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Know Thy Team, Know Thy Enemy:

Using Deception Teams to Achieve Air Superiority

by

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ABSTRACT

Historically, the United States has been able to gain and maintain air superiority in wars with little opposition. Technological advancements and near-peer adversaries pose a greater threat than in the past, and the United States needs to explore various strategies to quickly counter these threats. Creating diversified, dedicated deception teams that operate from a consolidated location and begin operations well before war begins can be that solution.

Two case studies demonstrate how the United States has successfully used deception and the importance of adequate time to implement deception plans. Lessons from Operation Bodyguard (WWII Normandy invasion) and Operation Desert Storm prove that deception, preconceived notions, and conditioning can coordinate across various domains to help secure air superiority. Deception teams will apply these lessons and create plans to alter enemies' preconceptions about AF capabilities prior to a conflict and use them to deceive when the battle for the air begins. The team will consist of: an intelligence officer, Suppression of Enemy Air Defenses (SEAD) specialist, cyber specialist, social media specialist, and cultural expert. Examples of deception teams in action solidify the benefits of deception across domains and reinforce their need before a conflict begins. Integrating deception into peacetime operations will provide an advantage when fighting for air superiority, and the creation of deception teams is an essential first step of the process.

INTRODUCTION

It is June 1944, and a German soldier sits at his post, anxiously anticipating an invasion. He is stationed in Pas de Calais in northern France, the closest point of land to England. He expects an impending attack by Allied forces because they need to gain ground on Continental Europe if they want to defeat Adolf Hitler. He also knows that General George S. Patton and the First United States Army Group are in Dover, England preparing for the attack. This soldier hears of a "diversionary" attack in Normandy on June 6th. The Allies are progressing, but all Pas de Calais soldiers are holding their position, waiting for the Patton offensive. Nine weeks later, they are still waiting. The reality is that there is no scheduled attack at Pas de Calais, and the majority of the First United States Army Group is fictitious. This is all part of a larger deception plan to keep Axis reinforcements out of Normandy and aid the Allied victory in Europe. How were the Allies able to execute a plan that tricked Hitler into believing the misinformation for weeks after the battle in Normandy began? The answer is the incredible use of deception, preconceived notions, and surprise. This principle of war has been used throughout history with amazing results. A study of deception in 16 wars between the years of 1914 and 1968 revealed that surprise contributed to a 98 percent success rate when using three or more types of surprise, such as time, location, strength, or capabilities.[1] By contrast, Generals lost battles 60 percent of the time when initial surprise was not used.[2] Deception allows the enemy to misinterpret abilities or strategies and gives the deceiver the ability to gain the upper hand.

US deception techniques should target adversaries' perceptions about US strategies and capabilities with synchronization across domains to gain air superiority. The rise of near-peer adversaries requires an emphasis on the psychological element of war to produce a US advantage in the early battle for the sky. For instance, China currently has 2,815 attack aircraft (for

comparison, the United States has 3,265 attack aircraft), S-300 SAMs, land-based ballistic and cruise missiles, and it is in the process of acquiring S-400s from Russia.[3] These threats are extending Chinese attack range out to over 200 nautical miles and pose a significant threat to the US's ability to gain air superiority quickly at the beginning of a conflict.[4] Also, the Chinese base much of their military philosophy on Sun Tzu's *The Art of War*, and the mindset that "all warfare is based on deception."[5] China uses this mentality in all personal interactions and relationships with the world that involve the PRC's national defense.[6] If the United States does not permeate its military thinking with psychological warfare and relies on its military's slight numerical advantage, it may lead to protracted wars and possible defeat against near-peer enemies and their mental edge. Using similar cognitive techniques, such as adversaries' use of deception, can ensure the United States is not in an inferior position against near-peer enemies.

The United States should respond by developing deception plans prior to air superiority battles that focus on adversary preconceptions about the US and its abilities that can be used throughout the conflict. Enemies will base their strategies off of what they believe are US capabilities. This can include moving equipment to disadvantageous locations, misjudging when the United States will be ready for the offensive, or how the United States executes wartime missions to catch the enemy off guard and unprepared. Deception operations can also adapt as situations change during the war to continue to deceive and maintain the advantage. This will help reestablish an advantage against near-peer enemies in the fight for the sky.

The US can learn lessons from other countries that have used deception specifically for air superiority at the beginning of a war.[7] In 1956, the British and French used deception to invade the Northern Suez Canal during Operations Musketeer and Kadesh.[8] The British and French made the Egyptians believe they were still exploring all options before using the military

instrument of power, all while they were preparing for an attack.[9] The timing of the air raid caught the Egyptians off guard and destroyed 260 planes on the ground and 80 percent of all Egyptian planes were destroyed over the next three days, resulting in air superiority in the initial days of battle.[10] More recently, Israel used deception in 1967 during Operation Moked. The Israeli Defense Minister issued public statements urging a diplomatic solution and emphasizing Israel's inability to organize a surprise offensive.[11] Worldwide papers published photos of Israeli soldiers on leave to make them appear unready for military operations, even though they were back at work the next day.[12] These images and published comments were so convincing that Egyptian generals were playing tennis the day before the attack.[13] Israel was able to destroy 410 Arab aircraft on the ground the first day of the Six-Day War.[14] Israel succeeded in gaining air superiority and defeating a numerically superior enemy while only losing a total of 40 aircraft.[15] These are just a few examples of how deception plans have been created and implemented prior to actual hostilities to gain air superiority. As the USAF proceeds into the future, it cannot rely on numerical dominance and needs to build upon these deception strategies to successfully gain control of the air.

Previous deception research verifies the importance of deception and suggests ways to use it to obtain air superiority. In 2006 Mark Phillips illustrates that using deception will aid in destroying enemy aircraft while on the ground to eliminate air-to-air fighting and that deception needs to be incorporated into the tactical, operational, and strategic levels of war.[16] Also in 2006, Michael Webb writes about how strategic deception is easier in the Information Age because of the ability to collect data on the enemy's perspective. He goes on to say that technology provides the tools to deceive based upon obtaining knowledge of the enemy and their preconceptions and biases. He also states that the Information Age can assist with altering enemies' reality for the

benefit of the deceiver through multiple technological channels.[17] This thesis blends Mark Phillips' and Michael Webb's concepts together in order to use the Information Age to facilitate deception for air superiority. The USAF can do this by adjusting preconceived notions and planting seeds of misinformation through cyberspace, space, and other domains. This enables the United States to deceive about air strategies, giving the adversary an incorrect picture of US capabilities. Enemies that plan their strategies on this misinformation will be surprised when actions are not as expected and transfer the advantage to the United States.

How can the United States Air Force use deception operations to gain air superiority against diverse opponents that can leverage technology to instantaneously gather mass information about US capabilities? Creating diversified, dedicated deception teams that begin operations in peacetime and reside under one roof can help gain air superiority. They can gather the necessary information to deceive and influence enemies' preconceived notions about US air capabilities through social media, computer networks, and ruses to achieve the element of surprise against near-peer adversaries. Currently, there are OPSEC officers at each base in the Air Force that may have supporting deception roles in operations, but these duties are rarely employed and need to be directed from higher commanders when they are employed.[18] Additionally, if a deception plan needs to be created, the specialists with the proper expertise are dispersed throughout the world. Communication and relationships between specialists and deception planners is key to gathering the necessary data to properly create a plausible deception plan. Even in the past communication to develop deception plans and influence enemy perceptions required a significant amount of time and could be implemented as a war progressed; however, current technology and the speed of air superiority battles require a plan already in place due to the anticipated speed of operations.[19]

Historically, deception plans that play upon preconceived notions are more successful than deception plans that try to change an enemy's mindset. Influencing preconceptions and introducing information with the same technology the enemy uses to gather information on the United States can also allow deception teams to use paralysis strategy to get inside the enemy's decision-making cycle (Observe, Orient, Decide, and Act – OODA loop) and cause inaction. An abundance of information actually promotes decision-maker stagnation.[20] Deception teams will focus on adjusting preconceived notions and conducting information warfare as well as creating plausible deception plans to gain air superiority.

There may be some debate about creating deception teams in regard to cost. Deception teams can be created by using current personnel positions and relocating them to a common location to form a team, with training and tutelage from people teaching and using deception, possibly from the 39th Information Operations Squadrons. Also, the cost of a deception team will be significantly less than using mass personnel and various airframes in a protracted air superiority war. Expenses continuously rise as battles progress from the cost to generate more aircraft, fuel for those aircraft, personnel to operate and maintain the aircraft, and the associated costs with forward basing those troops. Surprise from deception can defeat the enemy in less time, with less equipment. In comparison, a deception team is inexpensive. Others may argue that adversaries study US tactics and thus eliminate the ability to achieve the element of surprise. This is why deception teams are critical: to wage information warfare and influence enemies' preconceptions during peacetime through misinformation. The US can build upon this information to deceive when a battle begins to help gain air superiority.

To develop this claim, a case study framework will analyze the previous use of deception to manipulate enemy preconceptions during wars and offer suggestions on how to use it in the

future to gain air superiority. To begin, a background will explain deception, air superiority, preconceived notions, and strategic paralysis. Then the paper will analyze two case studies, Operation Bodyguard (the Allied invasion of Europe in WWII) and Operation Desert Storm, highlighting preconceived notions, lead-time, information warfare, and deception operations. Operation Bodyguard used deception to save numerous Allied lives and achieve a victory on the European continent that led to Hitler's defeat. Operation Desert Storm used the Iraqis' preconception that the US would attack from the sea and the south. After a review and analysis of the two case studies, recommendations based on the case studies will provide potential options to help the USAF gain air superiority with deception in future conflicts. Finally, the paper will conclude with the benefits of using deception prior to a battle and some suggestions on how the USAF can introduce it into its culture.

US enemies are advancing technologically and studying past US conflicts to create plans of action to challenge the United States' historical air superiority advantage. Creating a team of specialists from diverse career fields that reside in one location and operate before a conflict can enable the use of deception concepts and information warfare to gain control of the air. The team's collaboration can produce convincing deception plans that operate at the tactical, operational, and strategic levels of war to get inside the enemy's OODA loop and achieve the critical element of surprise. Near-peer threats are emerging and the United States needs to explore all strategies to maintain air superiority and the advantage in battle to ensure minimum lives are lost. Using deception prior to a battle provides a psychological element of war to counter dangerous adversary environments and gives the United States strategic options against serious threats.

BACKGROUND

Understanding the basic definitions of deception, air superiority, preconceived notions, and strategic paralysis will help to grasp their importance in battles.

Deception

Joint Publication 3-13.4 defines military deception as "actions executed to deliberately mislead . . . thereby causing the adversary to take specific actions (or inactions) that will contribute to the accomplishment of the friendly mission."[21] Essentially, deception is using various techniques to alter the "truth" as the enemy sees it.[22] Making the enemy believe a deception plan is not enough; it must result in an action that aids the deceiver's missions or intentions. For example, the British created a deception plan in WWII called Operation Mincemeat that used false "top secret" papers planted on a body that washed onto shore to successfully deceive the Germans regarding the next battle location.[23] Both sides knew Sicily was the optimum invasion location for the Allies, but the top-secret papers listed Sardinia and Greece as the planned locations. This resulted in a victory for the Allies as the Germans reallocated troops to Sardinia and Greece, leaving fewer troops to defend Sicily.

Deception can also cause the enemy to misallocate its resources. In WWII, Adolf Hitler's SEA LION hoax kept 25 British divisions waiting in England for approximately 18 months to defend against a German invasion when these units could have been supporting the war efforts elsewhere.[24] Deception can save lives, equipment, and money, or cause the enemy to improperly deploy some of its assets and can aid particularly in air superiority.

Air Superiority

Air Force Doctrine Document (AFDD) 3-01, Counterair Operations, defines air superiority as "that degree of dominance in the air battle of one force over another that permits the conduct of operations by the former…without prohibitive interference by the opposing force."[25] Simply put, it is the ability for a force to move freely in and out of the airspace without opposition and freedom from attack for ground personnel and equipment. Controlling the air is vital in battle and is usually a prerequisite to control the surface, as made clear in AFDD 3-01.[26]

Air superiority also affects other Air Force core missions. It enables intelligence, surveillance, and reconnaissance (ISR) operations to continue without interruption, ensuring the United States has the ability to gather essential information on the enemy. Additionally, air superiority enables global strike at any time to ensure the US can reach a potential target and disable or destroy any threat to the nation. Air superiority is not only about dominating the sky; it has a ripple effect that spans across all services and can be a deciding factor between mission success or failure.

Preconceived Notions

One way to gain air superiority with deception is to influence adversaries' preconceived notions. German philosopher Johann Wolfgang Von Goethe poignantly observed that "we are never deceived, we deceive ourselves."[27] This is exactly how preconceived notions work. Leading enemies to believe something they already expect is much easier than trying to convince them they are wrong.[28] This is why Adolf Hitler heavily fortified Pas de Calais and kept his troops there long after the Normandy invasion as he believed this was the most logical place to attack.[29] Various forms of Allied deception fed Hitler's preconception and helped to reaffirm his erroneous decision. Psychologist Leon Festinger offers another reason why preconceived notions

work in his cognitive dissonance theory, stating that the mind wants to have harmony.[30] When information disagrees, the mind wants to put things into agreement, so people default to their perception of the situation to establish that harmony.[31]

The history of deception is rife with the use of preconceived notions. In 131 military engagements that occurred between 1914 and 1973, 84 percent used preconceptions to deceive.[32] Seasoned CIA veteran Richard Heuer experienced the importance of processing mass information in the field, and he argued that when decision-makers have to analyze and process data quickly, they will fall back upon their preconceived notions.[33] By "adjusting" the information adversaries are collecting about US air capabilities and wartime strategies, the US can influence preconceptions that can be used at a later time in deception plans to inflict strategic paralysis on the enemy.

Strategic Paralysis

Using strategic paralysis requires getting inside the enemy's decision-making process. Theorist Colonel John Boyd focuses on adaptability in an ever-changing war environment and creating friction for the enemy.[34] Col Boyd states that the victor in war will be the one that completes the OODA loop first.[35] Creating friction precludes the enemy from being able to orient, thus stopping the cycle (paralysis), prohibiting a decision, and generating inaction.

The United States can increase friction by adding information that commanders need to analyze before making decisions. Carl von Clausewitz said, "During an operation, decisions have usually to be made at once: there may be no time to review the situation or even think it through."[36] He goes on to say that the decision-maker becomes more uncertain about decisions

as new information emerges.[37] This slows down the decision-making process and gives the US more time to accomplish objectives and gain air superiority.

The United States can also use strategic paralysis as a backup in times when deception plans fail to cause adversaries to act.[38] Just the mention of another landing site or plan of attack may cause enemies to pause and delay action or promote inaction. In the Battle of Leyte Island in 1944, the United States developed a deception plan based on four landing sites other than Leyte Island. First, the US Navy attacked an island southeast of Japan trying to entice the Japanese to believe the next assault would be on Japan itself.[39] Second, the US Navy attacked a small island (Nicobar) west of Malaysia and Indonesia to entice the Japanese to believe the next assault would be on either one of those islands.[40] Finally, the United States used radio propaganda to point to a location in the south Philippine Islands (Davao area), instead of Leyte Island further north.[41] Even with all these potential sites, the Japanese expected Leyte Island was the location in mid-September. However, they kept their forces dispersed in six locations because they were not positive. As a result, they failed to reinforce the area until they could see the incoming attack, only two days prior to the battle.[42] Trying to deceive the Japanese into guessing the incorrect location of the attack and moving forces to that area failed, but the United States was able to temporarily paralyze the enemy's actions and gain a victory for the Allies.

CASE STUDIES / ANALYSIS

Operation Bodyguard

Operation Bodyguard (OB) used multiple forms of deception and preconceived notions to achieve a critical victory at Normandy, eventually leading to Hitler's defeat and the end of WWII. OB was the cover operation, or deception plan, for the Allies' invasion of Europe in 1944. This tremendous operation integrated many details to successfully deceive Adolf Hitler; in total, there were six principle and 36 subordinate plans.[43] Deception teams will be able to incorporate various details and coordinate numerous plans like OB to deceive against current US threats.

Objectives

OB sought to coax Hitler into making strategic decisions that would misallocate his forces and equipment while leaving the Normandy area with minimal opposition.[44] Specifically, the Allies wanted Hitler to believe that there was a force in England waiting to invade.[45] This would ensure Hitler kept some of his forces in northern France, in the Pas de Calais area. Additionally, the Allies wanted Hitler to believe that simultaneous assaults would occur on the Western and Eastern Fronts.[46] Along with these major plans, the Allies also used locations in Norway and the Mediterranean to keep Hitler's troops dispersed.[47] The Allies knew that it was not enough to just deceive about the location for D-Day; they wanted Hitler to keep his forces away from that area for some time after the battle began. OB was not just a plan that was thrown together; it took years of planning and integrating an enormous amount of details.

Planning

In 1942, the Allies established the main unit responsible for OB, the London Controlling Section, led by Colonel John Bevan.[48] Col Bevan coordinated the personnel and details for the entire operation. One example of the tremendous amount of coordination needed was Operation Fortitude, the plan specifically targeting the deception aimed at the Pas de Calais area. It required 18 deception planners working for a year, 20 senior staff planners and intelligence officers working part-time, and almost 800 radio operators to simulate radio traffic of non-existent armies.[49] Col Bevan also had to develop additional plans to keep Hitler's forces away from Normandy.

Preconceived Notions and Ruses

Operation Quicksilver supported OB by helping to keep Hitler's forces in Pas de Calais, awaiting an attack in July 1944 from General Patton and the First United States Army Group (FUSAG) from Dover, England. Hitler believed that Gen Patton would be the one leading the charge against Europe, so the Allies played off that preconceived notion. They even created fictitious Army divisions for Gen Patton to command.[50]

In order to create an entire Army, Operation Quicksilver was broken out into Quicksilver I through IV. Each section highlighted a certain element of the deception and used personnel to mimic the movements and communications of the FUSAG. Col Bevan began with a real, but small, FUSAG, and turned it into about a million troops.[51] To ensure believability of this massive Army, the few FUSAG troops would wear different insignia when they went out to various places knowing German spies were watching.[52] To provide other evidence these soldiers existed, Quicksilver published wedding announcements in the newspaper for various servicemen and also printed a 44-page book of Army regulations specifically for the FUSAG.[53]

In addition to the personnel ruses, there were wireless, physical, and air elements of the deception plan. Making a believable Army required radio traffic that simulated the wireless communication that would accompany a unit of that size. To do this, the fifth Wireless Group from England and the 3103rd from the United States mixed real and fake messages throughout the day to satisfy listening German ears.[54] Also, Col Bevan had tents set up for the fictitious troops in Dover as well as dummy landing craft called wetbobs, dummy landing tanks called bigbobs, dummy spitfire and mustang aircraft, and all the typical supporting infrastructure constructed for this equipment.[55] Soldiers would simulate routine maintenance on all of these to make the plan more convincing. Quicksilver involved aircraft that were assigned to bomb actual targets, but they would also simulate flight plans that would fly "practice bombing" runs to Pas de Calais, then rearm and refuel in southeast England for the next strike.[56] This ruse was so convincing that it kept 19 Axis divisions in Pas de Calais for 66 days after D-day.[57] Since the Germans mostly collected their information by radio traffic, spies, and aerial reconnaissance, all of these details needed to correlate to make the enemy believe this colossal Army was preparing to attack Pas de Calais. Operation Quicksilver was believable because the Allies had the time to ensure a fictitious Army of about a million looked authentic.

The Importance of One Man

Intimate knowledge of enemy commanders can provide another avenue for deception. Col Bevan created a deception plan, Operation Fortitude North, upon the preconceptions Hitler had about one particular soldier. Lieutenant General Andrew Thorne was a military attaché in Berlin from 1932 to 1935.[58] He regularly attended diplomatic receptions and caught Hitler's attention with the war medals on his uniform. After a conversation about those medals, Hitler

gave LTG Thorne his highest praise and respect.[59] As the war progressed, Col Bevan and his team leaked information that LTG Thorne was planning an invasion of Norway, knowing that Hitler respected LTG Thorne as a soldier.[60] Hitler kept 16 to 18 German divisions in Norway for 29 months to defend against this incoming attack.[61]

Preconceived notions were an integral part of both deception plans, but the difference is that Quicksilver was a massive operation that integrated many other deception techniques. Fortitude North only needed one specific detail about Hitler's respect for LTG Thorne with a few supporting deception details to result in a poor distribution of resources.[62] These same lessons can apply to air superiority by influencing adversaries' preconceptions about USAF capabilities and misinformation to cause a misuse of resources and forces. Enemies may put equipment in a location that is not even close to actual US operations or engage incorrect targets and waste resources. These are just a few examples of the possibilities of deception to surprise the enemy in an air superiority battle.

Double Agents

Operation Bodyguard relied on double agents to achieve success. OB plans were more believable because double agents reinforced the lies to Adolf Hitler. There were 13 primary double agents feeding information to Germany. Those agents also had sub-agents working for them. For example, double agent GARBO began his network of spies in 1942 and expanded it to 24 agents by February 1944.[63] He was considered an important conduit for Allied intelligence since his sub-agents had eyes and ears in many locations; at least this is what the Germans thought. All 24 sub-agents were imaginary, used to enhance the believability of GARBO's information. His network was so trusted that GARBO was able to remind Adolf Hitler that none

of the FUSAG took part in the D-Day landings, enhancing the deception to keep forces in Pas de Calais.[64] Various details of OB were credible because trusted double agents confirmed information and also planted deception "seeds" that aided in successful ruses.

The United States can use this concept and apply it to air superiority through computer networks and social media. Double agents leaked and confirmed information; government servers with false information and fake social media accounts can also leak and confirm information. Erroneous data can include information on pilots' locations, new aircraft capabilities, timing to get support functions in place for a fighter unit to become fully operational, or any other false information deception teams want the enemy to believe. These platforms will make the enemy work for its information to make it more believable and are less complicated than establishing an entire network of operatives, which would take more time and money.

The aforementioned deception techniques enabled the Allies to launch a successful offensive on Continental Europe and caused Adolf Hitler to grossly misuse his resources. Hitler's decisions kept hundreds of thousands of Axis troops away from the European attack, while only three unprepared German divisions defended Normandy on June 6th against eight Allied divisions.[65] One advantage that the Allies had was time. There was time to create the plans, to put teams together, to make a fictional Army, to create large double agent networks, and to ensure synchronized information.

The USAF can use a deception example like OB to achieve control of the air. However, air superiority needs to occur at the onset of a battle, leaving little time to construct in-depth, plausible deception plans. It took Col Bevan a year of planning Operation Fortitude and over 800 personnel to deceive Hitler. Many details needed to coincide across domains to fool the

Germans, just like the wireless, physical, and air elements of Quicksilver coincided. The United States can employ a small deception team that uses technology across domains to begin setting up ruses like this and gaining the essential element of time concerning deception operations.

The team can also learn from the deception plan exploiting the knowledge of Hitler's respect for LTG Thorne and the influence of one person. Intimate knowledge of enemy leaders, their preferences, their personalities, and their past experiences can all help to shape a deception plan and cause a misuse of resources when fighting for the sky. For instance, Russian spy Sergei Tretyakov defected to the United States and provided an enormous amount of Russian intelligence to the US government.[66] Mr. Tretyakov was Vladimir Putin's former colleague and could have supplied intimate information about Putin and what he considered important.[67] If the United States knew that Putin would heavily protect his military research and development sites over his SAM sites, then the AF could deceive about targeting the research and development sites while planning for an attack on the SAMs to help achieve air superiority. Deception teams can achieve success, but the time to start working on deception plans, gathering information, and influencing enemy preconceptions is now.

Operation Desert Storm

Operation Desert Storm (ODS) is another example of the outstanding use of preconceived notions, misallocation of resources, conditioning, and deception. The main objective of deception efforts was to enhance Saddam Hussein's preconception that an attack would come from the south, launched out of Saudi Arabia, and in the east, launched from the Persian Gulf.[68] Many US maneuvers enhanced the deception and furthered Iraq's preconceived notions, right up until US troops attacked from the west to achieve victory. A visual of actual Coalition

movements is shown in Figure 1, depicting troops moving from the west into Kuwait, very few troops from the south, and no troop movements from the Persian Gulf.

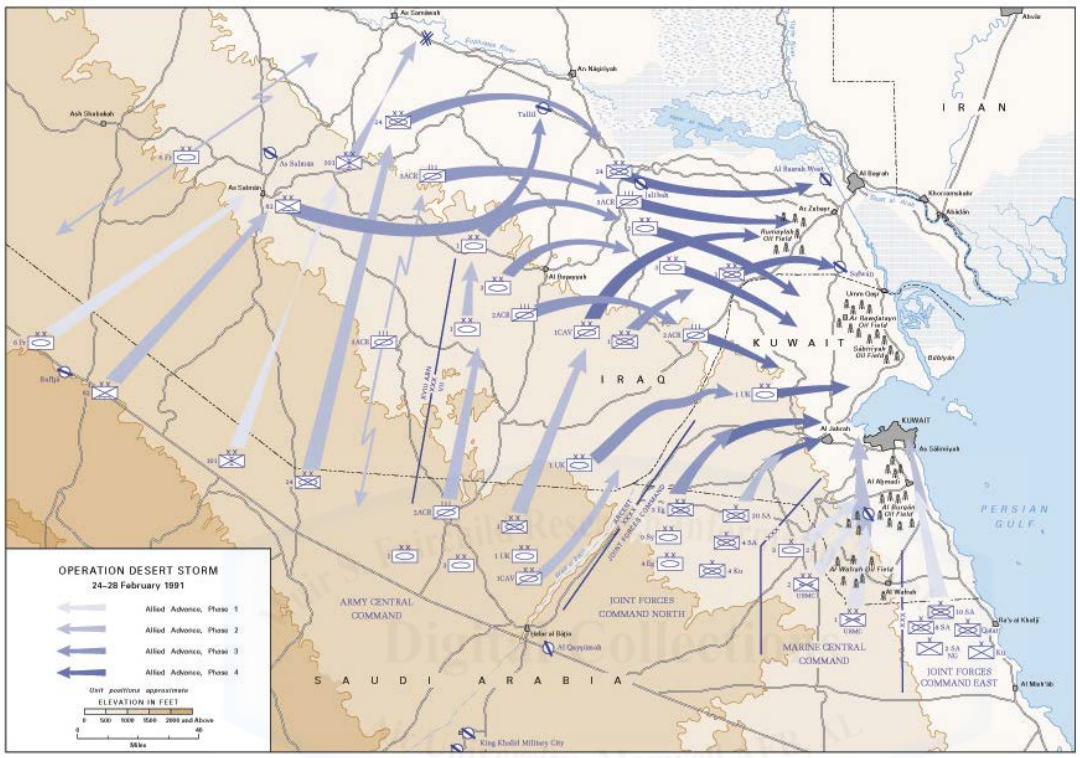

Fig. 2. Actual Coalition movements in ODS (Reprinted from www.history.army.mil, American Military History Volume II: The United States Army in a Global Era 1917-2003 (Washington D.C.: Center of Military History, 2005), 418-419.)

Preconceived Notions

ODS played off of two Iraqi preconceived notions. First, Iraq believed that the United States would launch a strong attack from the south and east; second, the Iraqis did not believe an attack from the desert was possible. Before beginning operations, General H. Norman Schwarzkopf learned of Iraq's concern for an offensive from the gulf to liberate Kuwait City, which is located on the water.[69] General Schwarzkopf enhanced this preconception with Navy

and Marine maneuvers and the dropping of propaganda leaflets. One specific leaflet portrayed a Marine as a wave coming from the Gulf with force to defeat Iraqi forces, as shown in Figure 2. The second part of the deception plan exploited Iraq's preconceived notion about its own failed operations in the west. When Iraqi troops would exercise in the desert, they would get lost, so they believed that an attack from that direction was impossible.[70] These preconceived notions and reinforcements of those ideas by the United States combined to surprise Iraqi forces with an attack from the west.

Fig. 2. ODS propaganda leaflet (Reprinted from Paul W. Westermeyer, U.S. Marines in the Gulf War, 1990-1991: Liberating Kuwait (Quantico, VA: History Division, United States Marine Corps, 2014), 151.)

Deception Maneuvers

The Navy, Marine Corps, and Air Force all conducted maneuvers to enhance Iraq's preconceived notion that southern and amphibious assaults would take place. The Navy would conduct operations in the northern Persian Gulf and the Marines would perform exercises on the Gulf coast, to provide the appearance they were preparing for an offensive from the east.[71] Television aired reports of Navy and Marine exercises to enhance the deception since Saddam

Hussein obtained some of his information from the Central News Network (CNN).[72] Additionally, the Air Force would purposefully not attack targets on the west and strategically set up air refueling tracks for a frontal assault to add to the illusion the United States was preparing the way for southern and eastern invasions.[73]

The United States also drew on historical precedent. As troops began their movements to the west for the actual offensive, some units stayed behind and replicated the WWII Operation Quicksilver (FUSAG) tactic. In the east, 200 Marines from Task Force Troy created decoys of tanks and weapons with the associated sounds and ground markings to simulate the operations for 20,000 Marines.[74] In another deception maneuver a task force consisting of 460 people simulated the activity of 16,000 troops with dummy tanks and guns, false radio transmissions, loudspeaker antics, and helicopter ruses.[75]

Conditioning

Conditioning was another form of deception used in ODS to get Iraqi troops accustomed to certain Coalition activity to confuse them about the actual timing of the attack. Conditioning works by habitually performing an action or inaction until the activity becomes normal.[76] For instance, the Iraqis were used to many Airborne Warning and Control System (AWACS) and fighter flights on the south and east borders of Kuwait, with an increase in flights one night every week.[77] Also, an increase in air refueling and training missions desensitized the Iraqis to these operations and caused Iraqi forces to overlook the actual preparation for the attack.[78] The Coalition conducted these flights to condition Saddam Hussein into believing that everything was status quo, when in reality the attack was imminent. One factor to consider about

conditioning is that the Coalition had the time to form a habit pattern during Operation Desert Shield and then use that to deceive.

The Coalition used deception throughout ODS, from the use of preconceived notions to maneuvers and deception through conditioning. Together these factors caused Saddam Hussein to organize his forces facing the wrong direction, which led to their quick defeat. As with Operation Bodyguard, ODS had time to enhance the deception. Creating deception teams that operate prior to a conflict will also help to influence preconceived notions about USAF capabilities and will provide time to condition enemies. Saddam Hussein already believed an amphibious assault would occur, so it was simple for the Coalition to use that preconception as the basis to create a deception plan that influenced the entire wartime operation. It may not be that easy with other nations' preconceived notions unless deception teams are influencing them prior to a conflict. For instance, if nations have a preconception that the US requires at least a month to setup overseas operations, then they will be surprised when the USAF begins the battle for the air in two weeks.

Lessons learned from ODS about conditioning can be applied in the same way. The activity has to become normal before adversaries are conditioned to it, like the increase in AWACS and fighter flights to condition Iraqis to believe this was a normal activity. The deception team can provide conditioning plans when the USAF performs exercises. Aircraft can begin a pattern of operations in each exercise, like a flight of four F-16s always flying attack missions before a flight of four F-15s. Adversaries will come to expect that pattern during air superiority battles and any other maneuver will be a surprise. Deception teams can plan and implement successful procedures like the ones in ODS that can be used at the onset of air superiority battles.

RECOMMENDATIONS

Operation Bodyguard and Operation Desert Storm provide a blueprint of how to incorporate deception operations into missions and achieve victory. The lessons of deception tactics, preconceived notions, information warfare, and conditioning from these operations can help the USAF understand how to use these concepts to gain air superiority. Both operations had ample time to create and execute deception plans, particularly due to the fact that the Allies and Coalition already had the essential component of air superiority. The United States does not know the exact time a conflict will breakout and will not have the time to influence adversaries' preconceptions, condition, or conduct a thorough assessment of the enemy before the fight for air superiority begins. The lessons learned from OB and ODS should be integrated into a plan to help gain air superiority. Creating collocated deception teams in peacetime can help to influence preconceived notions prior to a battle, and help to gather vital and mass information on the enemy to use immediately in deception operations.

As both case studies show, deception takes time to implement. US enemies know this fact and also know that forces are most vulnerable during the beginning stages of battles. Chinese strategists analyzed ODS and determined that the Iraqis missed an opportunity in the early stages of war when the United States was assembling its forces.[79] The Chinese state this is the best time to attack because they feel the United States cannot muster the amount of personnel and equipment to gain the advantage.[80] Chinese military writers go on to say that surprise resulting in confusion occurs only at the beginning of a conflict and that the forces need to capitalize on this time to achieve a relatively inexpensive victory.[81] The Chinese will strike at the beginning of a battle, meaning the United States needs to have a plan of action to counter any and all Chinese threats at any given time.

Being in possession of correct data on enemies in peacetime to create deception plans is also crucial against potential enemies like Russia. The Kremlin continuously uses information warfare to provide misinformation regarding its military's location, size, and objectives, leaving the world disoriented about its maneuvers.[82] The United States cannot quickly defeat an enemy without understanding why, where, when, and how adversaries are fighting. Deception cannot be implemented properly if these questions are misinterpreted. Current, reliable information is crucial to deceiving and it is easier to try to determine what is truth and what is false before a conflict begins.

Why teams and not individuals:

OB had multiple deception planners working together for a year for a reason. There has been extensive research on the ability for a team to excel versus individuals when faced with challenging issues. Two experiments conducted by Princeton University in 2000 revealed that groups are better at making quality decisions than individuals.[83] They also concluded that each individual player did not make the decisions for the entire group, meaning that the group did not perform well because of one particular player, but because of the interaction of all players.[84]

In another example, three researchers conducted a study based on detecting deception and discovered that established groups are better at detecting deception than impromptu groups.[85] This is because the members spend less time building relationships and more time on the task of trying to detect deception, which increases creativity, information exchange, and decision-making.[86] Additionally, the study found that cohesion and group performance were linked; the better the cohesion, the better the ideas to detect the deception.[87] Another interesting result of this study is that collocated members were more effective at group interaction than members that

used other communication means.[88] This is especially true when detecting deception in virtual groups since members are expecting to be deceived and are skeptical if the person on the other end is really who they say they are.[89] The researchers concluded that daily interactions with each member promote idea exchange, an understanding of how each member communicates, an ability to compensate for other's weaknesses, and the likelihood of one member to remember the idea of another member.[90] Today's technology allows a collocated team the ability to ensure information across domains synchronizes to make deception plans more credible. Additionally, deception information may not appear valid if it originates from only from one source; multiple sources are needed to strengthen the credibility of the disinformation.[91] Teams under one roof can provide consistent deception data from various sources and domains for the enemy to discover.

Other scholars that teach small group communications similarly conclude that groups surpass individuals in problem solving.[92] They also state there is a perfect size to a group that does not affect information exchange.[93] The most talkative members dominate large groups (about eight people) leaving other members frustrated and unwilling to share ideas.[94] Members of a small group (two to three people) feel compelled to talk, even when they do not have something to say to keep communication flowing, leading to a decrease in member satisfaction and less quality ideas.[95] However, a group of five people easily exchanges ideas, resulting in an increase in member satisfaction and providing motivation to ensure the group succeeds.[96] The deception team will consist of five members: an intelligence officer, SEAD specialist, cyberspace operations specialist, social media specialist, and a cultural expert to address the aforementioned issues and provide the necessary skills to deceive in current environments. Each of these specialties is needed to create in-depth, plausible deception plan across domains to gain

air superiority and will be individually addressed in the following paragraphs.

Creating Deception Teams

Deception across domains requires not only unique skillsets but also imaginative minds and keen understandings of potential opponents.[97] A way to determine creative minds and complementary personalities is by interviewing potential candidates.[98] The interviewer can ask questions that bring out the person's creativity, like asking for various uses of a brick. Responses from candidates can determine creativity from the various uses described and how their minds jump from one use to another to answer the question. A creative mind can also help when deception plans are implemented but ultimately compromised.[99] The team will be the subject matter experts on the enemy and the plans, so they will be able to quickly manipulate deception that is going astray back to a beneficial course.

The team members should also have complementary personalities. During the interview process, personalities emerge and people can determine if they will be able to work together. In the National Guard and Air Force Reserves, pilots have to interview for a position within each unit to determine personality compatibility; deception teams can use this same concept.[100] The members of the team will also have specific areas of expertise to boost deception strategies that operate across domains, just like the various domains used in OB and ODS.

Intelligence Officer

Factual data is essential in military operations, and especially so in deception. Intelligence officers gather, correlate, and analyze information to turn it into intelligence.[101] This information ranges from topography, to location and status of troops and equipment (Integrated Air Defense Systems, Surface-to-Air Missiles, etcetera), to any other factor that can influence the

operational environment in the fight for the sky. In ODS, for example, intelligence officers provided terrain analysis for the western desert movement.[102] Without this vital information, the deception campaign may have been eliminated because of the desert's possible unsuitability for ground troop movements. Intelligence troops also provided support to enhance Iraq's preconceived notion that the Coalition would attack from the south and east.[103]

Intelligence officers need to know US strategies during battles. Deception cannot be built until the truth is known.[104] In WWII, Col Bevan had access to all of the chief of staff's minutes, so his plans did not conflict with actual operations, and he used parts of real plans to hide the deception, like the building the massive FUSAG from a small unit already on location.[105]

Finally, intelligence officers can learn and exploit enemy weaknesses. In Operation Mincemeat, the British wanted the body to wash on shore in Huelva, Spain because they knew Spanish doctors would not be able to do a thorough investigation of the cause of death, making the body appear authentic. The British also knew there was an active German agent in Huelva who would promptly pass the planted papers to Germany.[106] The intelligence officer can provide this kind of vital information to help deception operations succeed. This position will cover a lot of ground, but the information is critical to mission success.

Suppression of Enemy Air Defenses (SEAD) Specialist

Joint Publication 3-01, Countering Air and Missile Threats, defines SEAD as the "activity that neutralizes, destroys, or temporarily degrades surface-based enemy air defenses by destructive or disruptive means."[107] The SEAD specialist will have knowledge on specific threats to aircraft and its command and support structure, as well as knowledge on US aircraft specifically designed with equipment for SEAD operations and its abilities.[108] An in-depth knowledge of enemies' air defense systems is vital to deception. For example, if the United

States wanted to condition an adversary to certain flight paths, it would be more advantageous to know where those flight paths needed to be located to target the proper system. The SEAD specialist can determine the best route for this type of deception and inform the pilots of the most important targets.[109]

This specialist can also determine other ways to fool early warning systems and provide valuable information on how the enemy determines its targets. In WWII, the British understood how German defensive radar capability worked. In order to deceive their radar systems, the British began dropping black paper strips with aluminum foil on one side to give the impression there were more incoming aircraft.[110] However, there have also been unsuccessful attempts to deceive enemy radar. Earlier in the war, the Royal Air Force tried to use the same tactic in North Africa but failed because the Germans were using sound locating systems.[111] The SEAD specialist would ensure the correct deception tactic would correspond to the correct system.

Cyberspace Operations Specialist

In 2013 there were 61,000 attacks and security breaches on the federal government computer systems.[112] A cyberspace operations specialist can use these attacks to provide misinformation for an adversary to steal, synchronizing the deception information gathered from other sources. A cyber specialist can also plant viruses in peacetime to use during battles. Before ODS the United States planted infected computer equipment in French-made antiaircraft components being shipped to Iraq.[113] When the Iraqis put these components into the system the virus spread and made the weapon command and control system unusable.[114] Another way to degrade enemy air defenses is by hacking into their systems and introducing false targeting information.[115] The cyber specialist will work across the cyber domain to provide false information to hackers and figure out how to degrade enemy systems targeting aircraft.

Social Media Specialist

The social media specialist will use social media creatively to provide synchronized data, much like double agents did in OB, to provide cover stories and confirm information. In WWII Col Bevan called attention to the fact that people do not usually believe information that is easily obtained.[116] They have to work for it to make it appear genuine, like gathering data from assorted sources and linking the information together to uncover the plan.[117] The Internet offers a way to provide false information for adversaries to link together. Through YouTube videos, chat rooms, blogs, Facebook accounts, websites, etcetera, adversaries can find mass information on military movements, aircraft capabilities, and US strategies.

Two recent examples stress the importance of social media. In 2010, an unnamed Israeli soldier stated on his Facebook account, "on Wednesday we are cleaning out the village of Katana…"[118] This statement caused the Israeli military to cancel operations due to an operational security violation.[119] In 2012, various people in Mexico tweeted false rumors that there were shootings, cars being set on fire, and thefts in Mexico City.[120] This caused chaos, school and business closings, as well as people not leaving their homes out of fear.[121] These examples prove that social media used in information warfare is powerful.

The social media specialist can apply these examples to air superiority. A quick search of "MALD" (Miniature Air Launched Decoy) on YouTube results in seven informational videos.[122] One video specifically describes the interaction between MALDs, Joint Standoff-Off Weapons (JSOW) and High-speed Anti-Radiation Missiles (HARM) and how the United States can use them to defeat anti-access/area denial environments.[123] The social media specialist can create another YouTube video that falsely depicts a future US capability, like adding another unique weapon to the MALD, JSOW, and HARM combination. This erroneous threat may entice

potential adversaries to spend money creating defensive measures against a fabricated threat. It also leaves the enemy with less money to create more useful weapons or reinforce real threats and decreases the dangers to AF aircraft in the fight for the sky.

Cultural Expert

Along with intelligence about the enemy, a solid understanding of each adversary's culture can help develop deception plans. Targeting an enemy's preconceptions requires knowledge of how adversaries form their preconceptions. Everything people experience and learn affects their worldview and influences their actions.[124] Cultural knowledge will help to understand adversary maneuvers, like how they might react on national holidays or how to get the message through by using acceptable channels in the enemy's eye. The cultural specialist may also be able to contribute significant information about enemy leaders' preferences or how one man, like LTG Thorne or Sergei Tretyakov, can affect deception plans.

Deception Teams in Action

In May 2016, the USAF released the Air Superiority 2030 Flight Plan, the proposal for gaining and maintaining air superiority against future threats.[125] This document seeks to generate Air Force capabilities to oppose growing threats.[126] These solutions are in the infancy stages of development, and now is the perfect time to alter enemies' perceptions about what the US's abilities will be in the future. For instance, under the basing and logistics category, the Air Force states the desire to develop "active and passive defensive capabilities against ballistic missiles, cruise missiles, and hypersonic weapons."[127] While the Air Force is developing these capabilities, it can leak information that provides a very different picture of the actual abilities. The same can be said for penetrating counterair and agile communications, and others items

throughout the document. Adversaries can steal what they think is accurate information regarding the tradeoffs between range, payload, and other characteristics, or how US systems integrate to provide a false picture of how they view US threats, making their strategies less effective against true US abilities.

Deception teams can provide other false information. Chinese strategists describe how air superiority can be easily accomplished by attacking enemy air bases.[128] Providing information that makes it appear that the United States has more bases than it does can cause a form of strategic paralysis. Enemies may not know which airfields are most important and delay action, or possibly expend ordnance against bogus bases. Additionally, showing a stronger force or presence in an area may deter enemies from action due to possible retaliation or entice them to misallocate their forces.[129] The Allies used this tactic against Germany throughout WWII, most notably with the FUSAG.

In another example of misinformation, during WWII the Germans believed the British created an infrared radar system to detect submarines.[130] The Germans spent money and time reducing their submarines' heat signatures to evade this new system.[131] In reality, the new radar detected submarines on the surface of the water, leaving the Germans responding to a false threat.[132] The aforementioned MALD example can produce the same results regarding the air. Misunderstanding US capabilities can be the basis for deception, but actions and information need to synchronize across domains to make this data credible.

Deception team examples

The following is an example of how each deception team member can work together across domains to create a credible deception plan.[133] The USAF can display 50 inflatable fighter aircraft in Hawaii one day.[134] The cyberspace operations specialist can provide information

through the government system about these aircraft, their movements, and objectives. The social media specialist will write on the fictitious spouses' Facebook accounts that his or her significant other had to leave again for TDY in Hawaii.[135] The intelligence officer will determine when and which adversary satellites can take pictures of these aircraft to add another synchronized source. After all this information is relayed, deflate the mock fighters. Then the deception team can choose one of two courses of action. First, leave them down, but continue the Facebook messages that the spouse is still in Hawaii to make the enemy believe there is an underground hangar or other way to hide aircraft. Generating false suggestions on the cyber domain about how North Korea hides by tunneling into mountains can provide credibility or at least a thought to the idea of hiding assets.[136] Second, have 50 other matching inflatable fighter aircraft on the airfield in Guam the next day. Confirm this information on the Facebook account about his or her spouse now gets to have fun in Guam. Cyberspace operations can leak information about the increased range of these fighters, or the number of fighters in the USAF inventory. The intelligence officer will make sure the satellites see this image as well. As adversaries piece this information together from the various domains, they will begin to wonder how the United States can move multiple fighters so quickly without aerial refueling, or if camouflaged hangars are normal on these islands, leaving them guessing how many aircraft the US actually has (taking a page from the Russian information warfare playbook and lessons learned from Operation Quicksilver). Then, if an actual conflict occurs, the SEAD specialist can use MALDs to simulate these aircraft to make adversaries engage on the decoys to expend resources and save American lives.

Skewing this data is especially important since potential adversaries are studying US military operations. In ODS the Chinese knew it took five months of planning operations as well

as how long it took for the United States to get various equipment and personnel into position, with 14 hours required for aircraft to fly from the US to the area and 14 days for ships to arrive.[137] Knowing specific tactical information diminishes the ability to surprise in the early stages of war, especially when battling for control of the air.

Conditioning is another tactic the deception team can use during operations. Just like the conditioning in ODS with the increase in AWACS, fighter, and tanker flights, the SEAD specialist can use MALDs to condition the enemy. To begin, the cultural expert will verify this ruse will work against specific enemies and the intelligence officer will confirm adversaries are researching US MALD strategies. Then the SEAD specialist can begin the misinformation campaign. For instance, if adversaries believe one MALD always flies into range first, followed by manned aircraft, they will most likely wait until the second wave of targets. The cyberspace operations specialist can confirm this information on the government network for enemies to steal. Enemies will be conditioned to this type of behavior after executing some possible practice missions using this strategy, and then when actual fighting commences, the USAF can launch two sets of MALDs, followed by manned aircraft in the third wave.

The British used conditioning in August of 1943.[138] They would fly their DH-98 (mosquito) bombers every night over the Peenemunde area in Germany to attack Berlin.[139] Each night the siren sounded in Peenemunde to take cover, and all the citizens would run to their shelters.[140] The citizens became numb to the siren since an attack never materialized and the Germans built up its forces in Berlin for defensive measures.[141] After the Germans were conditioned, the British successfully attacked Peenemunde with less than ten percent of their aircraft lost in battle.[142] To learn from this example, the conditioning concept can be used on AF training missions. Fighters and bombers can use mock weapons to simulate aircraft carrying

ordnance to condition potential adversaries to the fact that the USAF trains with bombs so when they are loaded for operational use, it appears normal and enemies may not take counteractions.[143] However, the cultural expert and intelligence officer will need to verify that the conditioning will not generate counter-activity from potential enemies in certain areas and begin unwanted combat.

These are just a few of the many examples based on the lessons learned of OB and ODS of how deception teams can use misinformation and ruses prior to a conflict and across domains to adjust adversary preconceptions about US air superiority capabilities.

Deception teams and relationships

Creating and maintaining relationships with various nations is important to deception. First, other nations can possibly have useful information for the deception team or a specific detail about enemy commander's preferences, as in the hypothetical Sergei Tretyakov/Putin example. It is very important to create solid relationships with allies to obtain this information and also to thwart enemy attempts to sever those ties with deception through information warfare. Second, some countries, as determined by the cultural expert, may not believe any information originating from the United States. This is when the deception team can plant stories or other types of deception that originate from other countries.[144]

The deception team also needs favorable relationships with US agencies. This enables information exchange, more expertise on various subjects, and reduction of efforts to gather information, which can save money. The intelligence community is made up of seventeen organizations to include the Defense Intelligence Agency, National Security Agency, Central Intelligence Agency, and all the services' intelligence agencies, among others.[145] This enables mass information exchange to gather and process information and turn it into useful intelligence.

The deception team can have personal, face-to-face, interactions with these agencies to establish rapport so information can easily flow and specific knowledge can be gathered when needed. For instance, the Defense Intelligence Agency may have intimate knowledge that an enemy commander is cautious and may not fire its missiles unless really provoked. This information can guide deception plans to keep aircrews safe with flights that do not provoke, but condition enemies to certain flight paths and catch them off guard when fighting commences. Since relationships and interaction are important to deception operations, the aforementioned connections are incredibly valuable.

Drawbacks of deception

While there are many positive aspects of deception, there are also some drawbacks. The enemy may not believe the misinformation, fail to put the different information together to form a picture, or not gather the data from multiple sources. In this case, the team needs to make sure the plan is plausible in the enemy's eyes and that the nation will react as intended by matching information across domains and accomplishing the proper research.[146]

Some of these avenues of misinformation lack the ability to gather feedback to see if the enemy saw and believed the data, such as on social media. For OB, the British had access to ULTRA, the German's top-secret communications channel for wartime plans and information exchange.[147] Feedback can come in various forms on different domains, even though the United States cannot specifically obtain it for social media ruses. The intelligence community can determine if some of the information has altered potential adversaries' actions to provide indirect feedback and determine if enemies took the bait, without the need for direct access to their communications.[148]

Unintended consequences can also occur in deception operations. In WWI, the British

wanted to relieve their troops in Europe so they created a deception plan to entice the Germans to move some of their forces away from the frontline and into Belgium for an impending English invasion across the channel.[149] The ruse worked and troops were moved, but since British agents did not know of the deception, they thought the German troops were preparing for an invasion of England.[150] This caused panic in Britain because of the impending attack.[151] This is where communication with various agencies will help the deception team carry out plans and help prevent unwanted results.

One more example of an unintended consequence involved British General Archibald Wavell in East Africa in 1940.[152] General Wavell tricked the Italians into thinking an attack on Abyssinia was coming from the south, when the actual point of attack would come from the north.[153] The Italians withdrew their forces from the south because of this threat and positioned themselves right in the planned path of British troops.[154] Collecting information on current commanders and their potential reactions, possibly from other US intelligence agencies, as well as gathering cultural information on the nation can help to understand how an adversary will act to certain information and minimize unintended consequences.

Deception can also cause inadvertent enemy action. United States posturing may result in the enemy building up its forces. If adversaries believe the United States has more aircraft and ordnance, they may increase their countermeasures. If they increase countermeasures, the gap between US and enemy equipment decreases, and gives the US more threats to evade or destroy. This will effectively hamper any advantage the deception provided. This is when the team needs to have excellent intelligence on enemy technology, weapons, and their ability to make more weapons, so they can reduce counter-posturing of adversaries.

Furthermore, deception operations have to be careful not to break laws, deceive US

citizens or US Allies. Joint Publication 3-13.4 defines unlawful deception and the team will need to abide by these rules.[155] They must be careful not to lose the public's trust and support by lying to US citizens or allies.

CONCLUSION

Deception is an effective way to achieve surprise and is a powerful tool that can be used in the battle for air superiority against near-peer adversaries. The deception lessons learned from OB and ODS resulted in incredible surprise and were a significant factor in the defeat of an enemy. The Allies established the London Controlling Section two years prior to OB's execution. They needed this time to plan and gather intelligence on Germany's preconceived notions. This timeframe also enabled the Allies to setup ruses, establish elaborate double agent networks like GARBO's, and coordinate many details across domains of the six primary and 36 subordinate plans. A dedicated deception team under Col Bevan combined creativity, time, and intelligence to devise an intricate plan that helped lead to the end of a protracted, bloody war.

ODS taught many deception lessons, specifically about preconceptions and deception across domains. The Coalition created its entire war strategy on the Iraqis' preconceived notion about an amphibious assault. Other deceptions plans that were executed in the air, on the water, on the ground, and on television enhanced this idea, leading to a quick defeat and the Iraqis' removal from Kuwait. Just like OB, ODS had time to deceive. The Coalition had five months to prepare for the battle, to achieve conditioning, and to implement deception plans.

ODS can also supply a deception plan for the future. Enemies studied US operations from the war and developed preconceived notions about timing and strategies. Deception teams can reinforce these ideas to surprise them with unexpected maneuvers when air superiority battles begin. This deception plan can take what the enemy believes is an advantage and turn it into a disadvantage.

The United States can take these lessons and apply them to air superiority. By creating deception teams that operate prior to a conflict, the USAF can acquire the time needed to create

and carry out deception operations that target enemy preconceptions about US air strategies and capabilities. The team will concentrate on providing misinformation to the enemy and tricking them into believing false information about the USAF. When the battle for air superiority begins, these misconceptions will surprise and/or paralyze the enemy, giving the US the advantage to destroy threats and gain control of the air. Additionally, deception teams are a reasonable solution in a time when the Air Force has to do more with less. The cost of a five-person team is significantly cheaper than the cost of more aircraft or equipment in a lengthy air battle.

Creating deception teams is an important start to incorporating a psychological element of war into US strategy, but it is not enough. USAF members need more training in the importance of deception and its uses, as well as some deception operations integrated into AF exercises.[156] Developing these ideas now will facilitate deception's use with future leaders. In *The Strategy of Indirect Approach*, Sir B.H. Liddell Hart wrote that when commanders focus on the tactical elements of execution, they forget to incorporate the psychological elements of war.[157] Integrating deception tactics into exercises and training will foster an environment where commanders can use all of their available resources, to include the mental elements, and be able to use diverse tactics to defeat enemies. The USAF should not squander the deception lessons from OB and ODS; they should build upon these practices and promote deception as a viable tool to help defeat enemies.[158]

People throughout the world use deception everyday. Some, like magicians, even get paid for it. The audience enjoys being tricked and cannot believe their eyes when they are surprised. What people do not know is that magicians are typically setting up for their next trick while performing the previous trick to keep the audience member's eyes diverted from the setup area.[159] Deception teams will be doing the same, setting up for the ruse while enemies are not

specifically expecting to be deceived in that area. Just as the audience members are fooled by magic tricks and left wondering, “how did they do that,” deception teams can leave US adversaries asking the same question as they watch only US and Coalition aircraft fly above.

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[66] T. Rees Shapiro, "Sergei Tretyakov Dies; Former Russian Spy Defected to the U.S. in 2000," *The Washington Post*, 10 July 2010, http://www.washingtonpost.com/wp-dyn/content/article/2010/07/09/AR2010070905179.html.
[67] Ibid.
[68] U.S. Department of Defense, *Conduct of the Persian Gulf War: Final Report to Congress*, April 1992, 124.

[69] General H. Norman Schwarzkopf, "Central Command Briefing," *Military Review*, 27 February 1991, 96.
[70] Lieutenant Colonel Daniel L. Breitenbach, "Operation Desert Deception," (a paper submitted to the Faculty of the NWC in partial satisfaction of the requirements of the Operations Department, Naval War College, Newport, R.I., June 1991), 16.

[71] U.S. Department of Defense, *Conduct of the Persian Gulf War*, 124.
[72] Breitenbach, "Operation Desert Deception," 17, 25.
[73] U.S. Department of Defense, *Conduct of the Persian Gulf War*, 124, 159. ; While the aircraft were used for deception, they were not specifically used to gain air superiority in battle. The Coalition already had air superiority at this time and the aircraft were just used to enhance the ground deception operations.
[74] Paul W. Westermeyer, *U.S. Marines in the Gulf War, 1990-1991: Liberating Kuwait* (Quantico, VA: United States Marine Corps History Division, 2014), 153.
[75] Charlotte L. Rae-Dix, "Deception: Past Experiences--Future Opportunities," (a paper submitted to the Faculty of the NWC in partial satisfaction of the requirements of the Operations Department, Naval War College, Newport, R.I., June 1993), 18.

[76] Office of Research and Development Central Intelligence Agency, *Deception Maxims*, 13.
[77] U.S. Department of Defense, *Conduct of the Persian Gulf War*, 124, 159. ; Again, these flights were to condition and further deception, not to gain air superiority.
[78] Ibid., 124. Again, these flights were to condition and further deception, not to gain air superiority.

[79] Roger Cliff et al., *Entering the Dragon's Lair: Chinese Antiaccess Strategies and Their Implications for the United States* (Santa Monica, CA: RAND Corporation, 2007), 32.
[80] Ibid., 31.
[81] Ibid., 29-30.
[82] Maria Snegovaya, "Russia Report I: Putin's Information Warfare in Ukraine," *Institute for the Study of War*, September 2015, 9.
[83] Alan S. Binder and John Morgan, "Are Two Heads Better Than One?: An Experimental Analysis of Group vs. Individual Decision-making" (working paper, National Bureau of Economic Research, Cambridge, MA, September 2000), 14, 32.
[84] Ibid., 46.
[85] Roger McHaney, Joey F. George, and Manjul Gupta, "An Exploration of Deception Detection: Are Groups More Effective Than Individuals?," *Communication Research*, September 2015, 1.
[86] Ibid., 4.
[87] Ibid., 4-5.
[88] Ibid., 5.
[89] Ibid.
[90] Ibid., 12. ; Charles Pavitt, *Small Group Discussion: A Theoretical Approach* (Scottsdale, AZ: Gorsuch Scarisbrick, 1994), 51.
[91] Godson and Wirtz, *Strategic Denial and Deception*, Kindle location 430 of 5478.
[92] Pavitt, *Small Group Discussion*, 54. This conclusion is relative to quality tasks – tasks that do not have an objectively correct answer, not accuracy tasks. As deception is a quality task – there is no right or wrong, but the solutions need to be quality, this applies to the discussion.
[93] Pavitt, *Small Group Discussion*, 47, 52.
[94] Ibid., 47.
[95] Ibid.
[96] Ibid.
[97] Godson and Wirtz, *Strategic Denial and* Deception, Kindle location 2184 of 5478.
[98] The drawback here is that there needs to be a quality starting point to determine the complimentary personalities. A more in-depth study of that personality would ensure a quality personnel starting point.
[99] Godson and Wirtz, *Strategic Denial and* Deception, Kindle location 1760 of 5478.
[100] I know this from personal experience with interviewing for two different units, one in the AF Reserves and one in the Air National Guard.
[101] Joint Publication 2-0, *Joint Intelligence*, 22 October 2013, ix.
[102] Brigadier General John F. Stewart Jr., G2 - Army Director of Intelligence, Operation Desert Storm The Military Intelligence Story: A View from the G-2 3D U.S. Army, April 1991, 24.
[103] Ibid., 25.
[104] Godson and Wirtz, *Strategic Denial and Deception*, Kindle location 1999 of 5478.
[105] Ibid., Kindle location 2284 of 5478.
[106] Ewen Montagu, *The Man Who Never Was* (Philadelphia and New York: J.B. Lippincott Company, 1954), 32. ; Godson and Wirtz, *Strategic Denial and Deception*, Kindle location 3568 of 5478.
[107] Joint Publication 3-01, *Countering Air and Missile Threats*, 23 March 2012, IV-12.
[108] Ibid.
[109] Ibid.
[110] Latimer, *Deception in War*, 195.

[111] Ibid.
[112] Chris Frates and Curt Devine, "Government Hacks and Security Breaches Skyrocket," *CNN*, 19 December 2014, http://www.cnn.com/2014/12/19/politics/government-hacks-and-security-breaches-skyrocket.
[113] Cliff et al., *Entering the Dragon's Lair*, 55-56.
[114] Cliff et al., *Entering the Dragon's Lair*, 56.
[115] Capt Todd Fisk et al., "Integrating Stealth," *Air and Space Power Journal*, November-December 2015, 9, http://www.airpower.maxwell.af.mil/digital/pdf/articles/2015-Nov-Dec/Integrating_Stealth.pdf.
[116] Office of Research and Development Central Intelligence Agency, *Deception Maxims*, 44.
[117] Godson and Wirtz, *Strategic Denial and Deception*, Kindle location 102 of 5478. ; Office of Research and Development Central Intelligence Agency, *Deception Maxims*, 44.
[118] Simon McGregor-Wood, "Facebook Details Force Israeli Military to Cancel Operation," *ABC News*, 4 March 2010, http://abcnews.go.com/International/facebook-details-force-israeli-military-cancel-operation/story?id=10006343.
[119] Ibid.
[120] Associated Press, "Tweets of False Shootouts Cause Panic in Mexico City," *Fox News*, 8 September 2012, http://www.foxnews.com/world/2012/09/08/tweets-false-shootouts-cause-panic-in-mexico-city.html.
[121] Ibid.
[122] YouTube, "MALD," https://www.youtube.com/results?search_query=mald.
[123] YouTube, "Raytheon - Anti-Advanced SAM Missile Combo: MALD, JSOW & HARM Combat Simulation," https://www.youtube.com/watch?v=0acJ3xyhaJo.
[124] Godson and Wirtz, *Strategic Denial and Deception*, Kindle location 98 of 5478.
[125] Enterprise Capability Collaboration Team, *Air Superiority 2030 Flight Plan*, May 2016.
[126] Ibid.
[127] Ibid.
[128] Cliff et al., *Entering the Dragon's Lair*, 63.
[129] Godson and Wirtz, *Strategic Denial and Deception*, Kindle location 560 of 5478.
[130] Ibid., Kindle location 557 of 5478.
[131] Ibid.
[132] Ibid.
[133] There would be planning before this scenario starts, especially with the cultural expert, but in an effort to keep this example short it will begin with the physical deception.
[134] The Signature Management Officer (OPSEC) and I had a conversation about deception and we came up with this scenario together after talking for about 30 minutes. I've known him for about 6 years and we were able to just talk and this idea just creatively came out.
[135] This is after the social media specialist had created mass contacts and has reputable pages as multiple spouses that like to accidentally leak AF information.
[136] Godson and Wirtz, *Strategic Denial and Deception*, Kindle location 3292 of 5478.
[137] Cliff et al., *Entering the Dragon's Lair*, 45-46.
[138] Office of Research and Development Central Intelligence Agency, *Deception Maxims*, 14-15.
[139] Ibid.
[140] Ibid.
[141] Ibid. ; Godson and Wirtz, *Strategic Denial and Deception*, Kindle location 2122 of 5478.
[142] Office of Research and Development Central Intelligence Agency, *Deception Maxims*, 14-15.

[143] Fisk et al., "Integrating Stealth."
[144] Godson and Wirtz, *Strategic Denial and Deception*, Kindle location 538 of 5478.
[145] Joint Publication 2-0, *Joint Intelligence*, xii.
[146] Godson and Wirtz, *Strategic Denial and Deception*, Kindle location 607 of 5478.
[147] Office of Research and Development Central Intelligence Agency, *Deception Maxims*, 34.
[148] Webb, "Creating a New Reality," 64.
[149] Office of Research and Development Central Intelligence Agency, *Deception Maxims*, 37-38.
[150] Ibid.
[151] Ibid.
[152] Field Manual 90-2, *Battlefield Deception*, 3 October 1988, http://www.globalsecurity.org/intell/library/policy/army/fm/90-2/90-2ch1.htm.
[153] Ibid.
[154] Ibid.
[155] Joint Publication 3-13.4, *Military Deception*, I-10.
[156] Godson and Wirtz, *Strategic Denial and Deception*, Kindle location 2265 of 5478.
[157] B.H. Liddell Hart, *The Strategy of Indirect Approach* (London, England: Faber and Faber, 1954), 215-216.
[158] Godson and Wirtz, *Strategic Denial and Deception*, Kindle location 2407 of 5478.
[159] Ibid., Kindle location 4014 of 5478.

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