

# Developing an Air Campaign Strategy

**Major Russell J. Smith**

The first priority, the best way to defeat an adversary, Sun Tzu tells us, is to defeat an adversary's strategy. Air campaigners do not appear to be strategists.

—Colonel Richard Szafranski

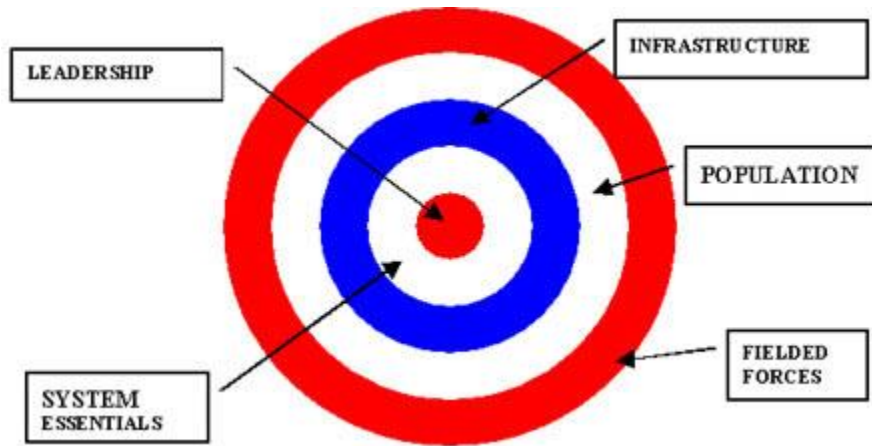
Strategy is a broad concept, embracing an objective, resources, and a plan for using those resources to achieve the objective.

—William P. Snyder

## Inner Rings Versus Outer Rings

The argument continues to rage among aerospace power experts as to the validity of pursuing an "outside-in" strategy versus an "inside-out" strategy. Colonel John Warden, architect of the Gulf War air campaign, developed a Five Rings model, consisting of leadership, system essentials, country infrastructure, population, and fielded forces (see Figure 1). This model provides valuable guidance in breaking down an enemy into a "system," thereby dissecting the critical nodes with the goal of identifying centers of gravity (COGs). While the model and subsequent strategy developed by Colonel Warden is helpful in plotting an "inside-out" targeting strategy aimed at a sophisticated, industrialized, and rational actor (nation/state), the model is, by no means, the authoritative panacea to successful air campaign planning. Although Warden does acknowledge that it is sometimes necessary to concentrate against the fifth ring (fielded forces), he does not classify the fifth ring as a potential operational or strategic ring. This view fails to recognize the vital and strategic contribution played by targeting an adversary's fielded forces.

The last ring holds the fielded military forces of the state. Although we tend to think of military forces as being the most vital in war, in fact they are means to an end. That is, their only function is to protect their own inner rings or to threaten those of an enemy....The essence of war is applying pressure against the enemy's innermost strategic ring—its command structure. Military forces are a means to an end. It is pointless to deal with enemy military forces if they can be bypassed, by strategy or technology, either in the defense or offense.



**Figure 1. Warden's Five Rings.**

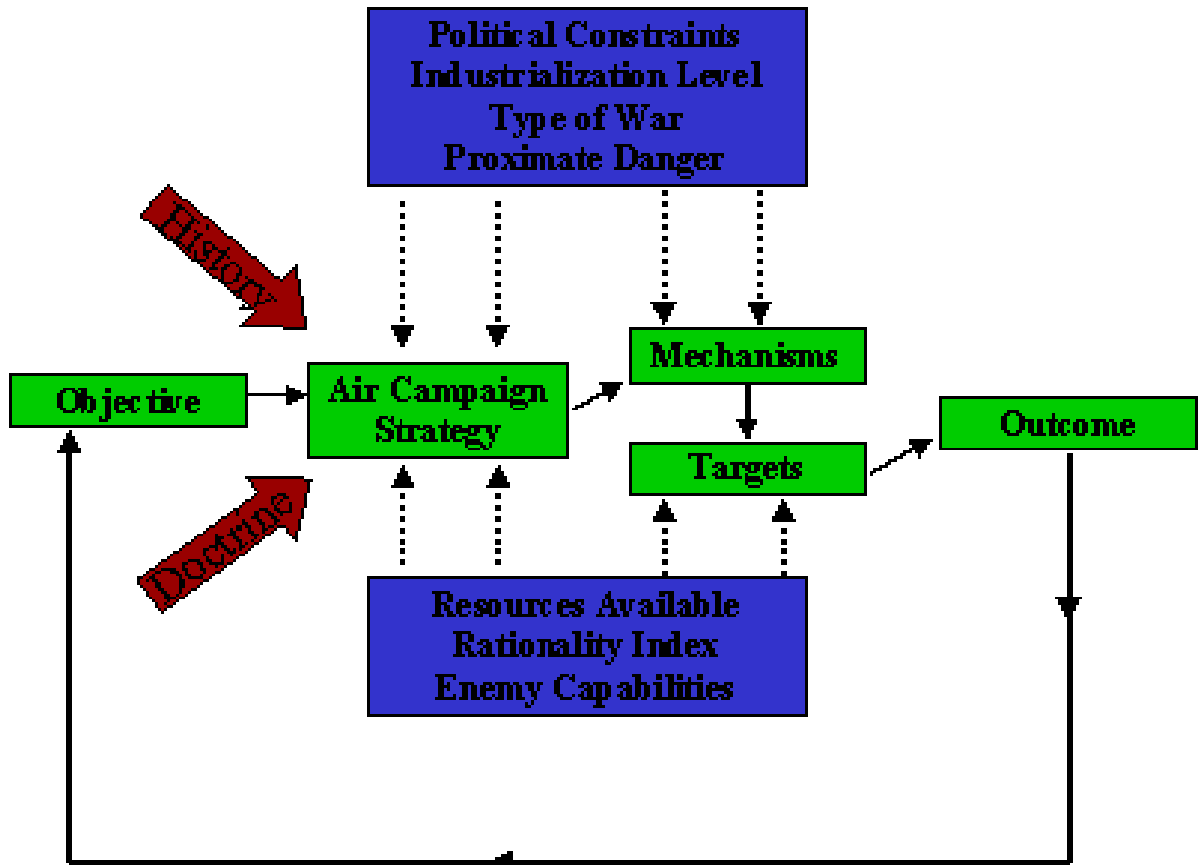
(Source: *The Enemy As A System*, Colonel John A. Warden)

Conversely, the "outside-in" strategy assumes that the outer ring of fielded forces (an adversary's navy, army, air force, marines, etc.) must be decimated (or at least neutralized) first before proceeding on to the "inner rings" of leadership, system essentials, infrastructure, and population. Warden's inside-out strategy implies that strategic attacks directed at the center rings will have cascading and devastating effects on the outer rings and preclude the necessity of ever having to attack the outer ring of fielded forces. During the development of "Instant Thunder" (the initial version of the planned Desert Storm air campaign), Colonel John Warden was soundly convinced that the United States military machine would not have to go beyond targeting the strategic inner rings to achieve its objectives against Saddam Hussein. In fact, Colonel Warden was so sure that his strategic attack plan would succeed against Iraq that the Instant Thunder plan did not include any attacks on the Iraqi Army, including Saddam's elite Republican Guard divisions.

Fortunately, the Chairman of the Joint Chiefs of Staff, General Colin Powell, corrected this omission and as a result, "The vast weight of the Coalition air effort in the war flew either directly against Iraqi ground forces in the Kuwait theater or against the supply lines to those forces. These ground forces absorbed the preponderance of the attack sorties of the war and an even larger proportion of the bomb tonnage. This portion of the air war was characterized by the gradual attrition of Iraqi forces rather than be a sudden change in Iraqi capabilities, such as had characterized the attacks on the Iraqi air force, air defense system, and electrical power grid." The truth is that less than fifteen percent of Desert Storm Coalition strikes were directed at strategic targets; in contrast, more than fifty-six percent of the strikes were directed at Iraqi surface forces. The undisputed bottom line is that air attacks on Saddam's ground forces were one of the keys to one of the most one-sided victories in the history of warfare.

## **The Questions Which Must Be Answered**

The determinants of a successful air campaign are complex and interwoven; there simply is no "one best solution" for all cases. The model portrayed in Figure 2 illustrates the many factors, constraints, and influences which must be addressed before developing an optimum strategy for a successful air campaign.



**Figure 2. Developing Air Campaign Strategy.**

(Source: Author)

This list is not exhaustive by any means; however, for the foreseeable future, wars will operate under the influence of several common factors, shown in the model. This paper elucidates the effect each of the "influences" has upon the development of an air campaign strategy. Although significant, it is out of the scope of this paper to address the important roles that doctrine and lessons learned from history play in the formulation of strategy: suffice it to say that history and doctrine guide the development of strategy and help lay the necessary foundation.

A dissection of the "Air Campaign Strategy" model follows. First, I'll explore the critical process of establishing an objective, then I'll touch on each of the air campaign model influences, to include political constraints, industrialization level, type of war, proximate danger, resources available, rationality indexes, and enemy capabilities. Finally, I'll outline the mechanism selection process, and examine how that selection procedure affects weaponizing decisions, targets, and the feedback loop.

### **First Things First: Establishing An Objective**

The air planner must know the desired end-state which will satisfy the germane national level decision-makers. Prior to developing a strategy for an air campaign, the most fundamental questions must be asked first: What exactly are you trying to achieve? What behavior are you attempting to modify? What will constitute "success" and even more importantly, what won't? Precise answers are needed prior to the fabrication of any meaningful plan which seeks to accomplish the stated objectives; in fact, the cultivation of appropriate strategy is nothing more than the process of asking the right questions along the way.

Air Force strategists must disavow parochialism and give realistic estimations as to what air power can and cannot achieve. The fact that air power can destroy, neutralize, or penetrate certain targets is straightforward enough; however, air power may or may not be able to coerce or persuade an enemy into acceptable behavior.



**Figure 3. The A-10 Warthog.**

(Source: <http://af.mil>)

Analyzing an adversary as a system, as Colonel Warden has proposed, provides a proven method to identify an enemy's centers of gravity (COGs)...further analysis may indicate the critical nodes upon which the system in question depends upon...objective, vulnerability, and risk assessments will help determine whether a direct, indirect, or

tangential attack strategy is required; however, there is no science which will tell the air campaign planner unequivocally what will cause the desired outcome. Air power advocates have consistently oversold the promises of their profession and inadvertently caused great damage to air power's legacy, which, in turn, has tended to callous the Army's ears over time. Who can forget Giulio Douhet's exaggerations of air power's effectiveness? "...Within a few minutes some 20 tons of high-explosive, incendiary, and gas bombs would rain down....the fires would spread while the poison gas paralyzed all life. By the following day the life of the city would be suspended...."

Indeed, modern air power has finally reached its golden age, but it cannot do it all. Air power cannot hold territory, nor did it single-handedly cause the exodus of Iraqi forces from Kuwait. Was air power effective in the Gulf War? Undoubtedly, air power caused disruption, confusion, desertions, and the general decay of morale among the Iraqi Army, but it cannot claim that it did, or even would have, achieved the withdrawal and total surrender of the Iraqi forces. Air power was the dominant player in the Gulf War—air power prepared the battlefield like never before in the history of warfare, but it did not operate alone, nor could it guarantee success without the Coalition surface forces below.



**Figure 4. A B-52 Dropping Conventional Ordnance.**

(Source: <http://af.mil>)

### **Air Campaign Strategy Influences**

Political Constraints. As Clausewitz stated, "War is not an independent phenomenon, but the continuation of politics by different means." There will always be political constraints placed on any future military engagement. An air campaign must be developed in accordance with those constraints which often take the form of rules of engagement (ROE). The bottom line is that air planners must develop an air campaign strategy within the confines of these ROE.

**Duration of War.** A sound air strategy must take into account the anticipated duration of the conflict. Obviously, no crystal ball exists, but there certainly are hypothetical and educated guesses which can be made. The significance of duration is this: a strategic bombing campaign concentrated on the inner rings of infrastructure and system essentials may take months or even years to take effect. For instance, during the Gulf War, Coalition air forces rendered more than 90 percent of Iraq's petroleum refining capacity inoperative, yet it did not affect the Iraqi military operations substantially. In fact, the amount of diesel fuel available for ground operations at the outset of the ground campaign would probably have lasted for many weeks, if not months, of combat.

**Industrialization Level.** Additionally, the industrialization level of the adversary is of prime importance and will affect targeting science directly. A non-industrialized nation may not have any or very few classic infrastructure type targets to hit, thus obviating the necessity of a classical Warden inner-ring strategic bombing campaign. One of the reasons that the United States was so utterly ineffective in strategic bombing efforts against North Vietnam was because the North's reliance upon maintenance of an industrialization level was almost non-existent. Mark Clodfelter comments on this issue, "Civilian leaders and air commanders alike miscalculated the effect that the campaign would have on the North. Both groups thought that the North's industrial apparatus was vulnerable to air attack....the Communists' limited needs rendered the...North's industrial establishment superfluous. Air commanders grossly miscalculated the value of oil to the Northern war effort. They also thought that the destruction of the steel and electric power industries would disrupt the North's' economic and social welfare. Perceptions in Hanoi differed from those in Washington...." It is ludicrous to attempt to prosecute an effective conventional bombing campaign against an enemy practicing guerilla warfare under triple-canopy jungle, while transporting the supplies of war by bicycle.

**Type of War.** The type of war affects the mechanisms used: in a limited war, limited measures are employed to guarantee limited results, while in an unlimited war, many historical conventions on the conduct of war disappear. The use of nuclear and biological weapons, chemical agents, incendiary attacks, food and water targeting, and attacks on non-combatants all become viable options during unlimited war. In this instance, political constraints would be minimized, thus freeing up any restraint on the use of force against an adversary.



**Figure 5. An F-16 Soars Over Monument Valley.**

(Source: <http://af.mil>)

**Proximate Danger.** The best example of the influence that "proximate danger" has upon strategists concerns the Korean peninsula. The North Koreans have sixty divisions/brigades of infantry and artillery stationed within the forward area south of the Pyongyang-Wonsan line, where they can launch a massive attack on South Korea without requiring any increase in troops or unit reorganization. A halt-phase operation against invading North Koreans would demand that fielded forces receive **first priority** in an air campaign. There may not be time to execute an offensive (or defensive, for that matter) strategic bombing campaign when hordes of warriors stand knocking on the doorstep. Survival demands that you stop the bleeding first, prior to conducting a strategic air plan focused on any of their inner rings. The Korean theater of operations is one area where Warden's theory falls short.



**Figure 6. An F-117 Stealth Fighter Drops Two GBU-27s.**

(Source: <http://af.mil>)

**Rationality Index.** The degree to which the United States views our adversary as a "rational actor" will directly affect the type of strategy developed for an air campaign. Americans' tendency toward ethnocentrism is extremely apparent in this area; we tend to believe that foreign leaders conduct a cost/benefit analysis much like we would in the United States. The reality is that they most assuredly do not. Certainly, Americans value life far differently than other cultures and peoples. Sociologists and human-based intelligence efforts (HUMINT) can go a long way toward solving this problem, but in the meantime, air campaign planners should never assume that the enemy will make decisions based upon "rationale" yardsticks.

**Resources Available.** Resources influence strategy, especially at the strategic and operational levels. At these levels, resources are often abundant enough to allow plenty of flexibility; however, at the tactical level, resources are much more likely to be constrained or fixed, thus reducing the alternatives available for execution. William P. Snyder puts it eloquently: "...strategy is defined as a relationship embracing an objective, resources, and a plan or concept linking the two. But this relationship does not imply that strategy is 'determined' by resources." While doctrine shows how things should be done in an ideal world, strategy dictates how things will actually be done in the real world. Resources are one of the constraints that help mold and shape strategy.

**Enemy Capabilities.** Not only do our friendly resources available affect our ultimate choice of strategy, but also our enemy's resources and capabilities, too. Enemy actions directly influence our choice of national security strategy and national military strategy alike. Common sense dictates that air campaign planners select a course of action and strategy based upon our adversary's likely response. Armed Forces Staff College's (AFSC) Pub 1 guides the formulation of the "Commander's Estimate" which, in turn, directs assessments concerning an enemy's relative combat power. This evaluation includes analysis concerning an enemy's: strength, composition, location, disposition, reinforcements, logistics, time and space factors, and combat efficiency. Obviously, our choice of an air campaign strategy against a powerful nation such as China would be quite different from one developed to counter an uprising in Peru. William P. Snyder comments, "Enemy capabilities are one of the most important of the variables that shape strategy."





## **Figure 7. The B-1 Lancer Banks Hard Right.**

(Source: <http://af.mil>)

### **Mechanisms, Target Selection, and the Feedback Loop**

The factors above directly affect the formulation of an air campaign strategy and the election of: 1) mechanisms chosen to achieve the end state objectives, and 2) the types of targets selected. The mechanisms and target selection combine to form the heart of a campaign's air strategy. For an air campaign strategy, mechanisms may include the choice of a manned versus unmanned option, and if manned, aircraft type. Ideally, the desired weapons' effect should drive mechanism selection; however, the choice may be strongly politically tainted, such as the recent decision to deploy the B-1 Lancer to Southwest Asia (the result of another Saddam yo-yo twirl). The B-1 has fought criticism (justifiably) during its entire existence and the Pentagon must have been drooling to finally get a chance to employ the beleaguered B-1 in a fairly benign combat environment.

The combined variables of aircraft type and desired effects influence fuzing decisions. Fuzing decisions consider whether area coverage is desired (air-burst option) or if penetration of hardened surfaces is required (delayed fuzing). Finally, after weapons have been released and damage assessment reviewed, the feedback loop is energized and returns information back to the planners as to the effectiveness of the attack. This feedback loop is most commonly known as battle damage assessment (BDA). A critical review during this feedback loop may require an adjustment of the original objective. For instance, when initially planning a recent air strike into Iraq, the NCA first announced that the objective was to eliminate Iraq's WMD capability, then, upon further assessment, the NCA adjusted the objective to diminishing Iraq's ability to produce WMD. The exact same process can be followed in any war.

### **The Bottom Line**

There exists no "cookbook" recipe which will guarantee the ultimate success of any air campaign strategy. Colonel Warden's Five Rings model is a useful tool and provides valuable planning insight into determining an enemy's choke points and COGs. But Warden's model and theory do not offer the panacea for all possible scenarios and certainly are inadequate in cases similar to present-day North Korean scenarios, where sound strategy dictates that planners target an enemy's fielded forces first. The air campaign strategy model presented in this paper attempts to define and elucidate several of the key influences on this process. Above all, it should be remembered that the development of an effective air campaign strategy is a fluid and dynamic manipulation, which demands a flexible and responsive approach. To do otherwise is to unnecessarily risk priceless human lives and jeopardize a fragile world order.