile Crisis, (Boston, MA: Harper Collins, 1971) 82.
- 10 Morton H. Halperin, Bureaucratic, 28-34.
- 11 A review of basic Air Force Doctrine as found in AFM 1-1, from its inception to now shows this generalization to be incorrect.
- 12 Halperin, Bureaucratic, 43-46.
- 13 AFM 1-1 84, 3-4.
- 14 FM 100-5, 49.
- 15 This is a classical supply and demand problem. In terms of the interaction model, the concern is how best to distribute a limited supply of combat power, in this case CAS, on the battlefield.
- 16 Robert F. Futrell, Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force 1907-1960, (Maxwell AFB, AL: Air University Press, 1989) (Hereafter cited as, Futrell, Ideas), 174 and Richard P. Hallion, Strike From the Sky The History of Battlefield Air Attack 1911-1945, (Washington, D.C.: Smithsonian Institution Press, 1989) (Hereafter cited as, Hallion, Strike), 200.
- 17 Thomas H. Buchanan, The Tactical Air Control System: Its Evolution and its Need for Battle Managers, (Maxwell AFB, AL: Air University Press, 1987) AUR-ARI-87-1, 15 and U.S. Air Force, Tactical Air Forces Integrated Information system (TAFIIS) Master Plan, unpublished final draft (Langley AFB, VA: TAFIG/IIPA, 11 July 1986), 39.
- 18 For a review of the development of Army doctrine throughout this period see John J. Midgley, Deadly Illusions Army Policy for the Nuclear Battlefield, (Boulder, Co: Westview Press, 1986) (Hereafter cited as, Midgley, Deadly Illusions), John P. Rose, The Evolution of U.S. Army Nuclear Doctrine, 1945-1980, (Boulder, Co: Westview Press, 1980)

- 19 Midgley, Deadly Illusions, 169.
- 20 Paul H. Herbert, Deciding What Has to Be Done: General William E. DePuy and the 1976 Edition of FM 100-5, Operations, (Fort Leavenworth, KS: U.S. Army Command and General Staff college Combat Studies Institute, 1988), Leavenworth Papers No. 16, 6-9.
- 21 Basic Air Force doctrine was originally published in series of manuals designated as 1-2. In 1964, under the auspices of General Curtis LeMay a new document was published that was a radical departure from the AFM 1-2 Manuals of the 1950s. See Futrell Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force 1961-1984 Vol II, (Maxwell AFB, AL: Air University Press, 1989) (Hereafter cited as, Futrell, Ideas II), 716
- 22 Futrell gives a complete account of the development of AFM 1-1 in Ideas II, Chapter 10. Outline of the above paragraph is essentially taken from Futrell's research.
- 23 See Allison, Essence and Halperin, Bureaucratic
- 24 Unlike civil counterparts to military doctrine, can not be tested in advanced. Civilian professions can routinely operate and test fundamental business doctrine without fear of catastrophic circumstances. Hence, the process of doctrine development is finely incremental and self correction. This is not the case for military doctrine. Military doctrine is characterized by major discontinuities and major upheavals, such as war.
- 25 Combat power is used in its broadest terms to include force enhancement assets such as airlift, logistics or intelligence and traditional firepower assets which encompasses all munitions delivery systems.
- 26 See James Burk, "National Attachments and the Decline of the Mass Armed Force," Journal of Political and Military Sociology, Vol. 17, No.1, Spring 1989, 65-81, and William J. Perry, "Desert Storm and Deterrence," Foreign Affairs, Vol. 70, No.4, Fall 1991, 66-82. In arguing that nationalism has not declined as quickly as some have predicted, Burk shows that the reliance of nations on massed armed force has declined and is well explained by technological, geopolitical, and sociocultural factors which Morris Janowitz and Jacques van Doorn have outlined in their separate works. Perry outlines the role of technology and tactics in achieving force capabilities. He implies that the driving factor in Desert Storm was technology and tactics, not manpower.
- 27 J. J. R. Groom, "No Compromise: Problem-solving in a Theoretical Perspective," International conflict Research, 127, (February 1991), 81
- 28 Groom, 79.
- 29 Mattingly and Walker, 37.
- 30 Clausewitz, War, 75.
- 31 Sun Tzu The Art of War, Trans. and ed. Samuel B. Griffith, (Oxford: Oxford University Press, 1963; Oxford Paperback 1971) (Hereafter cited as, Sun Tzu, Art of War), 66 & 73
- 32 There is no implied requirement that this transition phase is necessary or that changes in states have to "smoothly" flow from one to another. Transitions can be disjoint and they do not have to follow any pattern.
- 33 Steven L. Rearden. The History of the Office of The Secretary of Defense: The formative Years 1947-1950. Volume I. Ed Alfred Goldberg (Washington, DC: US Government Printing Office), 385-422

CHAPTER 4

AIR SUPPORT AND THE VISION OF WAR

A CASE STUDY IN THREE WARS

The US military operates in two distinct environments. The most visible aspect of service interaction to the general public is the bureaucratic and political one that occurs primarily in Washington DC. Principle actors include the executive service and joint staffs the legislature various lobbyists and other special interest groups.¹ Most studies dealing with service interaction have emphasized political and bureaucratic aspects of the interaction process. The second environment encompasses the primary function of a military: fighting wars. Service interactions can only be really understood if examined from the perspective of the military's primary function. War doctrine and the distribution of combat power are thus the dominant factors in analyzing service interaction.

The primary variable is service doctrine. It distinguishes between two broad categories concerning the application of force on the battlefield. It is desirable almost required, that a successful joint force share a common interpretation of war fighting doctrine. Component commanders must have a common vision of how the war is to be conducted. The secondary variable is the distribution of a desired resource between two services.² The allocation of combat power in a theater of operation is established by doctrine and determines the joint force capability. Each variable exists in one of two states. The measure of commonality between service doctrine is how well the two organizations' vision of the war matches. The distribution of combat power, in this case study, air support is measured by how satisfied ground commanders are with the provided support.

These measures are subjective in nature. Commonality of doctrine is easy to approach in that the services either agreed or disagreed as to how the war was to be conducted.³ The analysis of the distribution of airpower in support of ground troops is a classical supply and demand problem. However, since the crucial factor is what was perceived by the ground commander, an analysis of sorties flown versus those requested will not be done. As such, this analysis will, by nature, be highly abstract and it will not conform to generally accepted measures of effectiveness.⁴ The key point to remember is that in dealing with service interaction the primary concern is with perceptions. If the ground organization is not satisfied with the air support supplied, then the actual figures detailing number of missions, bombs dropped, etc., are irrelevant.⁵ For this reason the second variable is harder to quantify.

With World War Two as a jumping off point, the Korean, Vietnamese and Gulf Wars provides the data to study the changing states of the primary and secondary variables in the model. These two variables, together, define the state of service interaction. Specific force structure concerns in the

political and bureaucratic sphere are, in fact, driven by the fundamental interaction between war fighting doctrine and the distribution of combat power.⁶

This chapter initially deals with two historically divergent doctrines or views of how war is fought. First the Army's approach to air support will be examined. Traditional Air Force doctrine will then be covered next.⁷ Finally these two divergent approaches to the use of air power on the battlefield will be compared and current doctrine will be explained in terms of a common vision for the use of airpower in support of ground troops. The Gulf War is an example of how this common vision and doctrine can transform what previously was a source of adversarial conflict between the Army and the Air Force to an environment of cooperation or productive competition. Although disagreements and conflicts arose concerning the use of air forces in the Gulf War, these conflicts were resolved under common doctrine that led to cooperative action in the stress of battle.

Following the analysis of service doctrine, the perceived effectiveness of air support to ground units during this same time period will be examined. The goal of this analysis is to define the perceived air support effectiveness as either equitably distributed or non-equitably distributed.

The actual functioning and detailed organization of the tactical air control system (TACS) will not be discussed. The general doctrine and theory of war that is behind the implementation of the TACS are what is important for this study. How it operates is levels of detail beyond the scope of this effort.⁸

Doctrine

The Army's historical combined arms approach will be examined first. The Army views this approach as the best way to integrate weapon systems to achieve maximum firepower on the battlefield.⁹ A key variable in the Army's war fighting doctrine is the level of control of these units. Typically combined arms teams are controlled at the Division and Brigade level. The Air Force, on the other hand, places control of units above the Corps level.

The reason the Army is more apt to decentralize control is because of historical trends in the ability to control large numbers of units over vast areas. Numbers alone show the need for decentralization in Army units. Moveable subordinate entities number in the tens of thousands for a typical Army corps commander. A similar level air commander may only have a hundred or so to a thousand subordinate units. The rank of these subordinate leaders in the Army tends to be lower than corresponding leaders in the Air Force. Communications with subordinate units is not as direct as with air force units because of the higher numbers and intermediate levels of command between organizations. Together, these historical and operational factors tend to foster a decentralized approach to war fighting on the part of the Army and a centralized approach on the part of the Air Force.¹⁰

Improved communications and control has enabled the Army to better the communication and information ties to subordinate units. As was demonstrated during the Gulf War the individual ground combat company can now receive real time combat information that was not available to ground troops during previous wars.¹¹ This coupled with offense and maneuver oriented tactics led to the success in the desert.¹² The information gap between what the soldier at the front can determine pertaining to the overall battle and his counterpart at a corps level command post has been significantly reduced.¹³

The difference in desired level of control of tactical units between the Army and Air Force has had far reaching effects on how the services view warfare and how their respective doctrine is written. These differences impact the critical close air support (CAS) and air interdiction (AI) mission areas. It is at the interface between the ground and air units operating at the tactical and operational levels of war that most of the Air Force and Army interservice disagreements occur. These disagreements do not stem from political or bureaucratic roots. Rather, they result from a fundamentally divergent view on how to best fight. Doctrine is the key to understanding this conflict. Resolution of differences in air combat power doctrine will result only when each service jointly holds the same view of how war is to be fought and agree to common doctrine for fighting it. Let us now examine the basis of Army doctrine more closely.

The Army View

Marshal Maurice de Saxe wrote on combined arms that, “I am convinced every unit that is not supported is a defeated organization....”¹⁴ Some two hundred-seventy five years later this remark would be echoed in an Army Combat Studies Institute (CSI) research report by Captain Johathan M. House. House quotes Major Gerald Gilbert of the British Army. “There is but one art,” writes Gilbert in 1907, “and that is the tactics of combined arms.”¹⁵ House’s view of battle is representative of how the Army sees war. His report is mandatory reading at the Army’s Command and General Staff School.¹⁶

Historically, Army doctrine pictures war as a conflict occurring principally at the tactical and operational levels where combined arms forces apply firepower to defeat enemy units.¹⁷ Combined arms task forces are formed by joining battalion level units consisting of differing weapon systems and capabilities. These forces are controlled at the tactical level by brigade task-force commanders.¹⁸

The localization of war at the tactical and operational levels dictates how the Army doctrinally approaches war. Army doctrine has long historical roots and forms the framework that shapes how Army officers think about war. Therefore, according to cognitive theory, any picture of war that deviates from this view will be labeled as, “not the best way to do things” or incorrect.

According to Army doctrine there are five major battlefield operating systems.¹⁹ These systems

are maneuver; fire support; command—control & Communications (C3); mobility/counter-mobility—survivability; combat services support (CSS); air defense artillery (ADA) and intelligence. Of these the maneuver and fire support operating systems are the most crucial to this discussion.²⁰

Maneuver systems consist of armor and infantry units. These units commonly move about the battlefield and occupy territory. The ability to control territory and destroy enemy forces is the measure of success for these units. These units historically form the backbone of ground combat power. It is the essence of the Army. How it fights and how Army officers view war is tied directly to the primacy of maneuver units as the means of defeating an enemy force.

Secondary to the maneuver units are the fire support units. As their name implies their function is to support the maneuver units in the battle.

The key to effective fire support is the force commander's ability to bring these assets [fire support] to bear on the enemy in an integrated and coordinated manner that is synchronized with the scheme of maneuver.²¹

Artillery forms the primary means of fire support.²² However, it is extremely revealing that the Army also groups air attack systems and the CAS and battlefield air interdiction (BAI) functions under this heading.

The Air Force View

The Army Air Corps and later the Air Force developed a doctrine of war fighting that is significantly different from the Army's combined arms approach. This difference is the root cause of many of the misunderstanding between the two services as to how wars are to be fought. The cornerstone of basic Air Force doctrine concerns the centralized control of all air assets. This control usually occurs at the operational or theater level. This level is well above the usual tactical level and is referred to by the Army as, "echelons above corps." ²³

A crucial question is why did the Air Corps and later the Air Force develop such a divergent views toward battle from their counter parts in the Army. Since the Air Corps had its roots in the Army one would think that a common heritage and base of experience would foster a similar approach to war fighting. This was not the case. World War One, the resulting military stalemate and the carnage that war brought to Europe became the significant event that differentiated the ground soldier and the airman.²⁴

The stalemate in ground combat during World War One resulted in a reexamination of tactics and war theory. After the war much writing was done by military planners on how to avoid the stalemate that developed during the First World War. These authors fall into two general camps. The ground

strategists saw the tank as the answer to battle in the age of 'the machine-gun and powerful artillery. New schemes of maneuver warfare using mobile tanks as Cavalry or shock forces were developed.²⁵ Airpower enthusiasts, on the other hand, saw the revolutionary technology of the airplane as a way to break the stalemate and avoid the massive destruction and exhaustion of the First World War.²⁶

The goal of both schools was to bring decisiveness back to warfare. The ground oriented strategists found one solution to the problem while the air oriented theorist sought another. The ground theorists concentrated on tactical and operational solutions to the problem of stalemate. Their goal was to bring maneuver and decisiveness back to the battlefield. The air theorists sought strategic solutions that avoided the horrible ground war completely. The goal was to minimize the ground battle. In fact, during the years just prior to World War Two it was hoped that airpower could win a war without a large continental army.²⁷ Thus, Army Air Corps theorists sought strategic solutions that did not include involvement at the tactical level of war.

But the tactical level of war was not forgotten. Tactical air support of troops was considered third or last priority for the tactical air forces. Centralized control of all airpower assets under an air commander was required to provide flexibility of air operations and to mass firepower at selected points from over a wide area of operations.²⁸ It is this centralized control of tactical assets that is the basis for most conflicts with then established army doctrine.

Naval Considerations

Naval strategy during this period was supportive of both schools of thought. The protection of sea lines of communication would be crucial to any continental war fought away from the American shores.

The defeat of the U-boat by the convoy system helped make possible the transportation of two million American soldiers to France, more than enough to offset the collapse of the Russian army, enough in fact to assure Allied victory.²⁹

A divergent view of warfare did not develop in naval circles because the naval war during the First World War was not stalemated as on land. Additionally, naval and amphibious action did not play as a decisive part as it did during World War Two in the Pacific Theater of Operations.³⁰

Doctrine Development

Thus the stage was set at the onset of World War Two for two radically different approaches to war fighting. From the Air Corps view point the main effort was strategic bombing. However, support of combat troops was not forgotten. Large amounts of manpower and resources were devoted to air interdiction and close air support.³¹ It was the use of large scale combined operations that eventually

beat the Germany army on the ground.³²

Korean³³

The combined arms doctrine that brought the allied victory in Europe served as the model for the use of troops in Korea. It was a conventional war in most aspects when viewed from a tactical and operational level. Eager to show the value of airpower, USAF planners sought to use aircraft for interdiction. Strategic bombing aside, if aircraft were to be used in support of the ground battle, most air planners knew from their World War Two experience that interdiction was the method of choice.³⁴ On the other hand, many ground planners, including General Matthew B. Ridgway, successor to General Douglas Mac Arthur as Commander in Chief of United Nations Forces (CINCUNC) thought otherwise.³⁵

It has always been tempting for men removed from the conflict to envision cheap and easy solutions, through naval blockades and saturation bombing. But any man who has fought a war from close up must know that, vital as are the sea and air arms of our combat forces, only ground action can destroy the armed forces of the enemy—unless, of course, resort is had to obliteration attacks with nuclear weapons. There is simply no such thing as “choking off” supply lines in a country as wild as North Korea, or in a jungle country either.³⁶

Ridgway’s dissatisfaction with air support may stem from Air Force “over selling” the ability of an independent air operation to interdict and defeat an enemy force. Although airpower did not decisively win the war in Korea, it certainly provided critically needed time for the overpowered ground forces to retreat and to form the defensive Pusan perimeter. Through CAS and interdiction missions the thrust of the enemies offensive was blunted.³⁷

The ability of ground maneuver and air interdiction to complement and reinforce each other also contributed to the destruction of the North Korean Army when the United Nations went on the Offensive. With North Korean forces fixed by fighting on the Pusan perimeter, General Douglas MacArthur used his superior operational level mobility to make an amphibious landing in the North Korean rear at Inchon. This landing, combined with air and ground pressure around Pusan, forced the weakened North Koreans to begin a withdrawal from Pusan....³⁸

The key lesson to learn here is that the use of combat power, whether air, land or sea, must be synchronize and coordinated as part of an overall combined arms plan.³⁹

Operation Strangle is a good example of an air interdiction plan that was not fully coordinated with the ground scheme of maneuver.

Designed to accompany the United Nations counterattack toward the 38th parallel, Operation Strangle was initially successful in its efforts to throw a noose around the retreating Communists. ...But by mid-June the Eighth Army had attained its objectives and slackened its pressure on the Communist ground armies. No longer hard pressed, the

Reds could resupply and regroup their front-line troops more at their leisure, and the Strangle operations bore diminishing results. ...As it continued through July, Operation Strangle got poorer and poorer results. . .⁴⁰

Air planners believed that interdiction alone could destroy the enemy's supply system and force his defeat.⁴¹ However, without a corresponding ground threat forcing the enemy further off balance the airpower available at the time could not isolate the battlefield and destroy the fighting ability of the enemy troops.

In sum, the Army did not expect integrated close air support, and the Air Force did not intend to deliver it except under carefully circumscribed conditions: clearly marked targets and readily identified friendly troop positions, positive observed direction from Air Force ground or air controllers, near absolute safety from friendly artillery fire, and employment only against targets that could not be attacked with heavy artillery.⁴²

A pattern can be discerned throughout this discussion concerning the use of airpower in support of ground troops. First, there is a definite desire on the part of air planners to look toward air interdiction as the best way of supporting ground troops. Second, the ground planners tend to discount interdiction in favor of CAS. CAS is preferred by ground commanders because it provides immediate and visible support. Finally, the advocates on each side of this issue frame their questions in one of either two forms. The first asks which form of combat power is decisive, air or land?

Usually General Ridgway's comments are taken as the answer to the first question. Having given the use of land forces the predominate role in battle the second question deals with how best to coordinate the use airpower in support of ground forces. This constant tension between air and ground planners as to which form of war is more decisive and how best to support ground troops in a tradition combat role would color doctrine development and service interaction concerning the use of CAS on the battlefield.

During the period between Korea and Vietnam there was little done to further the coordination and cooperation of air and ground units operating in a conventional, non-nuclear, war. The fifties and early sixties were overshadowed by strategic concerns. All three services would put much of their doctrinal thinking and sustainment effort into the strategic nuclear level of war.⁴³ As such, when the United States entered Vietnam in a significant way, the military services were not prepared for a truly joint effort. Each service had an independent vision of war and how it was to be fought.

Vietnam⁴⁴

Having outline the key arguments and positions of the Army and Air Force concerning the use of airpower in support of ground troops this section will only deal with some of the unique phenomena concerning the Vietnam war. For the most part the general arguments and trends concerning the use of

airpower hold for this war with one major exception. The doctrine of centralized control of all air assets was not held to.⁴⁵ There was a “pervasive belief that the mission in Southeast Asia was chiefly an Army Mission.... Secretary of Defense Robert S. McNamara for one argued that the Army must be predominant.”⁴⁶

If you have two of three men engaged in an operation one has to be primary. The Army has to be primary in land war. The Air Force is there to serve the Army in the airlift role and the close support role, and the Air Force must tailor its activities to the Army.⁴⁷

Further, the use of strategic aircraft for tactical purposes tended to blur the distinction between missions. B-52 aircraft were used to attack both strategic and tactical targets. When operating against tactical targets they still were under control of the Strategic Air Command. Target nomination was controlled under General Westmoreland at his Military Assistance Command, Vietnam (MACV) headquarters. Target nominations were sent from Army field commanders through MACV to the Joint Chiefs for approval at the White House. In time the Commander in Chief, Pacific Command would be authorized to approve these tactical targets.⁴⁸ The key point is that the “local” air commander did not have control over these assets.⁴⁹

With regard to CAS and the support of ground troops by air, there was generally sufficient coverage to satisfy Army commanders.⁵⁰ Without the need to continue an aggressive air to air campaign over the South to assure air superiority, the Air Force was able to concentrate on the support of tactical units in the field. Also, by 1967 the Army had a developing helicopter attack capability that could substitute for fixed wing Air Force CAS when it was not available.

The problems associated with CAS resulted primarily from a poor management system.

One of the more critical branches of the Air Force’s control system, the forward air controller, was also the one posing most of the problems.... The rapid buildup of battalions and the many new programs under way in 1966 stretched the Air Force’s inventory of controllers. Two factors compounded the problem. The Air Force insisted that the controllers first be fighter pilots.... [Second,] The tactical Air Command, which was supplying the pilots and controllers, had to spread its limited resources thinly.⁵¹

Complaints from the Army generally concerned responsiveness and the complicated and “cumbersome process of requesting air support.”⁵²

Commenting on this high level of air-ground support House. Toward Combined Arms Warfare: A Survey of 20th Century Tactics, Doctrine, and Organization, writes:

This artificially high level of air-ground cooperation temporarily buried much of the rivalry between the US Army and US Air Force. However, no air force would have been able to provide such sustained support to ground forces while simultaneously struggling for air superiority against a comparably equipped enemy air force.⁵³

This statement shows a continued division between Air Force and Army, at least in the case of Captain House, views on how war is to be fought. According to Air Force doctrine as stated earlier, the primary mission of Air Forces is to provide Air Superiority or localized supremacy. The achievement of this objective allows for the accomplishment of other air missions including CAS. In a sense, House's statement is merely standard Air Force doctrine cast in negative terms.

There were many lessons to be learned from the Vietnam War concerning the use of military force. However most analysts concentrated on separate service doctrine or weapon systems as an example of misuses or possible solution of some tactical problem. Most lessons learned concern either political or technical aspects of the war. Throughout the period leading up to the war in Vietnam there was little effort put into doctrinal rethinking. Failure to update or modify doctrine to fit the war is probably the fundamental flaw in US military thinking and planning prior to and during the Vietnamese war.

The almost instant fall of South Vietnam after the withdrawal of US forces drove further dug at a nagging feeling that something was wrong with the US military. On one hand there was the massive firepower and numbers of the US forces against a significantly inferior enemy. At first glance, it would be easy to blame civilian policy makers for all that went wrong in Vietnam. That was not the case. Both the Army and Air Force took great strides forward in rethinking their war fighting doctrine. Concerning the Air Force, A fundamental shift in national military policy away from primary reliance on nuclear deterrence and toward a program to strengthen those forces that might be used at lower levels of conflict began with the advent of John F. Kennedy in 1961. As late as 1964, however, the Air Force continued to maintain that strategic nuclear forces provided the best instrument to prevent wars at all levels....

By 1968, the Southeast Asian experience had modified this view without changing it completely.... Airpower was militarily successful, and this success had been achieved without having to put the enemy on notice that the United States was prepared to raise the level of conflict. Recognition of this brought the Air Force to a qualified acceptance of flexible response. While still viewing strategic forces and the will to use them as the keystone of deterrence, the southeast Asian experience had shown that strategic force (alone) may not be a credible deterrent against hostile acts by small powers.” Strategic force should be complemented by enough general purpose forces for deterrence at lower levels. This watershed in Air Force thinking established the agenda for future change and planning.⁵⁴

As cited previously, similar events were transpiring within the Army.

As will be seen in the next section, the full integration of air and ground units into a coordinated air- land attack results in the best use of both air and ground units. The freedom to maneuver, which is the fundamental tactic modern land warfare is best provided under an umbrella of overpowering air

superiority or supremacy. Concentration of firepower and mass can be quickly achieved through airpower and backed up with ground units. To be concerned over which arm of a military force is decisive or which one is to be primary is to be concerned about the wrong things. The key to providing a coordinated and synchronized attack is for all branches to share a common understanding or vision of the war.

Desert Storm ⁵⁵

There is still much to be analyzed and synthesized concerning the Gulf War. The goal here is not to cover all the details of the air war and ground campaign that developed in the desert. Broad trends in doctrine and the employment of weapons will be examined to derive a high-level picture of how the air and ground campaigns were conceptually integrated.

On the outset certain trends seem to be significant. First there was compromise concerning the doctrinal use of air and land power. The Air/Ground war plan was neither the Army's "AirLand Battle" doctrine nor the Air Force's historical strategic attack and interdiction campaign. Second, a distinction was made between Marine and Army air units operating within the overall air campaign. Centralized control was maintained through the Air Tasking Order.⁵⁶ However, allowance was made for independent tactical air operations by organic Army, Navy and Marine Corps air units in support of local tactical needs.⁵⁷ Excess capability in this area was then channeled to the theater air commander after local requirements had been met. For the first time in airpower history the theater air commander had an integrated system to coordinate all strategic operational and most tactical level air missions.⁵⁸ Further, there was bottom up and top down agreement as to how the air war was to be conducted and what the objectives were to be.⁵⁹

The up-front compromise concerning the doctrinal use of air and land power is significant. Many attribute the conceptual basis for the air campaign against Iraq to Col John Warden.⁶⁰ Warden outlined a strategic attack theory that he hoped would cause the surrender and withdrawal of forces in Kuwait without a massive ground war.⁶¹ His campaign plan complemented existing Air Force doctrine and further elaborated on targets sets and the execution of air assets to meet specific objectives.⁶² In particular Warden views CAS and some forms of interdiction as, "analogous to the operational ground reserve...."⁶³ The basic thrust of Warden's ideas are in concert with established Air Force doctrine. However, established doctrine is much more general than Warden's writings and the assignment of CAS as a reserve mission is not part of the approved doctrine.⁶⁴ Air Force doctrine combined with Warden's guidance provided a general structure for air war planners to build a specific campaign that was neither wholly based in Warden's strategic ring theory or AFM 1-1.⁶⁵

The Army's AirLand Battle doctrine did not form the basis of the air campaign either. The primary pillar of AirLand Battle is the execution of an operational level ground maneuver plan supported by CAS and preceded by an air interdiction and artillery attack phase. The air campaign had the support of the ground phase as one of its missions.⁶⁶ However, there was also a distinctly strategic flavor to the campaign that transcended AirLand Battle Doctrine. What evolved was a truly joint strategic/operational campaign that supported the total force deployed in the desert. The question of who supports whom (which was critical during past operations) became a moot point as planners operated in unison to achieve strategic and operational objectives.

Doctrinal Summary

The development of doctrine in the Army and Air Force concerning the support of ground forces has gone through four significant phases. The events of World War One served as a breakwater for developing new ground and air theories. The trauma of stalemated trench warfare separated those who had to fight in the mud from those who flew above. The inter-war period was used by the services to develop new unique ways of fighting that sought to remove statement from the battlefield. World War Two served as the "test case" for these new doctrines of war. Because of the totality and vastness of the second world war each of the services could point to some portion of that conflict and support its own style of war.

Korea was an extension of the doctrines developed during the Second World War and each service again tried to show how their separate doctrine or way of fighting was the desired approach. In Korea there was a shortage of CAS and interdiction capability that led army commanders to doubt the ability of airpower to accomplish its mission. The Army and Air Force did not share a common vision of how the war was to be fought. Based on the interaction model developed this situation developed in an interaction environment that was adversarial. This was the case as each service tried to claim the role of primary action during portions of the campaign.

Vietnam posed a different environment with regard to CAS and interdiction. There were enough resources to involve airpower in most of the army actions. However, there was still a mismatch in the doctrinal interface between the two services. A mood of toleration developed where each service performed their required mission. But there was little maximizing of effort or efficiency on the battlefield.⁶⁷ Overall, because of other factors, the mood between the Army and Air Force was adversarial in nature. This was do to the noted conflict concerning transport aircraft.

The Gulf War, on the other hand, was characterized by a common vision between the Army and

Air Force as to what was to be done and how. Although some airmen still hoped for a preemptive surrender on the part of the Iraqis, the air campaign was compiled without that expectation. The Gulf War culminated after a decade of joint planning and cooperation where many issues concerning the tactical execution of CAS and interdiction were reviewed and in many cases settled prior to hostilities. The environment was cooperative at best and competitive at worst. In any case both the Army and Air Force shared a common vision of how the war was to be fought. This single accomplishment set the stage of fruitful interaction even when resources became scarce.

The following table summarizes the above paragraphs. The principle factor is the state of doctrine between the two services. The lack of or establishment of common vision or an air support execution system are subordinate factors. They are, in part, correlated with and dependent on the establishment of common doctrine. These subordinate factors will impact the following discussion on perceived effectiveness of air support.

Table 10.

Doctrine Traits

Traits	Gulf War	Vietnam	Korea	WW II
Common Doctrine	Yes	No	No	Yes
Execution System	In place	No	No	No
Common Vision	Yes	No	No	Yes

The lack of or achievement of a common vision for a particular campaign can best be measured by how well the services have coordinated on their doctrine. Where common doctrine was lacking, an organized system for force execution was also missing. Lack of common doctrine and an integrated execution system for the application of force led in all cases to a disjointed vision of war and an overall fragmented effort.

Next, the allocation of CAS as a scarce resource will be examined to determine the state of the secondary variable in our model. After this variable is defined we will then be able to determine the state of service interaction in the area of CAS during the three wars reviewed.

Distribution of Combat Airpower Power

As previously stated, the goal of this part of analysis is to describe, in broad terms, what ground commanders and or troops thought of the supplied Air Force support in their respective wars. The

measure of merit used to determine which of the two states the perceived effectiveness of airpower is in will be the ground force's opinion of the value of the supplied support.⁶⁸ There is no intent to formulate a definitive measurement of the actual effectiveness of Air Force air support in the different wars studied because the key to defining service interaction is the perception of support on the part the ground troops.

Korea

From the discussion concerning Ridgway's dissatisfaction with air support we conclude that as a minimum, the theater commander has some significant reservation as to the abilities of the Air Force to produce the desired effect on the battlefield. However, not all ground commanders saw CAS in the same light.

Lt. Gen. Walton H. Walker. Commanding General, US Eighth Army, believed that tactical air support allowed [United Nations Command] UNC to remain on the peninsula [of Korea] and then march toward the Yalu. Senior officers of the North Korean Peoples Army (NKPA) who surrendered in 1950 agreed with General Walker. Tactical aviation provided the additional firepower that meant the difference between defeat and victory before the Chinese intervention.⁶⁹

What is important to realize is that Ridgway's opinion was formed in the latter stages of the war after Communist troops had defeated the UNC advance and an operational stalemate had occurred. Walker's comments concern the period when UNC troops were in a desperate position trying to form a defensive ring around the Pusan area as a last ditch effort to maintain a toehold in Korea.

Further complicating the perceptions of Air Force air support was the Marine CAS system. The Marine system worked very well and provided timely and effective support to troops in contact.⁷⁰ However, it was designed for supporting small units and there were simply not enough equipment or personnel for the Air Force to adopt the Marine system as a viable means to support the 60 - 100 Army divisions deployed.⁷¹ Many Army commanders were also unaware of constraints placed on the overall UNC air support system.

General Edward Almond⁷², commander of the US X Corps at Inchon and Wonson was a vocal advocate of assigning organic air support individual army units as a means of improving his situation. Criticism of the Air Force system became intense as the "Home by Christmas" campaign of General MacArthur was foiled by an unexpected Chinese counter attack. In November 1950, the Army Chief of Staff, General J. Lawton Collins filed a formal criticism of the Air Force close air support system with the Air Force Chief of Staff General Hoyt Vandenberg.⁷³

As the war continued, interservice conflicts would arise over priority of fires and control of air craft. In general Army corps commanders desired more CAS and Air Force commanders desired to fly independent interdiction missions. The argument between the Army and Air Force was concerned with

priority of missions. Additionally, Marine corps concerns dealt with control of specific air assets.⁷⁴ The Commanding General, Major General Gerald C. Thomas, of the 1st Marine Division repeatedly challenged the Air Force support system.⁷⁵ The transition to a defensive siege posture along the mid-section of the Korean peninsula in the autumn of 1951 and the arrival of more heavy artillery during the next year, however, made the issue of CAS problematic. Once the decision to go on the strategic defensive was made, Ridgway concluded that air interdiction had become the only significant offensive weapon available.⁷⁶ His defensive posture also reduced the need for CAS significantly.

Over the span of the Korean conflict there was much disagreement as to the effectiveness of air support provided by the Air Force. Dissatisfaction existed at all levels during various phases of the conflict. Lack of a unified doctrine, deployment system and misunderstandings concerning capabilities led many army commanders to view CAS and interdiction as undependable and ineffective. The impression, in terms of the interaction model, was one of non-equitable distribution of air support over the life of the conflict. Effective air support became perceived as a scarce resource that could not be depended on.

The CAS controversy should have diminished as the front stabilized and United Nations forces dug in.

Rooted, however, in contrasting perspectives on the nature of warfare, the close air-support issue remained as alive as the Korean War.⁷⁷

By the end the war the Air Force reemphasized its doctrinal principle of centralized control of the air war. But, by 1956 the 6147th Tactical Control Group that was to provide control of the air war was eliminated. The Army and Air Force were also unable to agree on a joint training directive. The only consensus the two services could agree on was that they disagreed on what part CAS would play in a future war.⁷⁸ This sad state of affairs would haunt the military in Vietnam some ten years later.

Vietnam

Vietnam presents an interesting case. On one hand since there was plenty of air support available, it would be expected that the overall service interrelationships would be at least combative or cooperative. However, that was not the case. The interrelationship was one of toleration. This shows the dominant effect of the doctrine variable. Even with a perceived equitable distribution of air support capability,⁷⁹ a disjoint state in doctrine cause the service interrelationships to be in undesirable category.

As in Korea, a system of executing CAS and interdiction missions was non-existent at the start of increased United States presence in the war. Further complicating the execution of air support was a basic characteristic of the ground war in Vietnam. There was no formal line between the two opposing

ground forces. Past Army and Air Force experiences did not encompass the non-linear aspects of this type of war. This, coupled with political considerations, caused the techniques of applying airpower to be under constant revision.⁸⁰ The non-linear aspects of this war made the coordination of ground attack missions with friendly ground forces even more critical than in past wars.

The dense jungle found in Vietnam was a hindrance to both ground based and air delivered weapons. The thick jungle hid targets from the air and protected them from lighter munitions fired by artillery and mortars. Some artillery and mortar munitions did not have enough penetration power to get through the heavy rain forest and to destroy the underlying target.⁸¹ Air delivered weapons, 500 -1,000 pound bombs, could penetrate and destroy a target. However, it was hard for pilots to acquire targets. In sum, the dense jungle made interdiction and supporting fires less effective than was experienced in past wars. Airpower, however, when compared with the ground forms of fire support was the weapon of choice because of its ability to penetrate and quickly hit acquired targets.

Close air support was so pervasive and so responsive that ground units came to depend on it for most operations. In fact, “tactical air may well have been overused in South Vietnam.”⁸² Most of the criticisms of airpower in Vietnam concerned the use of interdiction and strategic bombing as opposed to direct support of ground troops.⁸³

This war also saw the blending of the distinctions of airpower in that “strategic” aircraft were used for tactical bombing and “tactical” fighter aircraft were used for interdiction and strategic bombing.⁸⁴ Further, the roll of service input to the airpower equation became blurred because the army developed significant attack helicopter units. Thus all services were operating independent “air forces” during this war. As such, there was enough resources to go around and everyone had a hand in the operation. It was warfare by committee. Each service operated its own form of air warfare and was generally ready to criticize the other if things went wrong.

These execution problems aside, the impact of airpower was great. The combination of fixed wing and helicopter attack aircraft, operated under a system that was less than efficient, provided ground units with a level of air support unheard of in previous wars.⁸⁵ This was possible due to the sheer numbers of aircraft available.⁸⁶

From the tactical to the operational level airpower had positive effects on how the ground commanders and their people viewed the war. Major General William E. DePuy, Commander of the 1st Infantry Division, credited close air support in helping him to defeat the 3d Battalion, 273d Viet-Cong Regiment.⁸⁷ Supporting the General’s view was a ground trooper who had the following observation concerning CAS:

You read about this, you see the movies, and everything, but movies are something else, but when you're in real life, you're pinned down under fire, and here comes the Air Force and they just drop the bombs right where they belong and they knock out what they are supposed to knock out and enables us to move around and go to our objective like we're supposed to. It's a fantastic feeling.⁸⁸

Mountains of statistics and data are available concerning the quantity and effectiveness the air war in South Vietnam.⁸⁹ The important factor with regard to the interaction model is the perception of airpower at the ground level. In the case of Vietnam airpower was positively perceived and the ground troops heavily depended on it.

This was not the case at the theater, unified and joint staff levels. Prior to 1969 there was much "fighting" concerning the organization of the air control system. The organizational arguments concerned basic doctrinal issues as outlined above and were patterned along service lines. This situation was closely analogous to what occurred in Korea years earlier. The Marines and Navy fought against the Air Force concept of a single air manager. The Army, concerned with the need for coordinating an increasing force size, sided with the Air Force as long as the single air manager concept was limited to fixed wing aircraft (i.e. it did not include helicopters). However, as airpower was needed to meet a major new offensive, General Momyer, as Deputy for Air Operations, assumed operational control over all air assets (excluding helicopters) early in 1968,⁹⁰ under guidance from General Westmoreland, the Chief of Military Assistance Command, Vietnam.⁹¹

These interservice debates were intense. But according to Lieutenant General Bruce Palmer, an Army commander, the interservice problems did not penetrate to the fighting level. General Momyer observed that after 1965 there were no significant disagreements with the Army about close air support in South Vietnam.⁹²

What developed in Vietnam was an effect, but not efficient, tactical air support system. This system evolved over time with much interservice arguments concerning basic doctrine and organization. The capabilities and massive numbers of aircraft made doctrinal issue secondary to the execution of the war. However, with these inefficiencies came casualties and a ground war that gave the public impression of impotency.

The services never solved their basic doctrinal disagreements during the war. They continued to "operate" together but their doctrine and war vision was estranged. Unable to solve these differences and content with a tactical system that was agreeable to all but embraced by no one, the services settled into a state of toleration for each other's roles in the war.

The Gulf War

The impact of airpower in the Gulf War was all encompassing and decisive from both an actual military perspective and a perceived feeling on the part of ground commanders. In previous wars, the question had always been framed in terms of whether strategic bombing and interdiction had been decisive vice the tactical battles and operational actions between land armies or naval fleets. For the first time in the history of warfare, airpower played a significant role in both arenas. The current question is not whether airpower was decisive, but which air war was the defeating mechanism; the strategic bombing campaign in Iraq? or the operational and tactical attacks in the Kuwaiti theater of operations?⁹³

To some extent the argument framed is artificial. A war lasting only three months or so can hardly be affected through attacks on classical strategic targets.⁹⁴ There is simply not enough time for the loss of industry to effect the pending battle. This was a “come as you are war.”⁹⁵ Attacks aimed solely at the national will or the political leadership of a nation are another story. These strategic attacks can have a quick and direct effect on the further prosecution of the war. Such attacks were made possible though advances in precision guided munitions, stealth aircraft, and improved command, control, communication and intelligence (C3I).

Further, many targets, such as C3I, which had a possible strategic impact, definitely had a decisive operational and tactical effect. At the operational level airpower was used to shape the battlefield, destroy significant numbers of enemy units and otherwise render one of the largest and most modern tank armies impotent. The melding of strategic and tactical perspectives into an operational frame of reference causes the analysis of perceived desert storm air support to be characterized in a fundamentally different way when compared to previous air wars. Care must be taken because the terms strategic attack, air interdiction, and CAS have slightly different connotations in each of the wars studied. Although the CAS mission area and definition has remained the most stable of the three major roles.⁹⁶

The Gulf War has thus seen a blurring of the distinction in the classical roles and missions of airpower to the point that the definitions of CAS battlefield air interdiction (BAI) and AI may be meaningless when used under the general rubric of theater level preparation of the battle area by a joint air, land and sea force. The old question of who is supporting whom becomes irrelevant. The critical question now is how the whos are integrated into the overall strategic and operational plan.

These factors together have created a tension in the analysis of the effectiveness of airpower in the Gulf War. On one hand there is a tendency to look of the air war and ground war as separate events in both time and space. This is the traditional approach. Bomb lines on the map, supporting fires, and a heavy emphasis on pushing the forward edge of the battle back in a linear fashion become the descriptive tools of analysis. On the other hand, a holistic approach defined by looking at the overall

theater of operations and the synergistic effect of air, land and naval forces gives a different picture. In this case integration and unity of effort, the impact of destroying systems of targets and the desired end state become the elements used to measure the effectiveness of the military tool in relation to geo-political constraints inherent in any military operation.⁹⁷

The latter perspective is used in assessing the effectiveness of air support in the Gulf War. This approach requires some comment on the airpower mission areas previously examined. There is no one to one correspondence between roles and missions discussed in Korea and Vietnam with the very broad use of airpower as a tool to shape the theater area of conflict. CAS, BAI and AI are components of the shaping tools. However, in a real sense, they have been relegated to bookkeeping terms rather than important doctrinal categories of airpower execution.

As a hypothetical example, consider a series of bridges that have to be taken out along the Euphrates River in Iraq to interdict the supply of troops and block the retreat of forces at a later date. Under the traditional approach to targeting this action could be termed BAI, AI or strategic. Using Korea as a model the execution of this mission would be dependent on doctrinal issues concerned with the advisability of strategic bombing or AI vice CAS or BAI.⁹⁸ The Air Force would most likely argue for immediate destruction of the bridges while the Army would probably argue for more CAS and destruction of those bridges when the impact would be more directly felt by the ground commanders. Obviously, using the primary measure of merit of the ground commanders perception of the air support, an interdiction campaign would not be as widely accepted as the CAS approach. Using the Gulf War model the traditional doctrinal issue become secondary to the requirement to integrate all forces in the most efficient way so as to shape the theater of conflict.

In terms of this alternate approach, the successful use of airpower is determined by how efficiently it is integrated into the overall theater strategic and operational plans. In this case the ground commanders may not perceive interdiction as a worse form of support as long as it fit within the common vision and concept of operation of the theater CINC. CAS, BAI and AI were a part of the missions flown. But to break out these mission area, as was done in our study of Korea and Vietnam, does not make sense because it is the overall perceived effect that is important.

To gauge the perceived success of the air campaign we must look at its overall objectives. The supply and demand problem becomes one of matching “supplied” bomb damage with “demanded” operational objectives. Essentially, objectives fell into two broad categories. There were those objectives that concerned the state of affairs after the cease fire and there were those objectives concerning the attrition of Iraqi forces and their subsequent retreat from Kuwait. It is the second category of objectives that is of present concern.⁹⁹ This category most effected service war fighting relationships.

The campaign objects were clearly stated up front. First, air supremacy had to be achieved. As this was being done, strategic and operational C3I centers were hit. The goal, in part, was to isolate the Iraqi Army in Kuwait from its leadership. Once cut off, the systematic destruction of the in-place forces began so that they would be combat ineffective once the ground action started. The shaping of the battlefield had three major objective. First, the Iraqi Army was to be pinned and destroyed. Second, access points through the fortified defenses had to be cleared and finally, the retreat route of any remain forces had to be cut off. In short, this was a three dimensional envelopment by land and air forces. This is the first time that German and Russian developed blitzkrieg operations would be executed in a three dimensional operational maneuver.¹⁰⁰

Even a cursive review of the events surrounding the Gulf War will reveal that the above campaign objectives were met.¹⁰¹ What is even more significant is that the ground commands and troops on both sides fully perceived the effects of the coordinated air campaign. According to a report by the US Congress, House Armed Services Committee (HASC), the air attack was responsible for the desertion, wounding or death of 179,000 enemy troops.¹⁰² This is a decrease of about 50% of the total fielded Iraqi forces.¹⁰³ In other words, about half of the Iraqi Army was either killed wounded or just plain decided to leave under the onslaught of coalition air attacks. Additionally, Air Force sources claim that airpower accounted for at least 60% of all kinds of Iraqi military vehicles left along and behind the battlefield.¹⁰⁴

The ability of air units to defeat a ground force's scheme of maneuver became apparent during the surprise battle of Khafji.¹⁰⁵ On the night of 29 January 1991 three Iraqi battalions moved south into Saudi territory. Except for the battalion that moved into Khafji, the two other Iraqi battalions were attacked and neutralized. In reserve was a fourth battalion that would be destroyed by air attack the next night as it formed up for a follow-on attack. That night two sea borne forces were also destroyed well offshore by British naval helicopters and US carrier air. The next night a convoy carrying an Iraqi regimental combat team was destroyed in a similar fashion by combined naval air actions. By the end of the second night combined airpower had blunted and destroyed a corps size attack. This was the first and last offensive advancement taken by Iraqi troops. General Michael Dugan, former Chief of Staff, US Air Force writes,

The attack was detected, engaged and defeated by air. Although it took place before the allies launched their ground offensive, this aerial victory was a turning point in the ground war and a stunning defeat for the Iraqis.¹⁰⁶

General Norman Schwarzkopf, Commander in Chief of US Central command, assessed the job done by air men of all services. In his February 27, 1991 broadcast briefing Schwarzkopf stated; ...we

have rendered completely ineffective over twenty-nine Iraqi divisions and the gates are closed [Iraqi forces were surrounded and cut off]. There is no way out of here.... We continue, of course, to have overwhelming air power. The air has done a terrific job from start to finish in supporting the ground forces, and we also have had great support from the Navy, both in the form of naval gunfire and in the support of carrier....¹⁰⁷

Army division commanders also shared his view about the role played by airpower, specifically Army aviation.¹⁰⁸

The application of airpower was extensive and effective during the Gulf War. It had two attributes lacking in other wars that together gave added effectiveness to the campaign. First, air units delivered massive quantities both in numbers and fire power on target) of ordnance. The bombing was accurate and in many cases smart munitions allowed pin point accuracy. Second, the strikes were coordinated and tied to the theater commander's concept of operation and overall vision. Together these factors resulted in ground commanders perceiving an air campaign that effectively supported the ground units. There was no perceived shortage of air combat power in the Gulf War.

Airpower Distribution Summary

The table below summarizes the perceived distribution of airpower support on the battlefield during the three wars studied.

Table 11.

Perceived Distribution of Airpower Support

Distribution	Gulf War	Vietnam	Korea	WW II
Equitable	Yes	Yes	No	No

The crucial factor in shaping the perceptions of the ground troops seems to be the ability of airpower to mass and consistently effect the outcome of the close battle. During the Korean war the support provided by airpower was inconsistent. It may have saved the day during the retreat to Pusan. However, it did not help in solidifying gains later made as the UNC drove north in a bid to reunite the country. In Vietnam most fighting was tactical. There airpower was plentiful and it could be consistently depended on. The contrast between the overall effectiveness of airpower in Vietnam vice the Gulf War indicates that it is not necessary for air support to be decisive for ground troops to perceive an equitable application.

Summary

The Korean war set the stage for how the services would interact during the next major conflict, the Vietnamese War. As had happened after World War Two the Army and Air Force dismantled the air control system and abandoned joint doctrine that was crucial to the proper execution and integration of an air and ground war. The primary difference between Korea and Vietnam was the resources available for air support of ground units. Various factors such as number of aircraft, ordnance development and new technologies impacted how individuals perceived CAS and interdiction in each war. The result of these factors was that in Korea, CAS and interdiction was perceived as unsupportive while in Vietnam CAS and interdiction was perceived as effective and supportive to the overall ground war.¹⁰⁹

Unlike Korea, Vietnam marked a turning point in the development of service interaction. The Gulf War came at a high point in force readiness and joint training. Just as Vietnam witnessed the blurring of strategic and tactical roles connected to particular aircraft, the Gulf War also witnessed the blurring of traditional doctrinal categories of air missions. With the development of an Army and Air Force operational view came a joining of the strategic and tactical levels of war under a common doctrine for the application and execution of airpower. There was sufficient airpower to go around. Ground and air commanders operated under a common vision and a coordinated system for the execution of sorties throughout the theater of operations. This was the first major war that the US military entered where the air and ground forces did not have to start from scratch in formulating joint procedures and doctrine.

Service Interaction Categories

The doctrine and the resource distribution states thus combine according to the interaction model to form the categories outlined in the following chart.

Table 12.

Service Interaction States

Interaction States	WW II	Korea	Vietnam	Gulf War
(1) Cooperative				X
(2) Competitive	X			
(3) Toleration			X	
(4) Adversarial		<u>X</u>		

In Korea the lack of common doctrine and a perceived non-equitable distribution of air combat power resulted in an adversarial relationship. By the time Vietnam came along, technology, coupled with a cold

war buildup of equipment, allowed for large quantities of air power assets to off set fundamental doctrinal disputes. The relationship became one of toleration as each service fought its own war. Following Vietnam, further cold war buildups increased the capability of air combat systems. Airpower had matured. As part of this maturation process, common war fighting doctrine was finally developed. Both air and ground units fought with a common vision. This resulted in a cooperative relationship that, as will be shown next, has important implications for the future conduct of warfare.

Chapter Four Notes

- 1 The increasing speed and detail of media war coverage have exposed the general public to the other side of the military character in ways that could not have been foreseen a few years ago.
- 2 In the case of airpower supporting ground troops it is possible that this division may not be strictly along service lines. For example, the state of interaction between Marine (Naval ground units) and Naval forces and Army Air units may be defined as the interaction of the Ground Force Commander's and the Air Component Commander's military organization. These organization may have been formed using elements of all four services. However, in almost all cases component commanders and the units assigned to these components will strongly reflect traditional service task organizations. Air Force or Navy air units will usually form the bulk of the air component and the commander will usually be an Air Force officer. If the air component is composed of primarily Navy air units then the air component command would most likely be a Naval or Marine aviator. Along the same lines, Army or Marine units will usually form the bulk of ground forces and the ground commander will be selected based on who has the preponderance of units assigned in the theater
- 3 There is a definite basis in the literature emphasizing service conflict. Additionally, the structure of the separate branches of the military, to include unique uniforms, history, and doctrine tend to encourage surface rivalries and bureaucratic, conflicts that are visible in the Washington political arena. Over the years an oral history and tradition has developed encouraging service rivalries. However, when the service interaction is viewed from a war fighting perspective, many of these rivalries become superficial.
- 4 Generally sortie rates number of weapons delivered, tactical or operational effect, timeliness, or enemy units destroyed are ways used by the military to measure CAS. However, John J. Sbrega writes "Despite all variables and extenuating circumstances, in the final analysis the true test of close air support operations is how well they satisfied the requirements of the ground force commander." See "Southeast Asia," Case Studies in the Development of Close Air Support, Editor Benjamin F. Cooling, (Washington, DC: U.S. Government Printing Office, 1990), 437.
- 5 Air support of ground troops is executed under three general mission areas. They are strategic attack, air interdiction (AI), battlefield air interdiction (BAI) and close are support (CAS). The detailed technical definitions of these terms are not germane to the discussion. Briefly the following broad definitions are given below. Strategic attack is attacks by air weapons on targets that effect a nation's ability to wage war. These targets can include the industrial base, economic or transportation infrastructure, governmental organizations or the national will. AI consist of attacks against targets that isolate the battlefield or enemy units and supplies not in direct contact with friendly forces. These targets consist of the transportation network in and around the battlefield, and enemy troop concentrations or supplies in the theater of operations or traveling to the theater of operations. CAS is the use of air delivered fires in support of friendly troops in contact with enemy units. These missions require close coordination with the supported local ground commands. BAI is a "gray area" that defined the interface between AI and BAI. Coordination with a tactical commander is desirable since these targets could be within range of ground based artillery or missile systems even though friendly forces are not in contact. During the Korean and Vietnamese wars these distinctions were more important doctrinally because of the limited range of Army weapon systems. As will be shown, in the Gulf War these distinctions were less important as the focus shifted from independent to joint air ground operations at the strategic and operational levels of war. Approved definitions can be found in Army FM 101-5-1, "Operational Terms and Symbols," (Washington, DC: Department of the Army, Oct 1985) or Air Force Manual 1-1, "Basic Aerospace Doctrine of the United States Air Force," (Washington, DC: Department of the Air Force, March 1992)

- 6 Ideally overall force structure is determined by strategic policy created by the executive branch of government in consultation with the legislative branch of government. Once formulated” strategic policy forms the basis for national military policy. Basic war fighting doctrine explains how the military plans to implement its military policy that supports the our national policy objectives.
- 7 For a brief review of the Air Force doctrine and fighting during the period leading up Desert Storm see Momyer, Three Wars
- 8 The following references may be consulted to gain an understanding of the TACS. See Thomas H. Buchanan, The Tactical Air control System: Its Evolution and It’s Need for Battle Managers, (Maxwell Air Force Base, AL: Air University Press, May 1987), AU-ARI-87-1, Harold T. Gonzales, Tactical Air Support of Ground Forces in the Future, (Maxwell Air Force Base, AL: Air University Press, May 1990), AU-ARI-89-7, Hallion, Strike, Corps Deep Operations (ATACMS, Aviation and Intelligence Support) Tactics, Techniques and Procedures Handbook - (1990), (TRADOC Program Integration Office -Tactical Missile Defense/Deep Operations/Reconnaissance, Intelligence, Surveillance, Target Acquisition (TPIO-TMD/DO/RISTA)), April 1990, Joint Suppression of Enemy Air Defenses (J-SEAD) Operations Pamphlet 525-3, (USREDCOM Pam 525-3), June 1982, FM 100-103 Army Airspace Command and Control in a Combat Zone, (Washington DC: Headquarters, Department of the Army, October 1987)
- 9 Historically the Army has viewed CAS from this perspective. The thrust of this survey describes Army doctrine from this perspective. However, with the advent of the May 1986 FM 100-5 Operations and closer coordination as mandated by the Goldwaters Nichols act the Army and Air Force have been approaching a common vision or doctrine concerning the use of airpower at the operational and strategic levels. This common vision has led to increased service cooperation and coordination concerning the use of tactical airpower.
- 10 Data has been drawn from Figure 6.3 Service Organizational differences: Relevance to Command and Control appearing in Allard, Command, 156.
- 11 Department of the Air Force, “Air Force Performance In Desert Storm,” White Paper, (Washington, DC: Department of the Air Force, April 1991), 10-15
- 12 See Norman Friedman, Desert Victory: The War For Kuwait, (Annapolis, MD: Naval Institute Press, 1991) (Hereafter cited as, Friedman, Desert Victory) for an in-depth review of the tactics and capabilities of units in the Gulf.
- 13 For a complete discussion on the role of command and control in how war is fought see Allard, Command. Martin Van Creveld also touches upon the role of improved C3I in his book Technology and War, (New York, NY: The Free Press, 1989)
- 14 Frederick Augustus, Elector of Saxony and King of Poland, Maurice of Saxony, My Reveries Upon the Art of War, Trans. Brig. Gen. Thomas R. Phillips, in The Roots of Strategy, (Harrisburg, PA: Stackpole Books, 1985), 236.
- 15 Gerald Gilbert, The Evolution of Tactics, (London, 1907), 183-184 as quoted in Johathan M. House, Toward Combined Arms Warfare: A Survey of 20th-Century Tactics, Doctrine, and Organization, Combat Studies Institute Research Survey No. 2, (Fort Leavenworth, KS: US. Army Command and General Staff College, August 1984) (Hereafter cited as, House, Tactics), 1.
- 16 Combat Studies Institute, The Evolution of Modern Warfare P671 Syllabus, (Fort Leavenworth, KS: US Army Command and General Staff College, August 1984), Term I, 219, 235, & 246 and Term II & III, 38, 40, 51, & 104.

- 17 Aside from much modern writing that will be referenced, see the large body of classical works in this area: Sun Tzu, Art of War, “The Instruction of Frederick The Great for His Generals, 1747” and “The Military Maxims of Napoleon,” as found in Roots of Strategy: Book, Thomas R. Phillips editor., (Harrisburg, PA: Stackpole Books, 1987). For operational and strategic warfare see Colmar, Baron von der Goltz, The Conduct of War: A Brief Study of its Most Important Principles and Forms, trans Joseph T. Dickman, (Kansas City, Mo.: The Franklin Hudson Publishing Co., 1896) as found in CSI reprint A699 (Fort Leavenworth, KS: Command and General Staff School) and Clausewitz, On War,
- 18 FM 100-5 Operations” 10-13, 14-18.
- 19 Fundamentals of Tactical Operations, (Fort Leavenworth, KS: US Army Command and General Staff School, December 1989) FB030, 77.
- 20 CSS C3 and intelligence (I) operations permeate operations on the modern battlefield. Airpower and the use of long range artillery to attack deep demands outstanding C3I. Further, modern weapon systems are highly dependent of CSS systems for fuel and ammunition. The selection of maneuver and fire support elements as key operating systems for this discussion in no way implies a degrading of the other battlefield operating systems to a lesser role.
- 21 Tactics, Techniques, and Procedures for Fire Support for Corps and Division Operations, FM 6-20-30, (Washington, DC: Headquarters, Department of the Army, 18 October 1989), 1-1.
- 22 See Robert F. Futrell, The United States Air Force in Korea 1950-1953, (Washington, DC: Office of Air Force History, 1983 Revised Edition) (Hereafter cited as, Futrell, Korea), 704-708 for an explanation of the tradeoffs between organic artillery and the use of airplanes for CAS and for a recent update on Marine Corps thinking on CAS see Dale R. Davis, “Close Air Support Revisited: Doctrine, Tactics. and Technology,” Marine Corps Gazette, Vol. 74, No. 10, (Quantico, VA: Marine Corps Association)
- 23 See Support Operations: Echelons Above Corps, (Washington, DC: Headquarters Department of the Army, April 1985), FM 100-16. This document introduces the referenced term. It also provides, “guidance for the operational and logistical unity of command, and allows the corps commander to concentrate on fighting the battle.” (2-12). Clearly at what the Air Force sees as the “center of it’s operations,” the army sees as adjunct to the tactical battle.
- 24 For a short but comprehensive review of Army Air Corps doctrine during this time period see Futrell, Ideas chapters one and two, and Lee Kennett, The First Air War 1914-1918, (New York, NY: The Free Press, 1991). Similarly, House, Tactics” chapters one through three, provides a short and comprehensive development of Army doctrine during this time. Also see Infantry In Battle, (Washington, DC: The Infantry Journal Incorporated, 1939)
- 25 Field Marshal Erwin Rommel, Attacks, trans J. R. Driscoll (Provo, UT: Athena Press, 1979 Reprint), The Memoirs of Marshal Froch, Trans Col. T. Bentley Mott, (Garden City, NY: Doubleday, 1931), John F. C. Fuller, The Foundations of the Science of War, (London, 1925) and Lectures on Field Service Regulations III: Operations Between Mechanized Forces, as Combat Studies Institute (CSI) (Fort Leavenworth, KS: Command and General Staff College, Reprint, and Colonel Ardant du Picq, Battle Studies, Trans John N. Greely and Robert C. Cotton, as found in Boots of Strategy: Book Two, (Harrisburg, FA: Stackpole Books, 1987)
- 26 See Giulio Douhet, The Command of the Air, trans Dino Ferrari. (Washington, DC: Office of Air Force History, 1983), William Mitchell, Winged Defense: The Development of Possibilities of Modern Air Power Economic and Military, (New York, NY: Dover Publications, 1988), A. P. de Seversky, Victory Through Air Power, (Garden City, NY: Garden City Publishing Co., 1943), Richard Suchenwirth, The Development of the German Air Force 1919-1939, (Maxwell AFB, AL: Aerospace Studies Institute, June 1968), USAF Historical Studies: No. 160

- 27 Giulio Douhet (Command of the Air) is the best known advocate of the all Airpower approach. Mitchell and Seversky build upon Douhet's theories. Naval airpower enthusiasts tend to concentrate on fleet observation and defense as the major role of airpower. Of particular note is a formally classified reference in A-WPD/1, tab 2, (Letter from the President to the Secretary of War, 9 July 1941). It states that the air mission is to, "wage a sustained air offensive against German military power, supplemented by air offensives against other regions under enemy control which contribute toward that power.... To support a final offensive, if it becomes necessary to invade the continent.... Even as late as July 1941 there was still some expectation that strategic airpower could end the war without the need for a large continental army and the possibility of a repeat of the World War One stalemate.
- 28 Command and Employment of Air Power, (Washington, DC: United States Government Printing Office, 1944)
- 29 E. B. Potter and Chester W. Nimitz, Sea Power A Naval History, (Englewood Cliffs, NJ: Prentice Hall, 1969) (Hereafter cited as, Potter, Sea Power), 475.
- 30 Potter Sea Power, 474 and 841.
- 31 Hallion, Strike
- 32 R. J. Overy, The Air War 1939-1945, (New York, NY: Stein and Day, 1980) (Hereafter cited as, Overy, Air War), 100.
- 33 For complete overviews of the air war in Korea with an emphasis on CAS and interdiction. See Price T. Bingham, Ground Maneuver and Air Interdiction in the Operational Art, (Maxwell AFB, AL: Air University Press, September 1989) AU-ARI-CP-89-2, (Hereafter cited as, Bingham, Interdiction) Harold T. Gonzales, Tactical Air Support of Ground Forces in the Future, (Maxwell AFB, AL: Air University Press, September 1989) AU-ARI-89-7 and Futrell, Korea. Futrell's work on Korea is the definitive book on airpower in that war.
- 34 Futrell, Korea, 700.
- 35 Ibid
- 36 Matthew B. Ridgway, The Korean War, (New York, NY: Da Capo Press, 1967) (Hereafter cited as, Ridgway, Korea), 76.
- 37 Futrell, Korea, 84.
- 38 Bingham, Interdiction, 8 -9.
- 39 Bingham, Ground Maneuver and Air Interdiction in the Operational Art, 7. Both Bingham and Gonzales restate the need for the use of air forces to be coordinated with the ground scheme of maneuver. However, most air and ground power theorists fall short of calling for complete integration of the ground and air force. It would not be until the air campaign developed during Desert Storm that this integration would be brought to new heights.
- 40 Futrell, Korea, 324-325.
- 41 Bingham, Interdiction, 7-8
- 42 From Robert Futrell, Ideas II, 187-190 as cited in Allan R. Millett, "Korea, 1950-1953," appearing in Case studies in the Development of Close Air Support, Editor Benjamin F. Cooling, (Washington, DC: U.S. Government Printing Office. 1990) (Hereafter cited as, Millett, "Korea" Case Studies), 351.

- 43 For a survey of doctrinal thinking between the Korean and Vietnam wars see Futrell, Ideas, House, Tactics, John P. Rose, The Evolution of U.S. Army Nuclear Doctrine, 1945- 1980, (Boulder, Co.: Westview Press, 1980), and John J. Midgley, Deadly Illusions: Army Policy for the Nuclear Battlefield, (Boulder, Co.: Westview Press, 1986)
- 44 For a comprehensive review of the use of Airpower in Vietnam see John Schligh, The United States Air Force in South east Asia, The War in South Vietnam The Years of the Offensive 1965-1986, (Washington, DC: Office of Air Force History, 1988) (Hereafter cited as, Schligh, Vietnam)
- 45 Schligh, Vietnam, 165.
- 46 Futrell, Ideas, II, 287.
- 47 House, Military Posture Briefings: Hearings before the Committee on Armed Services, 89th Congress 2d sess, (Washington, DC: US Government Printing Office, 1966) 7609-10 as found in Futrell, Ideas, Concepts, Doctrine, Basic Thinking in the United States Air Force 1961-1984, Volume II, 287.
- 48 Schligh, Vietnam, 148.
- 49 Schligh outlines the unique command arrangement in Chapter Six of The United States Air Force in South east Asia, The War in South Vietnam The Years of the Offensive 1965-1986
- 50 House, Tactics, 162. and John A. Warden, The Air Campaign: Planning for Combat, (New York, NY: Pergamon-Brassey, 1989) (Hereafter cited as, Warden, Air Campaign), 89.
- 51 Schligh, Vietnam, 162.
- 52 House, Tactics, 162. Schligh and Futrell, Ideas, Concepts, Doctrine, Basic Thinking in the United States Air Force 1961-1984, Volume II, also attest to the complicated command arrangement used during the Vietnam War.
- 53 As noted page 162.
- 54 Schligh, Vietnam, 309.
- 55 The body of literature concerning Desert Storm is large. However, because of the recentness of events, most works lack an in-depth analysis of what actually happened. In many cases the facts are yet to be sorted out. In other cases some information is still classified. For a summary of events concerning the Gulf war see, US Department of Defense, Conduct of the Persian Gulf Conflict: An Interim Report to Congress, (Washington, DC: US Government Printing Office, Jul. 1991), Norman Friedman, Desert Victory: The War for Kuwait, (Annapolis, MD: Naval Institute Press, 1991), Harry G. Summers, On Strategy II: A Critical Analysis of the Gulf War, (New York, NY: Dell Publishing, 1992), James Blackwell, Thunder in the Desert: The Strategy and Tactics of the Persian Gulf War, (New York, NY:: Bantam Books, 1991), James P. Coyne, "Plan of Attack," Air Force Magazine, April 1992.
- 56 James Blackwell, Thunder in the Desert: The Strategy and Tactics of the Persian Gulf War, (New York, NY:: Bantam Books, 1991) (Hereafter cited as, Blackwell, Thunder), 112.
- 57 Friedman, Desert Victory The War for Kuwait, (Annapolis, MD: Naval Institute Press, 1991) (Hereafter cited as, Friedman, Desert Victory), 177.

- 58 Friedman, Desert Victory, (pages 173-175), gives an alternate analysis of the centralized ATO scheme used by General Horner, the Joint Forces Air Component Commander (JFACC). Friedman criticizes the system as too inflexible. Additionally he points out that the Navy and carrier based Marine air units could not easily integrate their air tasking computers with the ones used by the JFACC. He writes on page 174, "The navy had never subscribed to the ATO system; war at sea, or even against a coast, is just too unpredictable to brook so rigid a planning technique.... The degree of coordination enforced by the ATO was sometimes presented as an interservice issue. The navy and the marines say matters very differently from the air force: they were much more willing to accept inefficiency as the cost of operational flexibility."
- 59 James Blackwell, Thunder in the Desert: The Strategy and Tactics of the Persian Gulf War, (New York, NY:: Bantam Books, 1991), 115-119 and James P. Coyne, "Plan of Attack," Air Force Magazine, April 1992
- 60 Blackwell, Friedman, Coyne (references cited) all agree on this point
- 61 James P. Coyne, "Plan of Attack," Air Force Magazine, April 1992, 43.
- 62 Warden, The Air Campaign: Planning for Combat, (New York, NY: Pergamon-Brassey, 1989) (Hereafter cited as, Warden, Air Campaign), and "Employing Air Power in the Twenty-First Century," Secretary of the Air Force Document, (Washington, DC: Office of the Secretary of the Air Force, Not Dated) SAF/PAS document 91-1398
- 63 Warden, Air Campaign, 89.
- 64 See Air Force Manual 1-1, Volume I, Basic Aerospace Doctrine of the United States Air Force. Section C, 3-5, c. defines close air support as, "the application of aerospace forces in support of the land component commander's objectives." Paragraph c. goes on to state, "it provides direct support to friendly forces in contact. ...Although close air support is the least efficient application of aerospace forces, at times it may be the most critical by ensuring the success or survival of surface forces. " There in no reference to CAS as a reserve mission.
- 65 John A. Warden, "Employing Air Power in the Twenty-First Century," Secretary of the Air Force Document, (Washington, DC: Office of the Secretary of the Air Force, Not Dated) SAF/PAS document 91-1398. Additionally, the resultant air campaign closely matched published Air Force doctrine as appearing in AFM 1-1. The major exception being the previously noted arrangement of decentralized control of certain Army, Navy and Marine Corps assets.
- 66 Originally Warden's plan called for only a strategic attack to compel Iraqi to withdraw from Kuwait. However, as reported by James P. Coyne, "Plan of Attack," Air Force Magazine, April 1992, 43. The Chairman of the Joint Chiefs, General Powell, added the requirement to "kill all their tanks." Under the broad air ground campaign plan being developed by General Schwarzkopf, this action was termed, operational preparation of the battlefield. Although the air campaign was executed in a phased manner, it was fully integrated with the ground scheme of maneuver and the ground scheme of maneuver was fully integrated with the air campaign.

- 67 Not examined in the case study was the adversarial relationship that developed between the Air Force and Army concerning the assignment of air transport assets. In this case there were limited resources and the Army view the distribution of airlift assets as non-equitable. For more information on this see Schligh, Vietnam. The adversarial relationship that developed between the Army and Air Force concerning airlift and the toleration environment in place at the tactical support level led to a general paralysis in executing a coordinated air ground campaign. Neither the Army or the Air Force could agree as to how the war was to be prosecuted. This lack of vision at the operational level was mealy a reflection of the lack of vision at higher levels. Andrew Krepinevich, The Army and Vietnam, and Harry Summers. On Strategy A Critical Analysis of the Vietnam War, take separate sides of an argument as to what type of war was fought in Vietnam. The implication is that had the Army fought the “correct” type of war (i.e. conventional or guerrilla) then the war could have been won. More the interaction model tends to indicate that a common vision of the war is the crucial factor. Perhaps the key downfall was in the disagreement it self and not in the type of war sought.
- 68 Other factors could have been chosen also such as sortie rates or amount of destruction of enemy forces. These measures, although valid, define operational effectiveness. This study is interested in the opinions of the individuals executing the campaign. In fact, the actual results, so far as they do not effect the commander’s perceived judgment of support, are irrelevant once service members have formed assessed a given relationship.
- 69 See Operations Research Office, Hq FEC, “Close Air Support Operations in Korea: Preliminary Evaluation,” ORO-R-3 (FEC) memo, Feb. 1, 1951, USAFHRC and HQ FEAF, Report on the Korean War, 2 Vols., 1953, I. P 10-12, 62-63, File K720.04D. Cited from Millett, “Korea,” Case Studies, 354.
- 70 Millett, “Korea,” Case Studies, 373.
- 71 Futrell, Korea, 706.
- 72 General Almond was a division commander in Italy during World War Two. His concept of CAS was formed during a period when there were enough resources to create a large mature air support system. No such system was available in Korea. Further the Italy campaign was also sometimes marked by stalemated fighting. In particular, the original Operation Strangle was part of an inconclusive allied effort to interdict and defeat German emplacements with airpower.
- 73 Millett, “Korea,” Case Studies, 371.
- 74 Marine ground units wanted to maintain control over Marine aviation. These ground and air units closely trained together and Marine Corps doctrine relied on Air as a substitute for ground artillery.
- 75 Millett, “Korea,” Case Studies, 381.
- 76 Millett, “Korea,” Case Studies, 382
- 77 Millett, “Korea,” Case Studies, 383
- 78 Futrell, Ideas II, 203-207 and Otto P. Weyland, “The Air Campaign in Korea,” Air University Quarterly Review, (Fall, 1953)”, 3-28.

- 79 By the end of the war each service was operating its own “air force.” Air Force, Navy and Marine aircraft were operating up north in a segmented war that allocated certain sectors to each service. Superimposed on this was a “strategic” air campaign essential run from the highest levels of government. In the south most Air Force aircraft, with few exceptions, performed solely CAS or battlefield interdiction missions. The Army had a significant attack helicopter force. See commentary on Vietnam in Momyer, *Three Wars*, John B. Nichols, On Yankee Station: The Naval Air War over Vietnam, (Annapolis, MD: Naval Institute Press, 1987), John J. Sbrega, “Southeast Asia,” appearing in Case Studies in the Development of Close Air Support (Washington, DC: U.S. Government Printing Office, 1990) (Hereafter cited as, Sbrega, “Southeast Asia,” Case Studies), 156-190, the “Conclusion” chapter of Schligh, Vietnam: The Years, Shelby L. Stanton, Anatomy of a Division: The 1st Cav in Vietnam, (New York, NY: Warner books, 1989) Philip A. Towle, Pilots and Rebels: The use of aircraft in Unconventional Warfare 1918-1988, (London, UK: Brasseys, 1989)
- 80 Momyer, *Three Wars*, 275.
- 81 Momyer, *Three Wars*, 279.
- 82 Sbrega, “Southeast Asia,” Case Studies, 470
- 83 See Mark Clodfelter, The Limits Of Air Power: The American Bombing of North Vietnam, (New York, NY: The Free Press, 1989) and U. S. Grant Sharp, Strategy For Defeat: Vietnam in Retrospect, (Novato, CA: Presido Press, 1978)
- 84 Tactical Fighter-bombers such as the F-4 were used extensively up north to interdict and bomb strategic targets. B-52 aircraft, which were also used up north, had a significant impact in the sought performing tactical bombing missions and CAS.
- 85 Discussion dealing with the effect of CAS and interdiction in the south are during periods after 1965. Prior to 1965 air support lacked the responsiveness and mass that is seen in the later years of the war. Two trends played in this development. First, the simple relearning of how to orchestrate CAS mission had to be relearned by both the Army and Air Force. Second, the build up of troops and aircraft operating in theater added significantly to the mass and flexibility of forces.
- 86 Even before 1965 the airspace below 9,000 feet was saturated. The airspace control system barely grew enough to handle the massive increased of sorties that eventually were common practice during the war. See Sbrega, “Southeast Asia,” Case Studies, 423. For sortie numbers and an inkling of detailed operations see Futrell, The United States Air Force in Southeast Asia: The Advisory Years To 1965, (Washington, DC: U.S. Government Printing Office, 1981) (Hereafter cited as, Futrell, Advisory Years) and Schligh, Vietnam
- 87 Sbrega, “Southeast Asia,” Case Studies, 471.
- 88 USAF Historical Research Center file K239.0512-41, p 6 as quoted from Sbrega, “Southeast Asia,” Case Studies, 471.
- 89 See Sbrega, “Southeast Asia,” Case Studies, 423. For sortie numbers and an inkling of detailed operations see Futrell, Advisory Years and Schligh, Vietnam for discussion of sortie rates and numbers of explosives dropped.
- 90 Sbrega, “Southeast Asia,” Case Studies, 457
- 91 Forces in Vietnam were not technically organized along theater and component structure as used in the Gulf War. Westmoreland’s position was somewhat analogous to the theater task force commander or “mini-CINC.”

- 92 USAF Historical Research Center files K239.031-125, p 8 and K239.031-123, p 3, and Student Research Paper Walter H. Baxter III, Edward J. Campbell, Fay D. Fulton, James R. Hildreth, William E. Skinner, "An Analysis of Tactical Airpower in Support of the United States Army in South Vietnam," Army War College, Mar 1970, as quoted from Sbrega, "Southeast Asia," Case Studies, 464
- 93 This question is framed and alternate sides of the issue are discussed in the January 27, 1992 issue of Aviation Week & Space Technology. See articles grouped under the special heading of, "Strategic Air War in the Gulf: Conflicting Views."
- 94 "In the American experience, the strategic level usually has been concerned with the destruction, or threatened destruction, of the enemy's essential war-sustaining capabilities to the point the opponent no longer has the ability or will to wage war." See Basic Aerospace Doctrine of the United States Air Force, (Washington, D.C.: Department of the Air Force, March 1992), Air Force Manual 1-1, Vol. II, 44.
- 95 i.e. there was no time for any of the nations involved to gear up their respective industrial bases as had occurred in the U.S. at the start of World War Two.
- 96 Jay Fawcett, in an unpublished article, "Which Way to the FEBA?" and unpublished article submitted to airpower Journal, suggests that the old definitions of CAS interdiction and battlefield air interdiction are conceptually out of date given the non-linearity and deep penetrating maneuvers associated with modern warfare. Complicating the issue is the realization that aircraft or weapon systems are not inherently tactical or strategic (i.e. B-52 Bombers equating to strategic and F-16 Fighter-bombers equating to tactical aircraft). Some have advanced the idea that it is the target that defines the category. However, that is not the case as the above discussion has showed. There is much overlap, especially at the operational level. The intent of the war planner and the desired aims of the attack determines whether a target or target set is strategic, operational or tactical.
- 97 The measures of merit suggested here are similar to those that might be used in any past strategic campaign. However, the key difference is that the theater commander is now applying a methodology to the conduct of operational warfare that was reserved for strategic considerations in times past.
- 98 The terms used are modern. During Korea there were only three general offensive fire air mission, strategic bombing, interdiction and CAS.
- 99 The first category deals primarily with what can be called strategic targets that had long term impact on the future state of the Iraqi military. These targets included nuclear capabilities and the general destruction of Iraqi's offensive capability. By time the war started, a simple retreat by Iraqi from Kuwait was no longer acceptable
- 100 Soviet and German military theorists developed an operational strategy of deep battle where units would mass and drive a spearhead through enemy lines to form an encirclement of the defending units. The Germans used this tactic in Poland and France at the outbreak of the Second World War where the term Blitzkrieg or lightning was as applied to it by war correspondents. Some have referred to this type of warfare as "warfare in three dimensions" (land, air and sea). However, the air aspect was used only in a tactical sense to help spearhead the initial penetration of fast moving armor forces. The operational level encirclement that became the trademark of Soviet tactics on the eastern front was accomplished by land armies. Desert storm was the first instance that an air armada effectively accomplished the operational encirclement of a ground force. See House, Tactics, Richard Simpkin, Deep Battle: The Brainchild of Marshal Tukachevskii, (London, UK: Brassey's Defense Publishers, 1987)

- 101 Aside from the previously cited references see, Michael Dugan, "The Air War," US News & World Report, February 11, 1991, p. 24-31, and "First Lessons of Victory," U.S. News & World Report, (March 18, 1991), p 32-36, Lawrence Freedman and Efraim Karsh. "How Kuwait Was Won: Strategy in the Gulf War," International Security, Vol. 16, No.2, (Fall 1991) Charles Horner, "The Air Campaign," Military Review, (September 1991), 16-27 and William J. Taylor, Jr. and James Blackwell, "The Ground War in the Gulf," Survival, Vol. XXXIII, No.3, (May/June 1991), p. 230-245
- 102 As quoted in John Lancaster, "Report: Allies Faced Only 183,000 Iraqis," Washington Post, (April 24, 1992), p. 25.
- 103 Using a base figure of 362,000, which is the HASC estimate of troop levels at the start of the air campaign.
- 104 Cited in James W. Canan, "Lesson Number One," Air Force Magazine, (October 1991), 30.
- 105 The following account is based on narrative appearing in Blackwell Thunder, 160-166 and Friedman, Desert Victory, 197-203
- 106 Michael Dugan, "First Lessons of Victory," U. S. News & World Report, (March 18, 1991), P 36,
- 107 Quoted from Norman Schwarzkopf, "Schwarzkopf Tells of the Strategy Behind Operation Desert Storm," ROA National Security Report, (April 1991). Also see Summers, Strategy II, 277.
- 108 Barry R. McCaffrey, "24th Infantry Division (Mechanized): Desert Shield and Desert Storm Operations Overview." an unpublished briefing given the Command and General Staff College, Class 390-91, Fort Leavenworth, KS. 22 May 1991. General McCaffrey, the Commanding General of the 24 Mechanized Infantry acknowledged the role of Army aviation in command and control and logistics. He also highlighted the role played by theater airlift in helping to support the massed movements that typified Schwarzkopf's scheme of maneuver. Contrary to a the trend of concentrating army aviation assets and long-range artillery at echelons above the division, General McCaffrey stated the need for the division to retain more of these units to give the lower tactical levels more deep firepower and lift capability.
- 109 In terms of the interaction model, the perceived effectiveness of CAS and interdiction is the limited resource that must be equitably distributed. If ground commanders viewed CAS and interdiction in generally positive terms then the resource was taken to be equitably distributed. Conversely, if the ground commanders viewed CAS and interdiction in negative terms then the variable was taken to be distributed non-equitably.

CHAPTER 5

WHERE DO WE GO FROM HERE?

SOME OBSERVATIONS RESULTING FROM THE MODEL

Assuring increased service cooperation will be the number one concern as the Department of Defense transitions from a post World War Two cold war mentality to a posture of reduced force budgets, manning and hardware. The only way the US military capability will remain pervasive and overpowering in relation to possible threats is for the individual service departments continue to solidify cooperative war fighting doctrine at all levels of interaction. Further, combat power must also be equitably distributed within a theater of operation to maximize its effectiveness. Within the economized force projected for the 1990s and beyond there will be little room for a suboptimum distribution. Duplication of effort by the services is quickly becoming unaffordable. Operational success will demand interaction categories that are competitive or cooperative. For this to happen services must develop common doctrine. Doctrine is the key variable to achieving the desired interaction states. Luckily it is the single variable that the service departments have complete control over.¹

The interaction model described provides a gauge to measure how two organizations are interacting. Further, by analyzing organizational interaction in light of shared or conflicting doctrine and desired resources, military leaders will be able to systematically approach a better relationship environment that will transcend the short term issues of the day.

In particular, service leaders should pay attention to the operational areas at the interface between force application methods. Notice the term mission area interface is not used. Current doctrine legislates service boundaries and defines divisions in responsibilities.² The goal should be to merge service functions into a unified force. With the advancement of various technologies the separation of service turf has become artificial. This separation was a result of political bargaining stemming from peace time oriented organizational developments and it was based on a war fighting doctrine and supporting technology that viewed air, land and sea warfare distinct.³ What counts is military capability in the theater of operations. Airpower especially does not recognizing these “legislative” restrictions.⁴

The case study dealing with CAS and interdiction demonstrated that the key to effective deployment of force required both the Army and Air Force to share a common doctrine of the war effort, have clear linked objectives at both the operational and tactical levels and to have an execution system⁵ in place that allowed for the efficient synchronization of force in the theater of operations.

The execution system distributed air power. If ground commanders had an understanding of the execution system and the operations took place under a common doctrinal outlook then ground

commanders perceived the distribution of resources as equitable. Prior to the Gulf War the Army and Air Force developed joint doctrine and exercised together to develop the coordination process. An in-place airpower control system operating thought the JFACC was implemented. Further, a common vision of how the war was to be fought and supporting doctrine was agreed to prior to the state of hostilities. In general, before the shooting war kicked off in mid-January, all participants were operating from the same sheet of music. A cooperative interaction state was thus fostered between military forces and specifically the Army and Air Force prior to and during the Gulf War.⁶

The achievement of this interaction category set the stage for the execution of what has been called “hyper-war.” Thus far we have developed the interaction model. The organizational and doctrinal foundations of the model have been explained as has its uniqueness in comparison to existing models. Finally, the application of air power during three wars has been examined in light of this model to shop how it may be used in describing service interaction. In closing, lets see what this model portends for the future. The four interaction categories defined by the interaction model are summarized in the next table.

Table 13.

Interaction Categories

Interaction Categories	Doctrine State	Resource Distribution
(1) Cooperative	Common	Equitable
(2) Competitive	Common	Non-Equitable
(3) Toleration	Disjoint	Equitable
(4) Adversarial	Disjoint	Non-Equitable

“Hyper-war” became possible because of the synergistic effect between these traits coupled with an independent technology variable.⁷

The table below summarized these traits over major wars starting with the Second World War.

Table 14.
“Hyper-war” Required Traits

Traits	Gulf War	Vietnam	Korea	WW II ⁸
Interaction States	1	3	4	2
Common Doctrine	+	-	-	+
Execution System	+	-	-	-
Common Vision	+	-	-	+

A “+” indicates that a particular traits was operating while a “-” indicates that a particular traits was not effected. These traits derived from the a for discussion on the characteristics of the different interaction categories. The pattern is clear. Positives in all three categories are a necessary, but not sufficient, condition for “hyper-war.” Negatives in the second and third traits, which result from adversarial interactions spell trouble. Further the continued deterioration of service interaction in the area of doctrine culminated with the conclusion of the Vietnam war. Had we not had the resource available to “force” an equitable distribution of combat power, relations would have been worse. After the war the services reexamined their basic doctrine and changes were made for the better. This change in doctrine was also coupled with legislative action (Goldwaters-Nichols Act) mandating tighter war fighting command. But as can be seen, the legislative act alone could not have mandated the cooperative atmosphere that led to the required interaction category.

Finally, the need for an in place execution system deserves special note. It is desirable for two reasons. First, from a purely practicable standpoint, it is always best to go into war fully organized and trained in accordance with some system. Until the end of the Vietnam war, the services dismantled the existing tactical air control system as part of a general draw-down and force reorganization. This caused much initial inefficiency during the Korean and Vietnam wars. Further, because air was not properly integrated during peace time forces did not train as they would have to fight. Second, the continued organizational tie that is required by keeping the joint TAC system in place fosters combined doctrinal thinking and organizational cooperation. As noted, common doctrine is the key to developing the desired service interaction categories. Common doctrine leads to a common doctrine of how to fight a future war. In sum, the maintenance of joint organizational structures promotes common doctrine.

However we must not fall into the trap of thinking that approved or coordinated joint doctrine

represents agreement or a common doctrine of war. Currently much jointly coordinated service doctrine is concerned with defining the interface or divisions between the services.⁹ The model shows that this is exactly the wrong approach. To achieve a common vision and doctrine between organizations, divisions must not be emphasized.

There is, however, a bright spot. Joint doctrine is gaining in importance and influence as a more powerful joint staff exercises its authority as redefined under the Goldwater-Nichols DoD Reorganization Act of 1986. This act provided for a direct chain of command from the President through the Secretary of Defense to the unified combatant commands. All war fighting forces reside in the combatant commands under joint command. The combatant command CINCs, naturally, execute the orders of the President. The services provide manning, training and equipping functions for the combatant commands while the Joint Staff provides advice to the National Command Authority and operational planning support to the combatant commands. The execution focus for military operations has gradually shifted from a service oriented perspective to a joint force oriented perspective. As such, joint doctrine has gained an increasing influence on how forces fight.

As part of this trend new joint doctrine is emerging that views war as a team effort fought by fully integrated air, land and naval forces. This, according to Colonel Peter Herrly, Chief of the Joint Doctrine Branch, J-7, is the distinctive American Way of War.¹⁰ If common doctrine is finally embraced across the services then the future for service cooperation would be assured even in light of significant budget and force reductions.

However, the first sight of trouble would be doctrinal splits forming along service lines concerning joint war fighting doctrine.¹¹ This would be the precursor event to a reemergence of significant interservice rivalry. We now have the signal that high level commanders and administrators can use to predict service interaction.

We also have a mechanism to foster service cooperation. If splits appear, they will most like be centered around a funding issues. Such was the case of the 1949 Admirals' revolt.¹² The fundamental issue was doctrinal in nature and struck to the heart of how the Navy perceived its war fighting role. The revolt may have been avoided if doctrinal issues could have been settled prior to the cancellation of the prototype program.

Chapter Five Notes

- 1 In many cases resource distribution decisions may involve factors outside the control of individual services. Distribution of funds is the most commonly thought of resource that could effect service interaction categories. This particular variable can be effected by many factors outside the control of the DOD. On the other hand the distribution of certain capabilities such as CAS and interdiction, to a large Extent can be controlled by the theater commander.
- 2 See Office of the Joint Chiefs, Joint Warfare of the US Armed Forces, Joint Pub 1, (Washington D.C.: OJC, 11 November 1991) (Hereafter cited as, Joint Pub 1)
- 3 See The Joint Staff Officer's Guide 1988, (Norfolk, VA: Armed-Forces Staff College, 1988), AFSC Pub 1, for a broad based description of service roles missions and responsibilities. This report also contains a brief summary of legislation concerning the joint and service organizations. This publication is an excellent one volume official source for information on joint and service responsibilities. All the information contained in the publication is based on fully documented source documents.
- 4 The traditional military forces of the Army and Navy are easier to distinguish. However, in terms of power projection and a coordinated operational level campaign there is little distinction between forces. All are military instruments. As with airpower, land and sea forces need to be centrally controlled under a component commander who is expert in that medium. Naval forces would be expected to be under operational control of a naval commanders working directly for the theater commander. Land and airpower is a slightly different and service command assignment should be done on a case by case basis based on which service has the preponderance of firepower. In most cases this will result in land forces, including marine, being under the command of an Army land component commander and air units operating under the command of an Air Force air component commander.
- 5 The execution system consists of the formal command system and C3I network that allows for the centralized control and decentralized execution of force under the control of a joint theater commander, task-force commander or CINC. In the case of Desert Storm this command system was Headed by the Joint Forces Air Component Commander (JFACC) who worked directly for the CINC.
- 6 Summers, On Strategy II, chapters 4-8, outlines the development of service doctrine from the end of the Vietnam war to the present. His contentions concerning army doctrine are persuasively supported. Warden, Air Campaign similarly treats air campaign development. A comprehensive, but British view, of airpower theory can be found in War In The Third Dimension: Essays In Contemporary Air Power, Editor R. A. Mason, (London: Brassey's Defense Publishers, 1986). General Charles A. Horner, "The Air Campaign," Military Review, (September 1991), 16-27, outlines his thoughts on developing an air campaign from both an historical and operational perspective. General Horner was the JFACC working directly under the theater CINC, General Norman Schwarzkopf, during the Gulf War.
- 7 Technical influences are beyond the scope of this study. Many believe that high technology resulted in the decisive victory in the desert that has been termed "hyper-war." However, the critical determiner is the difference in technological capability, not the absolute measure. As an example, the introduction of mobile horse mounted bowmen and cavalry coupled with superior tactics (Mobility, Speed, pinpoint directed firepower; this should sound familiar) was the secret to the success of the Mongol conqueror, Ghengis Khan during the mid-thirteenth century. See Larry H. Addington, The Patterns of War Through the Thirteenth Century, (Bloomington, IN: Indiana University Press, 1990), 66.

- 8 These traits are limited to the African and European Theaters of Operation. World War Two was a learning experience for the military. At best these traits are gross generalizations of four years of fighting. By the end of the war a tactical and operational execution system for air support was in place. However, it was early failures, such as Kasserine, that led army commanders to realize the need for a centralized execution system. See Hallion, Strike or Momyer, Three Wars,
- 9 For an on going discussion of Army and Air Force efforts to join their respective service's vision and doctrine concerning future war see various issues of, Air Land Bulletin, (Langley AFB, VA: Airland Forces Application (ALFA) Agency). This publication is published quarterly by HQ US Air Force Combat Command, formally Tactical Air Command (TAC), and HQ US Army Training and Doctrine Command (HQ TRADOC).
- 10 Peter F. Herrly, "Joint Warfare: The American Way of War," Military Review, Vol. 72, No.2, (February 1992), 10.
- 11 It is important to distinguish between war fighting doctrine and the eternal budget battle that goes on annually within the Washington Beltway. Continued service "sparring" along budget and program lines is expected. In some cases it may even be healthy. See Harold J. Brumm Jr., "Bureaucratic Competition and Weapon System Procurement," Defense Management Journal, Vol. 22, No.3. Further, debates over national strategy, with the single exception of strategic nuclear issues, must be distinguished from debates concerning force employment. Budget and strategy debates do not strike at the heart of war fighting doctrine and hence they do not fundamentally shape inter service relationships.
- 12 See Phillip S. Meilinger, "The Admirals' Revolt of 1949: Lessons for Today," Parameters, Vol. 19, No.3, (September 1989), 81, Paul Schratz, "The Admirals' Revolt," Proceedings, Vol. 112/2/996, (February 1986), 69.

APPENDIX A

ORGANIZATIONAL THEORY AND WAR FIGHTING DOCTRINE

Looking for Answers in the Wrong Place

The study of organizational behavior is the study of rational models applied to human group dynamics. The basic premise holds that individuals are thinking beings who operate within a universe that is quantifiable and deterministic given a set of defined initial conditions. Individuals, being rational, compete in non-adversarial relationship where value-maximizing and cost-minimizing are goals of the basic decision process. Conflict is seen as resolvable within a win-win or win-no lose context. War is irrational and outside the normal experience of behavior for most individuals.

At times the process of human interaction can appear to be totally irrational. However, the overriding assumption concerning the organizational theories presented below is that man is essentially a thinking, rational being. Rational models are deeply rooted in Western social and philosophical traditions. The sixteenth century “Scientific Revolution” ushered in by Copernicus, Galileo, and others laid the foundation for the Newtonian physics of the next century. This universal deterministic paradigm would remain in effect until the latter part of the nineteenth century when scientists tried to reconcile certain contradictions in the basic properties of light.

Five models for organizational interaction will be covered. Three models were developed by Allison and the fourth model was developed by Halperin. For the most part, these models are based on industrial and corporate experiences. Steinbruner’s theory of Cybernetic decision is also review as a fifth way of looking at the organizational process. Together these three authors cover the majority of the domain concerning governmental organizational theory. Allison’s model I is individual oriented. Halperin’s bureaucratic model is closely related to Allison’s models II and III. Steinbruner’s model is individually based and somewhat related to Allison’s model I which emphasized the role of the individual over the bureaucratic process. The goal of this review is to place each theory in its proper perspective to one another. A comprehensive review of each theory is not intended.

Allison¹

Graham Allison sees the decision making process as essentially the result of an ordered deliberate procedure of reasoning by individuals within organizations. Actors attempt to select the choice that maximizes the value of a desired end state. Three related models are suggested by Allison. Model I is the simplest and, according to Allison the least accurate for understanding how decisions are made.

Treating national governments as if they were centrally coordinated, purposive individuals provides a useful shorthand for understanding problems of policy. But this

simplification --like all simplifications --obscures as well as reveals. In particular it obscures the persistently neglected fact of bureaucracy: the “maker” of government policy is not one calculating decision maker but is rather a conglomerate of large organizations and political actors.²

The second and third models each add a level of complexity to the way individuals interact within their organizations and with each other. The third model is a politically based model and defines what could be the interface between a rational process and a probably irrational system. At its limit, if the political process becomes deleterious, Allison’s model III has the potential to result in what could be interrupted as irrational behavior.

Model I (Individual)

This is the simplest of the Allison models. It assumes that a single individual is in charge and that individual makes rational and informed decisions based on unbiased information provided through the organization or bureaucracy. Action is seen as a choice regarding some objective. The best choice is selected by maximizing the payoff of examined alternatives. Governments or organizations are seen as essentially black boxes where data is the input and decisions are the output.

Model II (Organizational)

Model II uses an organizational pattern as a framework. Although a single individual may be in charge, the emphasis is shifted to the interaction of organizations. Action is now seen as the result of an organizational process that is colored by the participating organizations or groups. Organizational Standard Operating Procedures (SOPs) and goals form the dominant inference pattern. Emphasis is shifted from the individual, as a rational decision maker, to the organization and various rules, regulations and customs that form a rational framework for the decision process. The best choice becomes the solution that combines various organizational goals within an accepted SOP. Governments or organizations are seen as collections of smaller organizations or bureaucracies that coalesce under the leadership on a group of individuals.

Model III (Political)

Model three is the most complex of the three models. Government action is seen as the result of political bargaining. The emphasis is back on the individuals. However, unlike Model I where the individual is in control, many players are involved in the actual decision process. Individuals become secondary to the political process. Model III can be thought of as a combination of the first two models. The principle players who control the action-channels most likely are heads of bureaucratic organizations within the larger organization. However, under model three these individuals are

controlled by the political process and less by the bureaucratic constraints established in Model II. Government action is seen as a result of bargaining.

Irrationality is constrained by the political and negotiation process inherent in the workings of model III. Irrational behavior is first constrained by organizational norms. If organizations are, in general, considered rational, then the leaders of those organizations can generally be assumed to be rational. Otherwise the individual would be unable to achieve any influence in that organization and would not be allowed to represent the organization's interests at higher level meetings. Second, even if an individual were to suddenly act irrational, the norms of the higher level group should maintain overall rationality in the process. Allison states that where one stands is dependent on where one sits.³ Consistent irrational behavior would most likely result in one's chair being removed from the working group. In a sense, an irrational actor would soon find his action channel reduced to zero.

Halperin-Bureaucratic Theory

Bureaucratic Model

Morton H. Halperin, of the Brookings Institution, proposes a Bureaucratic Model for organizational interaction that is a cross between Allison's Models II and III. Halperin's model was designed to be applicable at high levels of government (i.e., At the Presidential, Congressional, and Cabinet Level Offices). Organizational or bureaucratic influences mold the decision process within a political framework. However, Halperin sees the bureaucracy as, "basically inert; it moves only when pushed hard and persistently."⁴ Individuals or bureaucrats force the system to make decisions through their actions. Participation of individuals in this process is structured and the rules of the game serve as a check against irrational behavior. Within the confines of the rule system, individuals tend to define their own role and level of participation. Action is a result of a political process involving compromise, bargaining and negotiation. The environment is not considered to be adversarial. Persuasion techniques are described in terms of convincing adversaries in terms of shared images. Win- Win or at least no lose outcomes are sought. As in Allison's Model III, individuals are involved in a political process. As in Allison's Model II, these individuals are not "freed" from their bureaucratic roots.

Steinbruner-Cybernetic Theory

Cybernetic theory can be seen in its most fundamental terms as the study of an evolutionary process guided internally by incremental changes to the system. John Steinbruner in his book The Cybernetic Theory of Decision, uses the example of throttle governor on a steam engine. The system uses two spinning balls to open and close a steam valve that controls the speed of the engine. The faster the engine goes, the higher the balls are swung. The upward movement of the spinning balls causes a

steam valve to close causing the engine to run slower. The speed of the engine is thus self controlled because faster rates of turning caused the engine to shut off steam power to itself. While slower rotation of the engine, caused the balls to drop and open up the steam valve causing the engine to run faster.⁵

The key principle in the above example is that the machine reacts to the environment through an internal feedback system and appears to make a rational thinking choice, i.e., constant speed. In reality there has been no rational choice. The machine merely responds to the environment based on a structured internal system of response. It has been proposed that the mind works in a similar fashion.⁶ The implication is that individuals do not make value added judgments concerning their environment as conventional rational theorists would have us think. Steinbruner observes,

A starker challenge to the analytic paradigm is presented by [W. Ross] Ashby. Ashby's decision maker is presumed to make no calculation about the outcomes of his action at all and to attach no payoff value in advance to any alternative action. The Ashby decision maker harbors a repertory of behaviors which it performs in some ordered sequence. The sequence is not so much related to the problem at hand as it is to past experience. This decision maker monitors a small set of "critical variables" and his values consist in keeping these variables within tolerable ranges.⁷

According to Steinbruner, the Cybernetic approach is more than just a new model. It represents a whole new way of looking at things, a new paradigm for decision analysis. Steinbruner operationally characterized the analytic paradigm. He writes that, "A given process of decision is analytic if upon examination one can find evidence that there was at least limited value integration, that alternative outcomes were analyzed and evaluated, and that new information regarding central variables of the problem did produce plausibly appropriate subjective adjustments. In following the process through a sequence of decision points, it can be found analytic if one can observe a causal learning process; that is, an explicit set of calculations which evolve in such a way that higher, more general conceptions of decision objectives came to be included (upward expansion), as well as critical environmental interactions which were previously excluded (lateral expansion)."⁸ He identifies the shift from individual analysis to collective or corporate analysis as that analytic process where an explicit set of calculations, and limiting criteria are shared by the individuals involved.

The Cybernetic paradigm, as defined by Steinbruner, does not acknowledge the idea of value integration; the conceptualization of a range of outcomes; and broad sensitivity to information. The Cybernetic model views the decision process as focused around the problem of controlling inherent uncertainty by means of highly programmed response.⁹ In a sense, this is the function of military doctrine. Doctrine's purpose is to limit unknowns and provide a guide for future action based on experience. But there is a conflict between the need for a programmed response and innovation in action. Military doctrine must be both innovative and programmed. It must be descriptive and

prescriptive. Doctrine must guide the military planner but not restrict action.

There is a close analogy between the function of doctrine and the Cybernetic process. The Cybernetic process acts as a controlling function that guides the decision maker along predetermined routes. The routes are learned by the decision maker over time through some type of cooperative learning process. The routines are second nature and integrated into the way that particular person thinks. These prescribed routines indicate a decision maker who has a preordained bias to actions taken.

Under the Cybernetic paradigm of decision theory individuals react to environmental inputs based on a preconstructed set of cognitive rules.¹⁰

These reaction rules channel the response down predefined channels that lead to decisions that are bounded by the decision process.

For example, a Marine Corps commander might support a series of amphibious landings to bypass fortifications and recapture a city located in a coastal area. On the other hand, when faced with the same problem, an Air Commander may suggest a vertical envelopment using airpower to defeat the fortifications and an air mobile assault to fly over or around them.¹¹ Under standard analytic theories of decision the fundamental question in determining how the decision process worked is based on the data concerning the ground order of battle and the political and bureaucratic organizational processes that fed into the decision. Cybernetic theory concentrates on the decision rules constructed in the individual's thinking process. These decision rules are codified in the military as doctrine. The fundamental difference between the two approaches is the bureaucratic and political models assume a decision process not rooted in the commander's vision of war.

Bureaucratic and political models assume normal environments and experiences. The impact of the individual i.e. a General George Patton, is lost in the nameless organizational process. By their very nature they require a level of rationality that may not be present in war. On the other hand, Cybernetic theory is built around the individual and accommodates uncertainty.

This distinction is important when dealing with events that border at the extreme of "normal" experience. Under conditions of normality, the difference between the analytic and Cybernetic approach to the decision process may seem to be indistinguishable. This is because both systems provide a second party observer with a logical framework to explain the decision process. However, at the limits of usual experience, the analytic paradigm breaks down. Actions that should appear logical seem illogical. Seemingly illogical actions are carried out without explanation against all the predictions of second party actors.¹²

This brings us to the root problem in dealing with the creation of war doctrine. In general, war

events are outside the realm of “normal” experiences of most Americans. Those who write doctrine and plan campaigns are operating with repertoires or rules that are not formulated to deal with the problem of the next war. To put it simply, the mind set of the military thinker is generally focused on the last war. There is a constant tension between the known principles developed out of experience and the unknown stemming from the introduction of new weapons and relationships in the theater of military operations. Michael Howard touched upon this point when he wrote:

Armed Forces function professionally in a sort of void. You cannot verify your calculations. You do not get as military scientists any “feedback” for your ideas about how wars should be fought and how weapons should be used; the kind of “feedback” that a natural scientist gets when he can verify his hypotheses by experiments or a businessman when he examines his annual balance sheets.¹³

From Cybernetic theory we conclude that the reaction of individuals is based on internal mechanisms. This makes the key variable in how an individual responds dependent on an internal cognitive process. According to Steinbruner,

there are indeed systematic regularities in the way in which the human mind deals with incommensurate values and structural uncertainty [unsure information] ...cognitive theory yields three further claims: (1) that there are such regularities having to do with the structure as opposed to the content of cognitive operations; (2) that the full human mental apparatus is engaged in the simplest of operations such as-direct, immediate perception (and hence susceptible to fruitful study by experimental methods; (3) that most of what happens in the human mind is not accessible to direct, conscious experience....

These three claims provide the basis for applying cognitive theory to the analysis of decisions under complexity....

The third proposition reflects a consensus within cognitive theory that a great deal of information processing is conducted apparently prior to and certainly independently of conscious direction and that in this activity the mind routinely performs logical operations of considerable power.

This cognitive framework combined with a Cybernetic process of decision results in what some authors have describes as cognitive traps. Some traps will be discussed below. These traps indicate why, political, and bureaucratic models do not explain doctrine formulation and service interaction.

Cognitive Traps:¹⁵

Cognitive traps can be thought of as mental “roadblocks” to ideal learning or perception within an individual’s mind. Individuals learn as a result of the interaction of various social, personal and environmental factors that coalesce to form what is called memory. These memories then form a structured set of beliefs that are used by the individual to make decisions.¹⁶ The important thing to remember is that given complex or confusing data, the human mind will tend to “order” this data to fit a

preconceived structure.¹⁷ The net result is a picture of reality that may be quite different between individuals with divergent preconceived structures. One common example of this “mismatch” is the misunderstandings evolving from the translation of instructions from one language to another.¹⁸

Social scientists are familiar with these processes and models have been developed to explain social interaction among various individuals and societies. David A. Schkade and Lynda M. Kilbourne, write in their paper, “Expectation-Outcome Consistency and Hindsight Bias,”

Consequently, we have highly developed cognitive sense making mechanisms that are invoked almost automatically as events are experienced. These mechanisms serve, in part, to update existing cognitive structures and to help create new ones. Because these mechanisms often leave cognitive structures changed in ways that accommodate or reconcile existing structures with recent outcomes, perceptions of previous experiences will move toward consistency with the outcomes.

However, the pertinent question to be asked is what happens when the experience is so outside the normal frame of reference that it becomes impossible to adapt the cognitive structure in a significant way to properly comprehend the data. In this case traps are formed that block the normal process of internalizing perceived events in the environment.

Traps are defined by five categories. They are external, collective, ignorance, sliding-reinforcer and time-delay.²⁰ As implied above, “these traps are a result of the reciprocal interaction of behavioral, cognitive, and personal factors, as well as environmental events.”²¹ The collective, sliding-reinforcer and time-delay traps are of interest to our study of doctrine and service interaction.

The collective trap is a form of what has been termed group think. In this case the action of individuals or groups collectively bring harm on all. This trap exists because any single individual or group is unable to change the actions of the whole.

Each independent decision-making unit perceives that there are no alternatives that bring immediate payoffs. Therefore it will be reluctant to abandon established behavior regardless of the ultimate adverse consequences.... The long-range collective harm produced by the acts of individual units will not inhibit their behavior.²²

Further, there may be short-term benefits to an individual or group that blocks change even though the long-term net effect is harmful to all. This is the process that many bureaucratic theorists concentrate on as part of an organizational effect. Cognitive theory implies that this effect is tied to the individual, not the organization. This distinction is important when dealing with doctrine formulation and service interaction. War is fought by people organized into a team. Doctrine is an outgrowth of how commanders, the team’s coaches, view war.

The blocking of change or the creation of new doctrine in light of the collective trap needs to be

examined further. Aside from Michael Howard's comments above, why would military thinkers resist change? The answer lies in a second cognitive trap. The sliding-reinforcer trap concerns situations where past positive reinforcement results in a continuation of actions that are no longer beneficial under the current environment. Tefft refers to the sliding-reinforcer trap as an arbitrary category.²³

Sliding-reinforcer traps are merely special forms of time-delay traps in which changing historical or environmental circumstances result in completely negative consequences for a pattern of behavior that earlier received varied reward and punishments over time. The cognitive process that operated to perpetuate the time-delay trap may eventually lead people into the sliding-reinforcer trap.²⁴

However, for our purposes this trap is important and distinct from the other traps listed. The charging of machine gun emplacements with massed troop formations in World War One is a clear example of an early nineteenth century behavior that lost any form of benefit by the time that war was fought.

In one sense Steinbruner has taken the organization model II of Allison and applied it to the human brain or psyche. For years researchers have applied human analogies to organizations. Allison's model one is one such structure. Steinbruner takes organizational theory and applies it to the individual. The implication is that the basic biological structure of the mind results in individuals and hence, the organizations that are made up of them behaving along Cybernetic modes of operation.

Discussion

What is Explained

Human interaction and organizational behavior are context sensitive. Three of the five theories described above fairly accurately depict corporate oriented or politically driven organizational behavior in one form or another. Allison's Model I is an individual oriented model as in Steinbruner's model. These two models emphasize the individual's role in the decision process rather than the bureaucracy or politics. Most any organizational behavior of these three types, unitary actor bureaucratic or political can be classified using the five models outlined above.

However, in understanding the applicability of these models it is important to consider the domain in which these models were developed. The Allison models II and III describe a governmental political process at the highest levels of government. Halperin's model extends Allison's framework to include lower level bureaucratic politics. In a sense, both authors are viewing the same area. Allison from above and Halperin from below.

Steinbruner on the other hand puts forward a thesis that the rules that govern organizational behavior are rooted in the individuals that make up the organization. Unlike Allison and Halperin who look toward the organization process for insight as to why organizations work as they do. Steinbruner

looks to the individual.

The analytic assumption of value integration is rejected. It is replaced with a somewhat vaguely specified conception which posits minimally articulated, preservative values and which does not yield a coherent preference ordering for alternative states of the world under trade-off conditions. The major theme is that the decision process is organized around the problem of controlling inherent uncertainty by means of highly focused attention and highly programmed response. The decision maker in this view does not engage in alternative outcomes calculations or in updated probability assessments.²⁵

Steinbruner's approach being fundamentally different from Allison's and Halperin's is not constrained to the same domain. Steinbruner deals with individuals and their fundamental response to decision making. His paradigm is more universally applicable and related to Allison's model I, the unitary actor.

Elements of Steinbruner's approach are contained in both Allison's and Halperin's models. Halperin acknowledges the importance of personal relations in his model and supports Steinbruner's idea that, "decision makers focus on a few variables and develop a set of programmed responses to changes in any one of these variables."²⁶ Allison also sees the importance of the individual's decision process. Much of his model I is based on analysis of organizations as if they worked as a rational person. However, Allison does not embrace Steinbruner's idea of programmed response to a self filtered set of data, nor does he expect us to embrace his model I as the best method for describing organizational interaction.

APPENDIX A Notes

- 1 See Allison, *Essence of Decision: Explaining the Cuban Missile Crisis*, (Boston: Harper Collins, 1971)
- 2 Allison, *Essence*, 3
- 3 Allison, *Essence*, 176.
- 4 Halperin, *Bureaucratic*, 99.
- 5 Steinbruner, *Cybernetic Theory*, 52.
- 6 See the following based on summaries appearing in Steinbruner, *Cybernetic Theory*, Herbert. Simon, "A Behavioral Model of Rational Choice," in Herbert A. Simon, *Models of Man: Social and Rational*, (New York: John Wiley and Sons, 1957), 241-260, K. W. and J. T. Spence, eds., *The Psychology of Learning and Motivation*, (New York: Academic Press, 1967 and 1968), vols. I and II.
- 7 Steinbruner, *Cybernetic Theory*, 63.
- 8 Steinbruner, *Cybernetic Theory*, 138.
- 9 Ibid 86-87.
- 10 The following footnote is quoted from Steinbruner, *The Cybernetic Theory of Decision*, 63, "This entails accepting assumptions that repertoires of behavior are ordered in terms of past reinforcement. With the principle of reinforcement, Ashby's formulation in essence summarizes a main argument of learning theory in psychology. The phenomenon of conditioning, whose characteristics are reasonably well established, and various stimulus-response theories of behavior are all models falling within the spirit of the Cybernetic paradigm."
- 11 These two scenarios were under consideration during the Gulf War. The theater commander selected an approach that involved a ground encirclement coupled with massive air attacks to fix and destroy enemy positions.
- 12 This was clearly the case at the outbreak of World War One. Barbara W. Tuchman's, *The Guns of August*, (New York: Macmillan Publishing, 1962) takes on a new dimension of importance when read from a Cybernetic decision theory perspective. Her historical narrative account of the initial days of the first world war is a fertile case study for Cybernetic decision processes.
- 13 Michael Howard, "Military Science in an Age of Peace," *RUSI, Journal of the Royal United Services Institute for Defense Studies*, 119, (March 1974), 4
- 14 Steinbruner, *Cybernetic Theory*, 91-92.
- 15 Much of the discussion on cognitive traps has been inspired by Stanton K. Tefft, "Cognitive Perspectives on Risk Assessment and War Traps: An Alternative to Functional Theory," *Journal of Political and Military sociology*, 1990, Vol. 18 (Summer): 57-77.
- 16 See Ulric Neisser. *Cognitive Psychology..* (New York: Appleton-Century-Crofts, Inc., 1967) Chapter 9 and

- 17 Thomas I. Miller, "Gut-Level Decision making: Implications for Public Policy Analysis," Journal of Policy Analysis and Management Vol. 8, No. 1. (1989), 119-125. Miller proposed three models for decision making. They are the rational, political and intuitional. He describes the cognitive process in terms of an intuitional model of decision making. Kaoru Ono et al, "Intuition vs. Deduction: some Thought Experiments Concerning Liikert's Linking-Pin Theory of Organization," Organizational Behavior and Human Decision Process 42, (1988), 135-154 also describes a cognitive like process in their attempt to explain how distorted information flows up through an organization. David A. Schkade and Lynda M. Kilbourne, "Expectation-Outcome Consistency and Hindsight Bias," Organizational Behavior and Human Decision Processes, 49, (1991) 105-125, gives a good example of the cognitive process at work in their discussion of decisions under risk with various outcomes.
- 18 Stephan P. Banks and Anna Banks, "Translation as Problematic Discourse in Organizations." Journal of Applied Communication Research, November 1991. 223-239
- 19 David A. Schkade and Lynda M. Kilbourne, "Expectation-Outcome Consistency and Hindsight Bias," Organizational Behavior and Human Decision Processes, 49, (1991), 107
- 20 Stanton K. Tefft, "Cognitive Perspectives on Risk Assessment and War Traps: An Alternative to Functional Theory," Journal of Political and Military sociology (Hereafter cited as, Kefft, "Cognitive Perspectives). Tefft developed his war trap analysis from social trap theory developed by J. C. Cross and M. J. Guyer, Social Traps, (Ann Arbor: The University of Michigan Press, 1980, A. Bandura, Aggression, (Englewood Cliffs, NJ: Prentice Hall, 1973, social Learning Theory, (Englewood cliffs, NJ: Prentice Hall, 1977) and Social Foundations of Thought and Action, (Englewood Cliffs, NJ: Prentice Hall, 1986),
- 21 Tefft, "Cognitive Perspectives," 59
- 22 Tefft. "Cognitive Perspectives," 62.
- 23 Tefft, "Cognitive Perspectives," 61.
- 24 Tefft, "Cognitive Perspectives," 62.
- 25 Steinbruner, Cybernetic Theory, 86.
- 26 Steinbruner, decisions Under Complexity, Chapter 4, as quoted in Halperin, Bureaucratic Politics & Foreign Policy, 21.

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