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This monograph studies the use of aircraft in insurgency. It compares airpower and insurgency theories, looks at the historical use of aircraft in insurgency, and considers four recent examples of insurgents or separatists attempting to apply airpower in their struggles. The four examples are the Nicaraguan contras, Sri Lankan Tamil Tigers, Chechen separatists, and Afghan Taliban.

The monograph shows that insurgency theory and airpower theory are compatible. The four case studies indicate that successful use of airpower by insurgents depends heavily on a strategic perspective, especially a view toward long-term results. Similarly, the insurgents must have a good understanding of both insurgency theory and airpower theory. Also essential are a viable sanctuary and available, supportable aircraft. The aircraft used do not need great technical sophistication, but must be used in a manner appropriate to their capabilities. In general, aerial resupply and other support functions are more valuable than offensive capability. The aircraft that are available and supportable are probably usable. Insurgents of today and the future will be able to employ airpower in ways which support their goals.

TOWARD A THEORY OF INSURGENT AIRPOWER

**A MONOGRAPH
BY
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I. INTRODUCTION

Airpower has many facets. In 1987, a German youth named Mathias Rust flew a four-seat Cessna aircraft from Helsinki to Red Square in Moscow.¹ Drug traffickers routinely use aircraft, especially light aircraft, to smuggle drugs into the United States, often evading US military and drug enforcement personnel.² If thrill-seekers and drug smugglers can successfully use aircraft to enter countries with modern militaries, and carry out their chosen missions, can insurgents also use aircraft to further their goals? In 1987, a Palestinian guerrilla took off from Lebanon in a motorized hang glider, landed 175 yards from an Israeli military camp, and attacked the camp on foot. He killed six Israeli soldiers and wounded seven others before being killed himself.³ Was this an isolated event, unlikely to be repeated in the future, or was it an indicator of a change in the tools of insurgency? Can insurgency now involve the air dimension?

A common perception of insurgency is that it operates on a shoestring budget using only the simplest weaponry and fueled almost entirely by political aspirations to overthrow an oppressive government. If an insurgency receives help from an outside power, that help may harm as much as help the cause. The insurgents can become pre-occupied with mastering the new, complex tools and, in the process, lose touch with the political realities and the people on which the insurgency depends.

From this perception, it seems problematic to suggest that any insurgencies might use aircraft in support of their cause. Aircraft are for the powerful, not the weak. They are expensive to buy, expensive to maintain, and require highly skilled air and ground crews. And, perhaps most importantly, aircraft by definition operate where the people are not. An insurgent flying

an aircraft surely cannot be as closely in tune with the people he or she is trying to liberate as one who fights on the ground.

Yet there are some very good reasons why insurgents might choose to join thrill-seekers, drug smugglers--and conventional armed forces--in the use of aircraft. This monograph will explore those reasons from a theoretical perspective, and examine four case studies where insurgents and separatists have considered or actually used airpower. Finally, it will draw conclusions about the future of insurgency and airpower.

Definitions

Throughout this monograph, the following terms will be used. Most of the definitions are from the *Department of Defense Dictionary of Military and Associated Terms* published by the US Joint Chiefs of Staff in 1994. These definitions are generally similar to most definitions in common use today.

Airpower: "The ability to use a platform operating in or passing through the aerospace environment for military purposes."⁴

Conflict: "A range of political conditions that are neither peace nor war. Conflict is characterized by the introduction of organized violence into the political process: yet groups in conflict remain willing to resolve their problems primarily by political means, with limited military support. The lower range of conflict is peaceful, punctuated by occasional acts of political violence. At the upper levels, conflict is very close to war except for its combination of political and military means."⁵

Counterinsurgency (COIN): "Those military, paramilitary, political, economic, psychological, and civic actions taken by a government to defeat insurgency."⁶

Guerrilla warfare: "Military and paramilitary operations conducted in enemy-held or hostile territory by irregular, predominantly indigenous forces."⁷

Insurgency: "An organized movement aimed at the overthrow of a constituted government through use of subversion and armed conflict."⁸

Low Intensity Conflict (LIC): "Political-military confrontation between contending states or groups below conventional war and above the routine, peaceful competition among states. It frequently involves protracted struggles of competing principles and ideologies. Low intensity conflict ranges from subversion to the use of armed force. It is waged by a combination of means, employing political, economic, informational, and military instruments. Low intensity conflicts are often localized, generally in the Third World, but contain certain regional and global security implications."⁹ This term is being removed from US military doctrine. The closest replacement term is the political-military state of "conflict," defined above.¹⁰

Revolutionary war: "Organized violence, largely from within a state, with the political aim of overthrowing a government and restructuring the political, economic, and social order of the state."¹¹

Separatist movement: An organized movement aimed at the overthrow of a constituted government's sovereignty over a specific geographic region through the use of subversion and armed conflict (author's definition).

Stability operations: Operations which "apply military power to influence the political environment, facilitate diplomacy, and disrupt specified illegal activities. They include both development and coercive actions."¹²

Subversion: "Action designed to undermine the military, economic, psychological, or political strength or morale of a regime."¹³

Support operations: Operations which "provide essential supplies and services to assist designated groups. They are conducted mainly to relieve suffering and assist civil authorities respond to crisis. Support operations are normally characterized by lack of an active opponent."¹⁴

Unconventional warfare: "A broad spectrum of military and paramilitary operations, normally of long duration, predominantly conducted by indigenous or surrogate forces who are organized, trained, equipped, supported, and directed in varying degrees by an external source. It includes guerrilla warfare and other direct offensive, low visibility, covert, or clandestine operations, as well as the indirect activities of subversion, sabotage, intelligence activities, and evasion and escape."¹⁵

II. METHODOLOGY AND OVERVIEW

This monograph first reviews, in Chapter III, historical (pre-1980) examples of airpower supporting insurgency. A review of literature discussing both airpower and insurgency follows in Chapter IV. Chapter V establishes a basis for comparing and integrating insurgency theory and airpower theory. Commonly accepted principles of both categories of military theory are outlined and compared.

From this starting point, Chapters VI and VII review the writings of four men who are considered significant military theorists and who also had the opportunity to consider an interaction between insurgency and airpower. Conveniently, all airpower theory and nearly all insurgency theory has been written in the 20th century. Therefore, primary theorists can be studied for their perceptions of other contemporary theory without undue speculation (for example, the substantial speculation that must occur when one wants to

determine how a theorist such as Clausewitz would have viewed airpower). Specifically, each theorist's most significant work is reviewed to reveal references to both insurgency and airpower. Chapter VI presents two primary theorists for insurgency, T.E. Lawrence and Che Guevara. Chapter VII discusses two airpower representatives, Giulio Douhet and Hugh Trenchard. These two chapters show how powerful thinkers in their fields addressed insurgency and airpower, with an expectation that their thoughts may be useful in shaping future theory.

The theoretical portion of the monograph is followed in Chapter VIII by four illustrative case studies from the 1980s and 1990s. In all four cases, an insurgency or separatist movement showed clear access to or desire to use airpower, and all took steps to apply it. Analysis of the application of airpower shows the strengths and weaknesses of each movement's use of airpower.

Chapter IX integrates the analyses of earlier chapters to determine how insurgency and airpower theory compare to real world examples. It takes a particular look at the impact of rapidly changing airpower technology as it applies to insurgency.

Chapter X concludes the monograph with a proposed theory of insurgent airpower.

III. HISTORY

Insurgents of the 20th century have employed airpower. All available examples of that employment before 1980, however, are of larger allied powers using their air capability to aid the insurgents. Perhaps the first such instance was British support to Arabs rebelling against the Ottoman Turks during World War I. T.E. Lawrence, the now famous British adviser to the Arabs, often had access to British ground attack, reconnaissance, and cargo aircraft, although they did not appear to play a significant role during the

"insurgency" stage of the war. Lawrence will be discussed in greater detail in Chapter VI.

According to Colonel Michael Haas, US Air Force (USAF), in a history of US Air Force special operations, the United States, and later the Soviet Union, both provided air support to Tibetan tribesmen rebelling against Mao Tse Tung. Air drop of both men and supplies was the primary mode of operation.¹⁶ US Air Force personnel trained Tibetan paratroopers, and these paratroopers reportedly planned the clandestine aerial re-supply of the route the Dalai Lama used to escape from Tibet in 1959.¹⁷

Haas also reports one example where the US supplied the aircraft, but the revolutionaries supplied the air crews. In what is now known as the Bay of Pigs invasion, the Central Intelligence Agency (CIA) and the US Air Force trained and equipped Cuban exiles to fly B-26 ground attack and C-46 paratroop missions in support of the invasion. As events unfolded at the last minute, American air crews flew some of the missions, while Cubans flew most of the sorties. The air portion of the invasion was hampered by many constraining factors, including direct orders to US Navy pilots from senior US officials forbidding them from defending the B-26s. As a result, the ground forces had very little air support and were attacked by Cuban Air Force aircraft. Interestingly, Fidel Castro himself pointed to the lack of air support as the reason the invasion failed.¹⁸

IV. LITERATURE REVIEW

Few authors consider the possibility that insurgency and airpower may be regarded together. A large body of material is available on the use of airpower in counterinsurgency, but very little discussion can be found on airpower in insurgency. The documents cited below constitute the author's focused review of literature about airpower in insurgency.

The US Army's Field Manual 100-20, *Military Operations in Low Intensity Conflict*, jointly published in 1990 as Air Force Pamphlet 3-20, recognizes that air forces can play a role in supporting insurgency. Potential operations for US armed forces in support of insurgency include recruitment, organization, training, and equipping forces to perform unconventional or guerrilla warfare; psychological operations; institutional and infrastructure development; intelligence gathering; surreptitious insertions; linkups; evasion and escape of combatants; subversion; sabotage and re-supply operations.¹⁹ The manual does not state that air forces can perform these operations, but the implication is that they can perform or support many of the functions.

The US Army's current draft FM 100-20, now titled *Stability and Support Operations*, does not directly recognize any role for US military forces in support of insurgency. It implies that they are used only for counterinsurgency. In addition, the principles of stability and support operations "originally derived from the study of counterinsurgency."²⁰ The draft FM 100-20, therefore, does not provide any insight into the use of airpower in insurgency.

Air Force Manual 1-1, *Basic Aerospace Doctrine of the United States Air Force*, follows the 1990 FM 100-20 in listing potential operations for US armed forces supporting insurgency. It also fails to specify how air forces are likely to function in that effort.²¹

The Soviet Union put serious thought into how it would use airpower to support insurgency, or 'wars of national liberation,' according to Graham H. Turbiville, Jr., and James F. Holcomb, Jr. in their chapter "Protracted War and the Role of Technology: The Soviet Union," published in *Guerrilla Warfare and Counterinsurgency*. They report that Soviet theorists "examined in some detail

the equipping and re-supply of partisan units, the aircraft sorties flown by military and civilian pilots, (and) the use of airdrops and gliders for the clandestine delivery of personnel and materiel.²²

Capt George C. Morris, USAF, in his article, "The Other Side of the COIN: Low-Technology Aircraft and Little Wars," while writing from the perspective of the counterinsurgent, makes some interesting observations about airpower and insurgency. In discussing the importance of having forward airstrips to support counterinsurgency efforts, he states,

The concept of forward deployment adopts the insurgent's own rules. The insurgent relies on minimal infrastructure, versatility, support of the population, and small-unit tactics; the COIN air force should respond in kind. Small detachments of versatile, readily convertible aircraft can fly casualty evacuation on one mission and fire-support or psychological operations the next. The COIN air force should, in a sense, become a unit of bush pilots well attuned to the environment. It should rip a page from the guerrilla's own doctrine and take it above the treetops.²³

Morris goes on to show how light aircraft using, in his words, guerrilla doctrine, have worked successfully in counterinsurgency, such as in Rhodesia (now Zimbabwe) in the 1970s. There, the Rhodesian Air Force operated 12 forward airstrips in or near areas threatened by insurgency. These airstrips and Cessna Lynx aircraft (a version of the O-2 Super Skymaster) allowed the government to stay involved over a large area and respond flexibly to changing circumstances.²⁴ If the guerrilla's doctrine works for counterinsurgency air forces, it should work for an insurgency air force, too.

Lt Col David J. Dean, USAF, in his 1986 book *The Air Force Role in Low-Intensity Conflict*, attempts to establish some theoretical basis for the use of airpower in LIC. Like Morris, he limits himself to discussing US Air Force support to counterinsurgency. At the same time, again like Morris, he makes some observations that apply also to air support to insurgency. He notes that

"air power can be shaped in creative ways to achieve political results."²⁵ If he were talking about strategic bombardment, few airmen would doubt him. However, he is explicitly in the context of low intensity conflict, and therefore makes a statement about airpower that few others have been willing to propose. Dean sees a role for airpower in reconnaissance, strike, and airlift tailored to the highly political environment of LIC.

Dean reports that between the two world wars the British were able to control several colonial rebellions using airpower as the primary military tool. This technique was termed "air control" as opposed to "ground control." They had success when they had detailed knowledge of the people involved, avoided hurting innocent people, communicated expectations clearly (sometimes using airborne loudspeakers or leaflet drops), and used air strikes to quickly enforce those expectations. In addition, the British used aircraft for positive contact with remote sites, by providing message and communications services, medical evacuations, and medical services.²⁶ Air power and politics, even at the tactical level, do mix, according to Lt Col Dean.

Robert B. Asprey, in his monumental work about guerrilla warfare, *War in the Shadows*, takes a somewhat different view of the British Air Control concept. Like Dean, he notes that the "new arms' deterrent effect generally sufficed to keep the peace." Airpower also substantially reduced the number of ground troops required. He writes that, before the application of airpower, "Eighty battalions initially kept the peace in Mesopotamia and Palestine, three battalions eventually remained in Mesopotamia (when combined with aircraft), a tremendous financial saving."²⁷

However, Asprey finds fault with Air Control on two grounds. First, the British colonial practices in general were coercive in nature, and, when the colonized peoples did not respond to the deterrent effect of military force,

terror was the only available next step. "Like Ground Control before it, Air Control inhibited but did not stop native political ambitions. It helped produce short-term gains for long-term losses."²⁸ Second, airpower has limits in this context. Asprey notes that at least some of Air Control's effectiveness derived from its psychological impact on people who had never seen an airplane before. If the mere presence of an airplane failed to accomplish the desired behavior change, the next step was often to scatter flocks or herds. He concludes,

Two observations follow: such pressure could be applied only in compatible environment, preferably desert, and such pressure proved effective only against fragmented tribal society, either nomadic or primitive agrarian. Air Control could not work in more-developed countries, such as Palestine...²⁹

Asprey reports no instances of the use of airpower by insurgents, and he remains critical of its use in the small wars environment throughout his work.

V. THEORETICAL BASIS

This section provides a brief overview and comparison of standard concepts of insurgency theory (often referred to in the literature as guerrilla warfare theory) and airpower theory.

Insurgency Theory

Insurgency theory should be considered a subset of revolutionary war theory. Both revolutionary war and insurgency have the same end state, or goal, in view--overthrow of the current government. Insurgency is essentially a subset of revolutionary war. Revolutionary war theory often claims that political means are its primary tools, and that armed force is a secondary means. Insurgency, the use of subversion and armed conflict, can be that secondary means within a revolutionary war.³⁰ Guerrilla warfare refers to tactics which are almost always present in insurgency and therefore

in revolutionary war, but which can also be found in wars without revolutionary character.

A few practitioners of this type of warfare have become widely recognized as foundational theorists. Revolutionary war theory is usually traced back to Mao Tse Tung. For example, John Shy and Thomas W. Collier, in Peter Paret's classic military theory textbook *Makers of Modern Strategy*, recognize Mao Tse Tung as the essential theorist of revolutionary war. They note Mao's emphasis on the highly political nature of this type of warfare and the need to conduct a protracted struggle where space and time are "weapons rather than goals."³¹

The US Air Force's Special Operations School traces insurgency theory primarily to T.E. Lawrence, V.I. Lenin, and Mao Tse Tung. Based on these three men, the School identifies three general requirements for insurgency; a vulnerable population (recognizing that what makes a population vulnerable depends on that population's culture); leadership and direction; and a weak government.³²

At the tactical level, Anthony James Joes, in his book *Modern Guerrilla Insurgency*, finds the following characteristics: guerrillas are the weaker side, both numerically and technologically; their first duty is to survive; guerrillas must make the struggle last a long time; they must have the ability to conduct operations with "speed, concealment, and deception." Again, difficult terrain, which can include developed urban areas, is valuable if not essential. Joes states that, to be successful, guerrillas need "high morale, reliable intelligence, and, if possible, a secure base and foreign assistance."³³

Most writers on insurgency theory also accept Mao's three phases of revolutionary warfare; the organizational or latent phase, the guerrilla warfare phase, and the war of movement, conventional, or decision phase.

Airpower Theory

Airpower theory is founded largely on the writings of Giulio Douhet. Douhet, attempting in 1925 to determine the appropriate use of a new technology, perceives airpower as having complete freedom of action and direction, producing a situation where a belligerent can attack enemy rear areas without breaking through his front lines. There is no longer a distinction between combatant and non-combatant; everything is a legal target. In addition, airpower possesses superior speed, making it the "offensive weapon par excellence" by producing greater mass, concentration, surprise, and initiative than any other type of force.³⁴

From this basis, airpower theory stresses that airpower is described in terms of elevation, perspective, and freedom of action. This emphasizes airpower's unique speed, range, and flexibility. These characteristics give airpower an ability to mass anywhere and attack any tangible facet of the enemy's power. From the characteristics, the US Air Force perceives seven tenets which show how airpower should be used. They are; centralized control/decentralized execution, flexibility and versatility, priority (prioritizing the use of air forces against the most important targets first and preventing their dispersion to lower priority targets), synergy, balance (a risk-benefit analysis), concentration, and persistence.³⁵

David MacIsaac, in his essay, "Theorists of Airpower" (in *Makers of Modern Strategy*), shows that airpower theory divides into strategic and tactical applications. Strategic airpower theory conceptually claims the ability to have an immediate impact on the enemy. Its limitations include lack of intelligence precise enough to find the right targets and a tendency to equate destruction with control over the enemy. Throughout most of airpower's history, however, the tactical use of airpower in the combined arms

effort has been the primary method by which airpower has affected wars. Tactical theory stresses that the strategic effects are unlikely to occur except when combined with a successful combined arms effort. At the same time, a successful combined arms effort can only occur in the presence of air superiority.³⁶

Comparison of Basic Insurgency and Airpower Theories

At the strategic level, both insurgency and airpower theorists invoke politics. For the insurgent, however, the political aspects of the war are all-consuming--without a weak government and a vulnerable population, the insurgency will go nowhere at all. In addition, continual political indoctrination is, at least in Maoist theory, essential to maintaining the morale of the insurgent force as it conducts its protracted war. The insurgency must be able to claim legitimacy. Politics is not simply a tool or a form of expression. It is the essence of the war. To the strategic airpower theorist, on the other hand, politics becomes a target. In Douhet's world, and in nuclear theory, any target is valid as long as it puts pressure on the politicians to surrender. Legitimacy, according to Douhet, comes through winning.

Another obvious difference at the strategic level is that the insurgent comes to the war from a position of weakness, both numerically and technologically. Most airpower theory, on the other hand, assumes material comparability.

The two types of theories also disagree about the role of space and time. While insurgents see space and time as weapons, always willing to give away terrain to survive, and run away to fight another day while wearing out the enemy, airpower, perhaps more than any other conventional warfare theory, is always in a hurry. Time, especially, constitutes a goal. The faster an air objective can be attained, the better.

An important similarity at the strategic level is that neither theory separates combatant from non-combatant, at least at the truly theoretical level. While this does become modified in practice, particularly with respect to non-nuclear strategic airpower theory, an initial premise in both theories is that nearly all people can be viewed as combatants and used or targeted as such. This carries over to structures of religious or cultural significance. Neither type of theory balks at manipulating or striking such structures when there is advantage to be gained. Even so, insurgency theory tends to discriminate among its targets, for political purposes, to a much greater degree than does strategic (especially nuclear) airpower theory.

At the tactical level, both the insurgent group and the airplane possess a certain ubiquity. That is, both can create a perception in their target's eyes of a capability to be essentially anywhere at any time. Yet with that ubiquity may also be a lack of persistence. Neither force can stay in one place for a long time. They both emphasize speed, flexibility and versatility to attack any target, often with a significant degree of surprise. Both consider accurate intelligence essential to their functioning. Airmen require and insurgents usually must have a secure base from which to operate.

Significant differences at the tactical level also exist. Airmen achieve ubiquity and surprise through the speed and range of their aircraft in comparison to ground forces. Insurgents achieve those characteristics through concealment and deception. Deception is not considered an essential aspect of air operations, but it is vital to the insurgent.

A final difference is that for the insurgent, the political aspect of the war is not only strategic but is also tactical--every move the insurgent makes is inherently political. For the airman, like most conventional warriors,

politics can appear to only constrain the tactical level of war, such as through the Law of Armed Conflict and Rules of Engagement.

VI. INSURGENCY THEORISTS AND AIRPOWER

This chapter reviews two primary insurgency theorists' writings for their interaction with airpower. Since nearly all insurgency theory has been written in the 20th century, its authors have been aware of the use of aircraft in warfare.

T.E. Lawrence

T.E. Lawrence was a British army advisor to Arabian tribes attempting to oust the last vestiges of the Ottoman empire from the Arabian peninsula. Lawrence's book, *The Seven Pillars of Wisdom*, is widely recognized as a classic explanation of the use of guerrilla warfare to defeat a conventional force. While Lawrence never attempted to develop an indigenous Arabian air force, the theory he presented in his book allows some extrapolation to airpower. In addition to discussing theory, the book also chronicled his experiences fighting alongside the Arabian tribes. The British, Turks, and Germans all flew aircraft in support of this war, and Lawrence described the impact that airpower had on his operations.

In the first part of the war, commonly known as the "Hejaz War" after a geographic portion of the Arabian peninsula, the Arabs formed an insurgency attempting to overthrow Ottoman Turk rule over the peninsula. Aircraft activity seemed to have little influence on Lawrence and his guerrilla operations during this time. British aircraft operations were usually mentioned in an off-hand manner, simply part of the rich detail with which Lawrence wrote. "We struck northward over the plain of Ugila, where Ross, our flight commander from Wejh, had lately made an aerodrome. Arab guards were sitting by his petrol, and we breakfasted from them..."³⁷ These types of

meetings were occasionally recorded, with no indication that Lawrence engaged the airmen in discussions of targets, tactics, or capabilities. Even so, the RAF was indeed present throughout the Hejaz War. It provided air cover, ground attack, and transportation.

After winning the Hejaz War, however, the Arabs were employed in coordination with conventional forces to help the British forces invade Syria. The Arabs still employed guerrilla tactics, but here Lawrence did appreciate the value of air operations. On at least two occasions his planning directly involved the RAF. At one point, Lawrence noted that an air-raid on the Turkish stronghold of Maan could "prick the Turks into discomfort."³⁸ This raid was a great success, and Lawrence pronounced it a significant part of a set of joint tactics. "By air we had perturbed the Turks: by irritative raids we were luring them towards a wrong objective. Our third resource to ruin their offensive was to hinder the railway..."³⁹ On another occasion, he noted, "we took the opportunity to ask for repeated air-raids on the Hejaz Railway....The Royal Air Force kept up a dull, troublesome pressure on Amman from now till the fall of Turkey. Much of the inactivity of the enemy in our lean season was due to the disorganization of their railway by bombing."⁴⁰

Although Lawrence was obviously appreciative of the capabilities of air power, he apparently never considered attempting to create an Arab air force dedicated to his Arab guerrillas. Due to the presence of the RAF, he rarely lacked air cover. Some enemy aircraft did bomb the Arabs, but produced insignificant casualties. A dedicated air force was unnecessary, probably undesirable from the perspective of British politicians, and, given the lack of technological sophistication of the Arabs, likely seemed preposterous.

Lawrence's theory of guerrilla warfighting, however, could have supported a dedicated air force. He envisioned his Arabs as "an influence, an

idea, a thing intangible, invulnerable, without front or back, like a gas...we might be a vapour, blowing where we listed."⁴¹ And, "our cue was to destroy, not the Turk's army, but his minerals. The death of a Turkish bridge or rail, machine or gun or charge of high explosive, was more profitable to us than the death of a Turk."⁴² Finally, "our cards were speed and time, not hitting power."⁴³ These thoughts surely would support the use of airpower.

Che Guevara

Che Guevara was the theorist behind Fidel Castro's successful revolution in Cuba, as well as unsuccessful revolutions elsewhere in Latin America. His book, *Guerrilla Warfare*, is essentially a "how-to" book on conducting guerrilla warfare within a revolution. Many of his thoughts are Maoist, such as his fundamental principle, "No battle, combat, or skirmish is to be fought unless it will be won."⁴⁴

Guevara makes a few direct references to aircraft. They are generally seen as much too expensive to even be considered for use by the insurgents, and also ineffective against them.

One of the favorite arms of the enemy...is aviation. Nevertheless, this has no use whatsoever during the period that guerrilla warfare is in its first stages, with small concentrations of men in rugged places. The utility of aviation lies in the systematic destruction of visible and organized defenses,...something which does not exist in this type of warfare. Planes are also potent against marches by columns through level places or places without cover; however, this latter danger is easily avoided by carrying out the marches at night.⁴⁵

Guevara's "essential elements of guerrilla tactics" stress knowledge of the people and environment, always having a back-up plan, and superiority at the point of attack. Proper treatment of both civilians and enemy is of great importance. Guevara takes care to explain the difference between sabotage and terrorism. Sabotage strikes only its intended target, whereas terrorism is indiscriminate.⁴⁶ Thus, Guevara's emphasis on cheap warfare, the

requirement to know the people, and to be perfectly discriminating in the use of force play against his considering air power as a useful tool.

Interestingly, Guevara claims for his guerrilla fighters employing sabotage the same outcomes that Douhet sees for his bombers. The following statement by Guevara could easily have come from Douhet.

It is possible to paralyze entire armies, to suspend the industrial life of a zone, leaving the inhabitants of a city without factories, without light, without water, without communications of any kind, without being able to risk travel by highway except at certain hours. If all this is achieved, the morale of the enemy falls, the morale of his combatant units weakens, and the fruit ripens for plucking at a precise moment.⁴⁷

Similarly, in suburban warfare,

A good operation of this type extended over a wide area paralyzes almost completely the commercial and industrial life of the sector and places the entire population in a situation of unrest, of anguish, almost of impatience for the development of violent events that will relieve the period of suspense.⁴⁸

Other aspects of Guevara that are reminiscent of the claims of airpower include mobility, such that guerrilla bands can constantly change front and move at night; continuous, unpredictable blows so that enemy soldiers "cannot sleep at night;"⁴⁹ bridges as lucrative targets; and use of propaganda, especially radio.⁵⁰

Guevara also recognizes supply, especially in remote areas, as a significant weakness of the guerrilla fighter. The possibility of using aerial re-supply is not mentioned, but its applicability is apparent.⁵¹

As with Lawrence, Guevara's basic theory can support the use of airpower. In some ways, both write about their insurgencies with striking similarities to airpower theory. Expense and the inability of airpower to aid in getting to know and understand the inhabitants and their land are major drawbacks to airpower for both Lawrence and Guevara.

VII. AIRPOWER THEORISTS AND INSURGENCY

This chapter reviews two primary airpower theorists' writings for their interaction with insurgency.

Guilio Douhet

The world's most influential air theorist, Guilio Douhet, appears to have been completely oblivious to the concepts of small wars, guerrilla warfare, or insurgency. As with many military theorists of the 1920s and 1930s, he sees only total war as a possibility for the character of future conflict. Douhet states,

The study of war, particularly the war of the future, presents some very interesting features. First is the vastness of the phenomenon which makes whole peoples hurl themselves against one another, forgetting for a time that they all wear the aspect of human beings, that they belong to the same family of humanity striving toward the same goal of ideal perfection, to become wolves and throw themselves into torment and a bloody work of destruction, as though possessed by blind folly. Next comes the impressive scale of war, which demands the assembling, ordering, and directing toward the single goal, victory, all the formidable material and moral forces of whole nations.⁵²

Because of this single focus on one type of warfare, Douhet does not provide any insight into how airpower might interact with insurgency.

Hugh Trenchard

Hugh Trenchard, the "father of the Royal Air Force,"⁵³ on the other hand, was contemporary in time with Douhet but also intimately familiar with small wars. A British Army officer assigned to pacify Nigerian tribesmen in the early 1900s, Trenchard quickly determined that force played a different role there than it did in traditional warfare. He modified the standard practices of previous commanders by insisting that force belonged only on the battlefield, not as a method of coercing captive tribesmen to cooperate. He also served in India and South Africa before learning to fly and becoming one of the Royal Flying Corps' first officers.⁵⁴

Trenchard joined the Royal Flying Corps in 1912, just a few months after its establishment. He immediately saw its benefits in conventional warfare. During World War I, he came to believe much of the same theory espoused by Douhet, including winning air superiority through striking the enemy air forces on the ground and strategic bombing.⁵⁵

After the war, however, Trenchard also saw an application for airpower in "domestic roles in our overseas territories when local emergencies arose."⁵⁶ He saw an opportunity to protect the existence of the infant Royal Air Force, which had been established during World War I but was now fighting for survival as a separate service. He decided that airpower could control restive colonies more effectively and more cheaply than could ground forces. If airpower could in fact perform such a mission better than ground or naval forces, it would deserve to remain a separate service.

Trenchard's first opportunity to apply airpower in the colonial context was in Somaliland, where a powerful bandit nicknamed the Mad Mullah was running rampant over the British colony. While the Army recommended the employment of two divisions of troops to clear out the bandits, the RAF did it with two battalions, a 1,500 man tribal levy, and twelve airplanes. It bombed the Mad Mullah's main camp and fort, harassed him by air and land as he fled, and finally tracked him down and killed him.⁵⁷

Trenchard designed similar forces to exert control over other colonies. Throughout the Middle East, especially the Transjordan (today's country of Jordan), Iraq, and Yemen, Trenchard formed RAF units consisting of armored car columns for security duties, and bomber and cargo aircraft. The essence of air control, according to Trenchard, was stated in three principles applied with common sense.

The air force is a preventative against risings more than a means of putting them down. Concentration is the first essential. Continuous demonstration is the second essential. And when punishment is intended, the punishment must be severe, continuous, and even prolonged...⁵⁸

Trenchard clearly recognized the highly political aspect to the use of airpower in the colonial context. His units were advised by political officers and often controlled by civilian administrators concerning the amount and type of force to be exercised. Sometimes this created difficulties when the civilians did not understand the proper application of airpower. Once, pilots carrying out their exact orders from a civilian administrator bombed and strafed some families. Trenchard found the administrator to be the primary culprit in the unfortunate incident, but also noted that his pilots and commanders must be attuned to the political effects of their actions.⁵⁹

Trenchard's commander in the Middle East, John Salmond, used a four-step process to ensure that all uses of force were appropriate. British civilian advisors at the scene, the Minister of the Interior, and the High Commissioner all had to approve use of force. Then, Salmond himself could still oppose a use of force on military grounds.⁶⁰

The units had success because they could be anywhere very quickly, with power, and in ways that the rebels had no method to combat. When using force, they aimed at material damage, not the infliction of casualties. Also, airpower was not viewed as the only solution. When appropriate, personal visits by officials, use of local levies or policemen, or armored cars with or without air support were used.⁶¹ The power which may have had the most effect was the power to help. According to Trenchard's biographer,

The turning point in R.A.F. relations with the Bedouins (in Iraq) came when, quite spontaneously, a squadron commander picked up and flew to the nearest service hospital, a matter of 250 miles away, a badly scared sheikh suffering from peritonitis. He recovered. His gratitude

was both lasting and infectious. But the saving gesture of an officer was no less than Trenchard expected of all his "handymen," who had caught the infection of his own pioneering spirit and were thinking for themselves..."⁶²

While Trenchard was a clear advocate of strategic bombing in the mold of Douhet when discussing conventional warfare, in small wars he saw airpower as providing many other valuable means of influencing the belligerents. He showed that airpower could support highly political efforts. Although he was never in position to support an insurgency, he obviously saw the applicability of airpower in that environment.

VIII. CASE STUDIES

This chapter presents case studies of four recent or ongoing insurgent or separatist movements and their attempts to apply airpower to their situations.

Nicaragua-Contras

The Nicaraguan rebels who fought against the Sandinista government during the 1980s, commonly referred to as the contras, used airpower in support of their operations. Throughout the period of 1983-1989, four different organizations flew aircraft in support of the contras. Three of these were not indigenous to the contras. The US government flew reconnaissance and cargo missions, the Honduran Air Force occasionally flew ground attack missions against Sandinista forces in the Honduran-Nicaraguan border area, and Richard Secord's "Enterprise," the operation using non-US government monies raised by LTC Oliver North, flew aerial re-supply into Nicaragua for about six months in 1986.⁶³

The fourth aviation operation could be considered an insurgent air force. As early as 1983, contra rebels were flying and maintaining at least two C-47 cargo aircraft and a few helicopters.⁶⁴ The C-47s were flown out of

Honduras and were used to re-supply contras located in Northern Nicaragua. The helicopters provided passenger transport such as senior staff movements and medical evacuation. In September 1983, aircraft under the control of Eden Pastora flew bombing raids on three targets in Nicaragua. The three sites were Sandino Airport, a military installation near Puerto Sandino, and a resort frequented by Sandinista officials near Montelimar. The raids had little military effect and were apparently flown in an attempt to increase the credibility of Pastora's force with US officials.⁶⁵ This appears to have been the only attempt by any contra force to use armed aircraft against the Sandinistas. Aerial re-supply was the primary function of the aircraft operated by the contras.

According to an officer in the Department of State between 1985-1987 with personal knowledge of contra operations, contra forces operated a fleet of aircraft which, over the period of 1983-1989, included a few light fixed-wing aircraft such as a Baron and one or two O-2 Skymasters, one or two C-7s, a C-54, one or two DC-3s, a DC-6, a few UH-1s, and a Hughes 500. Funding for the aircraft came from private sources, as well as from the US. Pilots were usually former Somoza National Guard pilots.⁶⁶ Some of these aircraft were flown out of Honduras, especially Aguacate base, while about half a dozen supposedly were flown out of Costa Rica under Pastora's command.⁶⁷

The Sandinistas apparently considered contra air operations to be a threat to their counterinsurgency efforts. They treated contra airstrips as lucrative targets, and bombed them when feasible.⁶⁸ In general, however, these airstrips, located in Honduran and Costa Rican border areas, were relatively secure from Sandinista interference.

Overall, contra-run aircraft had only a minor impact on contra operations in Nicaragua. They were apparently always funded by outside

sources, and were almost exclusively used for re-supply and important passenger transport. The aircraft which were available to the contras, however, were inadequate for the task. The contras saw a need for aircraft able to take off from Honduras and drop supplies in southern Nicaragua. Unfortunately, the aircraft available to them in the early 1980s, the C-47s, did not have the range needed to complete these missions.⁶⁹

The aerial re-supply missions flown by all the organizations with access to aircraft did enhance contra survivability, especially in central and southern Nicaragua. It was to reach these areas that LTC North arranged with Richard Secord to fly "private" re-supply missions. Another indication of the value of air supply was that, when the contras entered into cease-fire zone negotiations in 1987, they insisted on the establishment of air corridors, in addition to land and sea corridors, for re-supply of their forces.⁷⁰

The contras were an insurgent group that saw value in airpower, especially its capacity to enhance guerrilla survivability through aerial re-supply. Lack of funding and trained pilots were probably the primary restraints on greater air capability. It seems likely that, had there been more funding and pilots, the emphasis still would have been on aerial re-supply, not on offensive capability. The Honduran Air Force did fly ground attack missions along the border with Nicaragua in support of contra forces, but there is no evidence to suggest that senior contra leaders sought an offensive air capability after Pastora's two ground attacks in September 1983.

Sri Lanka-Liberation Tigers of the Tamil Eelam (LTTE)

It is not clear that the LTTE have actually used airpower in their 14 year separatist struggle against the Sri Lankan government. However, enough reporting exists to show that, at the very least, the LTTE have considered it and probably understand basic concepts such as air superiority.

The LTTE use standard protracted war theory, and by 1995 appeared to move into the conventional war stage. Some battles in 1993 and 1994 resulted in over 100 casualties on each side.⁷¹ The Sri Lankan Army had some significant successes in 1996, and the LTTE may currently be back in the guerrilla war stage.

The LTTE clearly understand basic military theory. For example, they have applied naval warfare theory to gain naval superiority in the Jaffna Lagoon. In 1993 the LTTE, in a major battle, used their own navy to capture five of Sri Lanka's ten waterjet-propelled boats. The LTTE also destroyed a government naval radar station used to monitor the lagoon. These actions gave them freedom of action in the lagoon. In 1994 the LTTE had perhaps the world's best guerrilla naval arm and used it to help cut Sri Lankan army sea lines of communications.⁷² The LTTE retained superiority over the Jaffna Lagoon until April 1996.⁷³

The LTTE are apparently sophisticated in military tactics in general, and the above activity shows an understanding of the concept of naval superiority in particular. Since naval superiority has many similar concepts with air superiority, it is reasonable to consider that the LTTE may also appreciate the value of air superiority, and tactics to achieve it.

Moving to a consideration of airpower, the LTTE clearly are aware of the air threat. In October 1993, a Tamil leader who had been in alliance with the LTTE stated that Tamil communities were considering obtaining an "air defense capability" to help "hold some kind of a strategic balance unless and until we reach a durable political solution."⁷⁴ An LTTE commander captured in November 1993 indicated that the rebels were quite aware of the threat of air attack to their operations, and knew they could not stay out in the open for long because of the threat.⁷⁵ In additional proof of an appreciation for

airpower, the LTTE have acquired surface-to-air missiles (SAMs). They used the SAMs in April 1995 to shoot down two Sri Lankan Air Force troop carrier planes, killing a total of 97 people. The missiles were reportedly obtained from Ukraine.⁷⁶ Later that year, the LTTE successfully shot down a Pucara fighter aircraft. Interestingly, they may have been using radar-guided missiles as opposed to the much more common and easily used infra-red guided types, since the Sri Lankan Air Force in 1995 began attempting to acquire electronic countermeasures capabilities to guard against the SAM threat.⁷⁷

The LTTE have also attempted to gain an actual airborne capability, but the evidence is more circumstantial. *Jane's Intelligence Review* reported in 1994 that "the Tamil Tigers are known to have factories to build microlights and an airstrip in the Kilinochchi area."⁷⁸ The Sri Lankan Air Force claims to have bombed the airstrip twice and the factory at least once.

The microlight threat has appeared credible enough that in 1993 the chief minister in India's Tamil Nadu state, an area occasionally used as a base for the LTTE, asked for an air defense capability. In addition, Sri Lankan Air Force pilots test flying combat aircraft in Argentina simulated a helicopter tail-chase, reportedly testing the aircraft's capability to defend against microlights.⁷⁹

After the Sri Lankan military overran a headquarters complex in 1995, it reported discovering evidence of an air organization, called the "Air Tigers," and the tail section of a microlight aircraft.⁸⁰ Other reporting indicates that LTTE members have trained as pilots in western countries.⁸¹ Reports on LTTE activity in 1996, however, do not contain any mention of air capability, including SAMs.

The primary tactic the Sri Lankan military has postulated for LTTE use of airpower is by suicide attack. The Sri Lankan military considers both

microlights and hijacked aircraft (fixed and rotary wing) to be possible vehicles for suicide attacks against high-value targets and in assassination attempts. Suicide attack is a common tactic for the LTTE, which have a separate arm specializing in suicide attacks called the "Black Tigers." This arm includes a naval capability which has been used to sink major Sri Lankan naval vessels.⁸²

The LTTE have the tactical and strategic skill to use airpower. They show a good understanding of the idea of naval superiority and the value of cutting lines of communication. They appear to have some technical skill, given their successful use of SAMs, and they may also have trained pilots who could steal or hijack aircraft. In direct contrast to the Nicaraguan Contras, the LTTE seem interested almost exclusively in strategic offensive airpower, not in support activities such as lift and reconnaissance.

The LTTE may have considered the suicide attack as the only possible tactic because they lacked a sanctuary safe enough to protect an air base. After acquiring and using a few SAMs, the LTTE may have determined that, unlike in the Jaffna lagoon where naval superiority could be gained, they could not wrest even a geographically- or time-limited air superiority from the Sri Lankan Air Force. Thus, any air base would be vulnerable. Microlights would require very little with regard to an air base, but they are so slow and vulnerable to even small arms that their use against a defended target surely must be classified as a suicide mission. In other words, the available technology, if used offensively, could only be used in suicide attacks, which would, over time, become prohibitively expensive in men and material. Since there is no evidence that the LTTE ever actually conducted such an attack, and recent reporting shows no evidence of microlight or other air capability, the

LTTE apparently have decided that pursuit of airpower is not currently feasible.

Chechnya

Chechnya provides an interesting case. Chechnya seceded from the Soviet Union in 1991, but the subsequent Russian Federation intervention did not begin in earnest until December 1994. Chechnya may be considered a separatist movement which initially succeeded in ousting Russian governmental control over the disputed territory, and later had to defend that territory from Russian attempts to regain control over it.

The territory claimed by Chechnya contains three former Soviet Air Defense Aviation training bases, which in 1991 came under Chechen control complete with about 250 aircraft, mostly L-29 and L-39 trainers. Other aircraft types that may have been included were SU-17 Fitter ground attack aircraft and various transports, including the AN-2 Colt.⁸³ In addition, the leader of the Chechen resistance, Dzhokar Dudayev, had been a Soviet Air Force bomber pilot, attaining the rank of general.⁸⁴

As December 1994 neared, Russian intelligence reported that the Chechens were arming and operating their aircraft as a functional air force. In August 1994, a Russian newspaper reported that Chechnya's airspace was controlled by "the republic's aircraft which have been put on enhanced combat alert."⁸⁵ In October 1994, a Chechen L-39 reportedly scrambled in response to two helicopters approaching Grozny. It crashed, perhaps due to anti-aircraft fire from an area controlled by forces opposing the Dudayev government. That month, the Chechen chief of staff of the armed forces also called for the development of an "air shield," and thought the goal was achievable.⁸⁶ According to the Russian Federation Air Force (RFAF) Commander in Chief, Petr Deynekin, Dudayev was claiming that he had plans

to use his air force to strike "especially important facilities in Russia--such as nuclear power stations, major fuel dumps and other facilities potentially posing a danger to the environment and lives..." and that it was this threat that persuaded Moscow to eliminate the Chechen air force in the initial hours of its intervention on December 1st, 1994.⁸⁷

The Chechens had air bases, aircraft, pilots, procedures, plans, and experienced leadership heading into their December 1994 showdown with Russia. However, the RFAF destroyed the 250 aircraft on the ground as soon as fighting began. In addition, Russia maintained combat air patrols with MiG-31 Foxhound and SU-27 Flanker aircraft supported by A-50 Mainstay Airborne Warning and Control aircraft throughout the initial portion of the Russian campaign. These aircraft were focused on preventing aerial re-supply of the Chechen fighters.⁸⁸

After losing its air force, Chechnya sought to neutralize Russia's air capability but never used the skies itself. On 15 December, Dudayev threatened to execute one Russian prisoner of war for every Russian air raid, but he never carried out this threat.⁸⁹ Ground-based air defenses, primarily SA-7/14/16, but also including ZSU-23/4, possibly SA-9/13 systems, and snipers on roof tops, shot down at least 10 Russian helicopters and two SU-25 Frogfoot ground-attack aircraft. Chechen air defenses damaged at least 12 more fixed-wing aircraft and an unknown number of helicopters. In addition, Chechen rebels intruded onto Russian air force radio communications and directed the Russian pilots to drop bombs on their own positions.⁹⁰

Why were the Chechens unable to use their air capability? It is not a foregone conclusion that the Chechens had to lose their air force in the first hours of the conflict. Airpower theory, as explained by John Warden in his book *The Air Campaign*, does offer some hope for air forces who find

themselves in a significantly weaker position quantitatively and qualitatively than their opponents. Warden recommends concentrating one's forces to produce superior numbers in a particular battle, and accepting the idea that only a portion of the territory can be defended.⁹¹ Had some of the Chechen air force been airborne, it probably could have at least reduced the effectiveness of the Russian air raid. Another possibility, if the Chechens had been airborne, is that they could have conducted some sort of strategic strike against Russia as the Russians were attacking them.

The Chechens probably had strategic warning that the Russians would attack, but may not have had sufficient tactical warning to get their aircraft airborne. No reporting on this subject is available, but initial analysis leads to a conclusion that Chechnya did not inherit an integrated air defense system (IADS), by which its Soviet-trained leadership would have attempted to protect what air capability it had. With no IADS, with no means by which to procure one, and with no sanctuary, the Chechens came up with no other way to protect their air force from the initial Russian attacks, or to successfully launch their own offensive missions before the Russians reached their airfields. They therefore lost all of their aircraft in the opening day of the war. Over time, the Chechens did damage the Russian Air Force through other means mentioned above, but never prevented Russian use or gained their own access to the skies.

The Chechen air force did not contribute to Chechnya's fight to maintain independence. It appears that the potential existed, but that it lacked the essential ingredient of a protected base of operations, or a plan to otherwise protect or use the aircraft before they were destroyed.

Taliban

After the Soviet Union completed its pull-out of Afghanistan in 1989, various factions immediately began vying for power against the puppet government installed by the Soviets. In 1994, a new organization, the Taliban movement, burst into public view. Its power base was in the south-eastern area of Afghanistan, known as Pushtun, and the force consisted primarily of Afghan Islamic studies students.

In November 1994, the Taliban captured Kandahar airport and a nearby air base, bringing into their possession six MiG-21 Fishbed interceptors and six Mi-17 Hip transport helicopters. According to *Jane's Intelligence Review*, only one of the MiGs was serviceable, and it was not used in a combat role until April 1995.⁹² Since that time, the press has frequently reported attacks by Taliban jets, at least as recently as October 1996, but the extent to which the attacks have been conducted by the Taliban members, rather than one of the other rival factions which also have had aircraft, is unclear. What is apparent from the press reporting is that the air-ground attacks by all factions are very poorly conducted, often producing only civilian casualties. Also apparent is that the air bases, including the aircraft on them, are highly prized. As fighting among the factions has continued, the air bases have clearly been considered strategic locations and have been heavily fought over.⁹³

Taliban pilots and ground crews may be former communist servicemen and Pakistanis.⁹⁴ The jets have been used in attacks against government bases, in defense against ground attacks on Taliban facilities such as the air bases they have captured, and possibly against other targets to include a television station. In December 1996 Taliban fighter aircraft intercepted a United Nations plane carrying a rival faction leader, forcing the aircraft to land.⁹⁵ There is no evidence that the Taliban specifically planned to create an

air capability, and no evidence to show that they have studied basic air doctrine such as the need to gain and maintain air superiority. At the same time, however, none of the opposing factions seem to have studied air doctrine either. The skies over Afghanistan appear to be a muddle of individual pilots representing several factions but with little grasp of strategy or of centralized command and control.

The Taliban air force, while equivalent in technology and skill to the other air forces opposing it, does not appear to have contributed significantly to the Taliban's fight to overthrow the government. Although both combat and lift capability are available, neither seems to be used in a coherent manner. As a result, air bases and their order of battle are captured by opposing forces, only to be re-captured again at a later date. Aircraft are not maintained in serviceable condition and, when they are flown, are flown by unskilled pilots who are just as likely to strike civilians as their intended targets.

IX. ANALYSIS

The four case studies presented in Chapter VIII lend weight to some of insurgency theory's and airpower theory's basic tenets. This chapter will first analyze insurgency theory concepts, followed by airpower theory ideas.

Sanctuary

The need for sanctuary shows strongly in the insurgencies and separatist movements that have tried to use airpower. The contras had sanctuary in the Nicaraguan border regions, and successfully used airpower. The Taliban have been able to create sanctuary (captured air bases) for long periods of time, and have been able to fly aircraft from those bases. Neither the Chechens nor the LTTE have been able to establish even temporary

sanctuary from government air attack, and have not successfully used aircraft in their efforts.

Level of Technology

High technology is difficult to support in an insurgency environment. The contras and Chechens depended on personnel already trained in the piloting and maintenance skills required to operate an air force. The LTTE may have sent its members to other countries to learn the skills needed. The Taliban, in addition to recruiting from already trained former communist servicemen, may have recruited skilled personnel from Pakistan. In all cases, extra effort probably had to be made to find and use trained people. Little reporting is available on the ease or difficulty of obtaining spare parts and fuel, but this clearly can add stress to an insurgent movement.

Political Sensitivity

The highly political environment of insurgency, at both the strategic and tactical levels of war, has an impact on how airpower is used. The contras avoided much of this issue by choosing not to use airpower in an offensive mode. The aerial re-supply function was, without question, politically acceptable to the contras and those they were contacting.

The LTTE's attempt to develop an air capability may have been a political ploy as much as it was military, in their struggle to show that they could meet the Sri Lankan military in any environment. The speculation that they would have used their air capability for suicide attacks enhances the political aspects of their air aspirations. Successful suicide attacks from the air could have had devastating political repercussions on the Sri Lankan government.

The Chechens, according to the Russians, threatened to attack dangerous targets in Russia, such as nuclear power plants. If the Chechens made the threat or had plans to strike such targets, this would show an

awareness, if crude, of the political side to airpower in their separatist movement. There is no proof that the Chechens considered these strikes, or that they considered their air force to be important politically.

The Taliban, virtually handed an air force with little preparation, appear not to have quickly seen the dangers of employing highly lethal weapon systems in an indiscriminate manner. That this fact does not seem to have hurt their cause politically may be a result of the fact that the opposing factions are just as inaccurate in their use of high-technology weapon systems.

Space and Time as Weapons

The idea of using space and time as weapons rather than goals provides an interesting twist to airpower in insurgency. The contras very definitely used their airpower to support their use of time and space as weapons. Aerial infiltration, exfiltration, and re-supply allowed the contras to take the initiative with respect to geographic areas under their control, and get the Sandinistas to have to react to them. When the Sandinistas successfully cleared an area, airlift could be used to speed the establishment of a contra operation in a new area. Aerial re-supply also sustained the guerrillas for longer periods of time than would have been possible without the air link. They were continually able to show the Nicaraguan people that they were present, and they were there much of the time.

The LTTE, as separatists, probably did not view space as a weapon, at least to the extent that Mao advocated. The LTTE's intent for their airpower, had they been able to establish it, probably would not have advanced space as a weapon, but could have helped the LTTE's use of time as a weapon. Aerial attacks on high-value targets, especially suicide attacks, easily could have

been used to periodically set the Sri Lankan government back a few steps both domestically and in the international diplomatic arena.

The Chechens and Taliban, who are clearly not adherents to classic Maoist theory, have not attempted to use time and space as weapons.

Terrain

Many insurgencies depend on difficult terrain as a component of their self-protection. The terrain seemed to help make air operations valuable to the contras. They were able to establish airstrips in that difficult terrain, and the terrain was one reason why air re-supply was attractive.

No information is available on whether the LTTE saw terrain as a help or hindrance in their consideration of airpower. Given their apparent intention to use microlight aircraft, even dirt roads could have been their "airstrips," so it should not have appeared to be a significant hindrance.

Terrain had little impact on either the Taliban's or the Chechens' use of air. They both took over established air bases and personnel who had at least some idea how to operate aircraft in the surrounding physical environment.

Phasing

A major aspect of Maoist theory is the use of three phases to organize and conduct a war. With respect to airpower, the phase a movement is in has significance. A movement in the organizational or latent phase seems unlikely to be thinking about airpower. The best example among the four cases used in this paper is the LTTE. The LTTE began their struggle at least as early as 1983, but showed no inclination toward airpower until 1993, when they were preparing to transition from the guerrilla phase to the conventional warfare phase.

The contras successfully used airpower during the guerrilla phase, and never really fought a conventional phase. Had they had to fight at the

conventional level, would they have tried to develop their airpower more, especially an offensive capability? Certainly more airlift would have been useful in the conventional phase, but it is not clear that an offensive air capability would have been beneficial.

The Chechens and Taliban were both thrust directly into the conventional warfare phase by their situations, and both attempted to apply airpower in a conventional manner. Possibly, had they had guerrilla phases first, they would have viewed airpower differently. They may have concentrated more on support missions as opposed to combat missions, or may have developed less conventional targeting strategies which might have yielded greater political benefit to their causes.

Strategic Perspective

Strategic perspective is key to both insurgency and airpower, and helps explain the value airpower did or did not have in the four cases. The contras and LTTE both seemed to have much more of a strategic perspective on their wars, and this reflected in their conceptualizations of what airpower could do for them. The contras saw a feasible use for airpower. In the LTTE case, they did not. Both, however, thought through the issues before going forward.

The Taliban and Chechens, on the other hand, seem to have had a non-strategic view, perhaps of their entire wars, but at least about their use of airpower. The result was that airpower never was useful to them from either a strategic or tactical perspective.

Centralized Control/Decentralized Execution

This central tenet of airpower may retain its vitality when airpower is used by insurgents, but the proof is difficult. The contras, showing the only successful use of airpower, had four separate organizations providing aviation services. That would seem to indicate that there was no centralized control.

However, much of the air re-supply operation was coordinated by US government officials, lending some support to the concept of centralized control.⁹⁶

The Chechens probably did exercise centralized control, based on the fact that former Soviet Air Force officers were serving in Chechnya. The Soviet Union never stressed decentralized execution in its doctrine as much as the US does, however, and this possibly could have contributed to the loss of the Chechen Air Force. No commander at any level was able to respond to the initial Russian air strike in an effective manner, even to attempt to flee.

No information about Taliban air force command and control is available. Concerning the LTTE, if suicide attack was in fact the planned tactic, it would most likely be highly centrally controlled, as well as decentrally executed.

Concentration

None of the cases showed a use of concentration with regard to airpower. The LTTE, to win naval superiority in the Jaffna Lagoon, did concentrate their naval force, and therefore showed an understanding of the concept. The concept did not appear essential to contra use of airpower, possibly because concentration has greater significance to combat operations than to support operations. Lack of concentration could help explain Taliban and Chechen failure to use their airpower successfully. Concentration may be applicable to insurgent airpower, primarily if the insurgents are using airpower's combat capability.

Aircraft Technology

Each of the four organizations used or considered use of different types of technology. The contras used Vietnam-era and older US-built aircraft, all of cargo or light design. The LTTE considered modern microlight aircraft. The

Taliban have 1960s-1970s Soviet technology, both combat and cargo. The Chechens had modern jet trainer aircraft. Clearly, no conclusions can be drawn from the case studies about the appropriate type of technology for insurgency. However, one can conclude that the technology must be cheap, or, if possible, free. Of the four case studies, only the LTTE sought to buy their aircraft, and they apparently failed in their attempts. In the other cases, the airframes were given to the organization, captured, or stolen.

A few authors have presented the case that light aircraft are a viable technology for countering insurgents. For example, Capt George C. Morris, USAF, in his article "The Other Side of the COIN: Low-Technology Aircraft and Little Wars," recommends low-tech aircraft, such as "armed versions of primary trainers, light transports, or utility airplanes based on civil designs."⁹⁷ He points out that Thailand and Zimbabwe conducted successful counterinsurgency campaigns using just these types of aircraft. The aircraft "played an important role in reaching out and winning villages over to the government's side."⁹⁸ Such aircraft may be able to play a similar role in winning villages over to the insurgents' side, as well.

Morris also finds, as the contras did, that a little bit of airlift can provide a lot of support to ground troops. He recommends aircraft which can airland or airdrop small units, but finds value even in aircraft as small as the two-seater MS 500 Criquet. He sees counterinsurgency aircraft's "most valuable contribution...is to move men and materiel rapidly from one operational area to another."⁹⁹

While Morris sees airlift as the most valuable contribution aircraft can make in the counterinsurgency arena, he also recognizes that light aircraft can provide reconnaissance, surveillance, and psychological operations support. All of these functions are just as valuable to the insurgent as to the

counterinsurgent, and affordable aircraft that can perform for the counterinsurgent should also be able to perform for the insurgent.

Morris downplays but does not disregard the importance of carrying armaments. "Excessive firepower, real or imagined, can be detrimental to a government's position: dead civilians win few friends among the population."¹⁰⁰ Morris contends that small, slow, light aircraft, armed appropriately, provide the desired accuracy and punch. Again, the same can also be said regarding insurgent use of firepower.

While light aircraft are clearly not the only acceptable solution to an insurgency's airpower needs, they provide a strong capability. Mathias Rust's 1987 flight to Red Square and ongoing drug smuggling efforts into the United States prove that even a sophisticated air defense network can be defeated. Tactics appropriate to the technology and an understanding of the government's air defense system are the pre-requisites. Modern technology and high performance are not.

X. BEGINNING A THEORY OF INSURGENT AIRPOWER

Insurgency and airpower can mix. Airpower is unlikely to be the deciding factor in the outcome of an insurgency campaign in the near future, but it could provide crucial support if properly applied. This chapter contains some initial thoughts which an insurgent contemplating the use of airpower may want to consider.

First, the insurgents must have a strategic perspective. Without the ability to see long-term results and identify highly lucrative targets which might be reachable only through the use of airpower, aircraft merely become tactical crutches. From this strategic outlook, the insurgents should be able to grasp some of airpower's inherent political strengths, such as its speed, range,

and flexibility, as well as its weaknesses, such as its potential for de-humanizing the war.

Second, if the insurgents are consciously phasing their operations according to Maoist theory or one of its variants, they should expect their air operations to change with the phases. In the initial, organizational phase, the most that should be expected of airpower is basic transportation of movement leaders, having the appearance of normal private aviation. In the guerrilla warfare and conventional warfare phases, airpower missions should broaden as needed.

Third, the insurgents must have a viable sanctuary that will remain relatively safe even if an airstrip is built there. Many types of terrain are acceptable, as shown by drug traffickers' ability to use airstrips throughout the entire Western hemisphere.

Fourth, at least a basic understanding of airpower and insurgency doctrines are needed. Insurgents must understand what air superiority is, and how to gain access to the skies at least at specific places or times. In the same way, accepting time and space as weapons rather than goals will influence how an insurgent air force seeks air superiority and the ability to conduct other air missions. In applying airpower, especially in an offensive attack mode but also in support missions, an ability to exercise centralized control and decentralized execution, as well as the ability to concentrate the force are important.

Fifth, the aircraft must be available and supportable. This includes access to air and ground crew skilled enough to properly perform the missions assigned. Many types of technology can be used, from home-built gliders and microlights to World War II-era transports. Whatever is available and supportable is probably usable. If the government has an air defense

capability, innovative tactics and detailed understanding of the air defenses will probably be necessary to allow the insurgent air force to operate successfully.

Sixth, flexibility and versatility, hallmarks of both guerrillas and airpower, must be retained. Many aircraft and pilots can perform multiple missions, and can do some missions covertly. Airlift is probably the most important function airpower can provide to insurgency, and it should not be shunted aside for attempts at creating an offensive air capability.

In summary, today's insurgents can consider applying airpower in their struggles. If any sort of air capability is cheaply available, it probably can be used to enhance the survivability, credibility, and capability of the insurgency. At the same time, application of airpower is not easy, and should not be tried simply because it is available. Personnel knowledgeable in insurgency and airpower theory and doctrine can make the available air capability worth the effort required to apply it. Personnel without such knowledge can easily do more harm than good.

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