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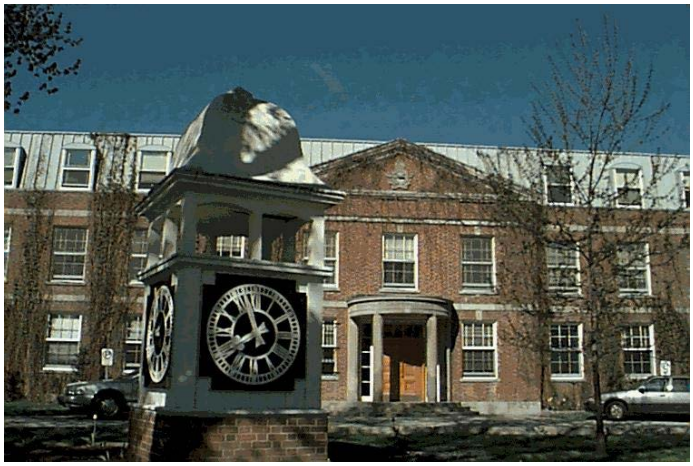

AIR POWER SUPPORT TO SPECIAL OPERATIONS: A DELIBERATE REQUIREMENT

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AIR POWER SUPPORT TO SPECIAL OPERATIONS: A DELIBERATE REQUIREMENT

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17 April 2013

Word Count: 19,080

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ABSTRACT

Since the Second World War, the global security environment has progressively evolved from commonly inter-state conflict to one which now more often involves intra-state conflict. Although the existence of conventional war has not disappeared, the predominance of more complicated, small wars has forced a re-focus in the way nations have addressed their ability to achieve and maintain security—both internally and internationally.

Clear evidence of that re-focus can be found in the growth and development of a fourth arm independent of conventional armies, navies, and air forces—Special Operations Forces. Indeed, the history of SOF highlights an evolving realization of this arm's significant strategic value—albeit at increasing cost. Over the last century, the evolution of SOF fundamentals and applications has refined the ability to counter threats for which conventional forces are not well suited. Although the importance of a baseline conventional capability remains extant, the predominance of smaller, intra-state conflicts has resulted in an ever-increasing focus on SOF and their skill-sets.

This research paper will focus on the employment of SOF and, more specifically, on the provision of air power in support of those operations. Having established a working knowledge of SOF and how air power relates to it, and after adding context from the evolving security environment, the focus will shift to modern case study analysis. More specifically, using examples such as the recent Special Operations raid on Osama Bin Laden's compound, this paper will demonstrate that successful support to these types of missions hinges on a defined, deliberate, and enduring commitment of integrated air power.

The fact that the future is uncertain is no excuse for failing to make adequate preparations.
- United States Marine Corps, *Operational Manoeuver from the Sea.*[1]

INTRODUCTION

There is likely not a more shocking moment in recent history than the events of September 11, 2001. In many North American minds until that point, the world was a manageable mix of personal circumstances based loosely within a relatively stable, secure environment. There were always distant wars and rumours of wars but the local news channel was the closest anyone really had to interface with those. The absence of persistent Cold War tensions had political and military theorists moving on to the evaluation of a future security environment with the promise of aggression from failed states, religious extremism, and a general global superpower void.[2] For the interested strategic thinker those warnings meant something but to the average person national security appeared to be well in hand.

When the dust finally settled in New York City and around the Pentagon, the developed world realized that a synchronized terrorist attack had successfully struck at the heart of that security, and the feeling of safety and stability disappeared. The world reeled with the implications of the attack and what it meant for individual, community, and national security. Terrorist attacks were not new, but for the first time since perhaps Pearl Harbor Americans experienced an attack on their home soil. A significant amount of attention was

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[1] United States, United States Marine Corps, *Operational Maneuver From the Sea, A Concept for the Projection of Naval Power Ashore,* (Washington, DC: Department of the Navy, Headquarters US Marine Corps, 1996), 5.

[2] Canada, Department of National Defence, *Leadership in the Canadian Forces: Conceptual Foundations,* (Canadian Defence Academy, 2005), xiii.

turned toward Osama Bin Laden and his Al Qaeda operatives as the developed world united against this new potent threat: the Global War on Terror (GWOT) was born.[3]

Just over a decade later, both time and hindsight reveal a greater understanding of the problem—if not a solution. The GWOT continues as the world has come to realize that the terrorist threat is not just an individual mastermind or the organization behind him. Perhaps the first chapter of that saga however, can be deemed complete as many celebrated the death of Osama Bin Laden on May 2, 2011. Aided by a full spectrum of strategic and tactical air power, US Navy Sea Air Land Teams (SEALs) shot and killed Bin Laden inside a private residential compound in Abbottabad, Pakistan, during a covert operation ordered by US President Barack Obama.[4]

The events of 9/11 and Bin Laden's death book-end a decade of significant change in the way national and international security was addressed. Although Al Qaeda and other extremist groups were not able to trump the impact of 9/11, they continued to demonstrate their ability to invoke chaos around the world.[5] As the Americans did with their Department of Homeland Security, many nations developed robust domestic security organizations and measures designed to detect terrorist activity at home. In addition, due to the broad front of

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[3] Colin S. Gray, *Another Bloody Century: Future Warfare*, (London: Weidenfeld and Nicolson, 2005), 234.

[4] Nicholas Schmidle, "Getting Bin Laden: What Happened That Night in Abbottabad," *The New Yorker*, August 8, 2011, http://www.newyorker.com/reporting/2011/08/08/110808fa_fact_schmidle, accessed February 12, 2013.

[5] Barry R. Schneider, "Al Qaeda's Modus Operandi: Anticipating Their Target Selection," *The World's Most Threatening Terrorist Networks and Criminal Gangs*, ed. by Michael T. Kindt, Jerrold M. Post, and Barry R. Schneider, (New York: Palgrave Macmillan, 2009), 32-38.

extremist targeting, the GWOT formed a unified focus for Western foreign policy—to include military engagement abroad.

Due to the complexity of the mission sets, the special nature of the operating environment, and the need for precision targeting, the use of SOF within the military context became commonplace. In fact, the United States Special Operations Command (USSOCOM) was charged with synchronizing the GWOT on behalf of the Department of Defense.[6] It is not surprising then that a decade after the most memorable event in this generation's collective history, it was an elite team of special operators who were stealthily dispatched deep inside Pakistan to strike down the personae of modern day terrorism.

As the capabilities of SOF have evolved, so too have the platforms and technology used to support and enable Special Operations successes. Especially in kinetic Special Operations, the importance of air power has grown to a point where it is represented in many forms throughout each phase of execution. Strategic airlift is a common requirement for the rapid placement of advanced planning teams around the world. Tactical rotary and fixed wing air mobility are often must-haves for the delivery of the force package to the objective area. Manned or unmanned aerial surveillance systems are imperative in the development of the intelligence preparation of the battlefield— involved before, during, and after the execution phase.[7] Air effects in the form of close air support, air-to-air refuelling, and casualty evacuation, are common additions to a properly planned SOF event. In the modern

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[6] United States, United States House of Representatives, Committee on Armed Services, Subcommittee on Terrorism, Unconventional Threats and Capabilities, Testimony of Michael G. Vickers, Director of Strategic Studies, June 29, 2006, p. 2, http://www.globalsecurity.org/military/library/congress/2006_hr/060629-vickers.pdf, accessed February, 12, 2013.

[7] NATO, NATO Special Operations Headquarters, *SOATU Manual*, (February 2013), 26.

context, Special Operations are reliant on air power support in every phase of an operation and this support must be tailored in a way that addresses the specific requirements for successful SOF employment.

The delivery of air power, over the last century, has undergone a storied evolution of its own, seeing the creation of specific platforms formed around particular air effects or capabilities. In relation to supporting SOF, some of those capabilities are directly applicable as they exist and require little manipulation to be effective. Other air effects require very specific personnel, equipment, and training to properly enable their SOF customers.[8] This realization has created a need to identify the most effective, and often economical, way to develop SOF-specific air power.

As SOF application differs from nation to nation, the doctrine and literature addressing the issue varies in scope. Much literary discussion surrounds the idea of integrating air power in a joint environment but stops short of SOF specific nuance. As the world's largest and most expansive SOF entity, the US has led the global discussion. That said, this research paper attempts to frame the air power requirements of a nation which may embrace only a sub-set of US SOF missions. In that light, a focus on lessons learned from historical kinetic Special Operations will be used in their pure form to generate recommendations that can be applied within an individual nation's context. As the evolution of air power in support of SOF adapts with the changing security environment, each nation will ultimately need to embrace the idea that a national SOF mandate is inextricably linked to a deliberate measure of air power—in whatever context that is.

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[8] United States, United States Air Force, *Air Force Doctrine Document (AFDD) 3-05 Special Operations,* LeMay Center 2011, 3.

The growing predominance of intra-state, as well as low intensity, conflict underscores the need to institutionalize adequate support and capability mechanisms between SOF and the air community. Air power support, shaped specifically for and in advance of Special Operations, must be premeditated and embraced at the strategic level. More specifically, using historical examples of SOF events including the recent raid on Osama Bin Laden's compound, this paper will demonstrate that the successful application of air effects in support of kinetic Special Operations hinges on the defined, deliberate, and enduring commitment of integrated air power.

The first chapter will establish a baseline of understanding with regards to Special Operations history and evolution. In addition, the fundamentals, lexicon, roles, and missions of the community will be expanded on in order to set these forces apart from conventional applications. A second chapter will include the evolution, fundamentals, and doctrine, which form the capability building blocks for air power support to SOF roles and missions. It will also highlight the strengths and weakness of air power which must be taken into consideration when employing it in support of SOF. As a vector check for how the SOF community envisions its current force being tailored to address the evolving security environment, a third chapter will establish the context for future SOF employment which will drive the requirements for supporting air power development and generation.

The fourth chapter will examine the historical employment of air power in support of SOF through four distinct kinetic case studies which by their success or failure draw attention to the application of air effects. Cross-referencing the lessons from each case study, a fifth chapter will identify critical aspects of air power that must be accounted for when building or

sustaining a Special Operations capability. A final chapter will examine the Canadian context in an effort to produce key recommendations for how best to support Canadian Special Operations through the provision of national air effects.

In breaking out the components of effective special operations, overlaying the enabling effects of air power, linking them to the current and future security environment, and then rebuilding them into a cohesive and integrated force of choice, it will be very clear that the effort must be both deliberate and focussed. A nation that develops a SOF capability to address a particular domestic or international mandate must understand that this comes with a bill for air support.[9] To be effective, respecting the lessons history has revealed, air effects in support of SOF must be developed in advance of a crisis. It may not be in response to emergency or disaster; it cannot be just in time.

[9] The importance of establishing SOF resource requirements and priorities is expanded on in: NATO, NATO Special Operations Headquarters, *Special Operations Forces Study*, (December 2012), 20.

CHAPTER ONE: Introduction to Special Operations Forces (SOF)

INTRODUCTION

Dedicated forces charged with the execution of Special Operations are commonly represented across modern militaries and their evolution now arguably demands a valuation equal to conventional armies, navies, and air forces. Around the world, as the global security environment continues to shape the requirements for individual nations' forces, conflict has become more complex and asymmetric.[10] Intra-state conflict is now more common and, combined with an increasingly globalized area of operations, projects the implementation of military effects onto the world stage. This has given rise to the need for precision effects, balanced by a targeting process against the risk of collateral damage.[11] In truth, these are variables that must be factored into consideration in the use of any facet of national power—be it diplomatic, informational, military or economic.[12] SOF is unique in its ability to deliver tailored effects across the spectrum of national power, with the precision demanded by the evolving security environment.

It is true that the increased level of SOF engagement around the world over the last several decades has served as an important proving and development ground—both in terms of individual tactical application as well as through conventional integration.[13] To a great

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[10] Elinor Sloan, "The Role of Aerospace Power 2018 and Beyond," *The International System, Canada, Armed Forces and Aerospace Power: 2018 and Beyond*, Silver Dart Canadian Aerospace Studies, vol. V, ed. James G. Fergusson, (Winnipeg: University of Manitoba, Centre for Defence and Security Studies, 2009), 145.

[11] Benjamin S. Lambeth, "Operation Enduring Freedom, 2001," *A History of Air Warfare*, (Washington: Potomac Books Inc, 2010), 348.

[12] Major-General Andrew Leslie, Mr. Peter Gizewski, and Lieutenant-Colonel Michael Rostek, "Developing a Comprehensive Approach to Canadian Forces Operations," *Canadian Military Journal* 9, no. 1 (2009), 11.

[13] Lieutenant-Colonel Jamie Hammond, "Special Operations Forces: Relevant, Ready and

extent, the idea of SOF employment in a historical military context generated bias and misconception. For some, they existed as a negative perception: a shadowy and undisciplined force operating outside the boundaries of legal consideration and unhindered in the execution of "special" missions. Conventional military leadership often viewed SOF as clouding proper lines of communication, circumventing chains of command, and siphoning defence spending away from critical conventional requirements.[14] The definition and understanding of what SOF is today, however, leads to a more thorough integration of their unique skill sets and a general acceptance within military and executive circles.

SOF DEFINITIONS

Prior to progressing further, a baseline description of several SOF terms and definitions is important. There are a myriad of interpretations of these particular terms, across the global community; however the following definitions will be used for the purposes of this discussion.

Special Operations are operations conducted in hostile, denied, or politically sensitive environments to achieve national objectives using military capabilities for which there is no broad conventional force requirement. Special operations are employable across the spectrum of military operations and are often undertaken in a covert or clandestine manner. They differ from conventional operations, or those conducted by other military services, in

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Precise," *Canadian Military Journal*, (Autumn 2004), 18.

[14] Colonel Bernd Horn, "When Cultures Collide: The Conventional Military/SOF Chasm," *Canadian Military Journal*, (Autumn 2004), 3.

their degree of physical and political risk, operational techniques, mode of employment, and dependence on detailed operational intelligence and indigenous assets.[15]

Special Forces are units within a nation's military charged with conducting specialized operations. This term emerged in the early 20th century, with the growth of Special Forces during the Second World War, and will carry a historical connotation in this discussion. Apart from specific nomenclature used for US Special Forces units, this term is used interchangeably with SOF around the world.[16] Lastly, Special Operations Forces are units of a country's armed forces specifically trained, organized, and equipped to conduct and support special operations. SOF is a more encompassing and modern term used to define units conducting special operations, and as such will be used predominantly in this discussion.[17]

SOF HISTORY AND EVOLUTION

Through the history of conflict, Special Forces activities were often linked to a specialized focus, commonly disruptive in nature, and set apart from conventional application. Ralph Sawyer, an author of ancient military history, describes the development of specific Chinese units during the Zhou Dynasty (11th Century BC) who focussed on rapid and deep advance through difficult terrain.[18] Throughout the Byzantine Period, Romans and

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[15] As the leading entity on Special Operations and its development, the definitions for associated terms have been pulled from US doctrine. United States, United States Department of Defense, Dictionary of Military and Associated Terms, 2005.

[16] Oxford Dictionaries Online, http://oxforddictionaries.com/definition/english/special%2Bforces, accessed 27 November 2012.

[17] NATO, NATO Special Operations Headquarters, *Special Operations Forces Study*, (December 2012), 8-9.

[18] Ralph D. Sawyer, *The Seven Military Classics of Ancient China,* (Boulder, Westview Press, Inc, 1993), 39, 98-99.

Muslims alike fielded specialized maritime ships and crews to conduct camouflaged intelligence gathering, surveillance, and offensive action.[19] In fact, the evolution of modern SOF can be traced back to the historical use of small group skills and tactics. This included dispersed sharp-shooting by 18th Century Light Companies, specialized engineering and reconnaissance units during the Napoleonic War, and the raiding tactics of Butler's Rangers along the Canadian-American border in 1778.[20]

Although traceable through the First World War, the value and development of SOF linked specifically to kinetic action came to greater light during the Second World War. The US developed the Office of Strategic Services (OSS) which eventually translated into the Central Intelligence Agency (CIA). In the same period the US Army Rangers were created. Under the First Special Service Force, Canada and the US combined efforts to develop a sabotage unit called the Devil's Brigade. The United Kingdom (UK) created the British Commandos, in response to Winston Churchill's desire for "hunter class troops," which eventually led to the Special Air Service (SAS), Special Boat Service (SBS) and the infamous Long Range Desert Group.[21] Many other countries have a proud SOF history that saw formed units created during this period. The tactics and procedures of SOF were greatly advanced in this era—as consolidated organizations built around specific missions. Also important is the understanding that the roles and responsibilities of SOF after this period

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[19] Vassilios Christides, "Military Intelligence in Arabo-Byzantine Naval Warfare," Institute for Byzantine Sudies, Athens, 276-280, http://deremilitari.org/resources/pdfs/christides.pdf, accessed 27 November 2012.

[20] Donald C. Holmes, *Butler's Rangers*, (United Empire Loyalists' Association of Canada: 1977), 2-3, http://www.uelac.org/PDF/Formation-of-Butlers-Rangers.pdf, accessed 19 February, 2013.

[21] Horn, "When Cultures Collide…," 5.

remained largely a distraction for conventional militaries and, in the absence of war, resulted in a general reduction of SOF funding and disbandment.[22]

Since the Second World War, SOF has been employed in both conflict and peacetime operations. As the United States has the largest SOF community in the world, often shaping the development and employment of these forces in other nations, recent US events are included here as background for what modern SOF has come to be. Specifically, three distinct US SOF failures and the lessons learned from them have forced the formalization of their structure, fundamentals, and employment as we know it today. Although specific case studies form the basis of this research paper and will be discussed in great detail further on, a cursory understanding of the events below is important to understand the evolution of SOF itself.

Operation Eagle Claw was a hastily mustered and poorly integrated mission designed to bring the Iranian hostage crisis to an end in 1980. The mission was ultimately aborted, incurring significant losses in personnel and aircraft along with a very public national embarrassment. Retired Chief of Naval Operations Admiral James L. Holloway led the official investigation into the causes of the failure of the operation on behalf of the Joint Chiefs of Staff. The Holloway Report primarily cited deficiencies in mission planning, command and control, and inter-service operability. [23] Shortly after, an Iranian terrorist attack on a US Marine Corps barracks in Beirut, Lebanon, killed 241 American military members. Apart from the devastating impact of the explosion, the incident led to a report

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[22] Colonel Michael E. Haas, *Apollo's Warriors: United States Air Force Special Operations during the Cold War*, (Alabama: Air University Press, 1997), 9.

[23] United States, United States Department of Defense, *The Holloway Report*, http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB63/doc8.pdf, accessed 28 November 2012.

issued by the U S Department of Defense Commission which recommended a review for the development of a broader range of appropriate military, political, and diplomatic responses to terrorism. Military preparedness needed improvement in the development of doctrine, planning, organization, force structure, education, and training to better combat terrorism, and that the US was not prepared to deal with the terrorist threat at the time due to a lack of training, staff, organization, and support in this vein.[24] Across the world, less than 48 hours after the Beirut bombing, the US invaded Grenada. After a bloody military coup, and under the guise of a rescue mission of American medical students, over 7,500 Paratroops and SOF executed Operation Urgent Fury. Woefully lacking in communication and coordination across the contributing organizations, three of seven SOF specific operations "led to the death of SOF soldiers for little or no operational benefit.[25] As a net result, Congress conceded to the fact that SOF and its supporting air power required better integration into the greater military.[26] Shortly thereafter, an amendment to the 1986 Goldwater-Nichols Defense Organization Act provided a catalyst to reorganize the Department of Defense to include a separate multi-service organization called United States Special Operations Command (USSOCOM), ensuring adequate funding and policy emphasis for low-intensity conflict and special operations going forward.[27]

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[24] United States, United States Department of Defense, *Report of the DOD commission on Beirut International Airport Terrorist Act*, 128-129, https://www.fas.org/irp/threat/beirut-1983.pdf, accessed 28 November 2012.

[25] Richard A Gabriel, *Military Incompetence: Why the American Military Doesn't Win.* (New York: Hill and Wang, 1985).

[26] Hammond, "Special Operations Forces…," 19.

[27] United States, United States Department of Defense, *Goldwater-Nichols Department of Defense Reorganization Act of 1986*. Washington, DC: GPO, 1986, Public Law 99-433, https://digitalndulibrary.ndu.edu/cdm4/document.php?CISOROOT=/goldwater&CISOPTR=956&CISOSHOW=869, accessed 28 November 2012.

The global SOF community also realized and embraced the importance of dedicated funding and emphasis.[28] In 1987, the United Kingdom Special Forces unified command, now under a Major-General, was formed to consolidate all national Special Forces. Following the Gulf War, in 1992, France consolidated its SOF under a unified Commandement des Opérations Spéciales. Australia also made the transition in 2003, followed by Canada in 2006.[29]

To complete the evolution to what SOF is today, a formal command structure, or dedicated focus at minimum, has allowed for the definition of SOF roles and responsibilities, core missions, capability requirements to include air power support, along with stated strengths and weaknesses.[30] Doctrine has been developed and formalized, based on past and current SOF operations and experiences, allowing for an exterior understanding of how SOF is employed.

SOF FUNDAMENTALS

The true outputs of SOF are distinctly different from those of conventional forces. They often carry greater, commonly political, risk which adds complexity to their execution. SOF often employ different equipment, in different ways, in areas where larger forces would likely be detected and denied.[31] Special Operations often require a high degree of

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[28] A full list of SOF headquarter creations is included in the referenced SOF study. NATO, NATO Special Operations Headquarters, *Special Operations Forces Study*, (December 2012), 2.

[29] Chris Thatcher, "Canadian Special Operations Forces Command," *Vanguard Canada*, (April/May 2006), http://vanguardcanada.com/canadian-special-operations-forces-command/, accessed 19 February, 2013.

[30] NATO, NATO Special Operations Headquarters, *Special Operations Forces Study*, (December 2012), v.

[31] William H. McRaven, *Spec Ops, Case Studies in Special Operations Warfare: Theory and Practice,* (New York: Ballantine Books, 1996), 2.

partnership and interoperability with host nation agencies, elements of allied or partner nations, and may even include interaction with non-state actors within the region. Most importantly, when used properly, SOF can have a strategic impact across the spectrum of national power—diplomatic, informational, military, and economic.[32] Understanding the unique attributes of SOF is important in ensuring their outputs are focussed properly.

Due to the nature of Special Operations tasks, SOF personnel are specifically recruited and trained from all other military services—making SOF inherently joint.[33] As is the case with conventional forces, when employed SOF often maintains their command and control structure. The preservation of internal cohesion is one benefit, but it also optimizes the employment of the element as a whole. In addition, given the precision and support required for the execution of Special Operations, the need for persistent training also demands that operators be completely interoperable with all facets of support—especially that of air power.[34]

Like all military units, SOF have key capabilities and weaknesses that are distinct from conventional units. SOF personnel undergo intense screening and selection processes to ensure trade suitability; a process that often calls for applicants who already have significant military experience skills. They are often deployed on short notice, operate in nearly any environment with minimal supervision and sustainment requirements, all the while maintaining strategic communications where necessary. Due to the timeline necessary to screen, select, and train SOF, it is very difficult to quickly replace or regenerate them.

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[32] Dr. David Kilkullen's remarks at the NATO SOF Symposium, 3-5 June 2008, Deauville, France.

[33] NATO, NATO Special Operations Headquarters, *Guidelines for NATO SOF Helicopter Operations*, (February 2013), 3.

[34] United States. Joint Chiefs of Staff. *US Joint Pub 3-05, Doctrine for Joint Special Operations.* Washington, DC: Joint Chiefs of Staff, 18 April 2011, II-2 to II-4.

This underscores the importance of employing SOF properly and avoiding unnecessary losses. By extension, SOF are not conventional units and are poorly suited for sustained combat operations. That said, they are often reliant on conventional support and sustainment in the same way any military unit is bound logistically.[35]

From these fundamentals it is clear that, in exchange for a very unique set of capabilities and advantages, comes the realization that modern SOF are nearly always an extension of conventional military applications. Contrary to the once prevalent notion of rogue and unruly "specialists," SOF must be viewed as a fourth armed service—complete with advantages and disadvantages that must be understood prior to employment.[36] In addition, SOF as a joint entity must be viewed as an all encompassing capability which includes the provision of required air effects.[37] In other words, a national SOF mandate must come inclusive of the air effects necessary to prosecute the missions demanded of it.

SOF MISSIONS

Around the world, the SOF community varies in scope and size which has a dramatic impact on the types of missions each nation's SOF is trained to execute. Each country is presented a different set of variables and considerations that their military and SOF are required to address. For example, a land-locked country may not need to develop and maintain a maritime counter-terrorism capability. By extension, another country may require

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[35] Further expansion is included as Mission Support Considerations in NATO's SOATU Manual. NATO, NATO Special Operations Headquarters, *SOATU Manual*, (February 2013), 35-36.

[36] Michael Day and Bernd Horn, "Canadian Special Operations Command: The Maturation of a National Capability," *Canadian Military Journal*, Vol. 10, No. 4, Autumn 2010, 69.

[37] NATO, NATO Special Operations Headquarters, *Special Operations Forces Study*, (December 2012), 16.

that capability but leave it as a domestic constabulary mandate.[38] Therefore, understanding that not every nation's SOF will maintain all defined Special Operations mission sets, a generic outline of common SOF activities is included here as a baseline introduction of each.[39]

The most prominent mission, encompassing activities including raids, rapid assaults, and ambushes, is the Direct Action (DA). Speed, surprise, and precision are all characteristic of a DA, which differs from conventional offensive action in the techniques applied and the risk associated. Targets may include individuals, equipment, and infrastructure, all of which may be prosecuted from air, land, or sea.[40] Either independently or in conjunction with conventional efforts, a SOF DA is often limited in duration in an effort to minimize operational risk. This mission is a core activity, forms the basis of nearly every nation's SOF capability, and places the greatest demand on requisite air power.

Special Reconnaissance (SR) can be used for any informational collection effort but is best employed against targets of significant operational or strategic value. As a very low profile capability, SR encompasses unique technological applications which can define nearly any type of problem and feed that information back to the appropriate organization. SR is best used for national or theatre specific intelligence objectives as it is commonly a

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[38] Jamie W. Hammond, "Special Operations: Relevant, Ready, and Precise," *Casting Light on the Shadows: Canadian Perspectives on Special Operations*, (Kingston: Canadian Defence Academy Press, 2007), 224-225.

[39] United States, Joint Chiefs of Staff, *US Joint Pub 3-05, Doctrine for Joint Special Operations*, Washington, DC: Joint Chiefs of Staff, 18 April 2011, II-5 to II-19.

[40] Greater detail on target types and process is outlined in the NATO SOATG Manual. NATO, NATO Special Operations Headquarters, *Special Operations Air Task Group Manual*, 1st Study Draft, February 2013, 36-37, http://www.nshq.nato.int/NSTEP/GetFile/?File_ID=182&Rank=45000, accessed 4 March 2013.

finite resource. This mission is also a very common and high priority activity for the global SOF community.

In the recent past, terrorism has become a term that encompasses any offensive activity which is designed to spread fear in a target audience. Most commonly executed by a non-state organization, this activity may come in nearly any form and may be focussed tactically or strategically. Through the combination of other SOF core activities and their direct or indirect methods, Counter Terrorism (CT) is most effective when addressed through partnerships across national government departments as well as internationally, with other partner-nations. [41] Although focussed specifically on weapons of mass destruction, Counter Proliferation (CP) targets those same partnerships to limit proliferation, address consequence management, and promote education on the issue. Many nations' SOF mandate incorporates a measure of CT and CP capabilities to preserve domestic and international security.

An expansion of SOF missions to those incorporating both kinetic and non-kinetic activities includes Unconventional Warfare, Security Force Assistance, Foreign Internal Defence, and Counterinsurgency efforts—each of which calls for a unique set of skills and enablers. Many of these missions demand a high level of independence as well as a balanced understanding of tactical, operational, and strategic objectives associated with each. Based on those objectives, each mission demands a specific and unique measure of air power support to achieve success. Depending on the size of a nation's SOF and the resources allocated to it, less kinetic skill sets may be developed and sustained to include Information

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[41] NATO, NATO Special Operations Headquarters, *Special Operations Forces Study*, (December 2012), 6.

Operations, Military Information Support Operations, and Civil Affairs Operations.[42] Each of these require the ability to sensitively message select information, build and maintain unique relationships, and operate alone or in small groups.

Regardless of the mission, Special Operations call for specific air power support to execute them in a timely and efficient manner however, the focus of this paper is on the most precise and surgical mission—Direct Action. Due to the common inclusion of time sensitivity with regards to the target, extended force projection requirements, and the strategic impact of success or failure, Direct Action is one of the most demanding SOF missions.[43] These same parameters create the most demanding scenario for supporting air effects and they call for the greatest of synergies in preparation and execution. Although Direct Action is rarely the first choice for crisis resolution, a nation's SOF mandate will nearly always include this mission as the backbone of Special Operations capabilities. The plan to support this mission through the use of air power, especially in an international context, must be developed deliberately and trained repeatedly prior to employment. As this paper will show, strategic implications are most certainly at stake.

SUMMARY

With these core activities in mind, it is important to return the discussion of SOF missions back to the individual operator and to re-emphasize that individual skills in the air or on the ground serve as the baseline for mission success. The execution of any of these

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[42] The concept of indirect targeting is often attributed to Sir Basil Henry Liddell Hart. Basil Liddell Hart, *Strategy*, (New York: Praeger, 1954), 107.

[43] Additional examples of historical SOF strategic failures are included here. NATO, NATO Special Operations Headquarters, *Special Operations Forces Study*, (December 2012), 16-17.

mission-sets starts with the individual strength of each SOF team member. Individual strength becomes the building block for small team engagement which may, in some missions, achieve strategic effect by itself. Most importantly, however, modern SOF are integrated members of the greater strategic plan regardless of where they are applied.[44] Each of the core activities outlined above draws clear connections to a total force plan which calls for SOF, conventional forces, and often OGDs to work together synergistically.[45] Understanding the strengths and weakness of each is necessary to achieve that synergy—thus the importance of this chapter as an introduction to modern SOF. What is clear, even prior to a deeper discussion on air specific applications, is that Special Operations have evolved to a level where success is inextricably linked to effective air power. Although the specifics of that linkage will be developed in the next chapter, it is clear that air power support to SOF operations must be developed and maintained in a concerted manner—not as an added benefit but as a fundamental requirement.

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[44] Robert Martinage, "Special Operations Forces: Future Challenges and Opportunities," *CSBA Strategy for the Long Haul*, Center for Strategic and Budgetary Assessments (2008), xi.

[45] James D. Kiras, *Special Operations and Strategy: From World War II to the War on Terrorism*, (New York: Routledge, 2006), 115.

CHAPTER TWO: Air Power in a SOF Role

INTRODUCTION

The history of flight and its development into air power stems from the 17th and 18th century with the application of Sir Isaac Newton's laws of motion and aerodynamics. Through the 19th century, experiments with gliders established the framework necessary for heavier-than-air craft. The advent of the combustion engine provided the final technological piece necessary for the development of modern flight as it is known today.

No sooner was powered flight a survivable experience, military leadership sought to employ it. Air power saw significant employment and development in the First World War where aircraft were called to provide offensive, defensive, and reconnaissance effects. Between the World Wars, known as the 'Golden Age' of aviation, significant advancements were made in airframe fabrication, firepower, endurance, and communications.[46] The Second World War provided the impetus to vastly increase the scope and scale of aviation to include the development of role specific platforms as well as the doctrine, tactics, and procedures to employ them.[47] Roles like strategic bombing were linked to the need for fighter escort, furthering the development of task-tailored aircraft. Technology like the radar, precision munitions delivery, and the jet engine forced the global aviation community to continue to adapt through this period and on into the Cold War.[48] Approaching the last quarter of the 20th century, advancement of aviation technology and capability tailored off.

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[46] T. Biddle, *Air Power History: Turning Points from Kitty Hawk to Kosovo*, (London: Frank Cass, 2002), 14; Mauer Mauer, *Aviation in the U.S. Army, 1919-1939*, (Washington: U.S. Government Printing Office, 1987), xxiv.

[47] Walter J. Boyne, *The Influence of Air Power upon History*, (Louisiana: Pelican Publishing Company, 2003), 125-126.

[48] Martin Van Creveld, *The Age of Air Power*, (New York: Public Affairs, 2011), 191.

However one thing is for sure: be it the supersonic delivery of precision-guided munitions or an unmanned drone collecting high resolution data over a denied area, the history of air power in its modern form is inextricably linked to the military applications which drove its development.[49] In this way, the development of air power also formed around the evolution and development of Special Operations. Historically, this relationship has varied from casually supportive to integral and dedicated.

HISTORY AND EVOLUTION

Although the development of specialized roles for air power can be found much earlier in history, one of the first special operations sorties took place in late December 1942, when two allied C-47 transport aircraft dropped paratroopers within German lines to blow up the Tunisian El Djem Bridge.[50] With the Germans rapidly closing in, the paratroopers destroyed the bridge with explosives, and then evaded to friendly lines. The Second World War also saw the first real amalgamation of SOF and air power in the formation of dedicated as well as task-tailored aircraft.[51] In 1943, the 5th Bombardment Wing in North Africa launched a mission in what may have been the first special operations aircraft, a modified B-17 Flying Fortress bomber. Under the auspices of the US Office of Strategic Services (OSS), Operation Carpetbaggers was created around specialized B-24 Liberators and conducted

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[49] Karl P. Mueller, "Air Power," *Rand Corporation Project Air Force*, 2010, http://www.rand.org/content/dam/rand/pubs/reprints/2010/RAND_RP1412.pdf, accessed 13 February, 2013.

[50] Robert F. Dorr, History of Air Force Special Operations "Rich Legacy," The Year in Special Operations: 2003 Edition.

[51] Albert Merglen, *Surprise Warfare: Subversive, Airborne and Amphibious Operations*, (London: George Allen and Unwin Ltd, 1968), 113-115.

special agent parachute drops, night re-supply missions, personnel recovery, radio countermeasures, and leaflet drops.[52] During the same period, under the direction of the British Special Operations Executive (SOE), the Royal Air Force (RAF) developed Special Duties Squadrons charged with low level night delivery and retrieval of secret agents and resistance facilitators. These Squadrons were also responsible for the most famous RAF Special Operations mission in its history—the Ruhr Valley dam-busters raid in May 1943.

Progressing from the early activities of the Second World War, the 1st Air Commando Group in the China-Burma-India (CBI) region was designed to support long range raiding parties, wreak havoc on Japanese forces, and give the Allies an edge in a campaign that had stagnated for two years. Independent, untidy, at times arrogant, and commanded by a mere colonel who answered only to Washington, the Air Commandos were equipped with a mixture of fighter, bomber, liaison, and transport aircraft.[53] The group quickly expanded to become the First Air Commando Division using their success to leverage the use of brand new technology, in the form of Sikorsky YR-4B helicopters, to execute history's first combat helicopter rescue. As Robert Dorr notes,

> History's most horrendous war [the Second World War] gave … special operations pioneers opportunities to test tactics and techniques they would use well into the 21st century, including close air support for clandestine operations, a "quick snatch" device that enabled a C-47 to snatch up a glider (and, later, a person), a primitive night vision device (the size of a footlocker), short takeoff and landing methods (with aircraft flaps that resembled barn doors), and other innovations.[54]

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[52] Orr Kelly, *From A Dark Sky: the Story of U.S. Air Force Special Operations*, (California: Presidio Press, 1996), 50-60.

[53] *Ibid.*, 108; Colonel (Ret'd) Michael E. Hass, *Apollos Warriors: United States Air Force Special Operations durin g the Cold War*, (Alabama: Air University Press, 1997), 8.

[54] Dorr, *History of Air Force Special Operations.…*, (2003).

Regardless of utility or effectiveness, the lack of substantial conflict proved to be the historical nemesis of specialized air power. Since the end of the Second World War, and every significant conflict thereafter, Special Operations capabilities have risen and fallen with the tide of war. The Korean War saw the reallocation of efforts to specialized air power in the form of delivery and resupply. Indeed, important non-kinetic benefits of special operations occurred during this conflict in the form of leaflet-dropping and psychological warfare broadcasting over enemy territory.[55]

The Vietnam War also generated a return to specialized air power and saw the "Air Commandos" concept revived. Along with the more common SOF missions supported from the air, the value of air effects coordination through the use of combat controllers emerged during this difficult air-to-ground engagement. At the height of the War, the U.S. Air Force reached a peak strength for Special Forces with a total of 10,000 people, 550 aircraft, and 19 squadrons while introducing the AC-47, AC-119, and AC-130 gunships. In addition, made famous by the *Pony Express* and the *Green Hornets,* the development and employment of rotary wing mobility in support of Special Operations changed the face of SOF delivery and sustainment.[56]

Post-Vietnam War, dedicated air power in support of SOF suffered from a lack of formed leadership and a champion to retain its specialized capabilities, and as a consequence, lost focus and funding. The failure of Operation Eagle Claw, outlined earlier, was an

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[55] See the scope of this campaign related to the aerial delivery of messaging. United States, "Veritas: ARSOF in the Korean War Part III," *Journal of Army Special Operations History*, PB 31-05-2 Vol 7, No. 1, 2011.

[56] Haas, *Apollo's Warriors…*, 305-309.

important impetus for air power to return to specialized employment. In the US, the concept of SOF and its required air effects became solidified under a unified command structure paving the way for other nations to embrace the requirement for their focused and funded development in the same regard.[57]

All of this historical context sheds light on how air power in support of SOF operations has evolved—out of ingenuity and necessity. The World Wars provided an environment for aviation technology to develop around the employment of SOF—more commonly in support of kinetic activities.[58] The small wars shaped the support role that air power has in the more indirect SOF missions. This refinement of SOF roles and responsibilities has forced supporting air effects and their associate platforms to keep pace.[59] Most specifically with regards to Direct Action, SOF outputs are now arguably fused with those air effects making air power an imperative piece of the operation. Using the intricate balances of the Afghanistan insurgency as context, that fusion is readily apparent as SOF have become the force of choice for conflicts that demand the precision application of national power.[60] In a few short decades, and in spite of conventional misgivings, SOF is proving to be the most flexible tool for complex operating environments.[61] This tool is not

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[57] The argument is expanded on in this Congressional Research Service Report. United States, Congressional Research Service, *U.S. Special Operations Forces (SOF): Background and Issues for Congress*, by Andrew Feickert, 6 February 2013, http://www.fas.org/sgp/crs/natsec/RS21048.pdf, accessed 20 February 2013.

[58] A significant list of special air operations modifications is available in this guideline. NATO, NATO Special Operations Headquarters, *Guidelines for NATO SOF Helicopter Operations*, (February 2013), 7.

[59] Benjamin S. Lambeth, "Operation Enduring Freedom, 2001," *A History of Air Warfare*, (Washington: Potomac Books Inc, 2010), 270.

[60] Nora Bensahel, *The Counterterror Coalitions: Cooperation with Europe, NATO, and the European Union*, (Santa Monica, CA: RAND Publishers, 2003), 55-63.

[61] Greg Jaffe, *U.S. to Elevate Special Operations forces' role in Afghanistan*, Washington

complete, however, without the accompaniment of air power assets such as manned or unmanned intelligence and surveillance capabilities, precision fires, tactical fixed and rotary wing delivery, along with a myriad of specialized supporting operations.[62] Prior to exploring these effects more closely, it is important to outline the fundamentals and over-arching principles of air power linked to Special Operations.

AIR POWER FUNDAMENTALS AND SOF

Derived from the arguably timeless principles of war,[63] the implementation of national air power is done successfully through informed judgement and the application of key tenets.[64] Around the world, air power doctrine is centred on these tenets and although there are nuances, the following appear as common representatives: Centralized Control and Decentralized Execution, Flexibility and Versatility, Synergistic Effects, Persistence, Concentration, Priority, and Balance.[65]

Air power is commonly allocated to a single command structure to be organized and tasked as required. Within a SOF context, this tenet remains valid ensuring that the tasking mechanism protects the roles and responsibilities of those air assets. Centralized control, commonly through a Special Operations Component Commander (SOCC), is then

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Post, 5 February, 2012, http://articles.washingtonpost.com/2012-02-05/world/35445032_1_conventional-troops-afghan-forces-combat-mission, accessed 11 December, 2012.

[62] David A. Deptula, "The Future of Air Power," *Global Air Power*, (Virginia: Potomac Books Inc, 2011), 410-412.

[63] Carl Von Clausewitz, *Principles of War*, Translated and edited by Hans W. Gatzke, (The Military Service Publishing Company, 1942), http://cdn.preterhuman.net/texts/survival/Principles%20of%20War.pdf, accessed 13 February, 2013.

[64] Canada, Department of National Defence, *Canadian Forces Aerospace Doctrine BGA-400-000*, (Trenton: Canadian Forces Aerospace Warfare Center, 2010), 27-29.

[65] United States, United States Air Force, *Air Force Doctrine Document 2-7 Special Operations*, (2005), 2-5, http://www.fas.org/irp/doddir/usaf/afdd2-7.pdf, accessed 13 February, 2013.

necessarily channelled through responsible delegation. Decentralized execution increases flexibility at the tactical level, supports responsiveness, and fosters initiative. It is said that flexibility is the key to air power, although it comes at the cost of proper organization, training, and the right equipment to span the full spectrum of expected missions. With that flexibility comes the power to apply air effects at the tactical level—facilitating strategic objectives. Achieving multiple and parallel effects across the continuum of conflict magnifies the benefits of integrated air power. Properly controlled and executed air power through flexible application can increase the benefit of that power and create synergy.

Air power, so long as effects are required, is best applied persistently and without interruption.[66] Gaps in availability and readiness play against the effective provision of air support. Linked to persistence in its focus, concentration outlines the need to bring the right effects to the right place at the appropriate time. This tenet is also linked to a stated and desired outcome in order to indicate when air effects have been successful. True in almost every instance, air power is a limited resource and is optimized when it is apportioned in the right priority. Finally, leadership in balance is required to weigh priority, mission opportunity, effectiveness, necessity, and efficiency against its associated risk. Risk is inherent in most applications of air power; however, balanced risk is key to ensuring limited resources are employed in a sustainable way.

It is through the application of these tenets of air power that specific roles and responsibilities are filtered. Optimization of air effects, regardless of the associated objective, is achieved when these tenets are respected. With these in mind, noting that their

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[66] Commander John James Patterson VI, *Long-Term Counterinsurgency Strategy: Maximizing Special Operations and Air Power*, (Pennsylvania: U.S. Army War College, 2010), 13-14.

application in support of SOF remains unchanged,[67] it is now possible to review the core activities of air power in a Special Operations context.

Specific air power missions in support of these activities fall out logically and with clear linkages. As a reminder, not every nation within the global SOF community is trained or equipped for the full spectrum of these activities.[68] In addition, the methodology in achieving those core missions which are deemed necessary is often different across the SOF community—due to size and scope of the resources available.[69] Air power, as resources go, is generally the most expensive and therefore may not always be applied in support of every SOF core mission. That said, in an effort to establish a baseline of knowledge in how air effects are applied in support of SOF around the world, a summary of core activities is included here.[70]

Outlined earlier as the most demanding SOF mission in terms of support, Direct Action often incorporates Command and Control (C2), Intelligence, Surveillance, and Reconnaissance (ISR), Specialized Air Mobility and Refuelling (SAM/R), Precision Fires (PF), and a measure of Battlefield Air Operations (BAO).[71] Operational and tactical (airborne) C2 provides the authorizing, directing, and coordinating function necessary for Special Operations execution. Whether via manned or unmanned aerial platforms, airborne ISR feeds the process for collection, processing, exploitation, and dissemination (CPED) of

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[67] Richard P. Hallion, "U.S. Air Power," *Global Air Power*, (Virginia: Potomac Books Inc, 2011), 133.

[68] Bernd Horn, "Special Operations Forces: Uncloaking an Enigma," *Casting Light on the Shadows: Canadian Perspectives of Special Operations Forces*, (Kingston: Canadian Defence Academy Press, 2007), 29-30.

[69] NATO, NATO Special Operations Headquarters, *Guidelines for NATO SOF Helicopter Operations*, (February 2013), 4.

[70] United States, *Air Force Doctrine Document 2-7 Special Operations*, 10-15.

[71] These are summarized as Direct Action effects in NATO doctrine. NATO, NATO Special Operations Headquarters, *Guidelines for NATO SOF Helicopter Operations*, (February 2013), 6-7.

information. Once pushed through the CPED process, ISR activities seek to generate actionable intelligence which informs both kinetic and non-kinetic Special Operation activities.[72]

SAM missions provide the mechanism for force package delivery and include "the conduct of rapid, global infiltration, exfiltration, and resupply of personnel, equipment, and materiel using specialized systems and tactics."[73] Multiple refuelling options, capable of operating in overt environments, ensure that supporting aircraft have the endurance they require. Forming the largest aspect of historical air power support to Special Operations, mobility missions are often conducted overtly through airspace which is not always receptive. Once in the objective area, Precision Fire tasks such as Close Air Support (CAS), Air Interdiction (AI), and armed reconnaissance, provide a kinetic resolution for a Special Operations action cycle—Find, Fix, Finish (F3). The idea of precision, both in terms of target selection and prosecution, is paramount for collateral considerations on an increasingly globalized battlefield.[74] Throughout the operation, under the guise of Battlefield Air Operations, air specific capabilities may include tactical Air Traffic Control (ATC), Joint Terminal Attack Control (JTAC), airfield and runway assessment, environmental and weather analysis, personnel recovery, and medical support.

Although these air effects are all likely involved directly in the execution of a Direct Action, other platforms may carry indirect roles. In addition, each of these air effects may be tasked in support of other core SOF activities. Depending on the national SOF mandate,

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[72] Specific intelligence types and associated CPED processing are outlined further in the SOATG Manual. NATO, NATO Special Operations Headquarters, *Special Operations Air Task Group Manual*, 1st Study Draft, February 2013, 56-67, http://www.nshq.nato.int/NSTEP/GetFile/?File_ID=182&Rank=45000, accessed 4 March 2013.

[73] *Ibid*., 13.

[74] NATO, Allied Joint Publication 3.5, *Allied Joint Doctrine for Special Operations*, 1-3.

specialized air effects may also take the form of Aviation Foreign Internal Defense (AvFID), Information Operations (IO), and Psychological Operations (PSYOPS).[75] Regardless of application, there exists an overarching air power requirement which forms the backbone of all mission support activities in support of SOF. Air power specific force development, generation, and employment of task tailored personnel, equipment, and capabilities are included in this activity.

Understanding the full spectrum of air effects which go to supporting SOF missions, it is clear that the ability of an individual nation to address them in their entirety is challenging and expensive.[76] It should be noted that, in the spirit of flexibility and versatility, some aircraft are capable of providing multiple effects—concurrently or sequentially.[77] Regardless, the requirement to develop and sustain a myriad of fleets, supporting equipment, and personnel, to address each core activity is one which is insurmountable to all but the US, perhaps.

Recent history has demonstrated the repeated return to specialized air power applications around the world. Often linked to major conflict, the value of SOF applications with supporting air power has created undeniable success at the tactical, operational, and strategic level.[78] Over the last several decades, a maturation of SOF and the identification of its key enablers have outlined the importance of specialized air power. Part of that maturation was the realization that SOF capabilities, including the air component, must be a

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[75] This is further described as Military Assistance (MA) in NATO doctrine. NATO, NATO Special Operations Headquarters, *Guidelines for NATO SOF Helicopter Operations*, (February 2013), 5-6.

[76] Hammond, "Special Operations Forces…," 227.

[77] David A. Deptula, "The Future of Air Power," *Global Air Power*, (Virginia: Potomac Books Inc, 2011), 411.

[78] Benjamin S. Lambeth, "Operation Enduring Freedom, 2001," *A History of Air Warfare*, (Washington: Potomac Books Inc, 2010), 277.

standing and enduring commitment.[79] With the complexities of the current security environment, precise and sensitive effects delivered by national SOF have become the force of choice around the world.[80]

At the same time, due to an increasingly difficult economic climate, individual nations are being forced to review internal military expenditures to trim excessive and ineffective aspects. Already discussed is the idea that air power comes at great cost, so a review like this quickly leads to a discussion about how air power should be aligned to support SOF activities. Many of the missions outlined above are, at a glance, similar to those provided by conventional air assets for conventional operations. The skill-sets seem relatively similar and transferable to SOF assets when required. In fact, from an economic standpoint, it makes sense to limit cases of organic and dedicated SOF air power as much as possible—substituting it with the promise of ad hoc or conventional air power support through a just-in-time framework. Fiscal limitations are a reality that cannot be ignored however the decision on what and how SOF core activities are supported by air power must be based on a full understanding of the interaction between the two entities. If the success of modern SOF in executing their core missions is inextricably linked to the deliberate integration of air effects, then a national SOF mandate must come with those resources. A reversal of the argument would ask how SOF can achieve success in their core activities without the adequate provision of air power.

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[79] David Last, Tim Lannan, and Jamie Green, "Choice of Force: Special Operations for Canada?" *Choice of Force: Special Operations for Canada*, (Kingston: McGill-Queen's University Press, 2005), pp. 288-289.

[80] Bellflower outlines the importance of soft air power. John W. Bellflower, "The Soft Side of Airpower," *Small Wars Journal*, (January 2009).

SUMMARY

A brief review of the evolution of specialized air power and platforms reveals a nagging trend in development and dissolution based on operational necessity. Modern SOF have recently forged a toe-hold as a "fourth service" through the undeniable successes experienced in current global conflicts. The refined roles and responsibilities of SOF are unique and effective in areas where conventional military capabilities struggle. The evolving technologies and capabilities of air power have formed around modern SOF, creating equally unique skills and forming synergies in the execution of Special Operations. In many circumstances, the integration of these capabilities is now inextricably linked to a successful execution—with core SOF activities crippled in their absence. At the same time, modern air power comes at a great cost, is most often a finite resource, and is commonly called to support more than just SOF as a customer.[81] Clearly, there is a national balance to be established which acknowledges the domestic and international security objectives written within a SOF mandate. That same acknowledgement should correlate national SOF core activities with associated air power support requirements—and include a willingness to provide it.

The reality is that military elements, SOF included, rarely have all of the tools available, exactly when needed, exactly as needed. Matters of national security, both domestically and internationally, will inevitably impose themselves without waiting for the perfect capability development or procurement project to deliver. An important element of that development is an understanding of the evolving security environment to determine how best to position air power and SOF resources going forward. What follows in the next

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[81] NATO, NATO Special Operations Headquarters, *SOATU Manual*, (February 2013), 19, 21.

chapter is a brief examination of the current and future operating environment which will serve to ensure this development remains valid and relevant in the foreseeable future. In the interest of fiscal responsibility, given common military procurement and development timelines, the vector on which air power in support of SOF is proceeding must be aligned with horizon-based requirements.[82]

[82] NATO, NATO Special Operations Headquarters, *Guidelines for NATO SOF Helicopter Operations,* (February 2013), 8.

CHAPTER THREE: The Evolving Security Environment

INTRODUCTION

In a modern context, the complexity and reasoning of violence may be captured under a study of the evolving security environment. It is essential that a baseline understanding of the trends and probabilities associated with this environment be established in order to draw linkages to the relevance of SOF. Although a look into the future immediately incurs uncertainty and error, the exercise ensures a relevant feed for developing SOF and air power capabilities.

The end of the Cold War ushered in a general opinion that the world would transition to a more peaceful and prosperous existence. In the absence of an opposition superpower, the ways of the Western world to include democracy and free market would naturally saturate the rest of the globe. Although some indications exist to support this argument, the fact is that conflict and strife remain extant internationally. Many argue that the likelihood of inter-state war, although not gone, has diminished significantly.[83] On the other hand, intra-state conflict is and will be much more predominant. The class of failed and failing states, an encompassing phrase for intra-state conflict, will need to be the primary focus of those charged with monitoring and reporting on the emerging security environment.

Another central concept in this study is the notion of globalization and its amplifying effects on security factors. One can argue the significant advantages of a networked and

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[83] Canada. Department of National Defence. *Future Security Environment 2025*, Operational Research Division, by Peter Johnson and Dr. Michael Roi, September 2003, 19; Philip Bobbitt, *The Shield of Achilles. War, Peace, and the Course of History* (New York: Knopf, 2002), 907.

interconnected world; however, it also exacerbates the trends that foster insecurity. Key to the balancing of globalization effects is the link between economic prosperity and regional stabilization.[84] Should the positives of globalization increase prosperity regionally, the popular majority will seek to institutionalize it—lending to an increase in stability. Conversely, should that prosperity fail to arrive or take root, the effect of globalization could support the ensuing instability by giving it a networked, global platform.[85] These concepts are central to the rise of SOF and supporting air power, as they have evolved as a force of choice in addressing what is commonly a very sensitive series of regional problems.[86]

ECONOMIC AND SOCIAL IMPLICATIONS

Looking towards 2030, the global economy is expected to experience growth through population increase, productivity and integration. Security risks are expected to come in the form of expanding countries looking to increase borders and influence. The most serious concern is the continued widening of the gap between wealth and poverty, which leads to increased societal tension and likely conflict.[87] In addition to potential Direct Action resolution, requiring a full complement of air effects, SOF activities such as Security Force Assistance or even Foreign Internal Defence would be significant in this context.[88] With

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[84] Canada. Department of National Defence. *Future Security Environment 2025*, Operational Research Division, by Peter Johnson and Dr. Michael Roi, September 2003, 30.

[85] Canada, Department of National Defence, *Projecting Power: Canada's Air Force 2035* (Trenton: Canadian Forces Aerospace Warfare Centre, 2009), 3; Robert Kaplan, *The Coming Anarchy: Shattering the Dreams of the Post Cold War*, (New York: Random House, 2000), 24-26.

[86] NATO, NATO Special Operations Headquarters, *Special Operations Forces Study*, (December 2012), 10.

[87] Colin S. Gray, *Another Bloody Country: Future Warfare*, 178; Ralph Peters, "Our Soldiers, Their Cities," *Parameters* (Spring 1996), 43.

[88] Evan Braden Montgomery, "Defense Planning for the Long Haul," *CSBA: Strategy for the Long Haul*, 46, http://www.csbaonline.org/publications/2010/01/defense-planning-for-the-long-haul/, accessed 16 February, 2013. See Chapter 1 for a discussion on Direct Action.

global economic growth comes an increase in all areas of transportation and international supply—as well as the intensifying vulnerability of each.[89] So too can terrorism, either organized or individual, leverage the global affects of transportation to pose a threat at any time. Addressing these terrorist threats around the world will remain a strategic SOF Counter Terrorism or Counter Proliferation task with emphasis on rapid force projection through air mobility.

The developing world is expected to experience growth in population; the opposite result is expected in the developed world. Among others, cultural and religious norms play a hand in the reasoning behind both of these trends.[90] Immigration is becoming the only option for developed countries to realize growth and source experienced skilled labour. In addition, reports show that internal migration of people towards urban settings will see 60% of the world's population linked to an urban area by 2030. The combination of increasingly larger cities and the overwhelming influx of new residents over time will result in large portions of these urban centres being congested, polluted, dilapidated and critically short of proper accommodation and transportation.[91] Overlay a religious or political extremist divide on an over-crowded, under-employed urban population then couple it with the legal, political, and collateral damage considerations of those who may be called to operate in that

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[89] R. William Johnstone, *9/11 and the Future of Transportation Security*, (Connecticut: Praeger Security International, 2006), 91; United States, Central Intelligence Agency, *National Strategy for Combatting Terrorism*, February 2003, 18, https://www.cia.gov/news-information/cia-the-war-on-terrorism/Counter_Terrorism_Strategy.pdf, accessed 25 February 2013.

[90] Samuel P. Huntington, *Clash of Civilizations and the Remaking of World Order* (New York: Simon and Schuster, 1996).

[91] Canada, Chief of Force Development, *The Future Security Environment,* 22.

area.[92] Clearly, this poses a very unique and delicate scenario in which the SOF community must be able to operate.

Extremism is certainly not a new phenomenon; however, due to the effect of globalization the impact of even the most local event can be realized around the world.[93] The growth and perpetuation of Islamic extremism has caught the world's eye particularly and will pose the greatest threat to global security. Several key reasons for this include demographic trending, the personal and comprehensive nature of the religion, and the continuance of conflict in largely Islamic areas of the globe.[94] Although the religious mass of predominantly Muslim countries poses some threat, the globalization of Islamic extremism has captured the middle class living around the world.[95] In this context, SOF must be prepared to project itself anywhere on Earth, on short notice, in an effort to confront terrorism where it is found.[96]

RESOURCE AND ENVIRONMENTAL IMPLICATIONS

No less significant are the implications that the world's resources and natural environment have and will continue to have over time. Shortages of both renewable and non-renewable resources will make those implications even more important. Urbanization and migration away from rural areas will affect the quality and quantity of regional

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[92] Canada, Department of National Defence, *Projecting Power: Canada's Air Force 2035* (Trenton: Canadian Forces Aerospace Warfare Centre, 2009), 22-23.

[93] Karen Armstrong, *The Battle of God: A History of Fundamentalism*, (New York: Ballantine, 2001), vii.

[94] Canada, Chief of Force Development, *The Future Security Environment,* 30; Akbar Ahmed, *Islam Under Siege,* (Cambridge UK: Polity, 2003), 7-8; and also Oliver Roy, *Globalized Islam: The Search for a New Ummah*, (NY: Columbia University Press, 2004), 5-17.

[95] Canada, Chief of Force Development, *The Future Security Environment,* 29.

[96] United States, United States Special Operations Command, *Capstone Concept for Special Operations,* 2006, 4.

agricultural, forest, and water resources.[97] Climate change, in general, forecasts other important secondary trends with international impacts. As the polar caps show melting trends, rising global sea levels will threaten the world's urban centres located in coastal regions, many of which are in developing countries. Linked to incremental increases in global temperatures, weather patterns and intensities will exacerbate an already worsening littoral problem. As these trends develop, humanitarian demands and pressures stimulating regional conflict will increase the requirement for SOF stability operations.[98]

On the other hand non-renewable resources, such as oil, gas, minerals, and metals, will likely prove to be just as contentious.[99] Although the focus has increased on developing viable alternative energy sources, the current and forecast global appetite for traditional non-renewable resources appears insatiable. Nuclear energy, as an offset to reliance on fossil fuels, comes with a responsibility that some aspiring nations may not limit to energy production alone. Finally, contentious natural resources can also come in the form of specific ingredients in high technology manufacturing especially if they exist around the world in short supply. The competition for access to key natural ingredients in an increasingly technological world will not always be eased with diplomacy and level heads. Clearly, the role of SOF in Counter Proliferation will continue to play a part in global security.[100]

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[97] Thomas Homer-Dixon, *The Project on Environmental Scarcities, State Capacity, and Civil Violence* (Toronto: Peace and Conflict Studies Program, University of Toronto, 1990-93).

[98] Canada, Department of National Defence, *Projecting Power: Canada's Air Force 2035* (Trenton: Canadian Forces Aerospace Warfare Centre, 2009), 26.

[99] Michael Klare, *Resource Wars: The New Landscape of Global Conflict*, (New York: Metropolitan Books, 2001), 210–223.

[100] Zalmay Khalilzad and David Shlapak, with Ann Flanagan, *Overview of the Future Security Environment*, (Santa Monica: Rand Corporation, 1997), 23.

SCIENCE, TECHNOLOGY, AND MILITARY APPLICATIONS

Historically, advances in science and technology have greatly affected economic, social, and military applications. Innovative change involving automation, customization, and miniaturization, continue to alter nearly every facet of human life. Linked to the emerging benefits of nanotechnology, networked computing will continue to balloon as the interface of choice, all the while shrinking in physical size. The pervasive benefits of a networked world also create access and hacker vulnerabilities. Ultimately, individuals and groups who seek to exploit technology for their own benefits can create new avenues of terror.[101]

Technological advances have altered conflict but so has the number and complexities of those often involved in it. The complexity of interacting with a myriad of organizations and entities in a conflict creates a very difficult operating environment and calls for a unique set of skills which are unique to SOF.[102] Non-state actors or those not representing the express interests of a particular nation are becoming increasingly prevalent in and around conflict. Relationships with these entities may be necessary but establishing their extent will be increasingly challenging. Non-state actors will sometimes exist with intent and objectives that are negative and cannot be supported. These entities will often use unconventional and asymmetric methods to execute their will. Leveraging the effects of globalization, these entities will have greater access to devastating weaponry, commercial

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[101] Richard K. Betts, "The New Threat of Mass Destruction," *Foreign Affairs*, (January/February 1998).

[102] NATO, NATO Special Operations Headquarters, *Special Operations Forces Study*, (December 2012), v.

technology matching military applications, and disruptive cyber abilities.[103] Some will call it terrorism and others will see it as local strife but, the SOF community must be prepared to challenge both state and non-state actors.

Highlighting the predominance of non-state and potentially non-military actors also highlights the importance of collateral damage and the need for military effects to be precise and accurate. Delivery of these effects, both kinetic and non-kinetic, requires a system of systems starting with persistent surveillance, networked intelligence, and appropriate targeting processes.[104] The full spectrum of air power in support of Special Operations must include the ability to understand the existing security environment, the players involved, particular motivations linked to each, and function in that environment through the delivery of precise joint effects.[105] Globalization has increased non-state actor access to modern weaponry and technology. Maintaining technological overmatch in a highly complex operating environment will be important in the delivery of air power in support of SOF.

SUMMARY

A review of the evolving security environment highlights the predominance of key implications in a shift from inter-state to intra-state conflict. Through globalization, each implication is inextricably linked to the others in a way that makes it impossible to isolate

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[103] Canada, Department of National Defence, *Projecting Power: Canada's Air Force 2035* (Trenton: Canadian Forces Aerospace Warfare Centre, 2009), 47; *Preparing Now: Alternative Paths to Military Capabilities for an Uncertain Future*, A Summary Report from the Conference On Preparing Now, (Institute for Foreign Policy Analysis, 1998), 4.

[104] John Arquila and David Ronfeldt, *In Athena's Camp: Preparing for Conflict in the Information Age*, (Santa Monica: Rand Corporation, 1997).

[105] NATO, *Comprehensive Political Guidance*, Part 3, Section 16.

and address individual issues. That is to say that any operating environment will require a complete understanding of the political, social, and economic aspects of the problem, in an effort to propose a full spectrum resolution.[106] This resolution will likely take a whole-of-government approach with an emphasis on Special Operations and demanding the effective integration of air effects to adequately address the situation.[107] Complexity at every level will challenge conventional militaries with the adaptability and responsiveness necessary to properly address it.[108] The positive and negative effects of globalization have had significant impacts on military applications. Through that lens, the frictions between developing and developed worlds have been exacerbated by social, economic, and religious pressures. The proliferation of modern technologies makes it difficult for modern militaries to maintain technological overmatch. Development and procurement cycles are in danger of being outstripped by industry and comparative, commercially available products. In spite of it all, the demand for precision effects from SOF applications continues to increase; necessary to minimize collateral damage in an increasingly saturated operating environment.

What is clear throughout this chapter is that modern militaries are faced with an increasingly complex workplace.[109] Every facet of the problem calls for specialization; often with the scrutiny of the world as a backdrop. The development of the SOF community, over the last century, has sought to address these complexities. It is clear that the core activities

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[106] Colin S. Gray, *Another Bloody Century: Future Warfare*, (London: Weidenfeld and Nicholson, 2005), 55.

[107] Rohan Gunaratna, *Inside Al Qaeda: Global Network of Terror*, (New York: Berkley Books, 2003), 294–295.

[108] Canada, Department of National Defence, *Future Security Environment 2025*, Operational Research Division, by Peter Johnson and Dr. Michael Roi, (September 2003), 66-69.

[109] General (ret.) Dr. Klaus Naumann, General (ret.) John Shalikashvili, Field Marshal the Lord Inge, Admiral (ret.) Jacques Lanxade, General (ret.) Henk van den Breemen, *Towards a Grand Strategy for an Uncertain World: Renewing Transatlantic Partnership* (Luteren: Noaber Foundation, 2007), 118.

that SOF are trained and equipped for, based on this review, remain as relevant for the future as they are today. Going forward then, any prioritization of resources in line with national foreign policy and objectives, should acknowledge the strategic value of SOF and the air power linked to its core activities. The perceived growth of global SOF employment reinforces the need for deliberate and integrated air effects. In addition, associated air power must match the global projection and sustainment requirements demanded of it while supporting SOF missions—without which the strategic effects of SOF are crippled.

CHAPTER FOUR: Air Power Support to SOF Operations: Case Study Analysis

INTRODUCTION

Understanding that the importance of SOF and associated enablers will remain extant in the foreseeable future underscores the value of developing a support structure that optimizes the relationship between the two.[110] Applications of air power, using this example, are often instrumental and sometimes imperative in achieving success. This chapter will show that success does not come without commitment. Using a series of case studies, including the Bin Laden raid, it will be clear that mission failure is likely when a deliberate approach to supporting SOF through air power is not adopted.

Having stated that flexibility is the key to air power, an exploration of these historical SOF Direct Action events will be used to identify key factors which must be present with air power support. Drawing parallels from these case studies will highlight the importance of defined operational command and control, the importance of deliberate integration of air effects in advance of an event, the benefit of appropriate readiness and availability, and overarching doctrine serving to document support expectations. Through this examination, factors which must exist in the SOF and air power support relationship will be highlighted and mitigating alternatives will also be offered.

CASE STUDY ONE: Son Tay Raid (Operation Ivory Coast)

On November 21, 1970, elements of the US military executed Operation Ivory Coast which was an attempt to recover American prisoners of war (POWs) being held in the Son

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[110] Phillip Meilinger in particular highlights the idea that air power and SOF, among other things, are forecast to be a new paradigm of war. Dr Phillip S. Meilinger, "Paradoxes and Problems of Airpower," *Air Power: The Agile Air Force*, (Gloucester: Royal Air Force, 2007), 88.

Tay Prison Camp west of Hanoi, North Vietnam. Although the execution of the operation was an arguable success, the prisoners had been moved from the camp some months prior. The mission was an operational failure due to inaccurate intelligence and poor dissemination processes.[111]

Planning for the operation began earlier that year, after an intelligence unit highlighted the location of the Son Tay camp through imagery analysis. Upon firm confirmation of the presence of American POWs, the Pentagon approved the development of a rescue plan, which itself evolved into a phased operation that included organization, planning, training, and deployment.[112] A selection process was conducted to identify, interview, and recruit over two hundred already specialized volunteers—formed as the Joint Contingency Task Group (JCTG).[113] With the personnel identified, the next step was to establish the parameters of the rescue mission itself. Designated a raid, the operation was to be conducted at night with specific weather and lunar limitations. These parameters led to the selection of a primary and alternate execution window which established a training

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[111] Orr Kelly, *From A Dark Sky…*, 210; Lester A. Sobel, *South Vietnam: US-Communist Confrontation in Southeast Asia*, Vol 5 1970, (New York: Facts on File Publication, 1973), 103; Mitchell outlines a greater understanding of the operational and strategic impacts of the failure at Son Tay. Major John Mitchell, "The Son Tay Raid: A Study in Presidential Policy," *e-History: Vietnam War*, Ohio State University (1997), http://ehistory.osu.edu/vietnam/essays/sontay/0000.cfm, accessed 3 March, 2013.

[112] C.V. Glines, "The Son Tay Raid," *Air Force Magazine*, Vol 78, No 11, (November, 1995), http://www.airforce-magazine.com/MagazineArchive/Pages/1995/November%201995/1195raid.aspx, accessed 3 March 2013; J. Paul de B. Taillon, *The Evolution of Special Forces in Counter-Terrorism*, (Connecticut: Praeger, 2001), 98.

[113] William H. McRaven, *Spec Ops, Case Studies in Special Operations Warfare: Theory and Practice*, (New York: Ballantine Books, 1996), 289.

timeline leading up to November. Full and scaled models were constructed within an isolated US training area where all of those involved came together for rehearsals.[114]

The raid called for a highly choreographed helicopter extraction. Due to the need for low light, low level navigation, a C-130E Combat Talon aircraft newly fitted with Forward Looking Infrared (FLIR) technology was used as the lead platform—guiding a follow-on formation of helicopters to the POW camp.[115] A very extensive rehearsal program was conducted, including hundreds of dissimilar formation training runs and practice landings, to ensure that every detail was committed to memory.[116]

In early November, the JCTG moved to a staging area in Thailand in preparation for execution.[117] The operation benefited from an extensive array of support aircraft due to the ongoing Vietnam War—some of which may not be present in executing a similar operation outside a full spectrum conflict. In total, 116 aircraft participated in the operation with 28 of those assigned direct tasks.[118] Two C-130 Combat Talons were tasked with leading the helicopters to the target and then remain overhead to facilitate airborne command and control (C2) and area illumination.[119] Six helicopters (five HH-53Cs and an HH-3Es) were tasked

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[114] Jerry L. Thigpen, *The Praetorian Starship: The Untold Story of the Combat Talon*, (Alabama: Air University Press, 2001), 141; J. Paul de B. Taillon, *The Evolution of Special Forces in Counter-Terrorism*, (Connecticut: Praeger, 2001), 99.

[115] Orr Kelly, *From A Dark Sky…*, 212.

[116] The degree of repetition and practice in this operation is outlined further in, C.V. Glines, "The Son Tay Raid," *Air Force Magazine*, Vol 78, No 11, (November, 1995), http://www.airforce-magazine.com/MagazineArchive/Pages/1995/November%201995/1195raid.aspx, accessed 3 March 2013.

[117] William H. McRaven, *Spec Ops, Case Studies in Special Operations Warfare: Theory and Practice*, (New York: Ballantine Books, 1996), 307-318.

[118] Gargus recounts the nuances of direct and indirect air power support. John Gargus, *The Son Tay Raid: American POWs in Vietnam Were Not Forgotten*, (College Station: Texas A&M University Press, 2007), 108, 278-280.

[119] Ray L. Bowers, *The United States Air Force in Southeast Asia: Tactical Airlift*, (Washington: U.S. Government Printing Office, 1983), 431.

with the insertion of the raider assault and support force, aerial fires, and personnel extraction. Close air support was tasked to a flight of A-1E Skyraiders, while ten F-4D Phantoms and five F-105Gs were to handle any air-to-air and surface-to-air threats respectively. Indirect tasks to supporting aircraft included air-to-air refueling, tactical airlift support, tactical surveillance, and persistent intelligence flights.[120]

The seamless execution of the raid and the impressive lack of personnel or equipment lost was a testament to the planning, organization, training, and support that was incorporated in the operation.[121] Dedicated and formalized command and control brought together a carefully selected and well rehearsed team. The integration of all required air effects was completed in advance of the operation. New capabilities, relationships, and procedures were all tested individually and collectively prior to their operational implementation. Although execution revealed the absence of any POWs and was accepted as an operational intelligence failure, the raid was a tremendous tactical success—one outlining the value of integrated air power.

CASE STUDY TWO: Iran Hostage Rescue (Operation Eagle Claw)

Exactly ten years later, another rescue operation was conducted by US Special Forces in an attempt to address a hostage situation in Iran. A period of escalating political posturing resulted in American hostages confined to the US Embassy in Tehran and the ensuing development of Operation Eagle Claw.[122] Constructed around the US Delta Force, this

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[120] John Gargus, *The Son Tay Raid: American POWs in Vietnam Were Not Forgotten*, (College Station: Texas A&M University Press, 2007), 175.

[121] The example was touted as a flawless execution of an operational plan. J. Paul de B. Taillon, *The Evolution of Special Forces in Counter-Terrorism*, (Connecticut: Praeger, 2001), 100.

[122] David Crist, *The Twilight War: The Secret History of America's Thirty Year Conflict with*

operation was different from the previous case study in that the environment was not one of open conflict and the desire was for the force to remain covert in executing the plan.[123] The operation ended nearly as soon as it began, well short of the target, with the death of eight US personnel and the loss of nearly all of the aircraft involved.[124]

The planning for Operation Eagle Claw commenced in November 1979, two days after the hostage crisis occurred.[125] Following the Vietnam War, the US military had invoked a significant reduction of size and capability across the services, which left an unprotected Special Operations capability to whither on the vine—lacking the expertise, personnel, and equipment necessary for missions like Eagle Claw. Due to the perceived importance of operations security (OPSEC), an ad-hoc Joint Task Force (JTF) was created outside of the standing contingency plans staff. In March, the JTF finalized a very intricate and complex plan which was to include dozens of aircraft, personnel from all services, and units across the country.[126]

The plan included two stages executed over consecutive days.[127] The first stage called for the covert delivery of newly operational Delta Teams, US Army Rangers, and additional support personnel by MC-130 Combat Talons, to an Iranian desert staging area

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Iran, (New York: The Penguin Press, 2012), 29.

[123] J. Paul de B. Taillon, *The Evolution of Special Forces in Counter-Terrorism*, (Connecticut: Praeger, 2001), 103.

[124] Ibid., 107-108.

[125] Orr Kelly, *From A Dark Sky…*, 238.

[126] The factor of complexity specifically related to the air power elements in this operation is elaborated on here. LTA Chua Lu Fong, "Operation Eagle Claw, 1980: A Case Study in Crisis Management and Military Planning," *Journal of the Singapore Armed Forces*, Vol 28, No 2, (April-June 2002).

[127] A full recap of the operation is outlined by Taillon. J. Paul de B. Taillon, *The Evolution of Special Forces in Counter-Terrorism*, (Connecticut: Praeger, 2001), 104-108.

called Desert One.[128] This staging area would serve as a refuelling point for up to eight RH-53 Sea Stallion helicopters from the USS *Nimitz* aircraft carrier located off the Iranian coast.[129] The rescue force would then depart for Desert Two via helicopter, cover a final leg using vehicles placed by CIA operatives, and infiltrate the buildings where the American hostages were housed.[130] Supporting air effects included close air support from AC-130 gunships, contingency sorties for rescue operations, air-to-air refuelling, and air interdiction.[131] Although an equally detailed phase for extraction was included in the plan, the reality is that the operation never proceeded past Desert One and the follow-on phases were never executed.

The complexity of the plan and the involvement of numerous units posed significant problems from the start. The nature of the landing conditions at Desert One, referenced by a single dated airfield survey, caused significant damage to one of the first MC-130s to land. Three of the eight RH-53 helicopters fell victim to weather or maintenance issues on or before arriving at the landing zone.[132] The five remaining serviceable helicopters fell short of the minimum stated requirement for the mission.[133] Contingency options to continue were not readily apparent to the group and due to a distinct lack of clarity regarding command and

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[128] Mark Bowden, "The Desert One Debacle," *Atlantic Magazine*, (May 2006).

[129] Paul B. Ryan, *The Iranian Rescue Mission: Why it Failed*, (Maryland: Naval Institute Press, 1985), 19.

[130] Taillon outlines the full proposed plan. J. Paul de B. Taillon, *The Evolution of Special Forces in Counter-Terrorism*, (Connecticut: Praeger, 2001), 104-105.

[131] Mark Bowden, "The Desert One Debacle," *Atlantic Magazine*, (May 2006).

[132] *Ibid.*

[133] Kamps provides a thorough recount of the tactical movements of supporting rotary wing assets. Charles Tustin Kamps, "Operations Eagle Claw: The Iran Hostage Rescue Mission," *Air and Space Journal*, (September 2006), http://www.airpower.maxwell.af.mil/apjinternational/apj-s/2006/3tri06/kampseng.html, accessed 3 March 2013.

control, the mission was aborted.[134] A lack of planning for an aborted mission, along with the requirement to satisfy aircraft fuelling for the return leg, turned an unfortunate event into a catastrophic one. In the movement and confusion, a RH-53 crashed into a C-130 causing both aircraft to burst into flames.[135] The following day, the Iranian Army investigators found eight dead US military personnel, the charred remains of two aircraft, and five intact RH-53 helicopters.[136]

This operation was both a tactical and strategic failure linked largely to the catastrophic outcome and undeniable US footprint on Iranian soil.[137] Operational command and control was unclear and lacked the ability to tie the efforts of all supporting enablers together. The necessary skills and abilities of those enablers were not well integrated prior to the operation. Interoperability with personnel and equipment participating in the operation became an insurmountable challenge especially when forced to execute contingencies. As a result, the hostages were quickly scattered across the country of Iran to prevent a follow-on rescue attempt. The infamous 1980 Holloway Report, investigating this operation on behalf of the US Joint Chiefs of Staff, reinforced the evidence of deficiencies in operational planning, unit interoperability, and command and control.[138]

CASE STUDY THREE: British Raid in Sierra Leone (Operation Barras)

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[134] Charlie A. Beckwith and Donald Knox, *Delta Force,* (New York: Harcourt Brace Jovanovich, 1983), 276-277.

[135] Orr Kelly, *From A Dark Sky…*, 248.

[136] David Crist, *The Twilight War: The Secret History of America's Thirty Year Conflict with Iran*, (New York: The Penguin Press, 2012), 31.

[137] Cooley highlight the strategic impacts further. John K. Cooley, *Payback: America's Long War in the Middle East*, (Washington: Brassey's Inc, 1991), 10-11.

[138] A more in-depth discussion of the operation aftermath is described by Kamps. Charles Tustin Kamps, "Operations Eagle Claw: The Iran Hostage Rescue Mission," *Air and Space Journal*, (September 2006), http://www.airpower.maxwell.af.mil/apjinternational/apj-s/2006/3tri06/kampseng.html, accessed 3 March 2013.

On 25 August 2000, while on a United Nations patrol outside the village of Magbeni, Sierra Leone, a group of British soldiers were captured by a consortium of local militia.[139] Known as the West Side Boys and led by Foday Kallay, the militia group attempted to negotiate support for a list of increasingly unrealistic demands in exchange for the release of their British hostages. In light of the failing negotiations and fearing a missed opportunity for a timely rescue, the British government authorized an assault against the militia base on the morning of 10 September. Leveraging air and ground based intelligence, the SOF Direct Action was executed using heavy lift and attack helicopters over two target areas.[140] In a matter of minutes, the operation was a deemed a success—with the British hostages rescued intact and the West Side Boys rendered ineffective. Due to the availability of actionable intelligence, the appropriate air effects, and sound planning, this operation was a tactical, operational, and strategic SOF success.

In order to understand the planning and execution of Operation Barras, it is important to understand the context of British military involvement in Sierra Leone at this time. After nearly a decade of civil war, the former British colony of Sierra Leone was working to establish national stability. British training teams, in concert with United Nations Mission in Sierra Leone (UNAMSIL) peacekeepers, were in the country assisting with that reconstitution. It was one of these training teams, from the 1st Battalion, Royal Irish Regiment (1 RIR), that was captured by the West Side Boys in late August 2000.[141]

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[139] Will Fowler, *Certain Death in Sierra Leone: The SAS and Operation Barras 2000*, (Oxford: Osprey Publishing, 2010), 10-12.

[140] Butcher describes a full tactical rendition of the operation. Tim Butcher, "SAS Vengeance on the West Side Boys," *The Daily Mail*, 29 August 2010, http://www.dailymail.co.uk/news/article-1307151/SAS-vengeance-West-Side-Boys.html, accessed 3 March 2013.

[141] Kim Sengupta, "West Side Boys Leader Ordered Seizure in Fit of Drunken Pique," *The*

In the days following the capture of the team, an intense negotiation was conducted which saw the release of five of the eleven hostages in exchange for equipment and supplies. The magnitude and complexity of the militia's demands quickly escalated in discussions for the release of the remaining team members—making clear the requirement for a military rescue operation.[142] Posing as additional negotiators, members of the British 22 Regiment Special Air Service (22 SAS) formed the planning team and initial intelligence stream for the operation—augmented by SAS Special Reconnaissance teams located nearby. Due to multiple target areas and restrictive terrain, it was clear that insertion via helicopter best satisfied a rapid yet covert infiltration. In addition, the militia strength and composition necessitated the incorporation of the British 1st Battalion, Parachute Regiment (1 PARA) into the plan as an addition to the assault force.[143]

On 31 August, those to be involved in the operation were moved to a remote British training facility to complete preparation and training. Due largely to the time and space needed to effect a rescue operation into Sierra Leone from the United Kingdom, the entire assault force was then pre-positioned in Dakar, Senegal. As the negotiations to free the hostages deteriorated, approval authorities to launch the operation were delegated to regional British leadership in Sierra Leone.[144]

In anticipation of an air assault, three CH-47 Chinook helicopters along with two Army Air Corps Lynx attack helicopters were placed on standby. The Chinooks were

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Independent, 11 September 2000, http://www.independent.co.uk/news/world/africa/west-side-boys-leader-ordered-seizure-in-fit-of-drunken-pique-699344.html, accessed 3 March 2013.

[142] Will Fowler, *Certain Death…*, 27-31.

[143] The specific details were reported by the BBC News. *Paras Fly Out in Hostage Mission*, BBC News, 5 September 2000, http://news.bbc.co.uk/2/hi/africa/911608.stm, accessed 3 March 2013.

[144] Andrew M. Dorman, *Blair's Successful War: British Military Intervention in Sierra Leone*, (Farnham: Ashgate Publishing, 2009), 109.

detached from the Joint Special Forces Aviation Wing (JSFAW) and as such were trained and equipped for advanced tactical insertion methods. Aerial surveillance, along with SAS reconnaissance reports solidified ideal ingress routes and landing sites.[145] Final preparation and rehearsals were completed based on this plan.

On 9 September, negotiations with the West Side Boys reached a decided halt when the militia group refused to release the hostages until a new government was created in Sierra Leone. Based on this and other contributing factors, the decision was made to launch Operation Barras the following day. At first light, with SAS sniper teams in position, the Chinook helicopters followed the Lynx attack helicopters into the designated landing zones.[146] Two target areas were assaulted simultaneously, creating an effective diversion and limiting the ability of militia elements to bring supporting fire to bear. After a short firefight, the assault force cleared both target areas, killed or captured remaining West Side Boys and freed the British hostages.[147]

The operation did cost one British soldier's life but reinvigorated the operational relevance of the British presence in Sierra Leone. West Side Boys leader Foday Kallay was captured during the operation and issued a radio broadcast encouraging the remainder of his force to surrender. Shortly thereafter, Sierra Leone's Minister for Information went on record to declare the militia group was now "finished as a military entity."[148] Tactically, the

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[145] Patrick J. Evos, *Operation Palliser: The British Military Intervention into Sierra Leone, A Case of a Successful Use of Western Military Interdiction in a Sub-Sahara African Civil War*, Texas State University Graduate Program (2008), 75, www.patrickevoe.com, accessed 3 March 2013.

[146] The particular details were reported by the BBC. *Dramatic Rescue Operation*, BBC News World Edition, 11 September 2000, http://news.bbc.co.uk/2/hi/africa/919138.stm, accessed 3 March 2013.

[147] Will Fowler, *Certain Death…*, 51.

[148] Tim Butcher, "SAS Vengeance on the West Side Boys," *The Daily Mail*, 29 August 2010,

operation highlighted the value of precision SOF capabilities—incorporating integrated air effects.[149] Operationally, the event led to a more rapid return to regional peace and security. Strategically, it emphasized the British position on the importance of international rule of law and demonstrated the will and capability to enforce it.[150] In addition to the value of planning, Operation Barras demonstrated the importance of integrated doctrine and training in advance of an operation.

CASE STUDY FOUR: Osama Bin Laden Raid (Operation Neptune Spear)

The final operation included here as the most recent and relevant case study is Operation Neptune Spear—executed on May 2, 2011 in an effort to bring an end to the influence and freedom of Osama Bin Laden. Based on years of intelligence, the infamous leader of Al-Qaeda and mastermind of the 9/11 terrorist attacks was discovered hiding in a secure compound in Abbottabad, Pakistan. Under the auspices of the CIA, a covert air assault was conducted on the compound from a staging base in Afghanistan. Elements of the US Navy SEALs, supported by the 160th Special Operations Aviation Regiment (SOAR) and dedicated aerial surveillance, executed the assault with extreme precision—killing five inhabitants including Bin Laden himself.[151] Hours later, the fate of Bin Laden was revealed to the world in what was arguably the most pertinent strategic security message to date to those whose daily business is terrorism.

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http://www.dailymail.co.uk/news/article-1307151/SAS-vengeance-West-Side-Boys.html, accessed 3 March 2013.

[149] Jason Burke and Peter Beaumont, "Close Call in the Battle of Rokel Creek." *The Observer*, 17 September 2000, www.guardian.co.uk, accessed 3 March 2013.

[150] A powerful message outlined in, Chris Mcgreal, "After 16 Long Days, Free in 20 Minutes," *The Guardian*, 11 September 2000, http://www.guardian.co.uk/world/2000/sep/11/sierraleone5, accessed 3 March 2013.

[151] A full tactical account of the event is detailed by Owen. Mark Owen with Kevin Maurer, *No Easy Day*, (New York: Dutton, 2012).

Although the general commitment to right the wrongs of 9/11 came from then US President George W. Bush shortly after the attacks, the effort to locate Bin Laden took nearly a decade. Bits of intelligence from interrogations, investigations, and imagery analysis were consolidated to narrow the search. A connection to the Abottabad compound was eventually established and the focus of intelligence-gathering quickly narrowed. Using RQ-170 drones and covert surveillance teams, the compound was completely mapped, inhabitants profiled, and surrounding area surveyed.[152] All of this information was then used to create mission simulators, scaled compound and area models, and a full-sized training site.

Although some strategic level discussions occurred regarding the right resolution method, it was ultimately decided that a covert Special Operations assault could provide the right balance of risk while limiting collateral damage. Due to concerns for operations security, it was decided that Pakistani officials would not be made aware of the assault until after execution.[153] Based on the time and space from the Afghanistan staging base to the compound, there was a general agreement that the SOF option could complete the mission and return to Afghanistan with being compromised.[154]

Once identified, the SEAL team conducted extensive rehearsals on full scale sites in two remote US locations—matching local atmospheric and physical aspects of the compound

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[152] Drone aircraft formed the backbone of the intelligence gathering for Neptune Spear. Greg Miller, "CIA Flew Stealth Drones into Pakistan to Monitor Bin Laden House," *The Washington Post*, 17 May, 2011, http://www.washingtonpost.com/world/national-security/cia-flew-stealth-drones-into-pakistan-to-monitor-bin-laden-house/2011/05/13/AF5dW55G_story.html, accessed 3 March 2013.

[153] Mark Owen with Kevin Maurer, *No Easy Day*, (New York: Dutton, 2012), 170-173, 195.

[154] The mission took a total of 38 minutes, 8 longer than expected due to a crashed helicopter but still made it out of Pakistan prior to scrambled jets showing up overhead. Philip Sherwell, "Osama Bin Laden Killed: Behind the Scenes of the Deadly Raid," *The Telegraph*, 7 May 2011, http://www.telegraph.co.uk/news/worldnews/al-qaeda/8500431/Osama-bin-Laden-killed-Behind-the-scenes-of-the-deadly-raid.html, accessed 3 March 2013.

in Pakistan.[155] Typical in SOF Direct Action, a full set of contingencies was built into the plan and rehearsed to ensure a transition to them, if required, would be seamless. As the intelligence gathering activities intensified over the Abbottabad compound, the SEAL team completed their final rehearsals.[156]

The plan called for an assault force staging phase from the US, through Germany, into an airbase in Afghanistan—only a 90 minute flight from Abbottabad.[157] Under the cover of darkness, two modified 160th SOAR MH-60 Blackhawks inserted the main assault force directly in and around Bin Laden's compound.[158] To address contingency requirements, Chinook helicopters were tasked as a quick reaction force and positioned roughly two-thirds of the way along the ingress route.[159] In addition, unmanned drones provided persistent surveillance of the compound while close air support aircraft and combat search and rescue assets were tasked in direct support.[160]

The raid was executed with great success. Although one helicopter was lost within the compound, thoroughly rehearsed contingency planning allowed for a seamless transition to alternate lift options. Within fifteen minutes, the kinetic portion of the assault was

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[155] The importance of integrated rehearsals is underlined in greater depth by Rawlings. Nate Rawlings, "Operation Neptune Spear: The New Textbook for Special Operations," *Time Magazine*, 2 May 2012, http://nation.time.com/2012/05/02/operation-neptune-spear-the-new-textbook-for-special-operators/, accessed 3 March 2013.

[156] Mark Owen with Kevin Maurer, *No Easy Day*, (New York: Dutton, 2012), 181-185.

[157] Ibid, 181-185.

[158] The incorporation of technological overmatch applied in 160th SOAR MH-60 helicopters is described in depth by Murphy. Jack Murphy, "What Brought Down 160th SOAR's Stealth Black Hawk," *SOFREP*, 14 February 2012, http://sofrep.com/3063/what-brought-down-160th-soars-stealth-black-hawk/, accessed 3 March 2013.

[159] Mark Owen with Kevin Maurer, *No Easy Day*, (New York: Dutton, 2012), 187.

[160] A consolidated breakdown of remotely piloted vehicles (RPVs) is included in the SOATG Manual. NATO, NATO Special Operations Headquarters, *Special Operations Air Task Group Manual*, 1st Study Draft, February 2013, 77-81, http://www.nshq.nato.int/NSTEP/GetFile/?File_ID=182&Rank=45000, accessed 4 March 2013.

complete—and the mission declared a success. In the ensuing period, a rapid site exploitation gathered a wealth of documents, data, and electronic equipment which proved instrumental in follow-on missions against Al Qaeda targets. By the time that Pakistani authorities responded to the scene, only a smouldering helicopter remained.[161]

Although the operation created some understandable strain between the US and Pakistan, the value of this SOF action cannot be over-stated. The tactical success of Operation Neptune Spear emphasized the niche that SOF has carved for itself in the emerging security environment—a balance of risk with minimal collateral damage.[162] Operationally, the Special Operations war on terror has proven effective against even the most elusive terrorists. Finally, this success forms a key strategic milestone for the international community to form around, with a renewed commitment against extremism and terrorist action.

CASE STUDY SUMMARY

Chronologically, this series of case studies encompasses over four decades of SOF evolution. Each of them called for a covert yet kinetic resolution to a complex international issue that required strategic force projection into an unwelcoming environment—the most challenging of SOF tasks. Key in all of them was the undeniable requirement for effective air power. Although not all of the associated operations were successful, several recurring themes can be drawn from each and highlighted as pivotal in the application of air power.

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[161] Tom Wright, "Pakistan Rejects U.S. Criticism," *The Wall Street Journal*, 5 May 2011, http://online.wsj.com/article/SB10001424052748704810504576305033789955132.html, accessed 13 March, 2013.

[162] Commander John James Patterson VI, *Long-Term Counterinsurgency Strategy: Maximizing Special Operations and Air Power,* (Pennsylvania: U.S. Army War College, 2010), 20.

These themes are defined in the next chapter and cross-referenced against the individual case studies for evolving significance and development. What forms is a series of recommendations and best practices which must be incorporated into those organizations charged with providing air power in support of SOF generation and employment.

CHAPTER FIVE: Lessons Derived from Case Study Analysis

INTRODUCTION

Based on the consolidation of case studies outlined in the previous chapter, four distinct aspects of air power will be examined at this point to reveal how they lead to the success or failure of kinetic SOF operations. Linkages will be made between the case studies and each aspect to corroborate their importance in the provision of air power. Unambiguous command and control will be highlighted first as the cohesion in all others aspects. An expansion of the integration of mission effects will follow outlining the necessity of SOF-specific development and generation prior to employment. Availability and readiness will also be expanded on as the operational mechanism for employing air power in Special Operations. Finally, the role of doctrine will be explored to identify the importance of foundational connections between SOF tasks and the air effects necessary to see them through.

COMMAND AND CONTROL

In the military context, command and control (C2) is a basic tenet which forms the framework of each service and the units within it. A clear definition of C2 relationships ensures liabilities of leadership, supports unity of command, and solidifies a singular process of tasking and direction.[163] The application of C2 within SOF organizations is constructed in the same way and is shaped as required in the combined, joint, and multinational environments. The chain of command within that construction however is often much

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[163] A complete C2 Relationships and Authorities matrix is included in the SOATG Manual. NATO, NATO Special Operations Headquarters, *Special Operations Air Task Group Manual*, 1st Study Draft, February 2013, 18-22, http://www.nshq.nato.int/NSTEP/GetFile/?File_ID=182&Rank=45000, accessed 4 March 2013.

shorter—specifically during operations. Given the nature of SOF tasks, and the often strategic impact of success or failure, it is not uncommon to have SOF operations approved and overseen by the highest levels of military and government.[164] OPSEC, and the common need to limit those involved in SOF planning, is another nuance from conventional military applications which affects how C2 is administered.[165] For example, in every case study outlined earlier, the head of government approved the planning and execution of each operation. This nuance does not change the need for a clear SOF C2 delineation which leaves no question as to who makes what decision and when. The concept seems simple enough until, as the case studies reveal, there is a requirement for combined or joint efforts which require several organizations to contribute enablers.[166] This issue speaks directly to the use of air power in support of SOF, as finite air resources may not always be integral to the SOF organization being tasked with the mission.[167] Although expanded on further in the discussion on integrating air effects, the point to note here is that SOF organizations will rarely own all supporting air assets so a well understood C2 relationship is imperative.[168]

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[164] NATO, NATO Special Operations Headquarters, *Special Operations Forces Study*, (December 2012), i.

[165] Unity of command and unity of effort in autonomous SOF operations are highlighted in greater detail here. Ibid, B-1.

[166] Ortoli references the challenges of OPSEC while integrating air support with SOF operations during Operation Anaconda. Major Jeffery Ortoli, *Integration and Interoperability of Special Operations Forces and Conventional Forces in Irregular Warfare*, U.S. Army Command and General Staff College, June 2009, 67, 70, http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA502179, accessed 4 March 2013.

[167] Patterson expands on a comprehensive list of integral SOF air power. Commander John James Patterson VI, *Long-Term Counterinsurgency Strategy: Maximizing Special Operations and Air Power*, (Pennsylvania: U.S. Army War College, 2010), 16.

[168] The nuances of supporting and supported command relationships between SOF and air power are outlined by Oroli. Major Jeffery Ortoli, *Integration and Interoperability of Special Operations Forces and Conventional Forces in Irregular Warfare*, U.S. Army Command and General Staff College, June 2009, 77-80, http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA502179, accessed 4 March 2013.

Poor C2 is most evident in the execution of the operation and specifically when contingency measures are necessary. Contingency planning during the rehearsal phase serves to alleviate some ambiguity; however, when no contingency is available, rapid and decisive action must be implemented by a single commander. During the Son Tay Raid, the early establishment of the Joint Contingency Task Group (JTCG) and its associated command team provided clear and unambiguous C2 through the entire operation.[169] The JTCG formed, trained, and deployed as a joint unit, to include the C-130 and HH-3E aircraft and crews. The British assault on the West Side Boys' base in Sierra Leone benefited from the same cohesive formation and leadership. In this case, the supporting rotary wing assets were pulled from the SOF community (Joint Special Forces Aviation Wing) and understood the SOF C2 construct under which the operation was conducted. Although elaborated on later in this study, immediate benefits are seen with integral or dedicated air assets such as the JSFAW in leveraging familiarity and the understanding of command relationships.[170]

No starker an example in the importance of C2 is the disaster of Operation Eagle Claw in the Iranian desert. With a complex plan calling for support across all services and many organizations, the delineation of C2 was an issue from the planning stage. A proper C2 relationship creates cohesion around contributing units, and in this example, could have made the case for more comprehensive joint training prior to the event. It may also have generated a more exhaustive accounting of contingencies—to include an abort planning. Finally, it most certainly would have eliminated the stalemate that occurred between the various air and

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[169] William H. McRaven, *Spec Ops, Case Studies in Special Operations Warfare: Theory and Practice,* (New York: Ballantine Books, 1996), 289.

[170] Commander John James Patterson VI, *Long-Term Counterinsurgency Strategy: Maximizing Special Operations and Air Power,* (Pennsylvania: U.S. Army War College, 2010), 16.

ground commanders at the landing zone while viable options to continue existed. Evidenced by the intense investigation and recommendations by the ensuing Holloway Report, C2 was at the heart of the problem. Only a short time later, the United States Special Operations Command (USSOCOM) was created to guard against this situation in the future—benefits clearly demonstrated during the raid on Bin Laden's compound. Not without adversity, both air and ground assets executed planned and contingency operations with precision—tipping the outcome towards an overpowering strategic success.[171]

INTEGRATION OF MISSION EFFECTS

Equal in importance to clarity of command in executing SOF operations is the integration of enabling effects necessary for their success.[172] Two key concepts are involved in ensuring integration is done properly. The first is an understanding of how air power is made available to the SOF community. The second is an understanding and commitment of SOF-specific air effects—while accepting the associated cost to support them.

Air power in support of SOF is apportioned differently around the world. The cost to develop and maintain the air assets necessary to generate that support is significant—classifying them as a finite resource. In the greater military context, air effects are in high demand and are often developed to be effective at delivering a variety of effects to a variety of customers. As a finite resource, tough decisions are often a key element in apportioning

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[171] President Obama touted the mission as the most significant achievement to date in the effort to defeat Al Qaeda. Mark Owen with Kevin Maurer, *No Easy Day*, (New York: Dutton, 2012), 274-275.

[172] This is a modern testament to air power integration with UK SOF in Iraq. United Kingdom, Royal Air Force, *Understanding Air Power*, (Whitshire: Royal Air Force Centre for Air Power Studies, 2010), 6.

air effects to various services, including SOF.[173] With this in mind and based largely on the size of a nation's security spending envelope, air effects to SOF are delivered in the following ways: integral, dedicated, and ad hoc.[174]

As an integral organization, air assets are permanently under the SOF umbrella—focussed solely on developing, generating, and employing with SOF. Clearly, there are great benefits to this type of support in the relationships and ensuing trust that is so important in the SOF environment.[175] Personnel associated with integral air units endure a Special Operations selection process ensuring the right mix of initiative, motivation, and indomitable spirit.[176] Organizational focus is placed on SOF-specific air effects along with the kit and equipment best suited for their delivery. Tactics, techniques, and procedures (TTPs) are developed in concert with SOF ground units which significantly close the training gap for forecast missions.[177] Finally, priority for tasking air effects becomes an internal SOF issue as opposed to a competition with other services. An integral relationship is the premier method of generating and employing SOF air effects for the previously stated reasons; however, it will always be challenged by the cost associated with limiting finite air assets to a single

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[173] Orr Kelly, *From A Dark Sky…*, 314.

[174] The SOATU Manual provides greater detail in the Pre-Deployment Planning section. NATO, NATO Special Operations Headquarters, *SOATU Manual*, (February 2013), 46; Integral, dedicated, and ad hoc are elaborated on in this SOF study. NATO, NATO Special Operations Headquarters, *Special Operations Forces Study*, (December 2012), A-2.

[175] The importance of personal relationships and trust pre-existing between SOF and supporting assets is highlighted here. Major Jeffery Ortoli, *Integration and Interoperability of Special Operations Forces and Conventional Forces in Irregular Warfare*, U.S. Army Command and General Staff College, June 2009, 81, http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA502179, accessed 4 March 2013.

[176] This concept is expanded on further in the SOF Mindset portion of this guideline. NATO, NATO Special Operations Headquarters, *Guidelines for NATO SOF Helicopter Operations*, (February 2013), 8.

[177] The importance of repetitive joint training between SOF aircrews and operators is underscored by McRaven. William H. McRaven, *Spec Ops Case Studies in Special Operations Warfare: Theory and Practice* (Novato: Presidio Press, 1995), 8-23.

customer. The value of integral air effects can be seen in the time required to implement the various case study operations. The British raid in Sierra Leone as well as the US raid on Bin Laden's compound was planned and conducted in a matter of weeks. In both cases, the air effects required for the operation were established under a relative integral structure which removed the requirement for all but the most specific rehearsals and preparation.

Less responsive and effective in supporting a covert kinetic SOF option is a dedicated relationship with air assets delivering the required effects. Unlike integral relationships, this arrangement acknowledges the sustained requirement for air effects in support of SOF but for a finite period of time—usually the duration of an operation.[178] Given the lack of pre-existing relationships and associated trust, some time is required to develop those elements of team cohesion. Requisite skill-sets and equipment to address SOF-specific tasks may not exist and will also take time to develop.[179] In addition, unit and sub-unit TTPs will need time to be re-established—assuming they existed prior. Although no doubt represented by good people, the SOF ethos supported by a selection process is likely not represented across those organizations dedicated to SOF for an intermittent period. The dedicated option for delivery of SOF air effects is more cost effective—permitting the maintenance of multiple tasks for multiple customers.[180] It comes with the requirement for lengthy training and rehearsal periods leading up to an operation in an effort to build cohesion and minimize the strategic

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[178] The expansion of SOF and conventional air integration is included in this reference. NATO, NATO Special Operations Headquarters, *Special Operations Air Task Group Manual*, 1st Study Draft, February 2013, 25-26, http://www.nshq.nato.int/NSTEP/GetFile/?File_ID=182&Rank=45000, accessed 4 March 2013.

[179] The SOATU Manual outlines the Cost of Special Air Operations further. NATO, NATO Special Operations Headquarters, *SOATU Manual*, (February 2013), 23.

[180] The pursuit of multi-role platforms is a component of the RCAF strategic power objective. Canada, Royal Canadian Air Force, *Air Force Vectors (Final Draft)*, Director General Air Force Development, 1st Edition, 2012, 43.

risk commonly associated with SOF operations. Operations Ivory Coast and Eagle Claw both utilized a dedicated relationship to tie the support of air effects into the preparation and execution phase—requiring several months to be operationally ready. In the absence of a conflict like the Vietnam War, providing an opportunity for air assets to hone their trade, the challenges of this relationship were clearly evidenced in the Iranian desert. For example, it was US Navy aircrew inexperienced on night vision goggle operations and moved by a US Air Force marshaller in dark dusty conditions that led to an inadvertent aircraft collision and significant loss of life.[181] Bridging the interoperability of air effects in support of SOF just in time for an operation is problematic in the best conditions.

The last, and least desirable, support relationship which may provide limited air effects to SOF is that of an ad hoc or non-dedicated nature.[182] Only in executing the most basic tasks is this relationship helpful to an extent.[183] There are likely no pre-existing synergies between supporting air assets and the supported organization. Due to the lack of SOF-specific interoperability in ethos, equipment, and TTPs, only generic support can be made available through this mechanism.[184] The provision of logistic and administrative air effects is useful in this context provided the requirements are not linked to time sensitivity.

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[181] Jerry L. Thigpen, *The Praetorian Starship: The Untold Story of the Combat Talon*, (Alabama: Air University Press, 2001), 226.

[182] The evidence of ad hoc air support relationship challenges in Afghanistan's Operation Anaconda as spelled out by Ortoli. Major Jeffery Ortoli, *Integration and Interoperability of Special Operations Forces and Conventional Forces in Irregular Warfare*, U.S. Army Command and General Staff College, June 2009, 61, 63-64, http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA502179, accessed 4 March 2013.

[183] NATO, *ATP-49(E) Volume 1Use of Helicopters in Land Operations – Doctrine*, (October 2008), 13-4.

[184] Not all SOF air requirements demand specialized capabilities. NATO, NATO Special Operations Headquarters, *Special Operations Air Task Group Manual*, 1st Study Draft, February 2013, 25, http://www.nshq.nato.int/NSTEP/GetFile/?File_ID=182&Rank=45000, accessed 4 March 2013.

In reality, this option is the least costly mechanism to support SOF requirements and can be readily provided through conventional or civilian contracted services. Already stressed however, is that air power in support of SOF operations with any strategic ramifications must be conducted in a deliberate way. Ad hoc relationships, evident in their absence from the case studies discussed, have no place in the execution of precise and covert SOF operations.

Regardless of the command and control relationship, a precursor to providing air effects to SOF operations is being properly trained and equipped to do so. There is a cost associated with maintaining force generation requirements for SOF-specific air effects which may not be applicable in conventional application. Sometimes just the precision or environmental requirements vary when supporting SOF operations but this still comes with an increased training bill.[185] Within an integral command and control relationship the importance of these implications is clearly understood. Integral air assets are focussed on delivering SOF air effects and are not multi-tasked or presented with conflicting priorities in training.[186] Requisite individual and collective training is an ongoing effort which maintains skill proficiency, interoperability, and cohesion.[187] In a dedicated relationship, where air assets are tasked in support of SOF operations for a finite period, the ability to integrate air effects is not automatic. As outlined earlier in the discussion on dedicated assets, proficiency, interoperability, and cohesion must be built prior to executing an operation—

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[185] Orotoli highlights the importance of unit individual and collective training for SOF specific tasks. Major Jeffery Ortoli, *Integration and Interoperability of Special Operations Forces and Conventional Forces in Irregular Warfare*, U.S. Army Command and General Staff College, June 2009, 86-87, http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA502179, accessed 4 March 2013.

[186] Commander John James Patterson VI, "Maximizing Special Operations and Air Power," *Call Newsletter*, Issue 11-34, (June 2011).

[187] NATO, NATO Special Operations Headquarters, *Guidelines for NATO SOF Helicopter Operations*, (February 2013), 55-57.

requiring added preparation time and limiting a rapid SOF response when required. In an effort to mitigate this work-up phase, periodic collective training may be incorporated into the schedule of those assets likely to be dedicated to support SOF with specific effects.[188] This ensures that the tactical level TTPs are refreshed and understood, the SOF-specific task requirements are supported by qualified personnel and serviceable equipment, and that relationships are built in advance of a crisis.[189] The challenge, when dealing with finite resources, is in impressing the prioritization of SOF-specific training on those supporting other organizations as well. Air assets not integral to SOF are rarely adequately funded to conduct SOF focussed training and struggle to elevate it in priority above other mandates.

In summary, the integration of air power is at the heart of successful SOF operations.[190] Prior to an operation, it establishes the level of air power support which the SOF community is afforded to build and maintain capability. Integration is key in a training environment first, to ensure that interoperability and cohesion are securely in place when employed.[191] The Desert One debacle is a clear example of poor integration and can be traced to interoperability inadequacies of the participating air assets.[192] Balanced against the costs of a finite resource, an integral relationship best suits the requirement for air power to

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[188] This is expanded further under Collective Training. NATO, NATO Special Operations Headquarters, *SOATU Manual*, (February 2013), 49-50.

[189] This reinforces the importance of joint SOF training and exercises. NATO, NATO Special Operations Headquarters, *Special Operations Forces Study*, (December 2012), 24.

[190] Benjamin S. Lambeth, "Operation Enduring Freedom, 2001," *A History of Air Warfare*, (Washington: Potomac Books Inc, 2010), 277.

[191] A stepped process to effective integration as outlined here. NATO, NATO Special Operations Headquarters, *Special Operations Air Task Group Manual*, 1st Study Draft, February 2013, 26, http://www.nshq.nato.int/NSTEP/GetFile/?File_ID=182&Rank=45000, accessed 4 March 2013.

[192] Integration is one of several stated focus areas for the RCAF. Canada, Royal Canadian Air Force, *Air Force Vectors (Final Draft)*, Director General Air Force Development, 1st Edition, 2012, 38-41.

maintain continuous integration efforts with the SOF elements it supports. Failing that, the anticipation of dedicated support to SOF must mean an equally dedicated individual and collective training calendar focussing on developing SOF-specific air effects and associated relationships. Although this approach is more cost effective, it also comes with a reduced guarantee that air power in support of SOF operations will be properly positioned to deliver air effects in a timely manner—necessitating greater preparation prior to execution. Finally, ad hoc relationships can only expect to support SOF operations in so far as they require no particular SOF effects or time-sensitive delivery. Air power supplied in this way will not benefit from pre-developed interoperability or cohesion, likely limiting value to administrative or logistical effects only.

AVAILABILITY AND READINESS

As command and control plays a direct role in the effective integration of air effects, so too does the availability and readiness of those assets tasked to support SOF operations. As discussed previously, the tasking relationship is an important factor in shortening the preparation phase needed for joint execution.[193] Of course, this preparation phase also hinges on the availability of the appropriate platforms, personnel, and equipment to accomplish the desired effect.[194] Taken one step further, availability must be extended to include relevant individual and collective training. It must then embrace the readiness posture that is required of it in order to deliver air power to SOF in a timely manner.

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[193] Benjamin S. Lambeth, "Operation Enduring Freedom, 2001," *A History of Air Warfare*, (Washington: Potomac Books Inc, 2010), 350.

[194] The challenges of balancing readiness against a projected decline in defence budget are expanded on by Donley. Michael Donley, "Sec Donley On Readiness: Air Force Must Shrink or Go Hollow," *AOL Defense*, 10 January 2013, http://defense.aol.com/2013/01/10/sec-donley-on-readiness-air-force-must-shrink-or-go-hollow, accessed 7 March 2013.

Exploring each of these concepts, in relation to the case studies, reveals the importance of a stated capability.

Within the air maintenance community, availability is often referred to as the amount of employable assets, within a designated fleet, not including those in scheduled or long term repair. More generally, the availability of air power speaks to its capability and capacity. A statement of capability is one which outlines a specific effect and declares that the parts and pieces required to successfully deliver it are in place. Moreover, capacity infers an ability to generate that effect at a specific rate. Combining the two defines the availability of air power but does not delineate at what readiness or employment posture to which it adheres. Readiness is normally based on a stated task list and linked to the urgency of one of more of those tasks. Like availability, readiness speaks to the deployable status of platforms, personnel, and equipment and affects the intensity of ongoing training in order to maintain that posture.[195] Heightened readiness, common in the SOF community, must be sustainable and directly linked to realistic timelines in executing operations.[196] In combining the concepts of availability and readiness, it is possible to derive a very tangible understanding of what air effects can be expected at a given time. The reverse may be more important. As the SOF operational plan develops, the mechanics behind the stated availability and readiness of associated air effects must be understood to ensure it is employed in a sustainable fashion.

Understanding the application of availability and readiness can be reinforced through a review of the case studies—establishing how it affected the operations' outcomes. The raid

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[195] Readiness is stated as a pillar of RCAF effectiveness. Canada, Royal Canadian Air Force, *Air Force Vectors (Final Draft)*, Director General Air Force Development, 1st Edition, 2012, 44.

[196] The Impact of High Readiness is considerable in SOF applications. NATO, NATO Special Operations Headquarters, *SOATU Manual*, (February 2013), 23-24.

at Son Tay benefited from a significant number of air assets already in location during the Vietnam War. Narrowing the scope to those effects in direct support, under a dedicated relationship, reveals several instances where availability became a factor. Given the covert nature of the raid, planning called for a low-level helicopter insertion under the cover of darkness. This type of insertion, and the associated navigation leading up to it, was not a typical flight profile.[197] Prior to conducting rehearsals to support the plan, those rotary wing profiles had to be developed by senior aircrews, and then taught individually and collectively.[198] To ensure that the assault force did not get lost in the dark, the C-130 Combat Talon was directed to lead the helicopter formation on its low-level route to the prison. This task called for the integration of forward looking infrared (FLIR) technology onboard the Combat Talon for the first time. The requirement to incorporate new techniques and equipment into assets tasked to support Operation Ivory Coast limited the availability of trained aircrews and properly equipped aircraft to provide the air effects required. Given the time required to integrate low flying techniques and FLIR technologies, the readiness of required air power was significantly reduced.

The British raid on the West Side Boys' base in Sierra Leone reveals a much more efficient application of air power supported by a high degree of availability and readiness. Benefiting from a pre-existing relationship with the SOF assault force, the JSFAW CH-47 Chinooks tasked with providing tactical mobility required little preparation prior to execution. The aircraft were already pre-positioned for the operation, trained and equipped

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[197] William H. McRaven, *Spec Ops, Case Studies in Special Operations Warfare: Theory and Practice,* (New York: Ballantine Books, 1996), 305-306.

[198] Ray L. Bowers, *The United States Air Force in Southeast Asia: Tactical Airlift*, (Washington: U.S. Government Printing Office, 1983), 431.

for the requisite SOF insertion techniques, and only required the most specific operation rehearsals prior to execution. In this case, the appropriate platforms, personnel, and equipment were available to provide the air effects called for during Operation Barras—leading to the successful delivery of effective air power in a very short timeframe. Important to note, the Army Air Corps Lynx attack helicopters, under an ad hoc relationship, were tasked to support the operations as well.[199] The close combat attack effects in this case did not call for SOF-specific application—allowing the Lynx to contribute to the operation without requiring significant preparation time leading up to execution. This is an example of effective air power, in an ad hoc role, where it does not require modification in support of SOF tasks.

In summary, although rehearsals and preparation will almost always factor in the delivery of effective air power, appropriate availability works to establish platforms, equipment, and personnel with the right capabilities in a sustainable fashion. Managed availability reduces the preparation phase required to accomplish a mission by ensuring that force development and generation activities are completed in advance. As an extension of availability, force readiness and its stated posture is an indication of how timely air power may be in place to deliver effects in support of SOF operations. It too incorporates a sustainable process in linking phased response to SOF deployment requirements. Regardless of the tasking relationship in place, availability and readiness speaks to the ability of air power to be delivered in a relevant, effective, and timely manner.

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[199] Will Fowler, *Certain Death in Sierra Leone: The SAS and Operation Barras 2000*, (Oxford: Osprey Publishing, 2010), 17-21.

DOCTRINE

In discussing concepts such as availability, readiness, and effective integration, it seems valuable to encase them in a greater storehouse of expectations when it comes to SOF applications.[200] As in other services, including the joint operating environment, doctrine must play a key role in forming SOF fundamentals, establishing SOF tasks, and highlighting how air power can serve to support SOF operations.[201] Set as a capstone document, doctrine specific to air power in support of SOF is necessary to shape SOF-specific capability development within supporting air communities. Subservient keystone bodies relate the specifics of SOF tasks and how they are executed.[202] Specific equipment and technology can then be derived as a requirement in providing air effects for those tasks—maximizing integration in advance of an operation.[203] Particularly in the case where air effects are not integral to the SOF community, air-specific doctrine provides the requisite understanding of tasks and expectations for individual air communities to train towards in anticipation of dedicated support.[204] In establishing air power doctrine in support of SOF, force development and force generation activities run in advance of and concurrent to SOF operations.

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[200] The debate about military doctrine balanced against operational experiences is outlined in further detail by Latawski. Dr. Paul Latawski, *The Inherent Tensions in Military Doctrine,* Sandhurst Occasional Papers No 5, (Sandhurst: Royal Military Academy, 2011).

[201] Australia, Royal Australian Air Force, *The Air Force Approach to Irregular Warfare*, (Canberra: Air Power Development Centre, 2011), 1-2.

[202] Canada, Department of National Defence, *Canadian Forces Aerospace Doctrine B-GA-400-000*, Air Force Doctrine and Training Division, 2nd Edition, December 2010, 2-3.

[203] Technological advances in precision fire support are outlined in greater detail by Patterson. Commander John James Patterson VI, *Long-Term Counterinsurgency Strategy: Maximizing Special Operations and Air Power,* (Pennsylvania: U.S. Army War College, 2010), 17.

[204] Analysis should go to written as well as applied joint doctrine. Colonel Thomas A. Cardwell, *Airland Combat: An Organization for Joint Warfare*, (Alabama: Air University Press, 1992), 68.

In reviewing the four kinetic SOF operations above, the lack of focussed and specific doctrine with regards to the implementation of air power during these events is a recurring theme. Doctrine captures command and control expectations, outlines the employment and integration of force, and builds the requirements for capability availability and readiness.[205] Time shapes doctrine by incorporating technological advancements, fundamental shifts in tasks and force mandates, as well as lessons learned from individual and collective experience.[206] In both the Son Tay Prison Raid and the hostage rescue attempt in Iran, the lack of joint SOF doctrine extended preparation and delayed execution. New technologies and unfamiliar procedures forced additional individual, collective, and joint training.[207] Measured in months, that process is much too cumbersome to address the requirements for timely situation resolution by modern SOF. Incorporated properly, doctrine bridges this gap through the consolidation of core concepts discussed earlier, and removes the requirement for all but the most situation-specific training.

Outlined in the Holloway Report, recommendations to address the fallout of Operation Eagle Claw support these notions. Under a focussed command and control structure, the United States Special Operations Command (USSOCOM) became the entity charged with directing military energy towards SOF capabilities. Doctrine development became a key initial focus in the infancy of USSOCOM as a tool to delineate, both internally

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[205] The importance of support relationships in joint doctrine is highlighted by Ortoli. Major Jeffery Ortoli, *Integration and Interoperability of Special Operations Forces and Conventional Forces in Irregular Warfare*, U.S. Army Command and General Staff College, June 2009, 79, http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA502179, accessed 4 March 2013.

[206] Commonalities and trends pulled from history assist with future development. Australia, Royal Australian Air Force, *The Air Force Approach to Irregular Warfare*, (Canberra: Air Power Development Centre, 2011), 2-14.

[207] The importance of an operational baseline is stressed by Dooly. Major Chester M. Dooly, *Application and Implications for the SOF Truths and Aviation,* Air Command and Staff College, (Alabame: Air University, 2009), 23.

and externally, how those energies should be applied. Encapsulating the specifics of SOF C2, describing SOF-specific tasks, and establishing how air effects are best integrated to support them, are all valuable aspects of SOF doctrine.[208] The precision and effectiveness of the raid on Bin Laden's compound, considering its short preparation timeline, is a testament to the value of formalized doctrine.

SUMMARY

Drawing together the four concepts studied above, as a conclusion to the case study evaluation of air power in support of SOF, it is clear that these aspects must exist as pre-conditions for the effective application of air effects. The case studies reveal historical examples where these pre-conditions were overlooked or ignored—leading to unnecessary delays and sometimes failure. In the case of the prison raid at Son Tay, the ability to execute the operation was hampered by the requirement to bridge gaps in force development and force generation—none of which was covered by joint doctrine. The attempt to rescue hostages in Iran failed, in part, due to ambiguous C2 definitions and interoperability deficiencies between contributing organizations. On the other hand, the raid on Bin Laden's compound provides sound representation of these concepts and an associated increase in likelihood of success with their application. The implications, then, are that these pre-conditions must exist in support of national SOF employment as a deliberate attempt to optimize success.[209]

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[208] Cardwell expands on the integration of air effects during the conduct of joint operations. Colonel Thomas A. Cardwell, *Airland Combat: An Organization for Joint Warfare*, (Alabama: Air University Press, 1992), 115.

[209] NATO, NATO Special Operations Headquarters, *Special Operations Forces Study*, (December 2012), 14.

As in all situations of conflict however, circumstances during an operation may be unforeseen and difficult to mitigate. Success is not guaranteed in any event, but history reveals the value of air effects delivered in support of SOF operations through conscious and deliberate preparation.[210] Transparent command and control relationships, effective integration of required air effects, the availability and readiness of relevant capabilities, all underpinned by current joint doctrine, form the nucleus of that deliberate preparation. Ignoring these areas will serve to, at minimum, lengthen considerably the time required to properly integrate air power into SOF operations. Fighting a commonly short fuse for execution and a significant strategic impact with mission failure, the worst case may see repercussions matching those of Operation Eagle Claw and the losses at Desert One.

[210] Ibid, 15.

CHAPTER SIX: A Canadian Perspective

INTRODUCTION

In light of the discussions to this point, and with an understanding of how air power is best established to support SOF operations, there is value in reviewing the Canadian SOF context—drawing parallels and recommendations along the way. Given the mandate of SOF within the greater Canadian Forces (CF), and as delineated in the CF Force Posture and Readiness Directive, SOF-specific tasks and associated air power requirements are readily derived.[211] Understanding the importance of a deliberate approach to developing and sustaining these requirements, an evaluation of the pre-conditions outlined above will reveal how prepared the CF is to deliver the air power needed for Canada's SOF tasks.[212]

SOF EVOLUTION IN CANADA

Although Canada enjoys a rich history of irregular warfare and Special Forces activity, modern SOF are a relatively new and evolving capability for Canada.[213] Beginning with the CF assumption of the roles and responsibilities of the RCMP Special Emergency Response Team (SERT) in 1993, Canadian Special Operations capabilities have expanded to include an operational command headquarters along with four subordinate units.[214] Today, the Canadian Special Operations Forces Command (CANSOFCOM) is a high readiness

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[211] Canada, Department of National Defence, CDS Directive—CF Force Posture and Readiness 2012, December 2011, 10.

[212] Unique readiness tasks direct RCAF support for strategic lift, tactical transport, and tactical aviation to CANSOFCOM. Ibid, 9.

[213] Sean M. Maloney, "Who Has Seen the Wind? An Historical Overview of Canadian Special Operations," *Canadian Military Journal*, Vol 5, No. 3.

[214] David Pugliese, *Canada's Secret Commandos: The Unauthorized Story of Joint Task Force Two* (Ottawa: Esprit de Corps Books, 2002), 13-22.

organization, ready to deploy SOF on very short notice to protect Canada and Canadians from threats to the national interest at home and abroad. Through the employment of Special Operations Task Forces (SOTFs), comprised of the right mix of enablers from across the subordinate units, CANSOFCOM is capable of conducting Counter-Terrorism (CT), Counter-Proliferation (CP), Special Reconnaissance (SR), and Direct Action (DA)—along with a measure of Defence, Diplomacy, and Military Assistance (DDMA) operations.[215]

Evidenced by the study of the evolving security environment, Canada is faced with the complex problem of satisfying the defence requirements necessary to counter national security concerns at home and abroad.[216] Guided by the Canada First Defence Strategy, and the six core missions contained within, CANSOFCOM has evolved its capabilities to ensure it is postured and ready to fulfill its responsibilities within that strategy. [217] Those capabilities may be called upon in a domestic or international context on rather short notice—necessitating the timely availability of air effects around the world.[218] Understanding that the air power support requirements of CANSOFCOM are similar to those in the case studies, a factors comparison would be relevant and beneficial. Given those factors proved critical to the success or failure of historical SOF missions, a similar

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[215] CSOR's regional stability efforts in Jamaica are one example. Adam Day, "Beyond Top Secret: Undercover with Canadian Special Operations Forces in Jamaica," *Legion Magazine*, 3 July, 2009, http://legionmagazine.com/en/index.php/2009/07/beyond-top-secret-undercover-with-canadian-special-operations-forces-in-jamaica/, accessed 17 February, 2013; CSOR's military mentoring efforts in Afghanistan are an example. Richard Johnson, "For 'Operators' Pen is Mightier," *National Post*, 26 September, 2012, http://news.nationalpost.com/2012/09/26/canadas-smooth-operators/, accessed 17 February, 2013.

[216] CANSOFCOM roles and responsibilities are outlined further. Canada, Department of National Defence, *Canadian Forces Joint Publication 3.0*, November 2011, http://www.cfd-cdf.forces.gc.ca/sites/page-eng.asp?page=10859, accessed 5 March 2013.

[217] Canada, Department of National Defence, *Canada First Defence Strategy*, 3.

[218] Specific Organizational Priorities are included here. Canada, Department of National Defence, *Report on Plans and Priorities 2012-2013: Part III Estimates*, p. 11.

comparison in the modern Canadian context is essential to ensure CANSOFCOM is best enabled through the support of air power.

Although modern Canadian SOF originated over two decades ago, dedicated operational C2 was not incorporated until CANSOFCOM headquarters (HQ) was created in 2005. For many of the same reasons as the US and UK creation of formal SOF structure, Canada recognized the importance of growing the already existing capabilities of Joint Task Force 2 (JTF-2) to include those which addressed a more fulsome SOF task list.[219] As outlined in the earlier discussion on SOF, and highlighted in the kinetic case studies, capabilities within the SOF community must be grown deliberately and prior to their requirement—not as a result of a crisis.[220] For this reason, with the realization that rotary wing tactical mobility was a critical enabler in this growth, 427 Tactical Helicopter Squadron was re-roled to a special operations aviation squadron on February 1, 2006.[221] The new 427 Special Operations Aviation Squadron (427 SOAS) became part of CANSOFCOM, providing integral special operations aviation effects to high-readiness Special Operations Task Forces for domestic and international operations. Much like the UK JSFAW in support of the raid on the West Side Boys' base in Sierra Leone, 427 SOAS has developed an integrated support relationship with other CANSOFCOM units, which permits the delivery of SOF aviation effects in very short order. The value of integral air power support is clearly visible throughout the case studies included here and the placement of 427 SOAS within

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[219] The preponderance of a SOF organizational model is supported in this study. NATO, NATO Special Operations Headquarters, *Special Operations Forces Study*, (December 2012), 18.

[220] This is in line with accepted SOF truths. Dr. J. Paul de B. Taillon, "Canadian Special Operations Forces: Transforming Paradigms," *Canadian Military Journal*, July 2008, http://www.journal.forces.gc.ca/vo6/no4/operatio-eng.asp, accessed 7 March 2013.

[221] The CANSOFCOM website provides additional detail. http://www.cansofcom.forces.gc.ca/gi-ig/ud-du-eng.asp, accessed 26 February, 2013.

CANSOFCOM adheres to that principal. However, when it comes to the provision of all other air power, CANSOFCOM must make a request for effects to the greater Royal Canadian Air Force (RCAF) in competition with other services.[222] It is here where the realities of finite resources force a compromise in optimizing the concepts discussed earlier.[223]

One could make the case for a SOF air force dedicated to honing the air effects and associated skill-sets that go towards the successful execution of SOF operations.[224] In the case of rotary wing support, this argument has been made around the world with many national SOF organizations currently supported by integral helicopter assets.[225] The extension of this argument to include other air assets in Canada will remain outside the scope of this paper. Instead, embracing the balance of finite air power against Canada's national SOF mandate, the following recommendations allow for the deliberate optimization of existing RCAF air power in support of SOF operations.

RECOMMENDATION: AIR POWER IN SUPPORT OF SOF DOCTRINE

As CANSOFCOM approaches a decade of existence, it is natural to progress from an originating phase to one of maturing. One of the key steps in maturing as an operational command is the development and institutionalization of doctrine.[226] There are varying

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[222] Canada, Royal Canadian Air Force, *Air Force Vectors (Final Draft)*, Director General Air Force Development, 1st Edition, 2012, 21.

[223] Brister argues a model for Canada's air support to special operations. Bernard Brewster, "Canadian Special Operations Mobility – Getting the Right Tools," *Canadian Military Journal*, Vol 9, No 2, http://www.journal.forces.gc.ca/vo9/no2/07-brister-eng.asp, accessed 26 February 2013.

[224] Ibid.

[225] Australia, Royal Australian Air Force, *The Air Force Approach to Irregular Warfare*, (Canberra: Air Power Development Centre, 2011), 4-16.

[226] D. MacGillivary, "Inter-service Cooperation: Is it the Essence of Joint Doctrine,"

arguments as to the value and importance of doctrine; however, the exercise of establishing a CANSOFCOM doctrinal framework is necessary to assist the RCAF in understanding and developing their supporting doctrine.[227] Although the RCAF maintains supporting doctrine through the Canadian Forces Aerospace Warfare Centre (CFAWC) for army and maritime operations, no such manual exists for air power in support of SOF operations.[228] Although some early efforts exist, there is currently nothing available for supporting air communities to build the skill sets that they will be asked by CANSOFCOM to provide.

Doctrine is commonly developed architecturally, with capstone and keystone documentation establishing a hierarchical flow of guidance.[229] As a governing body, CANSOFCOM requires doctrinal guidance at the strategic level to shape how supporting organizations like the RCAF need to develop and generate capabilities.[230] Balanced against the requirement to support several clients with finite resources, CANSOFCOM capstone doctrine will assist RCAF understanding of support requirements within air power specific doctrine. Air power support to SOF doctrine will provide definition in three areas specifically—force development, force generation, and force employment.[231] First, it will establish what specific skills and capabilities are required of the RCAF in fulfilling the

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AirPower at the Turn of the Millenium, (Toronto: CISS, 1999), 180.

[227] The crux lies in the value of a common understanding between services. Dr. Paul Latawski, *The Inherent Tensions in Military Doctrine*, Sandhurst Occasional Papers No 5, (Sandhurst: Royal Military Academy, 2011), 24.

[228] The need for the maintenance of both doctrine and TTPs is highlighted as a deduction for airpower in this reference. Canada, Royal Canadian Air Force, *Air Force Vectors (Final Draft)*, Director General Air Force Development, 1st Edition, 2012, 21.

[229] Canada, Department of National Defence, *Canadian Forces Aerospace Doctrine B-GA-400-000*, Air Force Doctrine and Training Division, 2nd Edition, December 2010, 2-3.

[230] The USSOCOM equivalent is detailed here. United States, United States Special Operations Command, *Capstone Concept for Special Operations*, 2006.

[231] The fundamentals already exist within the service but they need to be turned on SOF specific requirements. Australia, Royal Australian Air Force, *The Air Force Approach to Irregular Warfare*, (Canberra: Air Power Development Centre, 2011), 4-3.

CANSOFCOM mandate.[232] While outlining what is required, it will also clearly highlight what is not established or planned for by way of RCAF output. This clarity will lend to discussions of emerging capabilities, force development, and cohesive procurement projects.[233] In an effort to address the evolving security environment, while maintaining technological overmatch, SOF-specific air power doctrine will inform the force development processes with the RCAF and ensure SOF-specific tasks are supported in the best available way.[234]

Air power support to SOF doctrine will also drive the force generation cycles of specific communities within the RCAF.[235] Subscribing to individual SOF tasks, air power doctrine will delineate how each air community must train, individually and collectively, to support their specific roles within a SOF operation. For example, the tactical airlift community will understand the extent to which they require night vision training to execute a covert airfield takedown, or the crew training needed to conduct high altitude military parachuting. Elsewhere, the fighter force community will link their Close Air Support (CAS) role with the integration of Special Operations Joint Terminal Attack Controllers (SOJTACs)

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[232] An in-depth list of special air operations modifications common on conventional aircraft is included here. NATO, NATO Special Operations Headquarters, *Special Operations Air Task Group Manual*, 1st Study Draft, February 2013, 26, http://www.nshq.nato.int/NSTEP/GetFile/?File_ID=182&Rank=45000, accessed 4 March 2013

[233] The study highlights the importance of timely procurement in support of operational needs. NATO, NATO Special Operations Headquarters, *Special Operations Forces Study*, (December 2012), 20.

[234] The linkage between service and joint doctrine is outlined by Ortoli. Major Jeffery Ortoli, *Integration and Interoperability of Special Operations Forces and Conventional Forces in Irregular Warfare*, U.S. Army Command and General Staff College, June 2009, 88-89, http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA502179, accessed 4 March 2013.

[235] Canada. Department of National Defence. *Projecting Power: Canada's Air Force 2035*, Ed. by Andrew B. Godfrey, (Trenton: Canadian Forces Aerospace Warfare Centre, 2009), 48.

within a SOTF.[236] With an operational focus on supporting SOF, air power doctrine will define the roles and responsibilities of each community towards this effort.[237] Accepting a non-integral support structure, formalized doctrine will allow respective communities to build SOF-specific requirements into their own collective training events and reduce the preparation time required prior to executing an operation.[238] In Operation Eagle Claw, Navy helicopter aircrew, lacking aided night flying skills, were forced to add this training to the preparation phase and continued to wrestle with it while inserting operators into the desert landing zone. Stating a doctrinal requirement like this when supporting Special Operations will serve to mitigate the risk of arriving unprepared.

Preparedness in force generation flows into timely force employment which is often critical in SOF operations. Outside of an integral relationship, the inability to interact regularly, establish cohesive relationships, and develop trust can arrest a joint force from being operational without a work-up period. With the force development and generation pillars in place, air power support doctrine minimizes the preparation process required for dedicated air power to support SOF. Although an integral relationship optimizes the human interface within SOF organizations, the existence of doctrine is one way to mitigate the limited access that CANSOFCOM has to RCAF assets. In line with its own doctrine development, CANSOFCOM must work with the RCAF to create a model for how air power

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[236] Specialized air-land integration is expanded on further in this reference. Australia, Royal Australian Air Force, *The Air Force Approach to Irregular Warfare*, (Canberra: Air Power Development Centre, 2011), 3-11.

[237] AFSOC special operations manual ends with—At the very heart of warfare lies doctrine…, United States, United States Air Force, *Air Force Doctrine Document (AFDD) 3-05 Special Operations*, LeMay Center 2011, 35.

[238] Canada, Department of National Defence, *Canadian Forces Aerospace Doctrine B-GA-400-000*, Air Force Doctrine and Training Division, 2nd Edition, December 2010, 49-50.

is best developed, generated, and employed in support of SOF operations.[239] Linked to the historical concepts derived from the case studies, doctrine will address the specifics of C2 within a CANSOFCOM SOTF and how each community can expect to be linked to it.[240] By solidifying expectations for air effects, with the right platforms, personnel and equipment, doctrine will address the capability and integration proven so important to case study success.[241]

RECOMMENDATION: OPERATIONAL CONPLAN DEVELOPMENT

While the development of doctrine is clearly necessary in the Canadian context, it still lacks the operational bridging necessary to link CANSOFCOM's specific mandate to SOTF implementation—domestically or internationally. Doctrine does not address operational availability or the readiness requirements needed for timely deployment and employment. As an institutional tool, the interface for doctrine development is between CANSOFCOM and the RCAF. Equally important is the development of an operational plan between CANSOFCOM and the 1st Canadian Air Division (1 CAD) as the RCAF's operational headquarters. Less an institutional product, this contingency plan (CONPLAN) would outline a mutual understanding of air power is sequenced in support of the SOTFs CANSOFCOM produces.[242]

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[239] D. MacGillivary, "Inter-service Cooperation: Is it the Essence of Joint Doctrine," *Air Power at the Turn of the Millennium*, (Toronto: CISS, 1999), 193.

[240] Successful Special Operations is linked to unambiguous C2. United States, Joint Chiefs of Staff, *Joint Publication 3-0, Doctrine for Joint Operations*, 10 September 2001, II-17.

[241] Integration supported by the commander of the RCAF as—an agile and integrated air force with the reach and power essential for CF operations. Canada, Royal Canadian Air Force, *Air Force Vectors (Final Draft)*, Director General Air Force Development, 1st Edition, 2012, viii.

[242] Existing readiness postures in the RCAF are outlined here. Lieutenant-General Andre Deschamps, *Transcripts: Air Force Readiness*, Appearance Before the House of Commons Standing

The nuance is one of posture, readiness, and phased airflow for real operations. This document would form the template for both organizations to quickly initiate the enabling air effects needed.[243] Specific elements of historical concepts must be included, in the form of operational C2, availability and readiness, and operational integration.[244] Based on the sequenced phases of military planning, the CONPLAN would serve to highlight major movements and supporting activities of air power components in pre-deployment, deployment, employment, redeployment, and reconstitution.[245] Where doctrine serves to build the support structure within the RCAF to optimize air effects outside of an integral relationship, an operational CONPLAN serves to organize that support into focussed phases of execution.

An extension to this recommendation is the associated development of a corporate management process within the RCAF, intended to manage and review the SOF documents just discussed. The responsibility to manage Canadian joint special operations doctrine would rest with CANSOFCOM; however the air power doctrine and CONPLAN would be generated and managed by the RCAF. Clearly, there is great value in a cyclic process that brings both stakeholders together with a view to update and refresh each document. Understanding that 1 CAD has recently developed the concept of Functional Implementation

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Committee on National Defence, 13 December 2011, http://www.rcaf-arc.forces.gc.ca/v2/nr-sp/index-eng.asp?id=12536, accessed 7 March 2013.

[243] This is in line with the NATO air mission planning guide. NATO, NATO Special Operations Headquarters, *Special Operations Air Task Group Manual*, 1st Study Draft, February 2013, 107-112, http://www.nshq.nato.int/NSTEP/GetFile/?File_ID=182&Rank=45000, accessed 4 March 2013.

[244] Brister suggests this is often a triage process in the Canadian context. Bernard Brister, "Canadian Special Operations Mobility—Getting the Right Tools," *Canadian Military Journal*, (October 2008), http://www.journal.forces.gc.ca/vo9/no2/07-brister-eng.asp, accessed 2 March 2013.

[245] This SOF study highlights the importance of joint operational plans as an integration tool. NATO, NATO Special Operations Headquarters, *Special Operations Forces Study*, (December 2012), 19.

Teams (FITs), a SOF FIT may well serve as an appropriate corporate mechanism to accomplish this cyclic review. As with other FITs, built around a particular operational task or function (i.e., Sense, Cyber, etc.), a SOF FIT would benefit from the existing understanding and formal convening processes intended to maintain functional relevance and focus. In any case, whether as a FIT or another formal entity, the maintenance of air support doctrine and operational plans is important to ensuring that Canada's air power is optimized to support SOF operations.

SUMMARY

In Canada, key concepts that led to historical SOF success can be captured and implemented through a formalization of expectations. As the relationship between CANSOFCOM and the RCAF matures, this formalization must take the shape of joint doctrine outlining what air power is required and how it must be employed in support of CANSOFCOM missions. Appropriate doctrine will drive the efforts of various RCAF communities towards the level of individual and collective training required to accomplish core SOF tasks within the Canada First Defence Strategy. As an operational roadmap delineating the implementation of Canada's air power, a contingency plan must be created to build on the framework established by SOF doctrine. Hinging on the expectations of capabilities through air power, a CONPLAN would serve to establish an understanding of readiness requirements, planning considerations, and a phased intent for implementing

operations.[246] In Canada's case, this CONPLAN needs to meet the demands established in the CDS Posture and Readiness Directive for CANSOFCOM's standing SOTFs.

[246] The implementation of this is what Brister refers to as availability, dedication, and specialization. Bernard Brister, "Canadian Special Operations Mobility—Getting the Right Tools," *Canadian Military Journal*, (October 2008), http://www.journal.forces.gc.ca/vo9/no2/07-brister-eng.asp, accessed 2 March 2013.

CONCLUSION

Special Operations Forces are an increasingly sought after force in addressing a nation's security challenges.[247] The characteristics of national SOF have evolved over the last half century as the global security environment has moved away from predominantly state-on-state conflict.[248] The evolving security environment bears witness of increasingly asymmetric threats, borne of a myriad of social, cultural, and religious factors. Individual and collective extremism fostered within failed and failing states will continue to provide a distinct defence challenge for those countries forced to address them. The tools of that trade will advance along with those of global technology to increase the difficulty in staying one step ahead. Understanding the threat is the most important element in ensuring that there is a competent and enabled force to address it. A decade of seemingly unchecked influence by Osama Bin Laden's Al Qaeda was the embodiment of that threat—including a not so distant reminder of its potential devastation.

The elimination of Bin Laden by a premier SOF organization highlights the strategic impact of successfully executed Special Operations. Through the study of this example and others, the success of kinetic SOF missions often hinges on effective air power.[249] Like SOF, the fundamentals and principles of air power have evolved with conflict, to address the demands of modern militaries. That is to say that evolving SOF roles and responsibilities are

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[247] Canada, Department of National Defence, *Future Force: Concepts for Future Army Capabilities,* (Kingston: Directorate of Land Strategic Concepts, 2003), 176.

[248] Lessons learned from the recent conflict in Libya point to the high value relationship between SOF and air power. Chris Rawley, *Libya Lessons: Supremacy of the SOF-Airpower Team…Or, Why Do We Still Need a Huge Army?,* Information Dissemination Net, 28 August 2011, http://www.informationdissemination.net/2011/08/libya-lessons-supremacy-of-sof-airpower.html, accessed 6 March 2013.

[249] See Adm McRaven's comments on the importance of aerial force projection. Stew Magnuson, "Changes on the Horizon for Special Operations Command as Force Grows," *National Defence Industrial Association,* May 2012.

inextricably linked to evolving air power through the effects necessary to achieve them.[250] Evidenced in the case study material, and to take it one step further, the absence of effective air power in support of SOF operations is nearly a guarantee of failure.

Revealed through case study comparison, the concepts of integration, availability, and readiness, all fall from history as key elements of air power within a SOF context. They stem from the importance of cohesion and existing relationships between SOF and associated enablers. These factors are best fostered through a close, integral command relationship that ensures each share the same vision, mission, and ethos. Through an integral relationship, all efforts to develop, generate, and employ air effects are done so with a direct link to SOF requirements.

The realities are that many nations are limited in their ability to allocate all of the necessary air power needed by their SOF organization. A balance between finite air resources and the needs of the SOF community must be sought as a result of limited national defence spending.[251] A more realistic support relationship for countries like Canada is one of dedicated support from elements of air power—commonly for a finite duration. The effectiveness of that air support when it is called into service however must not suffer, and its requirement to conduct deliberate preparations in advance of SOF operations remains extant.

In Canada, it is important to link national SOF requirements to national security directives like the CFDS and standing readiness frameworks so that the demand for air effects in support of SOF are not over or under-stated. Especially outside an integral

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[250] The unique synergistic relationship between SOF and air power is outlined here by Patterson. Commander John James Patterson VI, *Long-Term Counterinsurgency Strategy: Maximizing Special Operations and Air Power,* (Pennsylvania: U.S. Army War College, 2010), 19.

[251] NATO, NATO Special Operations Headquarters, *Special Operations Forces Study*, (December 2012), v.

command relationship, the reason for devoting efforts to SOF-specific tasks must be linked directly to the maintenance of national security and the preservation of Canada's interests domestically and internationally.[252]

In applying the deliberate aspects of air power outlined in this paper, a level of overarching framework remains to be developed in Canada. Comprehensive doctrine and formalized contingency planning would solidify the definition of Canada's SOF air requirements. In recommending these methods of optimization, the underlying theme must be the requirement for deliberate preparation. In advance of successful SOF operations, as evidenced in the case studies, the development and application of effective air power must have achieved an acceptable level of operational capability. The complexity of integrating air effects, the precision demanded of SOF organizations, and the strategic impact of operational outcomes, drive the need for the deliberate development of air power in support of SOF operations.

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[252] This idea is supported by Brister's concluding remarks. Bernard Brister, "Canadian Special Operations Mobility—Getting the Right Tools," *Canadian Military Journal*, (October 2008), http://www.journal.forces.gc.ca/vo9/no2/07-brister-eng.asp, accessed 2 March 2013.

ABBREVIATIONS

AI	Air Interdiction
ATC	Air Traffic Control
AvFID	Aviation Foreign Internal Defense
BAO	Battlefield Air Operations
CFDS	Canada First Defence Strategy
CAD	Canadian Air Division
CF	Canadian Forces
CFAWC	Canadian Forces Aerospace Warfare Centre
CANSOFCOM	Canadian Special Operations Forces Command
CIA	Central Intelligence Agency
CBI	China-Burma-India
CAS	Close Air Support
CPED	Collection, Processing, Exploitation, and Dissemination
C2	Command and Control
CONPLAN	Contingency Plan
CP	Counter Proliferation
CT	Counter Terrorism
DDMA	Defence, Diplomacy, and Military Assistance
DA	Direct Action
F3	Find, Fix, Finish
FLIR	Forward Looking Infrared
FIT	Functional Implementation Team

GWOT	Global War on Terror
IO	Information Operations
ISR	Intelligence, Surveillance, and Reconnaissance
JCTG	Joint Contingency Task Group
JSFAW	Joint Special Forces Aviation Wing
JTF	Joint Task Force
JTF-2	Joint Task Force 2
JTAC	Joint Terminal Attack Control
OSS	Office of Strategic Services
OPSEC	Operations Security
OGD	Other Government Department
PF	Precision Fires
POW	Prisoner of War
PSYOPS	Psychological Operations
RAF	Royal Air Force
RCAF	Royal Canadian Air Force
RIR	Royal Irish Regiment
SAS	Special Air Service
SBS	Special Boat Service
SERT	Special Emergency Response Team
SOAR	Special Operations Aviation Regiment
SOAS	Special Operations Aviation Squadron
SOCC	Special Operations Component Commander

SOE	Special Operations Executive
SOF	Special Operations Forces
SOTF	Special Operations Task Force
SR	Special Reconnaissance
SAM/R	Specialized Air Mobility and Refuelling
TTPs	Tactics, Techniques, and Procedures
UNAMSIL	United Nations Mission in Sierra Leone
USSOCOM	United States Special Operations Command
SEALs	US Navy Sea Air Land Teams

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