ORGANIZATIONAL DYSFUNCTION IN THE US AIR FORCE: LESSONS FROM THE ICBM COMMUNITY

BY

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The undersigned certify that this thesis meets master's-level standards of research, argumentation, and expression.

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DISCLAIMER

The conclusions and opinions expressed in this document are those of the author. They do not reflect the official position of the US Government, Department of Defense, the United States Air Force, or Air University.

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ABSTRACT

This study aimed to prove the validity of an organizational design model by applying it to identify organizational factors contributing to the 2013-2014 cheating scandal in the United States Air Force intercontinental ballistic missile (ICBM) crewmember community. First, the study introduces the problem and explains organizational dysfunction. The central question is, "What insight does an organizational design model of analysis offer to help minimize future organizational dysfunction in the United States Air Force?" This study defines organizational dysfunction as a myopic focus on the mission while exhibiting deviant behaviors contrary to stated values. Next, the study proposes a model of organizational analysis as a lens through which to view the ICBM organization. This study uses Lee Bolman and Terrence Deal's four-frame model of organizational analysis. They contend that effective organization design comes a comprehensive study of four interrelated frames: structural, human resources, politics, and culture. The structural frame defines an organization's vertical and lateral roles and relationships, planning and control functions, and operational environment. The human resources frame concerns the management of human capital. The political frame examines the allocation of scarce resources within and without the organization. The cultural frame explains an organization's behavior using its artifacts, espoused beliefs and values, and underlying beliefs as evidence. After explaining the four-frame model, the study explains the circumstances behind the proficiency test cheating scandal. On 27 January 2014, the Air Force began investigating allegations of knowledge test cheating at Malmstrom Air Force Base (AFB), Montana. Upon concluding the investigation on 26 February 2014, the investigating officials implicated nearly a fifth of the total Air Force ICBM crewmembers. The investigating officials also found cultural and leadership faults at Malmstrom AFB. Taking a wider view of the case study, the study then applies Bolman and Deal's four-frame model to evaluate the appropriateness of the Air Force's chosen model, James Reason's Model of Human Error. This study found that the Air Force investigation's explanation lacked the strategic context that fully explained the historical development of the organizational dysfunction. Nearly 25 years of benign neglect erupted in a series of nuclear scandals that culminated in this incident. The study concludes with recommendations for further research. This study recommends finding an enduring organizational analysis model to keep organizational improvements from stalling with every change in Air Force administration. Another recommendation is to perform a comprehensive review to determine the breadth of the apparent Air Force integrity problem. Finally, the Air Force needs to document the historical trials and tribulations of the ICBM crewmembers.

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> *Our long-term security will depend on whether we can address today's crises while also planning and preparing for tomorrow's threats. This requires making disciplined choices and meeting all our nation's challenges with long-term vision.*
>
> Chuck Hagel

On 27 January 2014, United States (US) Air Force Global Strike Command, the organization in charge of the US Air Force's nuclear enterprise, opened an investigation into a cheating operation at Malmstrom Air Force Base (AFB), Montana. Upon conclusion of the investigation, officials implicated a group of 89 officers, approximately one fifth of the entire nuclear missile crew force, in cheating on monthly proficiency tests. These tests assure the proficiency of the Air Force's intercontinental ballistic missile (ICBM) operators, those personnel assigned to launch nuclear weapons against America's adversaries. The scope of the allegations is chilling. How could so many officers compromise their integrity? If so many officers cheated to pass a proficiency test, how truly proficient is the nuclear force? Is it possible to dismiss the incident as an isolated event, attributing the cause solely to a bad batch of officers with poor integrity? Alternatively, is it possible that the environment in the Air Force ICBM organization developed over many years, stemming almost all the way back to the creation of the entity? Considering the number of personnel involved, a dysfunctional organizational environment may have permeated all levels of the enterprise over a significant period, requiring a crisis of near-epic proportions to instigate change.

This study applies the concept of organizational design to a case of organizational dysfunction to prove the concept's validity in identifying any contributing factors. First, the study introduces the problem and

explains organizational dysfunction. Next, the study proposes an organizational design model of organizational analysis for use as a lens through which to view the ICBM organization. Subsequently, the study explains the circumstances behind the proficiency test cheating scandal. The study then applies the model to the case study in question and evaluates the appropriateness of the model using the Air Force's prescriptions as a basis for comparison. Finally, the study concludes with recommendations for further exploration with the specific aim of reducing future Air Force organizational dysfunction.

The Air Force's Core Values of "Integrity First, Service Before Self, and Excellence in All We Do" seemed to ring hollow with the group of officers involved in the cheating incident. The American public demands and expects more from its officer corps, especially those charged with operating its most powerful weapons. These officers apparently disregarded the core values when challenged with difficulties of staffing the missile silos. This study will argue that the individuals indicted in the cheating scandal were not pathological, but rather, the behavior may be better explained by studying the organization to which these individuals belonged.

An example here is illustrative. In 1971, Dr. Philip Zimbardo led a team of researchers in discovering the psychological effects of prison life on guards and inmates.[1] The experiment took college-age volunteers from the Palo Alto, CA, community and put them in the roles of prison guards and prison inmates. The "guards" and the "inmates" socialized into their roles with surprising ease and speed. The experiment even overcame Dr. Zimbardo's sensibilities as he conformed to the role of prison warden. Prisoner abuses mounted, and the intervention of an outsider finally forced Dr. Zimbardo to close the experiment. Known

[1] Phillip Zimbardo, *The Lucifer Effect: Understanding How Good People Turn Evil*, New York, Random House, 2007, 26.

popularly as "The Stanford Prison Experiment," it revealed the power of social context as the "inmates," despite being voluntary participants, failed to protest their degrading circumstances and strongly identified with their roles in the prison setting. This study showed, in a clinical environment, how humans as social animals, conform to the "rules" of their particular social situations. The results seem consistent with historical events such as the Holocaust, the Abu Ghraib prison scandal, and the current actions taken by the self-proclaimed Islamic State.

Viewing the cheating incident at Malmstrom AFB not as an isolated event but as the culminating event of a crisis built over several decades puts the focus of the blame not on the individuals but on the organization. Unless organizations periodically and critically self-examine, the organizational conditions for dysfunction may incubate for years before erupting in an embarrassing or dangerous crisis. As Barry Posen states, military organizations instigate change from the inside, or external stakeholders force the organization to change.[2] The speed and breadth of modern communications allows incidents such as the one at Malmstrom AFB to become public relations disasters, impinging on the AF's credibility as a national security institution. Avoiding negative scrutiny, as well as the desire of the military to preserve its autonomy, provides an imperative to self-correct before public intervention.

According to Robert Jervis, the limits of human cognition introduce a natural tendency for humans to view themselves and their situations according to preconceived notions and to discount information that does not align with those notions.[3] Traditionally, the internal perception of the Air Force is as an organization that flies. Since its inception, the Air Force selected an unbroken succession of pilots to serve in its highest

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[2] Barry Posen, *The Sources of Military Doctrine: France, Britain, and Germany Between the World Wars,* Ithaca, NY: Cornell University Press, 1986, 80.
[3] Robert Jervis, *Perceptions and Misperceptions in International Politics*, Princeton: Princeton University Press, 1976, 143-200.

position, Chief of Staff. Because of the Air Force's preconceived notion of itself as a flying organization, the dissolution of the existential threat of the Union of Soviet Socialist Republics contributed to a trend of widespread organizational neglect of America's nuclear forces, particularly the ICBM mission. The story of the ICBM enterprise as an organization in crisis follows the history of the Air Force itself and demonstrates the potential for decay in other mission areas.

A History of the ICBM Enterprise

President Dwight Eisenhower championed American ICBM development, and in 1959, the nation accepted its first ICBM into service. Bomber doctrine dominated AF thinking at the time, but the President's insistence on the ICBM as a cost effective means of deterring Soviet aggression prevailed. Despite initial misgivings, Strategic Air Command (SAC) took responsibility of the inherently strategic weapons in the 1960s.[4] Throughout the Cold War, the constant threat of nuclear war proved a terrifying specter for the entire population, and our nation considered the ICBM enterprise a crucial piece of national security.

The speed of the Soviet Union's collapse in 1991 surprised the world and left the future of the ICBM force in question. The Cold War ended not with a bang as many expected but with the tumult of economic, political, and social unrest. The American public watched the enemy disappear and questioned the need of maintaining a huge, costly arsenal. Facing budgetary and doctrinal pressures, the Air Force completely reorganized its structure and disbanded SAC in 1992.[5] The Air Force took the opportunity to treat the ICBM enterprise like an unwanted liability, passing it first to the Air Force's newly created Air Combat Command, and then to Air Force Space Command in 1993.[6] In

[4] Patton, Phil. "SAC: Forty-five Years on Alert." *American Heritage* 49, no. 7 (1998): 99.
[5] Patton, "SAC: Forty-five Years on Alert," 99.
[6] Correll, John. "SAC's Half Century." *Air Force Magazine* 96, no. 3 (Mar 2013): 79.

an effort to provide relevance and career broadening to what it viewed as a dying occupation, the Air Force combined its space and missile career fields.

Prelude to crisis

Indications of the impending crisis began in 2007 in another leg of the nuclear triad, the bomber force. In August, maintenance personnel from Minot AFB, ND, mistakenly loaded nuclear weapons onto a B-52 bomber, which then flew across the country to Barksdale AFB, LA.[7] The US fields its nuclear weapons in three parts, hence the name "nuclear triad": ICBMs, long-range bombers, and submarine-launched ballistic missiles. The Air Force levies strict standards on the whereabouts of its nuclear weapons, requiring complete knowledge of their locations at all times. The fact that despite the many links in the accountability chain six nuclear warheads were "lost" for 36 hours damaged the credibility of the entire nuclear enterprise.

Another indication of nuclear neglect appeared in March 2008, when personnel at Hill AFB, Utah, discovered the mistaken delivery of nuclear components to Taiwan 18 months earlier.[8] This incident added to then-Secretary of Defense Robert Gates' complaints against the Air Force, and in June, Secretary Gates relieved both the Chief of Staff and the Secretary of the Air Force.[9] Secretary Gates also commissioned a task force to examine the Air Force's nuclear enterprise.[10] In response to the task force's report, in August 2009 the Air Force established Global

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[7] Barbara Starr, "Air Force investigates mistaken transport of nuclear warheads," *CNN*, 6 September 2007, http://www.cnn.com/2007/US/09/05/loose.nukes/index.html?_s=PM:US.
[8] Josh White, "Nuclear Parts Sent to Taiwan in Error," *The Washington Post*, 26 March 2008, http://www.washingtonpost.com/wp-dyn/content/article/2008/03/25/AR2008032501309.html.
[9] Julian E. Barnes and Peter Spiegel, "Air Force's top leaders are ousted," *Los Angeles Times*, 6 June 2008, http://articles.latimes.com/2008/jun/06/nation/na-airforce6.
[10] Secretary of Defense Task Force on DoD Nuclear Weapons Management, *Report of the Secretary of Defense Task Force on DOD Nuclear Weapons Management—Phase I: The Air Force's Nuclear Mission*, Washington, DC: Department of Defense, September 2008.

Strike Command, consolidating all nuclear assets under one major command.[11]

In an effort to honor the recommendations of the 2008 nuclear task force, in March 2013 the Air Force separated the space and missile career fields, highlighting a need to produce career professionals in the ICBM community.[12] During this time, errors continued to build in the IBCM force. In July 2008, three missile crewmembers fell asleep while in possession of missile launch codes.[13] Minot AFB failed a safety inspection in April 2013 and Malmstrom AFB failed a nuclear surety inspection in August.[14] In October, the ICBM force reprimanded four officers for leaving a launch facility blast door open while awaiting relief.[15] Perhaps the most embarrassing incident of all occurred later that month, when the AF removed the commander of Twentieth Air Force from command for public drunkenness.[16] Following that incident, the AF Chief of Staff General Mark Welsh announced a new procedure to screen general officers for nuclear command.[17]

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[11] United States Air Force, "Air Force Global Strike Command," Barksdale AFB, LA: 20 November 2015, http://www.af.mil/AboutUs/FactSheets/Display/tabid/224/Article/104462/air-force-global-strike-command.aspx.

[12] Targeted New Service, "AF splits space, missile career field for officers," February 15, 2013. http://infoweb.newsbank.com/resources/doc/nb/news/1447C7CCB5BEB290?p=NewsBank.

[13] Ed Pilkington, "Sleeping crew held codes for nuclear missiles at Minot airbase," *The Guardian*, 25 July 2008, http://www.theguardian.com/world/2008/jul/26/usa.

[14] Nuclear surety is the nation's method of assuring the safety, security, and control of its nuclear weapons. A nuclear surety inspection encompasses all three aspects, and while nuclear safety inspection is less comprehensive, it is no less consequential. Robert Burns, "Disciplinary acts against Air Force nuke officers topped 16," *Air Force Times*, 4 November 2014, http://www.airforcetimes.com/story/military/2014/11/04/disciplinary-acts-against-air-force-nuke-officers-topped-16/18478081/; 341st Missile Wing Public Affairs Office staff, "341st Missile Wing commander issues statement on NSI results," Malmstrom Air Force Base, MT: 13 August 2013, http://www.malmstrom.af.mil/news/story.asp?id=123359669.

[15] Associated Press in Washington, "US air force officers in charge of nuclear missiles left blast door open," *The Guardian*, 23 October 2013, http://www.theguardian.com/world/2013/oct/23/us-air-force-nuclear-missiles-blast-door.

[16] Max Fisher, "Amazing details from the drunken Moscow bender that got an Air Force general fired," *The Washington Post*, 19 December 2013, https://www.washingtonpost.com/news/worldviews/wp/2013/12/19/amazing-details-from-the-drunken-moscow-bender-that-got-an-air-force-general-fired/.

[17] Associated Press, "Air Force to look closer at nuke leader candidates," *Washington Examiner*, 13 November 2013, http://www.washingtonexaminer.com/air-force-to-look-closer-at-nuke-leader-candidates/article/2539068.

Crisis

The official start of the cheating crisis began in August 2013 when the Air Force Office of Special Investigations notified the Malmstrom AFB wing commander of a potential classified information security breach, stemming from an earlier investigation into drug abuse.[18] Further investigation limited the scope of the security breach, but also implicated 98 officers in sharing the answers to monthly nuclear proficiency tests.

The commander of AF Global Strike Command directed the vice commander of Air Education and Training Command to investigate the allegations and assess the state of the Air Force's ICBM force.

Significance of the problem

When the initial news reports appeared, the Air Force immediately lost credibility.[19] Due to the importance of the nuclear force to America's national security, the American public demands a high state of readiness. America also demands the highest standards of its military, entrusting lethal capability otherwise restricted from the public to a specialized force.[20] The number of individuals involved in the cheating scandal suggested a broader lack of readiness in America's entire nuclear enterprise, a vulnerability unaffordable in an era of high-stakes nuclear deterrence. The implied widespread Air Force integrity failing forced the service to consider its moral foundations through an internal review of the ICBM force.

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[18] Brian Everstine, "In search of a morale boost: Amid cheating investigation, DOD considers raises for missileers," *Air Force Times* 74, no. 29 (27 Jan, 2014): 10.
[19] Brian Everstine, "In search of a morale boost: Amid cheating investigation, DOD considers raises for missileers," *Air Force Times* 74, no. 29 (27 Jan, 2014): 10.
[20] Gen Martin Dempsey, "America's Military – A Profession of Arms." Washington, DC: Joint Staff Publications, n.d., http://www.jcs.mil/Portals/36/Documents/Publications/aprofessionofarms.pdf.f

Problem Statement

This study aims to apply a holistic model of analysis to the ICBM cheating scandal to determine if such a detailed level of analysis provides future applicability to other Air Force enterprises. It is outside the purpose of this study to determine the existence of an institutional core value failure, but the results of this case study may have implications beyond the arguably limited scope of the ICBM enterprise. The lessons the Air Force learned from its recovery from the crisis, as well as any additional lessons uncovered here, may have applicability to the entire service.

The Air Force is already proceeding with implementing its solutions to the failings of its nuclear enterprise. In addition to the investigation conducted by Twentieth Air Force, the Secretary of Defense ordered a task force to study the entire nuclear enterprise of the Defense Department. Each investigation provided its own recommendations to improve the state of the nuclear force. This was an appropriate tactic, given that the nuclear enterprise showed a huge integrity deficiency and needed an immediate fix. The danger with assuming that any organizational decay rested solely with the ICBM enterprise is the possibility of circumventing the impact of potential top-down, service-level influences. The reasons for organizational dysfunction are difficult to assign just to one aspect of organizational analysis. As Lee Bolman and Terrence Deal indicate with their four-frame model, rarely is the source of organizational dysfunction limited to just one frame.[21] The Air Force's investigation report categorized its findings under culture and leadership, which potentially neglects the effects of structure, human resources, and internal politics. Organizations rarely operate in a vacuum, and the reasons for sub-organizational dysfunction overlap with

[21] Lee Bolman and Terrence Deal, *Reframing Organizations: Artistry, Choice, and Leadership*, 5th ed., San Francisco: Jossey-Bass, 2013, 18.

the supra-organizational context of functionality. All of this leads to the central question driving this study:

What insight does an organizational design model of analysis offer to help minimize future organizational dysfunction in the United States Air Force?

Methodology

This qualitative case study examines the 2013-2014 Malmstrom AFB cheating incident through the lens of Bolman and Deal's four-frame model of organizational analysis and builds off the previous research Deirdre Carlock conducted for her doctoral dissertation.[22] The purpose of this study is to determine the usefulness of an organizational design model for use across the entire AF, and the study uses the ICBM enterprise's story as a basis for comparison to determine the relative benefits of the approach.

To evaluate the model, this study compares the causes found using the four-frame model to the findings of the original commander-directed investigation (CDI). First, the study chose a model of organizational analysis. Now in its fifth edition, *Reframing Organizations: Artistry, Choice, and Leadership*, a book by Lee G. Bolman and Terrence E. Deal, explains the four-frame model. The authors update their model every few years in response to current research and feedback from students and fellow scholars. Deirdre Carlock demonstrated usefulness of the model in her examination of organizational toxicity, a similar field

[22] Deirdre Carlock used Bolman and Deal's four-frame model of organizational analysis to examine the sources of organizational toxicity, a similar phenomenon to organizational dysfunction. Organizational toxicity is a management field of study focused on correcting the pathologies arising from an emotionally or psychologically toxic work environment, with toxic leadership and/or toxic followership as contributing factors. While her study used the model to identify the causes of employee emotional or psychological pain, this study focuses on determining the applicability of a holistic approach in identifying current and future vulnerabilities to dysfunction. The similarities in the causes of dysfunction and the causes of toxicity allow the expansion of a psychologically focused study to a more general organizational design study. Deirdre Carlock, "Beyond Bullying: A Holistic Exploration of the Organizational Toxicity Phenomenon," EdD diss., Pepperdine University, 2013.

of study to that of organizational dysfunction. The multiple perspectives in the model provide a versatile tool designed to force analysts to change their perspective, as opposed to the singular perspectives of most models. Chapter 2 details Bolman and Deal's model by discussing their four frames: structural, human resources, political, and cultural. Chapter 2 also incorporates Carlock's research, which expands on Bolman and Deal's premise by associating each frame with its potential dark side.

Then, the study chose a case to examine. The 2014 ICBM test compromise at Malmstrom AFB provided a useful basis for application. The incident occurred far enough in the past to start fading from the general public memory, but the long-term effects are still rippling throughout the Air Force. This event may linger enough in the minds of the Air Force's executive management that alternative approaches to applying the lessons may have traction. However, the Air Force leaders who oversaw the organizational changes in response to the incident remain in power, so making recommendations in contradiction to their decisions could incite defensiveness.

Next, the study analyzes the case, capitalizing on the predetermined outcome as a basis for comparison. Using existing evidence, this study examines the Malmstrom AFB incident, identifying causes for the widespread integrity failure and categorizing them under the four frames of Bolman and Deal's model. They emphasize that an organization's design should match its purpose and personality.[23] There is no one right answer, and what works for one organization may fail for another. Due to the ambiguity inherent in organizations, multiple perspectives provide the analyst with a better-equipped toolbox for sifting through the uncertainty to identify root causes. Although the original investigation examined the entire ICBM enterprise, this study perceives the potential in the investigation for a limited perspective. Each of the

[23] Bolman and Deal, *Reframing Organizations*, 46-48.

four-frames should highlight different organizational vulnerabilities to dysfunction. Thus, the advantage in using an organizational design model is the opportunity to apply different perspectives to the same problem in order to arrive at potentially more enduring solutions.

The study ends by comparing its findings with the findings of the original investigation and with a conclusion regarding the relative usefulness of an organizational design model as compared to the accident prevention model used by the Air Force. The Air Force method of approaching the problem from an accident-prevention perspective makes applying the investigation findings to other enterprises within the Air Force problematic because each has specific operational constraints. Not all Air Force enterprises operate with the same safety concerns, nor do they all operate under the shadow of accident prevention. Examining the problem using an organizational design model enables the drawing of parallels across the occupational lines that often divide Air Force enterprises.

Scope and Limitations of the Study

The scope of this study limits its applicability. A single model evaluating a single case within an organization as broad and diverse as the Air Force is not definitive; therefore, a subordinate purpose of this study is merely to suggest inferences for Air Force leadership to consider when evaluating the health of other Air Force enterprises. This study also attempts to restrict its examination to the factual findings of the January 2014 investigation. The manner of the original report intertwines fact and opinion, so parsing out factual evidence remains difficult, and although the previously filtered findings of the earlier report will necessarily color this study's findings, this study acknowledges and attempts to overcome this bias.

The limited availability of first-hand information also limits this study. The Air Force conducted its investigation in January 2014, while

the earliest known attempt to cheat occurred in November 2011. Given the normal turnover rates for leadership and personnel, by now the personnel directly involved with the organization at the time of the incident have largely left the organization, and new personnel comprise the affected missile squadrons. The most accessible and useful information is published in the investigation report, the limitations of which are discussed above. An additional limitation of this study is the perspective of its author, whose limited experience with the ICBM community inhibits his organizational understanding. This study may lack the detailed contextual knowledge of someone more intimately familiar with the organization, but, on the other hand, the relative absence of preconceived notions helps facilitate the comprehensiveness of the four-frame model examination.

This incident prompted the Air Force to examine all three ICBM bases for indications of integrity failures. A 2014 study by students at the Air Force's Squadron Officer School indicated integrity failures across the Air Force in a variety of career fields.[24] While this study aims to draw potential lines of inquiry for the AF to apply to other areas of the institution, this study will not reveal the true depth of service-wide organizational dysfunction. If the service is experiencing any dysfunctional symptoms, it is the hope of this study that the service takes its recommendations seriously.

Organizational Dysfunction

This study examines a single case of organizational dysfunction that developed over several decades. The understanding of organizational dysfunction within the ICBM enterprise first requires an understanding of the term itself. Much of the research on organizational

[24] Capt Andrew Browne, et al., "The Sacrifice of Integrity in the Pursuit of 'Excellence,'" Think Tank paper, Squadron Officer College, US Air Force Air University, 23 April 2014.

dynamics comes from the business sector, which describes dysfunctional organizations as focused myopically on profits while accommodating deviant behavior.[25] The Air Force, as a publicly funded institution, exists not to provide shareholders with a return on financial investment, but to provide the public good of national defense. It has a mission of flying, fighting, and winning the nation's wars. If gaining profits is analogous to executing a mission, then the lessons of the private sector apply directly to the public sector, and the myopic focus on profits becomes a myopic focus on the mission. Therefore, this study's working definition of organizational dysfunction becomes "a myopic focus on the mission while exhibiting deviant behaviors contrary to stated values."

Thesis Preview

This chapter concludes with a preview of the rest of the argument. Chapter 2 outlines Bolman and Deal's four-frame model of organizational analysis. It pays particular attention to the structural and human resources frames in order to allow a comparison with the cultural and

[25] Most studies examine the organizational toxicity phenomenon, rather than organizational dysfunction, but the concepts flow well between the two camps. This study uses "dysfunction" rather than "toxicity" because the latter term implies a unit that cannot perform its mission effectively. The ICBM units, while lacking integrity, still accomplished the mission. Deirdre Carlock characterizes dysfunction as a less-severe version of toxicity, where toxicity has festered long-enough in the workplace to detract from mission accomplishment. Cynthia Coccia defines a toxic organization as "one that thrives on control and exists in a constant state of crisis," focused on short-term fixes. Janie Fritz discusses organizational misbehavior, which includes "aggressive, antisocial counterproductive, deviant, and dysfunctional behavior and specific manifestations of these constructs." Peter Frost and Sandra Robinson state that toxic organizations "systematically (generate) distress through policies and practices," the most common of which are "unreasonable stretch goals or performance targets." In another article, Frost (as referenced by Mark Safferstone) reiterates his stance, that "toxicity is insidious," and "decreases organizational effectiveness and profitability." Murray Hunter describes organizational dysfunction as akin to the continuum of individual psychosis, except through groupthink dynamics. Tom Jones developed a twenty-item checklist for organizational dysfunction, of which an "us-versus-them" mindset and perfectionism are two characteristics. Carlock, "Beyond Bullying", 18-20; Cynthia Coccia, "Avoiding a "Toxic" Organization," *Nursing Management* 29, no. 5 (May 1998): 32; Janie Fritz. "Organizational Misbehavior," In *Bullying in the Workplace: Causes, Symptoms, and Remedies*, ed. John Lipinski and Laura Crothers, New York: Routledge, 2014, 3; Peter Frost and Sandra Robinson, "The Toxic Handler: Organizational Hero – and Casualty," *Harvard Business Review* 77, no. 4 (1999): 96-107; Murray Hunter, "The Psychosis of Organizations," *Contemporary Readings in Law and Social Justice* 5, no. 1 (2013): 44-57; Tom E. Jones, *If It's Broken, You Can Fix It: Overcoming Dysfunction in the Workplace*, New York: AMACOM, 1999, 2-9; Mark Safferstone, "Toxic Emotions at Work: How Compassionate Managers Handle Pain and Conflict," *Academy of Management Executive* 17, no. 2 (2003): 141-142.

leadership findings of the Air Force investigation. Chapter 3 then covers the specifics of the Malmstrom AFB cheating investigation, giving the factual and contextual details surrounding the incident. Chapter 4 analyzes the case through the lens of the four-frame model to categorize the incident's causes under the structural, human resources, political, and cultural frames. Chapter 5 concludes by identifying the relative usefulness of an organizational design model of organizational analysis by comparing this study's findings with the findings of the original Air Force investigation. The study now proceeds with a detailed explanation of Bolman and Deal's model.

Chapter 2

The Four-Frame Model of Organizational Analysis

There are things known and there are things unknown, and in between are the doors of perception.
Aldous Huxley

Archeological findings of management studies dating to ancient Egypt demonstrate the longevity of the idea to perfect the art and science of leading people.[1] After the advent of the industrial revolution, larger and more complex organizations helped the practice blossom into a social science with the desire for making efficient use of the human resource. This new field of study grew steadily over the ensuing decades. In the 1970s and 1980s, management studies widened yet again to offer another tool, the analysis of the organization as a whole. The styles of organizational analysis vary seemingly as much as there are organizations to analyze, but they share a common purpose of examining all aspects of organizational performance to determine solutions to problems.

While some organizational analysis approaches attempt to fractionate the organization into its components, there is value in viewing the organization holistically. First, outsiders measure organizations by their output effectiveness. Unable to perceive the inner organizational workings of production, the outsider simplifies the organization to a unitary entity with mysterious internal processes. In reality, the organization is more complex than the simplistic view of a monolith, but without inside knowledge, only the measure of outputs is available to the outside observer. Second, similar to the human body, the organization performs only as a function of a whole, not as the sum of its composite parts. The removal of any portion of the human body ceases that

[1] Morgen Witzel, *A History of Management Thought*, New York: Routledge, 2012, 9-10.

portion's association with the rest of the body. Similarly, the separation of any part of the organization alienates the component and changes the original system. Breaking the organization into its constituent parts inevitably affects the interaction of the whole. Finally, each component of the organization interacts with all of the other parts. The complexity of the interactions makes it impossible to analyze the operation of one part without simultaneously examining its relation to the other parts.

Organizational analysis experts Lee Bolman and Terrence Deal use the concept of framing for their organizational analysis process. To explain framing, consider artists painting a sunset. One artist may focus on the sun, picking out brilliant yellows, oranges, and reds. Another artist, looking at the exact same sunset, may choose instead to focus on the clouds that ran across the horizon in front of the sun, painting in stark contrast to the brightness of the first artist. Both individuals viewed the same sunset but focused on different things. Framing works in a similar fashion. Where one organizational analyst may choose to focus on the management hierarchy, another may choose to focus on the organizational processes that link the disparate organizational functions together. Each perspective is completely valid, but examining only one aspect of the organization may ignore an interrelated vulnerability.

Bolman and Deal use four frames to analyze organizations, implying four different perspectives from which to view an organization. The model includes the structural frame, the human resource frame, the political frame, and the cultural frame. The strength of their model is the variance in frames. The rest of this chapter describes each frame of this model in detail.

Structural Frame

The structural frame concentrates on increasing an organization's efficiency by defining roles and relationships.[2] Organizations use two general methods for control, vertical and lateral.[3] In organizational design, there is no definitive advantage between vertical and lateral structures. Organizational design helps organizations to arrange themselves with the most efficient and effective structure; thus, most organizations will often have a blend of both vertical and lateral construction. The organizational structure also reflects its external and internal influences.

Vertical Structures

An organization's vertical relationships include management authorities, rules and policies, and planning and control systems.

Authority. The primary control method is through a formal hierarchy.[4] The chain of command establishes authoritative paths and a rank structure to follow those paths. Military organizations are traditionally hierarchical. Every military member has a distinct chain of command running all the way to the President of the United States.

Each higher level in the chain of command makes decisions, resolves conflicts, solves problems, evaluates performance and output, and distributes rewards and sanctions to the level below it.[5] Organizations benefit when the hierarchy is defined and unambiguous. Muddled chains of command introduce confusion, limit communication, and multiply redundancy.

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[2] Lee Bolman and Terrence Deal, *Reframing Organizations: Artistry, Choice, & Leadership*, 5th ed., San Francisco: Jossey-Bass, 2013, 45.
[3] Bolman and Deal, *Reframing Organizations*, 53.
[4] Bolman and Deal, *Reframing Organizations*, 51-2.
[5] Bolman and Deal, *Reframing Organizations*, 52.

Rules and Policies. Rules and policies represent another major control mechanism.[6] Formal policies standardize behavior by giving the workers a common point of reference. They limit the range of possible human actions to ensure predictability and consistency.[7] In an organization dependent on routine activity, it transforms individual motivations into efficient mechanisms for producing outputs of comparable quality over time. Standard operating procedures are a form of policy. In the aviation business, pilots use a form of standard operating procedures, checklists, to ensure the proper sequence of actions for a particular situation. Using checklists, all of the engines get started in the proper manner whether the flight crew is the most experienced or the least.

This category also includes standards. If rules and procedures ensure the actions of the production mechanism remain consistent over time, standards ensure the outputs of production maintain the desired quality level.[8] With the advent of global precision guidance, the technology now allows one bomb to strike a target within a few feet, rather than the multitudes of bombs used to hit one target during World War II. Examiners now hold pilots accountable to the modern level of accuracy, imposing disqualification and retraining when the bomb misses the target.

Rules, policies, standard operating procedures, and standards, like authority structures, benefit from clarity. Unclear or contradictory policies confuse followers and could lead to catastrophic errors. Establishing a well-functioning organization requires a sense of balance, though. Organizations that prescribe rigid policies risk developing an inflexible mindset unaccustomed to "thinking outside of the box." Over-emphasis on rule-following may leave followers unable to decide in

[6] Bolman and Deal, *Reframing Organizations*, 52.
[7] Bolman and Deal, *Reframing Organizations*, 52.
[8] Bolman and Deal, *Reframing Organizations*, 52.

ambiguous situations, risking "freezing" the production process until a decision-maker intervenes.

Planning and Control Systems. Other, more flexible control mechanisms include performance controls and action items.[9] Performance controls, more commonly known as "metrics," entail both goals and measurements. Performance controls set output goals, while actions items are mechanisms to achieve those goals. Goals, the method of measuring their attainment, and the steps taken to attain them represent often-useful arrangements for maintaining output standards or improving company performance. The organizational danger for the Air Force is a myopic focus on mission accomplishment. In the case of organizational dysfunction, an over-emphasis on "meeting the metric" may encourage the organization to take shortcuts to accomplish the goal, acting in contradiction to stated values. Illegal activity is one common result of organizational myopia.

Organizations must also take care when creating action items. Without critical thought in creating a plan, "the link between action and outcome may fail."[10] In an organization with any sort of hierarchy, followers do as instructed, and if someone has created a specific action that tells followers exactly what to do, *but it gets the wrong result*, then that specificity is counterproductive to the whole organization. As an extreme example, a company of United States (US) Army soldiers during the Vietnam War massacred a village based on the orders of their superior. The Army ingrained a habit of following orders regardless of individual opinion, an excuse some of the soldiers used in their defense when charged with war crimes. Killing noncombatants was counterproductive to the overall war effort and illegal, yet the norms dictated by the rules caused confusion when the myopic mission focus

[9] Bolman and Deal, *Reframing Organizations*, 53.
[10] Bolman and Deal, *Reframing Organizations*, 54.

on the action item of clearing a village unhinged from a broader organizational desire to protect noncombatants.[11]

Lateral Structures

Lateral structures represent a less formal and more flexible method of exercising control over the workforce.[12] Lateral organization bypasses the rigidity of the vertical structures to introduce simplicity and speed into decision-making and action. Meetings, task forces, coordinating roles, matrix structures, and networks mediate the formality of the vertical structures. Lateral structures use regular and irregular actions to speed information flow and decision making between segmented departments within the broader organization. A weekly staff meeting represents an example of a regular action coordinating multiple departments, while forming a temporary inter-departmental task force to prepare for an upcoming inspection is an irregular action to handle an abnormal task.

Structural Factors

Factors affecting the vertical and lateral blend include the organization's environment, its size and age, its core process, its strategy and goals, its use of technology, and the nature of its workforce.

Environment. An organization is a system of interrelated parts. Systems fall into two categories, closed or open. Closed systems are isolated from the outside world, while open systems are subject to influence from the external environment. Organizational analysts should

[11] In 1968, Charlie Company of Task Force Barker massacred the residents of Son My village in Vietnam. Ordered to "go in there aggressively, close with the enemy and wipe them out for good" by their brigade commander, Charlie Company executed the village residents under the mistaken assumption they were all enemy combatants. Even when some of the soldiers tried to stop the killings, the rest of the Company ignored them and continued their killing spree. Known in the US as the My Lai Massacre, this event remains a permanent stain on the honor of the US military. James Olson and Randy Roberts, *My Lai: a brief history with documents*, Boston: Bedford Books, 1998, 20-25.
[12] Bolman and Deal, *Reframing Organizations*, 54.

remember to treat organizations as open systems that must respond to the socioeconomics, the politics, and the technology of the external environment.[13]

When considering a military organization, additional environmental factors such as the national security environment, the global financial situation, and domestic politics contribute to the organization's direction and possible dysfunction. Organizations create structure as a solution to the managerial problem of defining roles and responsibilities. The intercontinental ballistic missile enterprise at the focus of this study arose out of the desire to deter the Soviet Union from launching a general conventional or a nuclear war. The present global environment no longer contains this threat, but it contains others. As the external environment changes, the organization must reassess its internal structure to ensure it is appropriate to the needs of the present and the future.

Size and age. An organization's complexity and formality vary with its size and age.[14] This is especially true in the private sector. As companies grow to expand their profits, the number of employees usually grows to accommodate the increased workload. More workers mean more managers to direct their actions, meaning more paths for promotion, more divisions to direct, and increased responsibility at the executive level. As organizations grow, the speed at which they respond to challenge decreases. Organizations develop a natural resistance to change, and once they grow, they generally tend to retain their size rather than contracting.

When they do contract, however, a decrease in organizational size brings its own challenges, especially in areas like government, where political imperatives may clash with the organizational survival instincts.

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[13] Yitzhak Samuel, *Organizational Pathology: Life and Death of Organizations,* New Brunswick, NJ: Transaction Publishers, 2011, 8.
[14] Bolman and Deal, *Reframing Organizations*, 61.

Organizations may shrink for varying reasons, but in government, an organization typically shrinks in response to fiscal constraints. Firings and reassignments generate anxiety in the remaining personnel, affecting culture as the organization reestablishes balance.

Core process. The organization's structure should best suit its primary method of producing outputs.[15] Vertical structures tend to make organizations more rigid, and help maintain control with routinized processes. Lateral structures appeal more to organizations that deal in information, like software companies, universities, and think-tanks, as idea-sharing is the most important function to control.

Strategy and goals. The organization's purpose will dictate its structure.[16] If the company is dedicated to manufacturing a consistent physical product, a vertical structure provides the rigidity to allow such consistency. If the focus is more on the flexibility to adjust to the customers' needs, though, a lateral structure could provide the autonomy to allow the customer service departments to translate those needs into reality.

Use of technology. Modern information technology is increasing the speed and directness of communication, allowing previously vertical organizations to flatten their infrastructure.[17] Decisions that formerly processed through numerous management levels and resolved over days now occur across vast distances within minutes. Time and space are no longer impediments to communication. Managers can and do expect answers nearly instantly, keeping the organization as efficient as possible. The danger is that now managers are forgetting the benefits derived from the division of labor in a bureaucracy. Technology helps reduce barriers, but it also encourages micromanagement by allowing managers to insert their inputs. Managers often forget that the chain of

[15] Bolman and Deal, *Reframing Organizations*, 61.
[16] Bolman and Deal, *Reframing Organizations*, 61.
[17] Bolman and Deal, *Reframing Organizations*, 61.

command is there to shield them from unreasonable workloads, divide the physical effort of labor, and allow them to concentrate on intellectual productivity.

Nature of the workforce. A common complaint among the baby-boomer generation that currently comprises the upper management of most companies is that they have to spend more time explaining themselves to their millennial workers. Advances in education and information technology have contributed to a workforce that demands autonomy, discretion, and meaning in their occupations.[18] Understanding the nature of the workforce is crucial to selecting a management structure suited to that workforce. The goal of structure is to optimize the efficacy of the organization in achieving its goals, so taking the time to choose a structure supported by its workers pays dividends in the long-term. An invested worker is a productive worker.

Human Resources Frame

While the structural frame concentrates on putting people in the most efficient roles within the organization, the human resources frame concentrates on how people are attracted to, retained by, motivated by, developed by, and released from the organization.[19] Inherent in this practice is the tension between what the organization needs to maximize mission efficacy and what the individual needs to develop personally. Human resources practices also seek to promote interpersonal harmony, melding individual motivation with group dynamics. The military historically seeks to maintain a balance between "career professionals" and "temporary hires". Again, there is a balance struck between the long-term health of our national security apparatus and the day-to-day operating requirements of a large organization. The human resources

[18] Bolman and Deal, *Reframing Organizations*, 65.
[19] Bolman and Deal, *Reframing Organizations*, 139.

frame concerns itself with professional development programs, hiring practices, retention practices, worker empowerment, and organizational diversity.

Professional Development

Human resources theory assumes people want to excel at their jobs. A well-designed professional development program promotes personal growth to form the most effective employees *for its core mission.*[20] According to Bolman and Deal, "Undertrained workers harm organizations in many ways: shoddy quality, poor service, higher costs, and costly mistakes."[21] To best prepare for the long-term health of the services, it is in the best interest of the Department of Defense to treat all of its employees as potential career professionals to ensure an adequate pool of personnel from which to fill the upper management positions. The services must prepare personnel for their current occupations while simultaneously preparing them to lead in any occupation. This requires an integrated professional development program with complementary emphasis on both technical and managerial skills.

Preparing service members to lead in the core mission also requires instilling the ability to defend the services' core values. All actions must support the ideas behind the core mission, otherwise the organization loses the benefit of unity of action. Lack of unity behind a common set of core values creates inefficiencies when individual efforts fail to align with the group's efforts.

Leadership development involves training future leaders to motivate and manage. Interpersonal dynamics form the basis for many inefficiencies in the work environment, so leaders who produce harmony will often find that their organizations perform more efficiently than discordant ones.[22] Leadership development also involves training future

[20] Bolman and Deal, *Reframing Organizations*, 141.
[21] Bolman and Deal, *Reframing Organizations*, 146.
[22] Bolman and Deal, *Reframing Organizations*, 181.

leaders to teach subordinates to serve one day in management capacities. The dynamics of promoting from within call for a leadership pipeline with each level training the level below it to lead eventually at the higher position. The military's current retention practices entail an "up or out" policy, meaning that if a service member reaches a certain longevity with the organization, that person must be promoted or leave the service. Leadership positions are in a constant state of give and take, and if the professional development program is inadequate to the task, the services will quickly find their leaders unprepared for their jobs.

Hiring practices

Developing a successful organization involves staffing it with talented people. A well-grounded hiring philosophy aligns new hires with organizational goals.[23] In his book, *Good to Great*, researcher Jim Collins explains that great organizations come from great people, not the other way around.[24] Just like in baking, starting with good ingredients sets the stage for a successful finished product. Successful hiring practices also promptly indoctrinate the hires with the organization's core values. Failing to hire well and indoctrinate promptly leads to variance in the ingredients and inconsistency in the finished product, wasting organizational resources over the long-term.

Hiring well not only involves screening potential hires for qualities supportive to the organization's mission, but also attracting talented individuals in the first place. Hiring practices must incentivize individuals to work for the company beyond transactional incentives like attractive pay-scales and "signing bonuses." By appealing to a higher purpose, aspirational goals fulfill the individual need for self-actualization that money simply does not provide.

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[23] Bolman and Deal, *Reframing Organizations*, 141.
[24] Jim Collins, *Good to Great: Why Some Companies Make the Leap—and Others Don't*, New York: Harper Business, 2001, 41.

Retention

In order to develop talented people further, the organization must first *retain* those people to give the professional development plan time to work.[25] Successful retention practices reduce turnover, keeping experience with the company at all levels. This experience is a force multiplier as it transfers to subsequent generations, reducing the time it takes to build the knowledge base of the new hires. Retention also reduces the cost of hiring and training new recruits. Retention strategies include rewarding talent for staying with the organization, ensuring job security, providing opportunities for promotion and growth, and providing opportunities for profit sharing. Profit sharing, or sharing in the success of the organization for the public sector, is vital to incentivizing day-to-day performance to resist the tendency to lose sight of the overall mission in the grind of day-to-day operations.

Empowerment

Daniel Pink lists three motivations guiding people's performance at work: autonomy, mastery, and purpose.[26] Beyond providing for basic survival, people seek emotional fulfillment from work by contributing to a higher calling. Autonomy is necessary to gain buy-in from workers. Treating workers as automatons trains them to stop thinking, reducing their personal investment in the task. To gain the most emotional fulfillment from their jobs, people need the latitude to explore methods of improving their own technique towards becoming skilled masters. Then they feel as if they contribute to the benefit of the organization, adding purpose to an otherwise unsatisfying work existence. The higher the level of skill required, the more autonomy, mastery, and purpose is

[25] Bolman and Deal, *Reframing Organizations*, 142.
[26] Daniel Pink, *Drive: The Surprising Truth About What Motivates Us*, New York: Riverhead Books, 2009, 62.

inherent in the task, so organizational leadership must continually search for ways to move employees beyond an existence as simple cogs in the machine towards meaningful contributions. This attitude is a break from the traditional military mindset that leaders lead and followers only follow. As the character of modern war demonstrates increasing complexity, tactical-level subordinates need corresponding increases in autonomy, requiring trust throughout the chain of command.[27]

Diversity

The United States formed as a multi-cultural society, a tradition it builds upon to this day. Not only is embracing diversity a legal and political requirement, but it enhances the intellectual base of an organization. Different perspectives provide creative solutions to problems. Hiring and retaining a multi-cultural force expands the potential recruiting pool and serves as an example to the rest of society that the organization's values go beyond the individual toward the attainment of common goals.

Political Frame

The political frame deals with how individuals and organizations seek and use power. Power, in this sense, is the ability to allocate scarce resources.[28] As disparate agencies within the organization vie for control of resources, conflict naturally arises. Bargaining and negotiating are central processes as stakeholders compete for the allocation of resources.

Some of those scarce resources include limited positions for promotion. A common vision of politics is the competition for promotion. The stakeholders, those vying for promotion, seek to impress those with

[27] Former Chairman of the Joint Chiefs of Staff Gen Martin Dempsey called this "mission command." The US Army codified the idea into its doctrine, most recently in 2015. Martin Dempsey, "Mission Command White Paper," Washington, DC: *Joint Staff Publications*, 3 April 2012; Army Doctrine Publication (ADP) 6-0, *Mission Command*, Washington, DC: Department of the Army, 12 March 2014.
[28] Bolman and Deal, *Reframing Organizations*, 188.

the power to promote. Those in power assign subjective ratings to the subordinates in order to objectify the promotion process, as those below a certain standard fail to promote. Politics becomes dangerous to an organization when management and subordinates hold differing values.[29] So long as the results support management's perception of effectiveness, subordinates avoid scrutiny of their methods. Political and ethical motivations must align throughout the company to prevent unethical or illegal actions from ultimately undermining mission accomplishment.

This study largely ignores the finer points of the sources and uses of political power. In searching for a means for AF senior leaders to effect organizational change, this study focuses on the benefits and detriments of power rather than its interpersonal dynamics. Senior leaders need to understand the causes and effects of interpersonal dynamics, but effecting organizational change through interpersonal relations is unlikely for individuals geographically removed from the specific environment. Senior leaders must use alternative means to mitigate the potential effects of politics gone awry, acting through the structural and human resources frames to influence at a distance. The downside to this level of interaction is the time it takes to perceive change. Policy changes take time to produce results.

Cultural Frame

Organizations attach meaning to actions and processes to support the shared sense of purpose in accomplishing the mission. Culture and symbols represent the result of shared meaning in organizations. Bolman and Deal conclude, "Culture forms the superglue that bonds an organization, unites people, and helps an enterprise to accomplish desired ends."[30] Edgar Schein defines organizational culture as "a

[29] Bolman and Deal, *Reframing Organizations*, 202.
[30] Bolman and Deal, *Reframing Organizations*, 248.

pattern of shared basic assumptions learned by a group as it solved its problems of external adaptation and internal integration, which has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems."[31] Culture is thus the result of an evolutionary process involving group problem solving and behavior adaptation in response to external and internal stimuli as the group matures.

Culture contains three levels of analysis: artifacts, espoused beliefs and values, and basic underlying assumptions. Artifacts are the visible signs of culture, which include the architecture of the physical environment, language, technology, art, etiquette, uniforms, myths and stories, written values, and rituals and ceremonies.[32] Schein emphasizes the difficulty of deciphering culture. Observable phenomena lead to understandings of an organization's deeply held values and beliefs, but truly understanding the meaning behind the observations requires knowing the reasons why those behaviors developed in the first place. Typically, behaviors arise in response to some problem the organization faced, and although the reason for the solution may have faded long ago, the artifact remains. From the Bolman and Deal perspective, the structural, human resources, and political frames can help identify artifacts, which then help explain the cultural frame.

An organization's espoused beliefs and values also reflect a response to some past dilemma. When a leader validates a particular solution to a problem, that solution starts to become a shared belief. Over time, the organization's experiences reinforce this shared belief until it becomes ingrained into the organization's culture. Espoused beliefs and values are the explicit articulations of the organization's desired responses to future dilemmas.[33] Schein cautions analysts to

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[31] Edgar Schein, *Organizational Culture and Leadership*, 4th ed., San Francisco: Jossey-Bass, 2010, 18.
[32] Schein, *Organizational Culture*, 23.
[33] Schein, *Organizational Culture*, 26-27.

identify when espoused beliefs and values conflict with observed behaviors. This incongruence may lead to cultural misunderstandings, especially when the organization is blind to the fact that its desires and actions are misaligned.

The deepest level of analysis examines the organization's basic underlying assumptions. These assumptions are solutions to past problems integrated so completely into an organization's culture that the organization rejects any contradictory opinions as blasphemy. Robert Jervis illuminates with his explanation of the psychological mechanism known as cognitive dissonance.[34] As humans interpret information, their cognitive processes seek to juxtapose new information with stored information. If the new information contradicts the old, the contradiction generates anxiety—even more so if the old information is a deeply held belief. The respondent will usually seek to defend the old beliefs through some sort of denial or discrediting of the new information, regardless of the rationality of the defense.

This individual psychological phenomenon occurs collectively in organizations as individuals interact with and reject information that contradicts the organization's basic underlying assumptions, but the socially reinforcing aspects of organizational groupthink make the assumptions extremely difficult to undermine. Organizationally, basic underlying assumptions operate subconsciously, directing individual behaviors understandable by an observer only if that person possesses a deep working knowledge of the organization. Organizational analysts must work hard to comprehend basic underlying assumptions and realize that organizations behave like living, breathing organisms with self-defense mechanisms that take time to overcome.

[34] Robert Jervis, *Perception and Misperceptions in International Politics,* Princeton: Princeton University Press, 1976, 172-200.

Summarizing the Four Frames

Bolman and Deal's four-frame of organizational analysis uses different perspectives to form a more holistic understanding of an organization. The structural frame examines the vertically established roles and relationships and the lateral interactions across the organization. The human resources frame looks at the methods an organization uses to manage and grow its human capital. The political frame highlights the uses of power within an organization. Lastly, the cultural frame examines organizational behavior and its underlying beliefs and values.

The four frames are not mutually exclusive. They operate simultaneously; an organizational understanding from one frame could have a complementary or opposing influence when viewed from another frame. Of the four frames, the structural and human resource frames provide the most useful tools for Air Force institutional leaders as they provide actual methods to affect performance in subunits. The Air Force employs many different enterprises to execute its portion of the national defense, and each maintains its own personality. The only areas in which Air Force senior leaders may effect lasting change are those of organizational structure and policy, which align with the structural and human resources frames. The interrelatedness of the frames means that actions taken from the structural and human resources perspectives will probably have effects in the political and cultural frames.

In the Air Force investigation of the Malmstrom Air Force Base cheating incident, the investigators applied a systems-oriented accident investigation model, "The Reason Model of Human Error," to analyze their findings.[35] This operationally oriented model aimed at accident

[35] *Report of Commander-Directed Investigation Prepared by — Investigating Officer Concerning ICBM Test Compromise at Malmstrom Air Force Base, Montana & Assessment of Twentieth Air Force ICBM Training, Evaluation, and Testing Culture*. Washington, DC: United States Air Force, 26 February 2014, 3.

prevention contrasts with the organizational design model illustrated here. The next chapter reviews the incident in detail as explained by the Air Force investigators.

Chapter 3

A Case Study of Organizational Dysfunction

A world without nuclear weapons would be less stable and more dangerous for all of us.
Margaret Thatcher

One of the keys to understanding the cheating incident at Malmstrom Air Force Base (AFB) and the Air Force's reaction to it is a deeper understanding of the intercontinental ballistic missile (ICBM) enterprise's history. This chapter begins with a look at the organizational history of the ICBM enterprise. Then it describes the cheating incident in further detail through the lens of the Commander-Directed Investigation conducted by the vice commander of Air Education and Training Command (AETC). The chapter concludes with some preliminary conclusions to set the stage for the analysis.

The Organizational History of the ICBM Enterprise

The development of a missile capable of striking a target on the other side of the world originated in Nazi Germany during World War II. The Nazis used the V-1 and V-2 rockets to harass the British across the English Channel, freeing their air force to other demands like defending the skies over their homeland. Nazi rocket development progressed to the A9/10 models, which they intended to use to attack the Continental United States (CONUS), but failed to materialize before German surrender.[1] Hiroshima and Nagasaki signaled the beginning of the nuclear age, and thinking progressed to the consideration of mating nuclear weapons with ICBMs.

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[1] G. Harry Stine, *ICBM: The Making of the Weapon That Changed the World*, New York: Orion Books, 1991, 90-93.

The Cold War

After the end of World War II, the United States (US) and the Union of Soviet Socialist Republics (USSR) invested heavily in the development of nuclear weapons and ICBMs. German missile technology and scientists migrated to both the east and west as a competition steadily developed between future international superpowers. Operation Paperclip recruited many German scientists to work on developing an ICBM for the US, including the famous Werner von Braun, who engineered the V-1 and V-2 rockets.[2] President Dwight Eisenhower saw the potential for nuclear weapons and ICBMs to counter the overwhelming Soviet conventional threat to Western Europe, and directed a heavy investment into the technology in 1954.[3] Despite the presidential push, the Soviets pulled ahead in the nuclear race in 1957 with their first successful ICBM launch, and later punctuated their success with the launch of Sputnik 1.[4]

In February 1959, the Soviets opened their first operational ICBM unit.[5] Later that year the US launched its first ICBM and opened its first operational unit, marking the beginning of the Air Force's ICBM enterprise.[6] The assignment of the ICBM fleet to the Air Force resulted after an inter-service struggle for budgetary relevancy. The US population invested heavily into financing World War II, and when the war ended, domestic politics dictated a shift in national financial resources away from the military. The entire defense budget shrunk dramatically, and with a strategic emphasis on nuclear weapons, gaining responsibility for the ICBM mission meant controlling a significant

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[2] Eric Schlosser, *Command and Control: Nuclear Weapons, the Damascus Accident, and the Illusion of Safety*, New York: The Penguin Press, 2013, 182.
[3] Campbell Craig, *Destroying the Village: Eisenhower and Thermonuclear War*, New York: Columbia University Press, 1998, 48.
[4] Schlosser, *Command and Control*, 175.
[5] EUCOM History Office, "This Week in EUCOM History: February 6-12, 1959," *United States European Command*, http://www.eucom.mil/media-library/article/23076/this-week-in-eucom-history-february-6-12-1959.
[6] Schlosser, *Command and Control*, 222.

portion of the defense budget and gaining responsibility for the most strategically relevant mission at the time.[7] The Air Force eventually won that fight for bureaucratic supremacy and solidified its position as a newly independent service arm.

The Air Force during that era behaved in a seemingly contradictory manner. Although it wanted the nuclear mission for political reasons, it also wanted to focus on the long-range strategic bomber force. Bomber doctrine dominated AF thinking at the time, but the President's insistence on the ICBM as a cost effective alternative to deterring Soviet aggression prevailed. Despite initial misgivings, Strategic Air Command (SAC) took responsibility of the inherently strategic weapons in the 1960s.[8] SAC originated in 1946, predating the inclusion of the ICBM into the strategic arsenal and even the creation of the AF in 1947.[9] General Curtis LeMay, a long-time bomber advocate, took command of SAC in 1948 and shaped the organization with his vision of nuclear-equipped bombers as the first line of defense against the Soviet threat.[10] When the ICBM debuted over ten years later, the organization incorporated the new weapons, whose speed and range shortened the nuclear response time.

The arrival of President John F. Kennedy to the Oval Office marked another change to America's strategic policy. No longer tied to the idea of "mutually-assured destruction," Kennedy wanted the ability to tailor his response to Soviet aggression, a concept known as "flexible response."[11] His push to put a human on the moon not only reasserted America's international stature, but drove the development of ICBM technology to allow him the flexibility he needed to make his strategic policy a reality.

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[7] Craig, *Destroying the Village*, 24-25.
[8] Phil Patton, "SAC: Forty-five Years on Alert," *American Heritage* 49, no. 7 (1998): 99.
[9] Patton, "SAC," 99.
[10] Schlosser, *Command and Control*, 92.
[11] Craig, *Destroying the Village*, 121.

The Korean and Vietnam Wars marked the beginning of a significant change in the AF's attitude towards strategic bombing. The AF officers raised during the period after World War II experienced an era of limited wars, which contrasted with the total war experiences of their predecessors. The Korean War saw the US deliberately limit its application of force to prevent an all-out nuclear war with the Communist nations of China and the USSR. The Vietnam War reinforced this perception as the specter of total nuclear war with the Soviets hung in the background. The officers who rose to the rank of four-star general after the Vietnam War began their service after World War II, developed perceptions of air power application in the Korean War, reinforced those perceptions into beliefs during the Vietnam War, and employed those beliefs as general officers in the late 1970s and early 1980s.[12] The first of an unbroken string of AF Chiefs of Staff without a background in strategic bombing came to power in 1982, facilitating the change in the importance the institution placed on its ICBM forces. The presidential policies of Ronald Reagan kept the ICBM enterprise relevant with his administration's huge defense expenditures, but when the Soviet Union collapsed in 1991, the impetus behind keeping large ICBM forces disappeared almost overnight.

Post-Cold War

Budgetary demands played an influential role in restructuring the Air Force in the early 1990s. Budget cuts demanded the establishment of priorities, and the Air Force favored platforms delivering conventional munitions in the context of arms-reduction treaties between the US and the former Soviet Union. The ICBM force downsized, the Air Force decommissioned SAC, and the service played a game of "hot potato" with

[12] Mike Worden, *Rise of the Fighter Generals: The Problem of Air Force Leadership*, Maxwell AFB, AL: Air University Press, 1997, 235-239.

the remaining ICBMs as it first handed the mission to the newly-established Air Combat Command, and then saddled Air Force Space Command with them in 1993.[13] US Strategic Command (USSTRATCOM) embraced the former mission of SAC, but did so at the Unified Command level reporting to the Secretary of Defense rather than the Secretary of the Air Force. As USSTRATCOM took on more responsibility, its focus drew further away from the nuclear deterrence of adversaries towards new areas of space and cyberspace. Within the Air Force, the Headquarters staff experienced budget cuts and lost dedicated positions for ICBM operations. The Air Force cemented its institutional focus by merging the ICBM and space operations career specialties to allow for career broadening and the more flexible utilization of a limited number of personnel.

9/11

After September 11, 2001, Operations Enduring Freedom and Iraqi Freedom taxed the AF's resources heavily. ICBM operators watched as their flying brethren proceeded on a long decade of unending deployments while they continued to sit alerts, waiting for a doomsday that none hoped would ever come.

Early Indications

The incidents of unaccounted-for nuclear weapons and components in 2007 and 2008 signaled the first major indications of the institutional neglect of the nuclear force. From the Air Force's perspective at the time, the mistaken loading and flight of nuclear weapons at Minot AFB, ND, and the accidental shipment of nuclear components from Hill AFB, UT, occurred in unrelated organizations. Putting the pieces together required viewing the matter from a broader

[13] Patton, "SAC," 99; John Correll, "SAC's Half Century," *Air Force Magazine* 96, no. 3 (Mar 2013): 79.

perspective to link the events in Air Combat Command and Air Force Material Command to anything in Air Force Space Command. Secretary of Defense Robert Gates took personal control to set the Air Force in the right direction by relieving both the Air Force Secretary and Chief of Staff. The multiple failures within the Air Force caused Secretary Gates to question the stability of the nuclear enterprise on a larger scale, so he commissioned a task force to investigate it across the Department of Defense (DOD).[14]

2008 Nuclear Task Force

In June 2008, Secretary Gates commissioned former Secretary of Defense James Schlesinger to form a task force and investigate the health of the DOD's nuclear enterprise. The task force attributed the department's inattention to the nuclear force to ongoing conflicts like the Global War on Terror and to budgetary constraints, resulting in the atrophy of the nuclear mission.[15] The biggest recommendations called for the establishment of an Air Force major command responsible for the nuclear mission, more frequent and better inspections, additional personnel in the Headquarters Air Force (HAF) staff, and significant emphasis from AF leadership on the importance of the nuclear mission.[16]

In response to the task force's report, in August 2009 the Air Force established its Global Strike Command (AFGSC) and gave it responsibility for the ICBMs and bombers.[17] It also created a position

[14] Robert M. Gates, "Secretary of Defense Robert M. Gates Delivers Remarks on Air Force Resignations," Congressional Quarterly Transcriptions, 5 June 2008, http://infoweb.newsbank.com/resources/doc/nb/news/1212475F7184FC98?p=NewsBank.
[15] Secretary of Defense Task Force on DoD Nuclear Weapons Management, *Report of the Secretary of Defense Task Force on DoD Nuclear Weapons Management*, Washington, DC: Department of Defense, September 2008, 1-3.
[16] Secretary of Defense Task Force on DoD Nuclear Weapons Management, *Report of the Secretary of Defense Task Force on DoD Nuclear Weapons Management*, 8-11.
[17] "Timeline – 2007," *Air Force Times*, 2 December 2013, http://infoweb.newsbank.com/resources/doc/nb/news/14ABBED11BC95F70?p=NewsBank.

within the HAF organization dedicated to the nuclear mission under the Deputy
Chief of Staff for Strategic Deterrence and Nuclear Integration.[18] The improvement and reinvigoration of the nuclear enterprise became the Air Force's number one priority.[19] In February 2013, the Air Force separated the space and missile career fields.[20] Despite the corrections, the enterprise continued to embarrass itself publicly, with the 2-star commander of the ICBM enterprise being relieved for a "loss of trust and confidence" in his leadership ability.[21] Following that incident, the AF Chief of Staff General Mark Welsh announced a new procedure to screen general officers for nuclear command.[22]

The Incident

The AF opened its investigation into the cheating operation at Malmstrom AFB in August 2013 when an investigation at another base implicated some of the ICBM operators with improperly handling classified information.[23] The implication that a fifth of the ICBM officers conspired to share test information prompted the commander of AFGSC to widen the investigation to examine the entire missile crew force. The

[18] Air Force Nuclear Task Force, *Reinvigorating the Air Force Nuclear Enterprise*, Washington, DC: United States Air Force, 24 October 2008, 33.
[19] Michael Donley. "The Nuclear Enterprise," Remarks at the National Defense University's Congressional Breakfast, Washington, D.C., June 23, 2010, http://www.af.mil/AboutUs/Speeches/Display/tabid/268/Article/143883/the-nuclear-enterprise.aspx.
[20] Targeted News Service, "AF splits space, missile career field for officers," February 15, 2013. http://infoweb.newsbank.com/resources/doc/nb/news/1447C7CCB5BEB290?p=NewsBank.
[21] Major General Michael Carey, then the commander of Twentieth Air Force, proceeded on a trip to Russia with a US delegation in July 2013. During the trip, Gen Carey behaved rudely to the delegation's hosts, and appeared to be intoxicated for much of the trip. Gen Carey was relieved of command and disciplined by the Air Force. "Timeline of Carey's actions," *Air Force Times*, December 30, 2013: 14; Brian Everstine. "A general's 'unfortunate' trip," Air Force Times, December 30, 2013: 14.
[22] Following Gen Carey's removal from command, Air Force Chief of Staff General Mark Welsh instituted screening procedures for Airmen nominated to for promotion to 2- and 3-star nuclear general officer positions, and for all 4-star general officer positions in the Air Force. These procedures included a Google search, interviews, and a medical review. Schogol, Jeff. "New prescreening for nuke general officers, all four-stars," *Air Force Times*, November 25, 2013: 15.
[23] Brian Everstine, "In search of a morale boost: Amid cheating investigation, DOD considers raises for missileers," *Air Force Times* 74, no. 29 (27 Jan, 2014): 10.

vice commander of AETC became the investigating officer tasked with investigating the allegations against 88 officers implicated by the Air Force Office of Special Investigations. The commander of AFGSC also tasked him to assess the training and testing culture within the ICBM community, and the leadership environment and oversight at both Malmstrom AFB and at Twentieth Air Force, the numbered air force responsible for ICBM operations.[24] The details of the findings of are below.

Commander-Directed Investigation Findings

The commander-directed investigation operated on two levels: an investigation into the misconduct of the officers directly involved with the cheating operation, and an investigation into the culture and climate of the entire ICBM enterprise.

Direct findings

The investigation into the individuals involved in the cheating operation limited its scope to what occurred only at Malmstrom AFB. Personnel at Malmstrom AFB both created and took the tests, so there apparently was no reason to investigate personnel at the other two ICBM bases, F.E. Warren AFB, WY, and Minot AFB, ND. The investigation found that 79 out of 88 officers investigated participated either actively by sending, receiving, or soliciting test information, or passively by knowing of the operation and failing to report it. The investigation proved nine allegations as unsubstantiated. For the 79 substantiated allegations, the AF charged all with various articles of the Uniform Code of Military Justice (UCMJ): Article 80, Attempts to Violate (an article of

[24] 98 officers were implicated in total, but 10 were retained by AFOSI due to criminal charges. US Air Force, *Report of Commander-Directed Investigation Prepared by — Investigating Officer Concerning ICBM Test Compromise at Malmstrom Air Force Base, Montana & Assessment of Twentieth Air Force ICBM Training, Evaluation, and Testing Culture*. Washington, DC: United States Air Force, 26 February 2014, A-2.

the UCMJ); Article 92, Dereliction of Duty; and Article 133 Conduct Unbecoming an Officer.[25]

The large number of officers implicated in the scandal involved hurt the credibility of the AF on different levels. On the one hand, it gave the impression of a lack of ICBM readiness.[26] America shelters many of its allies with its nuclear umbrella, allowing them to prosper without needing to defend themselves by developing their own nuclear weapons. This in-turn minimizes nuclear proliferation by reducing the number of nuclear-armed countries in the world, limiting the number of players on a dangerous nuclear stage. A lack of US readiness threatened its credibility and created an international perception of American weakness, which resulted in our allies feeling insecure and considering the possibility that our "nuclear umbrella" might fail. On the other hand, the incident gave the impression of a widespread lack of integrity among AF officers.[27] An AF reputation as a service full of liars and cheaters diminishes the AF standing in the public's eyes, opening the service up to micromanagement from higher agencies in the Department of Defense, the Executive Branch, and Congress.

Organizational Culture

The rest of the investigation examined the culture and climate of the ICBM enterprise. The investigating officials listed three main areas of concern: organizational culture, leadership, and other preconditions. The officials found six areas of interest within the ICBM enterprise's organizational culture: a zero-defect culture, an inspection culture,

[25] *Report of Commander-Directed Investigation*, D-2 – D-11.
[26] Scott Neumann, "Nuclear Missile Officers Reportedly Implicated In Drug Probe," *NPR*, 9 Jan 2014, http://www.npr.org/blogs/thetwo-way/2014/01/09/261110708/nuclear-missile-officers-reportedly-implicated-in-drug-probe.
[27] Brian Everstine, "92 Malmstrom missileers now tied to cheating probe," *Air Force Times* 74, no. 31 (10 Feb 2014): 15.

micromanagement, an "us versus them" mentality, career incentives that devalued operational duty, and blurred lines.

Zero defect culture. The investigation found that the ICBM's "senior leaders have frequently emphasized their desire for an unrealistic and unobtainable 'zero defect' nuclear culture, where 'perfection is the standard."[28] The emphasis on perfection drove micromanagement from the most senior leaders to the most junior officers, and imposed "an unrelenting testing and evaluation regimen on wings, groups, squadrons, and missile crew members."[29]

Inspection culture. The testing and evaluation regimen led ICBM leaders and crews to believe "self-evaluation and self-identification of errors [were] counterproductive."[30] This attitude resulted from "an organizational culture that viewed training…as an opportunity to test and evaluate crew members."[31] Crewmembers viewed the tests as irrelevant to their duties and a hindrance since any mistakes would prevent them from sitting alert and gaining experience.[32] Simultaneously, they viewed the tests as a threat to their careers as any errors could prevent selection for coveted positions and promotions.[33]

Micromanagement. The "zero-defect" and "inspection" cultures permeated the organizations. Not only the individual crewmembers but also squadron, group, and wing leadership feared inspection errors at any level within their organizations, leading them to micromanage the training and evaluation regimens in search of perfection and promotion.[34]

Us-against-them. The organizational practices for assigning personnel to the missile squadrons left a rank gap between the O-1, O-2,

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[28] *Report of Commander-Directed Investigation*, D-13.
[29] *Report of Commander-Directed Investigation*, D-13.
[30] *Report of Commander-Directed Investigation*, D-14.
[31] *Report of Commander-Directed Investigation*, D-14.
[32] *Report of Commander-Directed Investigation*, D-14.
[33] *Report of Commander-Directed Investigation*, D-14.
[34] *Report of Commander-Directed Investigation*, D-15.

and O-3 crewmembers and the O-5 squadron leadership.[35] Typically, a missile crewmember spent a few months in training after entering the AF to learn the technical aspects of sitting alert. Then they spent four years at their first operational assignment before moving on to their next assignment, typically a career-broadening tour in space operations, or a staff assignment. With rare exception, the first four years in an ICBM assignment represented the only operational experience any ICBM officer received before returning to an ICBM squadron in a leadership position. Although assignment policies front-loaded an ICBM missile crewmember's career with missile experience, he or she spent the next 10 to 14 years away from the community before returning in a squadron leadership role. Company-grade officers formed the bulk of personnel in a missile squadron, with very few O-4s and one or two O-5s left to run the squadron.[36]

The lack of field-grade officer experience in the squadrons left the company-grade officers to run the day-to-day operations while leadership ran the squadron's administrative functions, with little time given for interaction between the experience levels. The rank gap created a mentorship barrier, which led to the crewmembers expressing loyalty to each other and not to their leadership or the organization.[37]

Career incentive devalues operational duty. The AF promotion system assesses an individual's capability for promotion based on the ability to lead. In the company-grade officer ranks of operational specialties, the AF rates individuals on occupational expertise before allowing them to demonstrate leadership potential in administrative

[35] In the US Air Force, officer ranks are broken into 10 levels, O-1 to O-10. Officers in the first three ranks (O-1, O-2, O-3) are grouped as company-grade officers: second lieutenant, first lieutenant, and captain. The next higher three ranks (O-4, O-5, O-6) are the field-grade officers: major, lieutenant colonel, and colonel. The final four ranks (O-7, O-8, O-9, O-10) are general officers: brigadier general, major general, lieutenant general, and general. General officers are sometimes referenced by the numbers of stars they wear as rank: a brigadier general O-7 wears one star, and a general O-10 wears four stars.
[36] *Report of Commander-Directed Investigation*, D-15.
[37] *Report of Commander-Directed Investigation*, D-15.

roles. An ICBM officer's career progression starts with demonstrating expertise as a crewmember before selection as an instructor. Instructor duty results in a move to an administrative leadership position in the squadron, group, or wing, which in-turn means less time in an alert facility in favor of office work. Failure to meet any of these milestones could mean failure to promote and the end of a career; therefore the career progression system incentivized administrative over operational experience. Paradoxically, skill in the primary occupational specialty resulted in the "reward" of administrative duties, facilitating the removal of expertise from the alert crews to the back offices.

The unwritten expectation for perfection on the monthly proficiency tests coincided with the incentives to move to administrative positions in a perverse manner. The relative mundanity of alert duty left supervisors and squadron commanders with no useful mechanism for differentiating job performance. If everything went well in the alert facility, the crewmembers ran all their checklists and kept everything in working order with no discernable result. The only way supervisors and squadron commanders could differentiate between individuals is if they made a mistake. This also extended to the testing regimen. Scoring less than a perfect score meant receiving negative recognition, which effectively eliminated individuals from contention for prestigious duties that could make the difference in promotion.

Blurred lines. The investigating officials concluded that AFGSC and Twentieth AF "failed to articulate, distribute, and teach clear guidance on academic integrity and testing expectation."[38] The lack of clear expectations regarding academic integrity reduced the barriers for the more experienced crewmembers to help the less experienced crewmembers achieve 100 percent scores on the monthly proficiency

[38] *Report of Commander-Directed Investigation*, D-16.

tests. The cultural emphasis on teamwork over individual effort also led some crewmembers astray.

Leadership

Across the ICBM crew force, company-grade crewmembers received conflicting messages regarding test scores and integrity. "Senior leaders valued extremely high test scores as a measure of their units' preparedness for external inspections and applied significant pressure on units to achieve them, while tacitly condoning the actions of crew commanders and proctors who 'take care of' junior crew members."[39] While senior leaders took tests as a group ahead of the rest of the crew force in order to validate the tests' "reasonability and fairness," the average crewmember viewed this action as a measure of the unfairness of the testing regimen.[40] In another case of mixed messages, senior leaders provided little oversight to testing, training, and daily duties because "they believed their presence in the classroom was disruptive and preferred to observe mission-procedures training sessions in the ICBM simulator."[41] While the senior leaders took steps throughout 2013 to address the problems they perceived in the testing environments, their actions failed to change their crewmembers' behavior and may be considered a case of "too little, too late."[42]

Of note, the investigation surveys and interviews reveal the Malmstrom AFB crewmembers showed statistically-significant differences from the other two bases. The Malmstrom AFB crewmembers expressed lower confidence in the ethics, fairness, and integrity of the testing process at their base as compared to the other two ICBM bases.[43]

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[39] *Report of Commander-Directed Investigation*, D-17.
[40] Crewmembers viewed the senior leaders taking the tests as a group as an unfair practice; it gave the impression that the senior leaders were helping each other out. The leadership testimonies are redacted in the public release of the investigation. *Report of Commander-Directed Investigation*, D-17.
[41] *Report of Commander-Directed Investigation*, D-17, D-18.
[42] *Report of Commander-Directed Investigation*, D-18.
[43] *Report of Commander-Directed Investigation*, D-19.

Although the survey results from Malmstrom AFB indicate a less-ethical atmosphere than the other two bases, the administration of the survey after the publication of the cheating operation may have made their group of officers more likely to acknowledge their shortcomings in public. The danger in giving too much credence to the survey results from Malmstrom AFB is the impression of a confinement of the problems to a single base. The investigators acknowledged that the problem experienced at Malmstrom existed community-wide.

Other Preconditions

The investigating officials also investigated the training, testing, and evaluation culture of the entire ICBM enterprise. In addition to the findings specific to those three areas, the officials also published findings in the initial skills and pre-commissioning training the ICBM officers received, as well as some findings specific to Malmstrom AFB.

Missile wing training, testing, and evaluation. First, "leaders and crews viewed monthly currency training and testing as a monthly certification of squadrons and individual crew members."[44] Passing an ICBM qualification evaluation qualifies a crewmember for exactly 12 months.[45] Between qualification evaluations, monthly training reinforces skills training and ensures continued proficiency, rather than requalifying crewmembers every month. Due to the emphasis on perfection the ICBM leadership placed on monthly testing, the crew force viewed the monthly training and testing as a pass or fail situation in which they had to prove their qualifications. In effect, the ICBM force combined training and evaluation inappropriately.

[44] *Report of Commander-Directed Investigation*, D-20.
[45] Air Force Global Strike Command Instruction (AFGSCI) 13-5301. *Volume 2, Nuclear, Space, Missile, Command and Control—Rapid Execution and Combat Targeting (REACT) Crew Standardization and Evaluation*. Bolling AFB, MD: U.S. Air Force Departmental Publishing Office, 18 October 2013, 45.

Second, the administration of monthly tests by the operations support squadron, an external agency, led the operational squadron to develop a passive attitude about testing.[46] Rather than working towards proficiency, the crewmembers viewed the tests as an external threat that stood in the way of "doing the job."

Third, though both the leaders and crewmembers believed the monthly training process of a study packet, practice test, and classroom session adequately prepared crewmembers to pass the tests with the minimum score of 90 percent, the crewmembers perceived the tests as irrelevant measures of their operational proficiency.[47] Crewmembers felt that commanders placed importance on test scores because they provided an easy way to discriminate in assessing the crewmembers' performance.[48]

Fourth, leadership emphasis on high scores and the ICBM career progression model raised the crewmembers' perceived importance of their test scores. Leadership exerted pressure to achieve high test-score averages in order to demonstrate inspection preparedness to their superiors. In addition, crewmembers felt leaders used test scores as a discriminator in consideration for duties that moved them forward in career progression. These two factors led to the conclusion, in the crewmembers' minds, that leadership desired 100 percent scores, and anything less made the crewmembers less competitive for promotion.[49]

Fifth, classroom training emphasized individual effort, while crewmembers operated in teams on a daily basis. This mixed message led the crewmembers to emphasize teamwork on the tests to match their experiences in the field.[50]

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[46] *Report of Commander-Directed Investigation*, D-20.
[47] *Report of Commander-Directed Investigation*, D-21.
[48] *Report of Commander-Directed Investigation*, D-21.
[49] *Report of Commander-Directed Investigation*, D-21.
[50] *Report of Commander-Directed Investigation*, D-21.

Finally, the monthly training and testing failed to account for different experience levels and the additional knowledge a crew commander needed versus a deputy crew commander. Training was either too challenging or not challenging enough. The training and testing design discouraged "deputy crew commanders from asking questions" and added "extra pressure on crew commanders to help their deputies during testing."[51]

Initial skills training. The initial skills training at Vandenberg AFB, using a 100-day course, prepared officers to join the ICBM crew force at the missile wings at F.E. Warren AFB, Malmstrom AFB, and Minot AFB as mission-qualified ICBM officers. The investigation developed no findings about the training course. The focus groups did reveal that the instructors at Vandenberg AFB "conditioned some students to expect help on tests when they arrived in Twentieth AF missile wings and to expect pressure to score 100 percent on monthly tests."[52] Of note, Air Education and Training Command, an organization legally unaccountable to AFGSC, conducted the training at Vandenberg AFB.

Pre-commissioning honor training. The investigation examined the link between the officers' commissioning source and their apparent lack of integrity. The officers involved came from all three commissioning sources.[53] The report offered no conclusive evidence indicating a failure in the pre-commissioning honor training. Instead, it posited two

[51] *Report of Commander-Directed Investigation*, D-22.
[52] *Report of Commander-Directed Investigation*, D-22.
[53] The US Air Force uses three methods of commissioning officers. The largest source of officers is the Reserve Officers Training Corps (ROTC), which trains college undergraduates in military-specific topics on top of the established four-year curricula at civilian universities. The graduates gain a commission into military service completion of an undergraduate degree and the military curriculum. The second commissioning source is the United States Air Force Academy, a four-year undergraduate institution operated by the US Air Force. The final commissioning source is Officer Training School, which takes volunteers with undergraduate degrees and trains them to serve in the Air Force through an accelerated program. These volunteers include enlisted Air Force members with undergraduate degrees completed while in service, as well as civilians who decided to volunteer for service after college graduation.

alternative explanations: a rank gap in the squadron that precluded mentorship from more-senior officers that helps build a sense of belonging to the Air Force, and a contradiction between a tactical-level value of "never leave a wingman behind" and the institutional core value of "integrity first."[54]

Malmstrom AFB-specific misconduct. The investigation uncovered no evidence of wrongdoing at F.E. Warren AFB and Minot AFB, but the surveys and focus groups indicated a similar attitude about testing also existed there. The investigation found four officers at the center of the cheating network. AFOSI implicated three of those officers in the sharing of classified material over unsecured networks, and one officer in illegal drug use. The availability of personal communications devices inside the testing areas also enabled the cheating in ways not considered by the commanders and supervisors.[55]

The presence of four officers at the center of the controversy lends credibility to the argument of a few individuals corrupting the system, but the other 85 cases suggest otherwise. The leaders of AFGSC and Twentieth AF appeared to make the right decision in investigating the entire ICBM organization, and the results of the focus groups helped validate their suspicions.

Inferences and Preliminary Conclusions

The instances of cheating occurred because of the tension between leadership's desire for perfection and the individual officers' desire for promotion. Although it is undeniable that a dysfunctional culture existed, the commander-directed investigation places the blame with the ICBM community's senior leadership for setting a poor example. This faultfinding ignores the organization's 54-year history. Instead of

[54] *Report of Commander-Directed Investigation*, D-23.
[55] *Report of Commander-Directed Investigation*, D-24.

categorizing the problems as stemming from the organization's culture—and leadership's failure to re-shape that culture—this study asserts that the macro-level resource decisions, the policies and procedures, and the human relations practices of the entire Air Force over the decades before the Malmstrom incident developed a holistically dysfunctional organization requiring drastic change to fix.

Chapter 4

Analysis

> *The secret of all victory lies in the organization of the non-obvious.*
>
> Marcus Aurelius

Bolman and Deal's four-frame model of organizational analysis examines the structural, human resources, political, and cultural aspects of an organization's design. Chapter 4 first examines the Malmstrom Air Force Base (AFB) monthly knowledge test-cheating incident using Bolman and Deal's categorizations. The chapter then identifies the study's findings. The chapter concludes with a comparison of this study's findings and the findings of the commander-directed investigation to determine the usefulness of an organizational design model of organizational analysis in conducting analyses.

Structural Frame

The structural frame examines an organization's vertical structure, lateral connectivity, and the contextual imperatives that influence an organization's development.

Vertical Structure

Vertical structure consists of the authorities, rules and policies, and planning and control systems that dictate the roles and responsibilities within an organization. As a military organization, the ICBM enterprise relies heavily on a vertical structure with levels of authority and bureaucratic procedures developed over many years.

Authority. The structure of the ICBM enterprise is a predominantly vertical chain of command common to many military organizations. The chain of command illustrated in Figure 1 paralleled that of the typical Air Force unit.

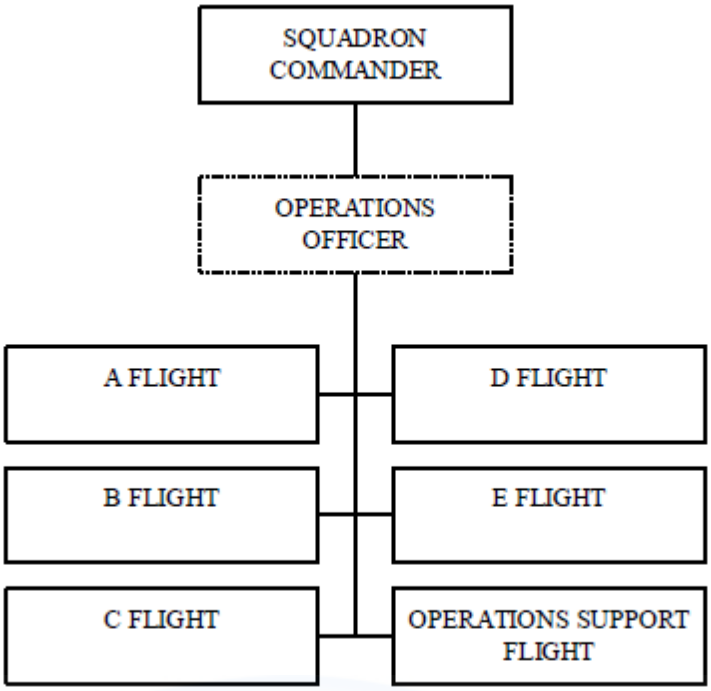

Figure 1: Typical ICBM Squadron Structure
Source: Air Force Instruction 38-101, Manpower and Organization—Air Force Organization, 16 March 2011, Figure 3.10, page 30.

Nothing atypical existed in the hierarchy that contributed to the incidences of cheating, but the strategic environment after the end of the Cold War and the atrophy in the perceived importance of the ICBM mission led to a diminishment of organizational oversight of the enterprise. The Strategic Arms Limitation Talks in the 1980s and Strategic Arms Reduction Treaties between the USSR and the US in 1991 commenced a long-term drawdown in the nuclear armament of the two superpowers, leaving an impression of a world without nuclear weapons.[1]

The end of the Cold War also provided a reason for America's political leadership to pressure the military for budget reductions. The Air Force responded to the budgetary and strategic realities of the late

[1] ". . . and World Gets Relief from Peril," *Milwaukee Journal* (18 Jul 1991): A18.

1980s and early 1990s with a major reorganization, disbanding Strategic Air Command (SAC) and passing responsibility for the ICBMs first to Air Combat Command (ACC) and then to Air Force Space Command (AFSPC).[2] The Cold War operational importance of ICBMs seemed to disappear almost overnight, and amidst the downward budgetary pressure, AFSPC struggled to incorporate the nuclear mission alongside its core mission of operating space assets.[3] ICBMs moved from a major command with the sole mission of nuclear warfighting to one that made ICBMs a peripheral mission. AFSPC approached ICBM operations using a space-oriented perspective, disrupting the long-standing ICBM business practices with well-intentioned attempts at maximizing efficiency.[4] AFPSC saw ICBM operations as an unfortunate necessity and focused its efforts instead on broadening space power. From an institutional perspective, the Air Force diluted the importance of nuclear deterrence by burying it within a major command whose very name indicated an extraterrestrial focus.

Responding to the B-52 incident of 2007 and the Hill AFB incident of 2008, the Air Force attempted to solve the problem of organizational task saturation and budget competition with the creation of Air Force Global Strike Command (AFGSC). The installation of a three-star general at the top of the major command, however, failed to give the ICBM mission its due importance, as the lack of authority meant that other mission areas with four-star backing continued to receive more attention at the highest levels of the Air Force.

Rules and policies. The rules and policies at the time of the incident created an incentive for crewmembers to view sitting alert in the

[2] Phil Patton, "SAC: Forty-five Years on Alert," *American Heritage* 49, no. 7 (1998): 99; John Correll, "SAC's Half Century," *Air Force Magazine* 96, no. 3 (Mar 2013): 79.
[3] Patrick Jasperse, "Aspin Envisions Deeper Cuts in Defense Budget," *Milwaukee Journal* (17 Sep 1991): 4a.
[4] Col Angela Stout, "Organizational and Cultural Erosion of the ICBM Nuclear Enterprise," Air War College paper, US Air Force Air University, 15 February 2010, 9.

squadron as "doing time." AFGSC Instruction 13-5301 Volume 1, Rapid Execution and Combat Targeting Training, date 16 May 2011, reflected the policy of placing ICBM instructors and evaluators in group- and wing-level positions, outside of the operational squadrons.[5] This resulted in the removal of experienced officers from the day-to-day operations in the launch facilities to the simulators and the classrooms. The boredom experienced by crewmembers while sitting alert provided incentive for crewmembers to accomplish the requisite number of alert duties as quickly as possible in order to pursue desk jobs.

The rules and policies also reflected the organizational ambivalence the Air Force felt about the ICBM enterprise. In other operational communities, institutional-level instructions govern training, evaluations, and operations, hence the nomenclature "Air Force Instruction." The instructions governing ICBM operations at the time of the incident represented a hangover from AFSPC, and the document, which should have been an Air Force Instruction (AFI), or at least a supplement to the instruction, instead held the label of Air Force Global Strike Command Instruction. The instruction governed all ICBM training in the Air Force, yet the institution chose to categorize it under a major command, overtly indicating an institutional predilection for sidelining ICBMs.

A comparison of the rules and policies of the ICBM community with those of the flying community provides another indication of the Air Force's bias towards aircraft. AFGSC Instruction 13-5301 Volume 1's flying community equivalent is volume one of the 11-2-series Air Force Instructions. For instance, the training policy for the RQ-4 Global Hawk

[5] Paragraph 7.2.1.5 assumes that instructors complete a Permanent Change of Assignment (PCA) after certification, meaning reassignment to a non-operational squadron. Paragraph 9.1, Crew Member Upgrade and PCA Requirements, also reflects the assumption of a PCA upon completion of their upgrade. *Report of Commander-Directed Investigation Prepared by — Investigating Officer Concerning ICBM Test Compromise at Malmstrom Air Force Base, Montana & Assessment of Twentieth Air Force ICBM Training, Evaluation, and Testing Culture*, Washington, DC: United States Air Force, 26 February 2014, G-71, G-80.

is Air Force Instruction 11-2RQ-4 Volume 1. Each specific weapon system in the Air Force uses a similar instruction. Common among these instructions are continuation-training requirements dictating the accomplishment of certain training events on a periodic basis. As an example, a pilot must accomplish a takeoff and a landing every thirty days, and every year, that pilot must accumulate 12 takeoffs and landings. The ICBM community lacked these currency and accumulation requirements. The Air Force gives each operational community the flexibility to develop training programs according to need, but the disparity between the flying and ICBM communities is notable considering that both risk disastrous consequences when employing unprepared crewmembers.

Planning and control systems. Planning and control systems dictate and track activity in order to achieve goals. Goal-oriented organizations run the risk of a myopic focus on mission accomplishment. In the case of the ICBM community, the mission of a capable and credible nuclear deterrent morphed into organizational pressure to eliminate any defects at the cost of individual integrity.

As evidenced by the cheating within the ICBM community, a great plan that gets the wrong result is counter-productive. The ICBM community held itself accountable through inspections at the organizational and individual levels. Each base received a regular stream of inspection teams from Headquarters Air Force, AFGSC, Twentieth Air Force, the Department of Energy, treaty verification agencies, and foreign countries. ICBM leadership could not accept failed inspections because they diminished the credibility of the entire ICBM enterprise in the eyes of the rest of the world. In addition, the ICBM chain of command typically relieved squadron, group, or wing commanders for failed inspections, adding more pressure to perform. A failed inspection often meant the end of a military career. Starting in the days of Strategic Air Command, the positive feedback loop of inspections built the

unacceptability of failure into the organization, and leaders stressed perfection at any cost.

In the right conditions, such pressure to perform can motivate an organization to improve performance. In the case of the ICBM community, this created a dysfunctional atmosphere that festered over many years, even decades. Commanders at every level below the wing knew that their careers depended on perfection, and they propagated this message down through the chain of command to the crewmembers. In this manner, the ICBM community developed a myopic focus on mission accomplishment, where mission accomplishment meant, "Do whatever you need to do to score a 100."

The tests for the crewmembers also demonstrate a control system run amok. The investigating officials found that many crewmembers in the ICBM community recommended changing the tests to a more appropriate measure of combat effectiveness, rather than testing the crewmember's ability to find minutiae in the instruction manuals.[6] The crewmembers felt a sense of unfairness in the testing regimen that rewarded them for their memorization skills in the classroom, not their skill in the launch facility. In addition, the individual-effort tests contrasted with the teamwork they operated with in the missile silos. The fact that their commanders took the tests as a group added to their frustrations.

Lateral Structure

Lateral structure fills in the gaps of an organization that the chain of command cannot address. The ICBM organization contained aspects of task forces, coordinating roles, and matrix structures.

[6] *Report of Commander-Directed Investigation*, G-50.

Task forces. Air Force Instruction 13-530 tasks the commander of AFGSC with ensuring readiness and upholding standards.[7] One of the methods for accomplishing readiness is an inspection, and commanders at every level use inspections to determine the health of their forces, up to and including the President of the United States. This chapter addressed the impact of the dysfunctional ICBM inspection regime above; however, it is important to reiterate the sheer number of different inspection agencies that took part in ICBM inspections. The ICBM inspection regimen pulled personnel from across the whole of government, giving weight to the importance the national leadership placed on a credible nuclear deterrent. The incident at Malmstrom AFB, however, demonstrates the negative effects of such an incessant inspection schedule on the individuals at the lowest levels.

Coordinating roles. Coordinators integrate efforts across a hierarchical structure. Each branch in a hierarchical tree specializes in one particular function, and personnel in coordinating roles direct the efforts of those different specialties. The ICBM community placed its instructors and evaluators in coordinating roles in the operational support squadron, and group- and wing-level positions. Although the instructors and evaluators played an important role in keeping the crew force proficient, taking them outside of the squadrons and away from the daily operations led to a drastic reduction in the time they could devote to imparting their experience on the crew force. Flying squadrons hold on to experience by promoting vertically instead of laterally, but the force management policies within the ICBM community, as well as the rules discussed above concerning instructor upgrades, encouraged squadrons to move the experience out of the squadrons to provide better promotion

[7] Air Force Instruction (AFI) 13-530. *Nuclear, Space, Missile, Command and Control—Intercontinental Ballistic Missile (ICBM) Operations*. Bolling AFB, MD: U.S. Air Force Departmental Publishing Office, 8 September 2015, 7.

opportunities. The coordinating roles unnecessarily diluted experience within the operational squadrons.

Prior to the Air Force's nuclear reorganization in 2009 in response to the B-52 and Hill AFB incidents, the number of officers on the Air Staff with nuclear experience dwindled to a single lieutenant colonel and no general officers. This lack of a coordinating agent sent signals to the ICBM community of the relative unimportance of the nuclear enterprise. The nuclear reorganization established a directorate of the Air Staff under the Deputy Chief of Staff for Strategic Deterrence and Nuclear Integration (HAF/A10) to coordinate nuclear efforts across the Air Force, but this change came too late to prevent the events at Malmstrom AFB. This arrangement still exists, but the 2008 report that recommended a general officer on the Air Staff originally proposed a section under the Deputy Chief of Staff for Operations, Plans, and Requirements. The establishment of a separate deputy chief of staff directorate may ensure a continued emphasis on nuclear operations with three-star general oversight, but it also compartmentalizes the enterprise as outside of normal operations, perpetuating the stereotype of nuclear operations as excluded from the Air Force's central mission to fly air planes.

Matrix structure. Organizations develop matrix structures as a hybrid of vertical and lateral structures. While matrices provide a measure of flexibility when managing disparate sub-organizations, they also introduce ambiguity by developing multiple chains of command. The ICBM enterprise uses a matrix structure to control its daily ICBM operations. For administrative control of its people, it uses a standard chain of command, the hierarchy described above. The administrative chain of command reports to the "force provider," AFGSC, who is responsible for training, supporting, and equipping the operational units.

For operational control of the missile facilities, however, the ICBM enterprise uses a different chain of command. The chain of command within the wings remains the same. Once the chain of command leaves

the base, the missile wings report to Task Force 214 (TF 214) instead of Twentieth Air Force. TF 214 is a warfighting organization under US Strategic Command (USSTRATCOM).[8] Launch orders come from the President through the Secretary of Defense to USSTRATCOM for distribution to the launch facilities. The relationship between a joint warfighting command, such as USSTRATCOM, and a force provider is symbiotic. The Air Force is responsible for obtaining and aligning funding for the upkeep of the ICBM enterprise, but USSTRATCOM is the primary user of the ICBMs and tracks the day-to-day health of the systems. More importantly, USSTRATCOM is responsible for forecasting threats to national security and requesting forces suitable to meeting those needs, prompting the Air Force to allocate funding appropriately.

In typical circumstances, airmen deploy to perform their operational mission. For the ICBM crewmembers, instead of deploying overseas to fight a distant enemy, they deployed to the launch control facilities to perform alert duties. Performing an operational mission so close to home helped create ambiguity for the crewmembers. The frequent transitions between operational roles to administrative roles helped feed the perception of the triviality of the knowledge tests. Under the USSTRATCOM warfighting chain of command, crewmembers had a clear sense of what technical knowledge was relevant to daily operations. The administrative chain of command, however, created monthly tests that appeared, to the crewmembers, to have little to do with operational duty. The overlap in the two chains of command helped mitigate the disparity, but the crewmembers clearly perceived a difference between the operational needs of USSTRATCOM and the administrative dictates of AFGSC. This view of the tests as operationally irrelevant contributed to the widespread acceptability of cheating.

[8] Interview with former ICBM officer by the author on 27 Feb 2016. All interviews were conducted in confidentiality, and the names of interviewees are withheld by mutual agreement.

Structural Factors

Organizations create structure to control output in the most efficient manner in response to external and internal factors. Each organization chooses a unique structure particular to its circumstances. An organization's environment, size and age, core process, strategy and goals, use of technology, and the nature of the workforce form the context within which an organization lives and breathes.

Environment. An organization's environment is a powerful influence on its organizational structure. Sometimes, an organization controls its environment, but often environments constrain operations. In some cases, the environment is a figurative expression to describe the atmosphere surrounding the organization. In the case of the ICBM enterprise, however, the environment is literally the environment. The three ICBM bases are members of the northern tier, bases in the northern Midwest US. The bases experience extreme weather during the winter, and due to the amount of acreage an ICBM operation requires, the bases are also removed from urban areas. The decisions to house the ICBMs at Malmstrom, Minot, and Warren AFBs occurred over several years through the Congressional legislative process known as Base Realignment and Closure. As the US reduced its nuclear arsenal, politics determined the locations of the surviving bases. Harsh winters and remote locations help make the ICBM bases undesirable assignments for Airmen, reducing morale and creating incentive to leave those bases for "better" locales.

The internal environment also influenced the ICBM officers' morale. Not only does the ICBM itself require periodic maintenance, but also its infrastructure, which includes the launch control center, a maintenance support facility, and a security forces facility. General Kevin Chilton, during his tenure as the commander of USSTRATCOM from 2007 to 2013, called for a national reinvestment into the ICBM

infrastructure, saying the US needed to reverse a "15-plus year trend of benign neglect."[9] He described the degraded state of the uranium facility in Oak Ridge, Tennessee, built during the Manhattan Project of World War II, and urged the audience to provide the nuclear force quality spaces within which to work.[10] While Gen Chilton did not specifically address the launch control centers, the same "benign neglect" applied. Crewmembers described aging facilities, years of accumulated dirt and dust, and non-critical maintenance problems that would remain unfixed for weeks, often stretching on into years.[11] The lack of investment in the ICBM enterprise since the end of the Cold War sent a subtle but continuous signal to the ICBM crewmembers that pride in the job was unnecessary, that their country merely required them to keep the operation going.

Size and age. Size and age exert other powerful influences. In this case, America's strategic interests forced the age and size of the ICBM enterprise. As mentioned above, international treaties and the end of the Cold War caused a decrease in the size of the nuclear arsenal and subsequently the nuclear budget. The Air Force, forced to make hard decisions about its force composition, chose to focus on other weapon systems, leading to aging ICBM systems. The shrinking size of the nuclear arsenal coupled with the age of the equipment contributed to the perception of decreased ICBM importance.

In many ways, the policies, procedures, customs, and technologies of the ICBM enterprise seemed out of place in the modern world. The decades-old launch control centers seemed particularly ancient when compared to modern systems like C-17 transport aircraft. Every work

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[9] Gen Kevin Chilton, Statements regarding challenges to nuclear deterrence to Air & Space Conference, Washington, DC, 13 Sep 2010.
[10] Gen Kevin Chilton, Statements regarding challenges to nuclear deterrence to Air & Space Conference, Washington, DC, 13 Sep 2010.
[11] Andrew Tilghman, "Underground nuclear launch pods get first 'deep clean,'" *Military Times*, 2 December 2014, http://www.militarytimes.com/story/military/pentagon/2014/11/30/underground-nuclear-launch-pods-get-first-deep-clean-air-force/19130625/.

shift in a missile silo served as a reminder of America's inattention to nuclear warfighting and a steady decrement against the morale of the ICBM crewmembers.

Core Process. The ICBM mission is to defend America through nuclear deterrence and, when needed, to "conduct rapid, accurate, and decisive global ICBM strike."[12] Despite that, the ICBM core process is actually one of inaction, rather than action. It involves the paradox of preparing for a future conflict that the politicians hope never comes. After the demise of the Soviet Union, the widespread fear of nuclear Armageddon gradually disappeared, and now it is difficult for Americans to imagine using nuclear weapons except in extreme emergencies. On top of this, sitting in a launch control center doing the equivalent of nothing while other parts of the Air Force are dropping bombs in active conflicts adds to an officer's sense that he or she could be better employed elsewhere. Nuclear duty is neither glamorous nor active, further dampening the morale of the ICBM crew force.

Strategy and goals. America's political leadership understands the need for nuclear deterrence. Between 1992 and 2013, however, political and institutional action failed to reinforce the need for a credible deterrent, creating the opportunity for a mismatch in rhetoric down the chain of command. As argued under the size and age section, dysfunction resulted at the execution level of the chain of command when political leadership stated the need for nuclear deterrence but failed to support those statements by reinvesting in the enterprise.

Use of technology. Technology often aids execution, but in this case, technology enabled dysfunction by allowing the surreptitious distribution of test answers.[13] While not a causal factor, the presence of

[12] Twentieth Air Force and Task Force 214, "Strategic Narrative," F.E. Warren AFB, WY: October 2015, 2.
[13] *Report of Commander-Directed Investigation*, D-24.

personal communications devices in the testing areas helped individuals share test answers easily.

Nature of the workforce. The nature of the workforce may dictate the type of organizational structure a company uses. Manufacturing companies often use vertical structures to give employees specific tasks, allowing efficiency through the repetition of the one-dimensional tasks. Knowledge based companies, such as video game designers, may use lateral structures to aid idea sharing and collaborative design. The Air Force ICBM enterprise requires a workforce with rigid enough thinking to adhere to routine procedures, but also with enough flexibility of thought to account for those times that the checklist lacks details. All Air Force officers receive an undergraduate degree. The relatively mindless nature of performing alert duties sometimes stifles the intellect of educated individuals. As Daniel Pink argues, the best human performance comes from the pursuit of mastery when given suitable autonomy and purpose.[14] The environment at the ICBM bases stifled the crewmembers' sense of autonomy, mastery, and purpose. Fearful of accepting risk and concerned for their careers, ICBM leaders micromanaged their crews, taking away autonomy and impinging on mastery. The boredom of operating a launch control center created a negative purpose to service in the ICBM force, creating an incentive for personnel to leave the community at the earliest opportunity in search of a more rewarding professional challenge.

Human Resources Frame

The human resources frame explains the management of human capital. In the categories of professional development, hiring practices, retention practices, empowerment, and diversity, the Air Force

[14] Daniel Pink, *Drive: The Surprising Truth About What Motivates Us*, New York: Riverhead Books, 2009, 62.

contributed in institutional ways to the Malmstrom AFB cheating incident.

Professional Development

Professional development is necessary within the US military, not only as a means of developing the force to perform in their current duties, but also as a means of preparing the force to lead as they progress in rank. The number of officers in a given rank decreases with higher rank. Those who wish for promotion within the Air Force compete with their peers for an increasingly limited number of positions. Competition for promotion at the ICBM bases developed into a perverse system of incentives to cheat.

Test scores. The negative purpose of inaction characterizes ICBM operations. If all goes perfectly, the missiles remain in the silos, and nothing substantial happens. Contrast this to other jobs in the Air Force where performing a duty means getting results, whether it is the percentage of bombs on target, pounds of supplies moved, or lives saved. The competitive nature of promotion selection in the Air Force requires ranking all Airmen from highest to lowest based on performance. Differentiating between a high performer and a low performer for a job that produces no tangible results is difficult and subjective, causing leaders in the ICBM community to invent methods of stratification.

Using test scores as a ranking method diminishes the level of subjectivity leaders needed to apply. On paper, a 99% average test score is higher than a 95% average test score, and easier to justify than an impression-based, subjective assessment of an officer's quality. Although the ICBM leadership stated no official preferences for higher test averages over lower test averages, the crewmembers perceived a leadership preference for using test scores as a ranking method.[15]

[15] *Report of Commander-Directed Investigation*, G-49.

Notably, while none of the commanders interviewed admitted culpability to demanding high test scores, they reported this preference in other ICBM leaders using their personal conversations as evidence.[16] Whether or not the leadership at the time of the Malmstrom incident actually indicated that they ranked officers based on test scores, the crewmembers acted on the contrary perception that their test scores mattered. Leadership selection of crewmembers for prestigious duties and promotions reinforced the perception because the crewmembers with higher scores advanced ahead of those with lower test scores. In addition, leadership used test scores on performance reports, a clear link between test scores and ranking.

AFSPC organizational influence. The Air Force compartmentalizes officer development until the general officer ranks. A pilot works in flying related duties, while a space officer performs space related duties. When the ICBM enterprise finally landed in AFSPC's clutches, the organization attempted to treat ICBM officers with a sense of permanence and incorporate them into the broader organization of space officers. Two explanations present themselves. First, outside of working in an ICBM squadron, few duties existed that used ICBM expertise. Second, in preparing junior officers to advance to the general officer ranks within AFSPC, the organization needed to provide ICBM officers with experience performing space-related duties. Junior ICBM officers recognized the need for space experience when they saw leadership installed in the ICBM squadron with no previous ICBM experience. They deduced that career advancement lay in getting out of the ICBM business and into the space business. Only two officers in the history of the Air Force ever advanced to four-star rank after starting their careers as ICBM crewmembers, a fact signaling the limited upward mobility within the career field. The institutional pressure for space over

[16] *Report of Commander-Directed Investigation*, G-49.

missiles gave rise to a force of crewmembers resigned to spending their time in the missile silos while waiting for better opportunities in the space arena.[17]

Hiring practices

The Air Force officer hiring system is based on its commissioning programs. Officers enter through one of three methods: the US Air Force Academy (USAFA), the Reserve Officers Training Corps (ROTC), and Officers Training School (OTS). Upon commissioning, the Air Force assigns officers to an occupational specialty based on a brief assessment of their abilities and the demand for personnel to a given specialty. Officers get some say in their occupational assignment through a preference list and by their undergraduate performance. Before graduation, the Air Force ranks each candidate by his or her grade-point average. The higher-ranking candidates get a better chance of receiving an assignment according to their preferences than the lower-ranking candidates do. The prestige of many career fields outranked that of the ICBM career field, leaving ICBMs low on the preference lists. The higher-ranking candidates got what they wanted and the lower-ranking candidates got the leftovers, resulting in a group of serving officers that performed, on average, worse than the rest of the Air Force in officer candidacy programs.

The Air Force recognized this systemic fault and moved to correct it, which resulted in an unfortunate by-product: low morale. Instead of assigning officers based on rank and preference, the Air Force changed the system to select a sampling of officers from all performance levels. This change in the system led to low morale because it forced many officers into an undesired career field. Many motivated young individuals went to ICBMs disillusioned because the assignment system negated

[17] Stout, "Organizational and Cultural Erosion," 10.

their undergraduate efforts. The selection system replaced one problem, a group of low performing individuals, with another problem: a group of individuals with lower morale. Neither solution worked to fix the underlying problem: a lack of prestige in ICBMs and a general dread of performing a job filled with long hours of boredom.

Retention

Because Air Force hiring practices placed high-performing individuals in an undesired career field, the ICBM organization also faced a retention problem. Many young officers left the service after completing their initial commitment to the Air Force because they did not achieve fulfillment from ICBM duty. This diminished the talent pool for promotion within the community, leaving the ICBM leadership to promote the "best of the rest." Those who remained and bought into the system rose through the ranks to return to the organization in leadership positions, perpetuating the culture. Developing a successful Air Force career because of, or in spite of, the cheating culture on their first assignment gave the ICBM leaders little incentive to change that culture.

The ICBM community's method of disciplining those who failed to perform also contributed to the retention problem. The commander-directed investigation report stated, "Due to the extremely competitive nature of missile crew member scores, a crew member who fails a knowledge test or monthly examination will likely not be hired as an instructor, evaluator, or other such position. This can also mean that a member who has already achieved such a position may be fired for a testing failure."[18] Any such discipline effectively eliminated an officer's competitiveness for promotion. The difficulty of rank advancement after a poor test score provided an incentive for affected officers to leave the service in pursuit of more lucrative careers.

[18] *Report of Commander-Directed Investigation*, G-44.

Human resource management

Human resource management goes beyond promotion, hiring, and retention practices to include the allocation of human capital. In the Air Force, this means the assignment system. The assignment system places bodies in positions to ensure adequate personnel to conduct a unit's mission. In the operational ICBM community, this meant having enough ICBM crewmembers to perform the nuclear deterrence mission. According to the policy in existence at the time, the qualified personnel for performing alert duties included mostly company-grade officers, those in the ranks of second lieutenant, first lieutenant, and captain. Field-grade officers, those in the ranks of major and lieutenant colonel, existed sparingly in operational ICBM squadrons because the operational practices required few of them to run an ICBM squadron. Thus, field-grade officers served in other administrative duties such as career-broadening tours in space operations, or on the various command support staffs reaching up the chain of command. The plethora of company-grade positions in the operational squadrons contrasted with the dearth of field-grade officer positions led some to refer to the ICBM officer career progression model as a "witch's hat."[19]

Typically, the squadron commander and the operations officer filled the only field-grade positions in the squadron. This left a "rank gap" in the squadron organization where young officers carried out most of the day-to-day squadron duties.[20] A former ICBM crewmember described it as a situation where "the inmates ran the asylum."[21] Without field-grade officer presence to bridge the gap between squadron leadership and crewmembers, the company-grade officers developed an

[19] Interview of former ICBM officer by the author, 16 March 2016.
[20] *Report of Commander-Directed Investigation*, D-15.
[21] Interview of former ICBM officer by the author, 16 January 2016.

"us against them" attitude.[22] Squadron leadership, busy with keeping the squadron moving administratively and attending to demands from higher in the chain of command, likely had little time for mentorship and supervision when outnumbered by the company-grade officers by as much as seventeen-to-one.[23] Mentorship and supervision is crucial in an organization with a large proportion of inexperienced Airmen because, although they are adults, company-grade officers still need guidance as they mature.

Empowerment

Competition for promotion led to micromanagement within in the ICBM community. As mentioned in the Structural Frame section above, the national pressure for a credible nuclear deterrent led each leader to exert the pressure for perfection down the chain of command. Over the years, the tolerance for mistakes eroded, especially after the B-52 and Hill AFB incidents. Leaders started to micromanage their units in the constant search for operational perfection. The threat of career failure due to a failed inspection led to an atmosphere of risk aversion among the leadership, which destroyed any sense of empowerment in the ICBM crewmembers. Management of a nuclear deterrent force leftover from the end of the industrial age conflicted with the nature of the workforce raised in the information age.

Looking up the chain of command, the squadron and group leadership showed no sense of ownership of the situation, and some even stated that they "were not so much surprised that the test compromise had occurred, just surprised at how it happened."[24] A sense of inability to change the situation permeated their collective responses, as if the cheating incident simply "happened" to them. They held an awareness of

[22] *Report of Commander-Directed Investigation*, D-15.
[23] Interview of former ICBM officer by the author, 3 Apr 2016.
[24] *Report of Commander-Directed Investigation*, G-50.

the testing environment, and therefore hold some of the responsibility for allowing it to continue, but one commander expressed relief from his lack of empowerment when he said, "I see it as help is on the way."[25]

Diversity

The all-volunteer nature of the Air Force limits the amount of diversity within its ranks. The most important factor when considering diversity within the military is not diversity of appearance, but rather diversity of thought. The factors of a competitive promotion system, a motivation-reducing hiring system, a lack of retention incentives, and a micromanaging leadership regime combined to produce an ICBM force that reduced its diversity of thought as it aged. The system rewarded company-grade officers who bought into the sometimes-misguided values of the ICBM enterprise, which perpetuated itself as the crewmembers gained rank and returned as field-grade officers with the hopes of becoming general officers. The thinking of ICBM officers aligned as they rose in the chain of command, and when they became ICBM leaders, they had little incentive to change the system that earlier rewarded them for conforming.

Political Frame

The use of the word "politics" brings to mind dealings among the politicians in Washington, D.C. In reality, the political frame focuses on human interaction to allocate scarce resources. Individuals bargain with each other and their leaders to gain resources for their organizations. They also bargain with their leaders for the allocation of promotion recommendations.

Resource Allocation

[25] *Report of Commander-Directed Investigation*, G-51.

In the years after World War II, the country struggled to return to a peacetime economy, which meant at the time a reduction in the military budget. As the Air Force achieved independence from the Army, it also received the bulk of the nuclear mission in the form of long-range bombers and, eventually, ICBMs. President Harry S. Truman's policy used nuclear weapons as the main deterrence and response option to a Soviet invasion of Western Europe, and the service tasked with delivering the weapons got the lion's share of the defense budget.

After the close of the Cold War, events again conspired to warrant another reduction in the military budget. Priorities shifted from nuclear deterrence to conventional weaponry, a trend that continued for the better part of 25 years. International commitments also forced the ICBM organization to shrink. At the time of the Malmstrom incident, only three missile wings remained of the 17 established during the Cold War. Shrinking budgets equated to more bargaining for finances, especially over funding for items like computers, which could wait until future budgets. Larger funding allocations helped build the readiness and morale of the operational units. Squadron, group, and wing commanders needed to develop relationships with their supervisors to gain bargaining power, and test scores provided an advantage in those negotiations. Although the pressure for higher test scores could have originated from altruistic designs to better the operational units, lacking field-grade mentorship it filtered down the chain of command into a dysfunctional "zero-defect" system designed for personal gain.

Promotion Recommendation Allocations

Stathis Kalyvas provides an explanation for individual actions with his concept of "the privatization of political violence," more commonly known through the phrase "all politics is local." Kalyvas explained that individual actors within a civil war sometimes use the political system to dispose of personal vendettas, denouncing competitors as supporting the

opposition.[26] The resulting violence occurs not on the front lines as it would during a state-on-state war, but in the locales of the noncombatants. The bargaining process inside of an Air Force organization is rarely violent, but the situation Kalyvas describes captures the idea that leaders bargain to obtain resources for their constituents and themselves. From an individual perspective, a promotion recommendation is a scarce resource for which to compete. The relationships leaders use to increase bargaining power towards gaining resources for constituents may also increase their personal bargaining power for promotion recommendations.

In the case of the ICBM community, the squadron commanders exhibited a sense of powerlessness to change the system and gave the impression of subordinating constituent needs to satisfy individual needs.[27] If it is true that the commanders interviewed in the investigation lacked the power to change the environment, then their actions only served to advance their careers and those of their supervisors. The lack of evidence that the group and squadron leadership attempted to leverage their units' performances into better conditions for their constituents underscores the crewmember testimony of a dysfunctional, perfection-oriented environment. The evidence here is inconclusive without further interviews of the individuals involved. Perhaps the apparent conflict between individual and group interests resulted from the focus of the investigation on discovering the negative leadership actions rather than the positive aspects of the political frame.

Cultural Frame

Culture is important. It reflects the motivations behind an organization's behavior. A culture that embraces integrity may avoid

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[26] Stathis Kalyvas. *The Logic of Violence in Civil War*. Cambridge: Cambridge University Press, 2006, 244.
[27] *Report of Commander-Directed Investigation*, G-48-51.

scandals like the one at Malmstrom AFB. One of the purposes of this study is to show that culture is the accumulation of an organization's experiences over long-periods of time. Unfortunately, the commanders at the time of a crisis pay the price for the action or inaction of the many commanders before them. The structural, human resources, and political frames describe the outward expressions of an organization's behavior. Culture describes the conscious and subconscious organizational reasoning behind that behavior. The ICBM community's espoused beliefs and values and underlying beliefs and assumptions demonstrated the accumulation of experiences focused on perfection and performing for inspections.

Espoused Beliefs and Values

AFGSC's fact sheet, published on 8 April 2010, provides evidence of top-down cultural influences. The section entitled "What We Value" contains the following list of values:[28]

- Individual responsibility for mission success
- Critical self-assessment of our performance
- Uncompromising adherence to all directives
- Superior technical and weapons system expertise
- Persistent innovation at all levels
- Pride in our nuclear heritage and mission
- Respect for the worth and dignity of every Airman
- Safety in all things large…and small

The first three values demonstrate the organizational pressure for perfection. Problems arise when organizational behaviors fail to converge with espoused values, or when organizations take values to the extreme. On the one hand, the case of "critical self-assessment" in the ICBM community's behavior demonstrates the former. The "inspection culture"

[28] *Report of Commander-Directed Investigation*, G-120.

cited by the investigating officials started many years before when the ICBMs belonged to SAC. External inspections became the norm, from the individual monthly testing to wing-level readiness inspections, and the individuals at the tactical level at Malmstrom, Minot, and Warren AFBs developed an apathy about self-assessment. They questioned the need to self-assess when the inspection teams would find the flaws for them. The inspection teams also graded the units harshly for what the individuals perceived as trivial matters, leading to a sense of futility against inspection preparation.

On the other hand, the ICBM organization as a whole took the value of "critical self-assessment" to the extreme. Whether the ICBMs belonged to SAC, ACC, AFSPC, or AFGSC, one method of self-inspection involved sending inspection teams to the three ICBM wings. The problem with this approach was the top-down enforcement of standards. The basic unit within the Air Force is the squadron. The squadron accomplishes the mission, deploys together, and most young Airmen start their careers in a squadron. The frequency and method of self-inspecting as a major command shifted the focus of the squadrons from accomplishing the mission to scoring well in the inspections. This shift, coupled with the perspective that the inspections had little to do with daily nuclear deterrence operations, stifled the growth of any bottom-up self-assessment that is crucial to a well-functioning organization. This kind of mission ownership may have prevented the integrity failures within the community. The organization failed to achieve its value of "individual responsibility" by seeking "critical self-assessment."

The third value of "uncompromising adherence to all directives" is the most troubling, as it was a verbal declaration of the culture of perfection cited by the investigating officials. In a healthy organization, the statement motivates the organization towards higher performance. In an unhealthy organization, the motivation becomes pressure, which can filter to individuals as the desire for compliance at any cost. Most

likely, this value is a reflection of the nuclear culture, not an attempt by AFGSC to mandate perfection, and therefore demonstrates the longstanding tradition of nuclear perfection. Again, the culture started under SAC and withstood three major organizational moves, culminating decades of frustration in an enormous cheating operation. Harsh punishments for failing to meet standards and the unwritten expectation for perfect test scores, among other things, caused the ICBM crewmembers to abandon their integrity to conform to the organizational norms.[29]

Basic Underlying Assumptions

The ICBM crewmember's basic underlying assumptions underpinned the culture of perfection and the inspection culture. The beliefs that imperfection led to career derailment, and that help on the monthly tests was acceptable, supported the dysfunctional ICBM culture.

Imperfection and career derailment. In general, the ICBM community believed that testing imperfection led to career derailment. Crewmembers saw career advancement as their way out of the boredom of life in the alert facility. Failure to get a perfect score diminished their standing in the eyes of their leadership, hurting their chances of advancement and progressing out of the squadron. Similarly, ICBM leadership saw perfection as the key to their career advancement. The only way to differentiate in units that specialize in a mission without tangible results is to rank them according to inspection results. The inspectors' harsh grading led to consistently poor scores for anything less than perfection. Political and strategic leadership demanded credibility in the form of a ready nuclear force, imposing the perceived need for

[29] *Report of Commander-Directed Investigation*, G-44-45.

perfection down through the chain of command. Imperfection stifled careers and got leaders removed from command.

Crewmembers expected help on tests. The ICBM community taught its crewmembers the acceptability of helping each other on the monthly proficiency tests. The instructors at Vandenberg AFB prepared the crewmembers during initial skills training to expect help on their tests once they got to the operational units.[30] They prepared the students for the expectation of perfect test scores, which reinforced the existing culture in the operational units. The community allowed and sometimes even encouraged help on the tests.[31] Operationally, the ICBM community worked in teams instead of individuals, which clashed with the practice of individual test taking.[32] This coupled with the impression of the tests as irrelevant to daily operations devalued their worth towards test-taking integrity, setting the environment for a few dishonest individuals to take advantage of the system and "help" the rest of their friends with test answers.

Principal Findings

This study makes a comparison between the analysis model used by the investigation team and Bolman and Deal's four-frame model of organizational analysis. The investigation team used the Reason Model of Human Error, which focuses on accident prevention in industrial settings. In the Reason Model, an organization builds in "overlapping layers of defenses and safeguards to prevent an accident from occurring."[33] No single layer is accident-proof on its own, and accidents may occur when "the flaws in each layer align, creating conditions that limit the effect of preventive measures."[34] James Reason likened his

[30] *Report of Commander-Directed Investigation*, G-21.
[31] *Report of Commander-Directed Investigation*, G-46.
[32] *Report of Commander-Directed Investigation*, G-28.
[33] *Report of Commander-Directed Investigation*, D-12.
[34] *Report of Commander-Directed Investigation*, D-12.

accident prevention model to a block of Swiss cheese with holes interspersed throughout; occasionally, the holes align through the entire block.[35]

Commander-Directed Investigation Findings

The Commander-Directed Investigation officials found causal explanations in three main areas: organizational culture, leadership, and preconditions related to ICBM crewmember training, testing, and evaluation. This study reiterates the findings here for the sake of comparison.

Organizational Culture. The investigating officials found six elements of organizational culture in the ICBM organizations at Malmstrom, Minot, and Grand Forks AFBs that caused the cheating incident.[36] First, "An unrealistic emphasis on eliminating human error (drove) higher headquarters to emphasize near-continuous external inspections and evaluations." Second, "An overreliance on external inspections and evaluations (led) ICBM leaders and crews to believe self-evaluation and self-identification of errors (were) counterproductive." Third, "Unrealistic expectations and constant external inspections (drove) ICBM leadership styles that emphasize(d) centralized oversight, inspection, and testing regimes that alienate(d) subordinates and (made) them feel less responsible for their own training and development." Fourth, "Missile squadron manning and organization (drove) a gap between field-grade squadron leaders and company-grade crews that contribute(d) to an us-against-them mind-set(sic)." Fifth, "The crew member career progression model devalue(d) daily alert operations and emphasize(d) getting off the line to perform instructor or evaluator duty." Sixth, "A lack of clear AFGSC and Twentieth AF testing guidance,

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[35] James Reason. "Human Error: Models and Management." *Western Journal of Medicine*, 172 (6): 393-396.
[36] *Report of Commander-Directed Investigation*, D-17.

combined with a cultural emphasis on helping junior crew members score well, blur(red) the line between acceptable help and unacceptable cheating."

Leadership. Under the area of leadership, the investigation team found five contributing factors specifically aimed at the leadership of the 341st Operations Group at Malmstrom AFB.[37] First, "ICBM crew members perceived mixed messages from their leaders concerning the need to achieve high test scores and the need to maintain integrity in the classroom." Second, "Missile squadron commanders in the 341st OG were not actively involved in the OSS-directed monthly currency training and testing process, which prevented their presence in the classroom from deterring some forms of misconduct." Third, "The 341st OG commander, the 341st OSS commander, and their leadership teams did not provide the oversight required to ensure integrity in monthly knowledge testing." Fourth, "Crew members across the Twentieth AF believed training and testing were not administered fairly." Fifth, "Crew members in the 341st OG had less confidence in the test environment and the ethics of their commanders than crews from the 90th and 91st OGs (Operations Groups)."

Preconditions. The investigating officials found several preconditions related to ICBM crewmember training, testing, and evaluation processes that paved the way for the organizational culture within the community.[38] First, "There (was) not enough separation between ICBM training and evaluation processes." Second, "Crew members (were) not encouraged to take responsibility for their own training." Third, "ICBM crews (did) not train the way they operate daily or the way they would fight." Fourth, "Crew members across Twentieth AF (did) not believe monthly knowledge tests provide an accurate

[37] *Report of Commander-Directed Investigation*, D-20.
[38] *Report of Commander-Directed Investigation*, D-22.

measure of a crew member's operational skills and performance." Fifth, "Crew members across Twentieth AF believe(d) leadership overemphasize(d) receiving a 100 percent on monthly test scores for individual progression and squadron assessment." Sixth, "Requiring crew commanders and less-experienced deputy crew commanders to participate in identical training and take identical tests (did) not reflect the reality of their relative experience and knowledge levels."

Findings Using Bolman and Deal's Four-Frame Model

Bolman and Deal's four-frame model of organizational analysis breaks the explanation into the areas of organizational structure, human resources policies, organizational politics, and culture. The overall finding indicates that since the end of the Cold War, the Air Force failed to guide the ICBM enterprise with appropriate structural and human resources adjustments as the international and domestic environments changed. As the organizational context changed, the institution focused on short-term reactions without considering the long-term effects on the morale and dedication of the individual ICBM crewmembers.

Structure. This study identified two key findings in the structural frame. First, leaders must continually examine the structural factors of environment, size and age, core process, strategy and goals, the use of technology, and the nature of the workforce when determining organizational structure, rules and policies, planning and control systems, and lateral relationships. Some of the factors like the international and domestic environments, the organization's size and age, the use of technology, and the nature of the workforce changed, but the organization's core process and physical environment remained the same. The events at Malmstrom AFB culminated a 25-year spiral into decay and dysfunction as the workforce struggled to reconcile external changes with internal dogma. The lack of national investment into the ICBMs and their infrastructure conflicted with the rhetoric declaring the

importance of nuclear deterrence, and the ICBM crewmembers exhibited a form of group cognitive dissonance when they cheated.

Second, after the end of the Cold War, international politics and domestic budgetary pressures joined forces to generate institutional isolation of the ICBM enterprise. The lack of ownership of the ICBM mission under AFSPC set the stage for AFGSC to fail in fixing the ICBM organizational culture before the cheating incident occurred. The rules and policies demonstrated the organizational isolation of the ICBM community from the rest of the Air Force. For example, titling the instructional guidance "AFGSC Instruction" rather than "Air Force Instruction" symbolically indicated that the ICBM mission belonged only to the major command, rather than to the Air Force and to the nation writ large. In addition, the differences in training requirements between ICBM instructions and flying instructions show how the organization failed to converge with the rest of the Air Force in spite of the nearly 55-year history of the ICBM organization. The organizational changes instituted by the Air Force in 2009 after the B-52 and Hill AFB nuclear incidents, despite increasing the importance of the ICBM enterprise, still managed to isolate them from the rest of the Air Force by segregating them in HAF/A10 instead of integrating them further under the Deputy Chief of Staff for Operations, Plans, and Requirements.

The planning and control systems consisted of knowledge tests and inspections, which, developed in isolation from the calming influence of the broader Air Force, led to an organization with a myopic focus on mission accomplishment. The organization expected unnecessary perfection, viewed inspection as the mission, and used inappropriate measures as metrics for control. The importance of nuclear deterrence to the national security strategy drove the heavy inspection regimen, drawing resources from across the executive branch of government and instilling the view of inspection as the mission.

Human Resources. The competitive nature of the Air Force's human resources practices developed a vicious cycle that produced ICBM leaders with no incentive to change the system. Every step along an officer's developmental path reinforced the dysfunctional system within the ICBM community, starting with the Air Force's hiring practices. Most Air Force officers compete for their preference of career fields, and few entrants prefer ICBMs to other duties. The recognition that the ICBM community received a collection of lower-performing officers out of commissioning led the Air Force to start forcing higher-ranked entrants into the career field to increase parity. This action lowered the collective morale of the career field by filling it with disillusioned personnel who in retrospect questioned their own undergraduate efforts. Boredom, disillusionment, and assignment practices that favored space duty over ICBM duty drove a retention problem that left the ICBM community to promote officers that bought into the existing culture. This reduced the diversity of thought over time, and resulted in a collection of leaders that favored micromanagement over risk acceptance. Starting with the demise of SAC, each successive set of leaders perpetuated the culture by condoning the cheating, either actively or tacitly. In addition, Air Force personnel practices left the ICBM squadrons without a substantial field-grade officer presence to mentor and monitor the company-grade officer crewmembers and check the influence of the field-grade officer leadership.

Political. Competition is inherent in the political frame, but instead of a healthy competitive atmosphere, the ICBM community focused on the negative, individualistic aspects of competition. Leaders used the test scores as a quantitative means of differentiating between their crewmembers' performance, which is easier to distinguish on a performance report. It is also easier to discipline someone for a quantitative reason than a qualitative reason. No evidence exists that the ICBM leaders leveraged test scores to gain influence in their

community as a means of bettering their units. Instead, the evidence points to the ICBM leaders as perpetuating the cheating culture by using the test scores as a means of protecting their careers. Without the leaders' mentorship, the crewmembers received the message that the test scores meant more than everyday performance, and the ultimate goal of the Air Force was career advancement.

Culture. The cultural result from the structural, human resource, and political frames is potentially circular. From the findings of the investigation, a culture of inspection, perfection, and ultimately cheating clearly existed, but did the other frames create the culture, or did the culture influence the other frames? From the perspective of this study, it does not matter. The more important aspect comes from what the organization says and does. The organization's structure, human resources practices, and political activities influence the organization's culture, and provide a useful starting point for correcting any dysfunction. Culture is the sum of an organization's experiences and collective problem solving, so the aspects of the other three frames must align toward a common goal to lead culture effectively. Culture is the most important frame because it explains particular behavior, but it is also the least important in terms of response mechanisms because change actions occur elsewhere.

One important aspect of culture is the organizational set of espoused beliefs and values. In the case of the AFGSC, its espoused values reflected the top-down influence of a culture of perfection and inspection. Without better knowledge of AFGSC, which is outside the scope of this study, it is impossible to know whether these beliefs and values merely described the organizational culture, or if they aspired to lead the culture in a certain direction. Espoused beliefs and values are often simultaneously descriptive and aspirational. Take, for instance, the Air Force Core Values. While these are descriptive to a point, they are also aspirational because they attempt to inspire the Air Force to

perform better. The caution here is that leaders may see espoused beliefs and values as an easy starting place for cultural change. This study concludes that cultural change takes a holistic approach to organizational design, and without complete measures, cultural change may only amount to just words on paper.

Evaluating the Model

This study aimed to determine the usefulness of an organizational design approach to organizational analysis. The fundamental difference between the Reason Model of Human Error used by the investigation team and the organizational design approach endorsed by this study is the focus on human error. The Reason model pushes the organization to recognize what mistakes humans can make and to develop processes for mitigating the risk of catastrophic mistakes. From that perspective, the Reason model is more appropriate to the task of defending an organization against the unintended consequences of the accumulation of human errors. The model places no fault with human fallacy and proposes an acceptable level of human error. In many ways, this model is appropriate for use in examining the ICBM organization because it treats the operation as the management of complex technology in which accident prevention is the number one goal. The model's focus on error elimination, however, stands in the way of examining methods of improving human performance through beneficial organizational design.

Instead of attempting to treat human interaction as a problem to overcome, the Bolman and Deal model focuses on designing an organization to enhance the human benefit. While it is true that the mission of the US Air Force often entails operating pieces of heavy machinery at high speeds with the purpose of creating large amounts of destruction, the majority of the Air Force works in an administrative setting where lives are rarely at stake. In the case of the events at Malmstrom AFB, the cheating operations occurred in an administrative

setting on tests that they acknowledged had little impact on the safekeeping and effective potential launching of ICBMs. The Bolman and Deal model provides an alternative to the accident prevention model that is generalizable to the majority of Air Force activities. Examining an organization's structure, human resources practices, and political practices with the ultimate goal of shaping the organizational culture and improving the human contribution rather than merely overcoming it works for any organization. It also avoids treating the members of an organization like accidents waiting to happen. From an institutional perspective, such a model allows the application of best practices from across Air Force enterprises while shaping the organization to best suit its people.

Regardless of the model used for organizational analysis, this study highlights key areas of examination in any organizational study. First, examine the organization as an open system within its strategic context. No organization operates in a vacuum, and the history surrounding the events in question affects the interpretation of causal mechanisms. Second, understanding organizational culture requires a holistic approach. Whether the model starts with culture or ends with it, real understanding only comes from figuring out how all the pieces fit together. Finally, keep an open mind when examining an organization. Using a neutral methodology in analysis helps diminish some of the natural bias that comes with any investigation.

Conclusion

This chapter used Bolman and Deals Four-Frame Model of Organizational Analysis to examine the structural, human resources, political, and cultural aspects of the Air Force ICBM organization antecedent to the 2014 cheating incident at Malmstrom AFB. It then made a comparison of the findings using the Bolman and Deal model with the findings of the Air Force investigative team. The Reason Model

of Human Error, useful in designing organizational processes to defend against human error, risks inappropriately aligning non-industrial Air Force organizations with their action-oriented counterparts. The Bolman and Deal method benefits the Air Force institutional managers by providing a neutral model with broad applicability. Regardless of the model in use, Air Force investigators should ensure it considers the strategic organizational context using a holistic method, and guard against biases in the analysis.

Chapter 5

Conclusion and Recommendations

> *The good news is there's nothing here that we can't fix. The good news is that none of this has endangered America, Americans, or put our security at risk.*
>
> Chuck Hagel

The events at Malmstrom Air Force Base (AFB) in 2013 and 2014 sent shockwaves throughout the Air Force. Labeled "the biggest cheating scandal in the history of the nuclear missile force," it caused the Air Force to take a deep look at its treatment of the intercontinental ballistic missile (ICBM) community.[1] This study performed an in-depth examination of the ICBM community to determine causal relationships between the characteristics of the organization and the behavior of its people. The study intended not to lay fault with the organization, but to explore a different perspective in the hopes of opening the minds of Air Force leaders, present and future. Perhaps changes could be made now to steel the Air Force against future assaults on its core values.

This study started with a question: What insight does an organizational design model of analysis offer to help minimize future organizational dysfunction in the United States Air Force? The study took a recent case of organizational dysfunction and examined it through a different lens than that originally applied by the Air Force, the Reason Model of Human Error. The study attempted to change the perspective by approaching the case with an organizational design philosophy, Bolman and Deal's Four-Frame Model of Organizational Analysis. After detailing the Malmstrom AFB cheating operation, the study used Bolman and Deal's four frames of organizational structure, human resources

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[1] Brian Everstine, "In search of a morale boost: Amid cheating investigation, DOD considers raises for missileer," *Air Force Times* 74, no. 29 (27 Jan, 2014): 10.

practices, political practices, and culture to highlight the underlying causes of dysfunction. The study then compared the Bolman and Deal approach with the Air Force's approach. This chapter concludes the study by first reviewing the principal recommendations from the previous chapter, then closing with recommendations for further exploration.

Principal Conclusions Reviewed

In considering the original question, what does Bolman and Deal's model offer the Air Force that the Reason Model of Human Error does not? Overall, this study concluded that the Bolman and Deal model is more broadly applicable across the Air Force. Instead of attempting to mitigate the problem of human fallacy like the Reason model, the four-frame model aims to enhance human productivity. An accident prevention model is inappropriate for most of the organizations across the Air Force that work in office settings where immediate risk to human life is a rarity. Rather, approaching the situation with a managerial perspective provides the opportunity for a greater crossflow of ideas from other communities. It is easier to draw parallels between the Air Force's support functions and its operational elements by categorizing the organizations' core functions according to structural, human resources, political, and cultural frames, whereas making comparisons between disparate functions with dynamic processes becomes an exercise in frustration. Regardless of the risk to life and equipment, using the four-frame model provides an organized approach to analyzing organizations that relies less on the skill and experience of the investigator employing a relatively unstructured accident-prevention model. In addition, the accident-prevention model focuses on repetitive processes that provide opportunities for humans to make mistakes, while the four-frame model looks at processes as just one of the elements that represent an organization's behavior.

Ultimately, the Bolman and Deal model accommodates both industrial-age and information-age organizations. Industrial-age organizations focus on performing the same routine processes repetitively to produce a uniform output. Information-age organizations perform dynamically, constantly adjusting its output to aid the human customer. Human behavior is textured, variable, and demanding. Using a model with enough structure to guide investigators while still giving them the freedom to consider creative options aids the development of an information-age organization.

Outside of the comparison between the industrial-age and the information-age, three other conclusions arise from the examination. First, organizations live and breathe in an open system, so any examination must take into account the effect of the external environment. Second, an analysis must survey the organization holistically, and the model must incorporate all potential organizational aspects to ensure a complete examination. Third, a neutral methodology helps keep the cognitive pathways open against natural biases.

Implications of Study

The Malmstrom AFB cheating operation rocked the foundation of the Air Force. The institution professes integrity as its first value, and a large portion of the ICBM force proved those values as negotiable. In addition to the internal investigation already mentioned in this study, the Department of Defense (DOD) ordered its own investigation into the entire nuclear enterprise of ICBMs, bombers, and nuclear submarines.[2] After the conclusion of the DOD investigation, the Air Force embarked on yet another investigation, this time taking a grassroots look at its nuclear

[2] Brian Everstine, "92 Malmstrom missileers now tied to cheating probe," *Air Force Times* 74, no. 31 (10 Feb 2014): 15.

forces, both ICBMs and bombers.[3] The Air Force openly acknowledged its neglect of the nuclear forces, and pledged time, finances, and personnel to solving the problem. Calling it the "Force Improvement Program," the investigation surveyed and interviewed hundreds of personnel across ICBM and bomber bases to discover, in a retribution-free environment, the solutions to improving the culture and morale of the nuclear force.[4]

The Air Force is expanding the program to other areas of the institution. Perceiving the potential to ostracize the Remotely-Piloted Aircraft (RPA) community, Air Force officials implemented the Culture and Process Improvement Program, a different name for a very similar program to the nuclear Force Improvement Program mentioned above.[5] The move provides a beacon of hope that the Air Force is evolving toward inclusiveness of a career field long regarded as a career graveyard. Although the assets the RPA community operates are uninhabited, the Air Force still titles the RPA operators as pilots, which align the community with the Air Force's core identity of flying. The community is also growing. In 2015, DOD announced a plan to increase the RPA workload by 50%, and the Air Force recently publicized a plan to double the output of RPA training.[6]

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[3] Brian Everstine, "Air Force releases info on Malmstrom punishments," *Air Force Times*, 21 July 2014: 21.
[4] Brian Everstine, "Air Force releases info on Malmstrom punishments," *Air Force Times*, 21 July 2014: 21.
[5] Shaun Eagan, "New ACC program begins, aimed to improve MQ-1/9 community," *Air Combat Command Public Affairs*, 1 Sep 2015, http://www.acc.af.mil/News/ArticleDisplay/tabid/5725/Article/660427/new-program-aimed-to-improve-mq-19-community-begins-at-acc.aspx.
[6] Brian Everstine, "DOD Plans 50 Percent Increase in RPA CAPs by 2019," *Air Force Magazine*, 18 Aug 2015, http://www.airforcemag.com/DRArchive/Pages/2015/August%202015/August%2018%202015/DOD-Plans-50-Percent-Increase-in-RPA-CAPs-by-2019-.aspx; Brian Everstine, "The RPA Shortfall." *Air Force Magazine*, 17 Mar 2016, http://www.airforcemag.com/DRArchive/Pages/2016/March%202016/March%2017%202016/The-RPA-Shortfall.aspx (accessed 22 March 2016).

The ICBM organizational dysfunction erupted after many years of benign neglect. Few organizations, least of all the United States Air Force, intend to create a dysfunctional organization. Rather, strategic, political, and institutional pressures took the institutional focus to other areas while the Air Force assumed a level of sustainability in the ICBM organization. Since the end of the Cold War, a series of limited wars diminished the importance of nuclear deterrence in the eyes of the American public. The real danger of letting events like this occur is the loss of public credibility, which could result in the ineffectiveness of the nuclear deterrent. As the US's adversaries rise in response to declining American world influence, the extent of the country's nuclear umbrella develops holes.

The Air Force needs to scrutinize itself periodically. As the saying goes, "An ounce of prevention is worth a pound of cure." Just as regular cleaning helps prevent tooth decay, regular organizational introspection is necessary as a part of strategy. Looking backwards, the warning signs appear clearly, but as Dr. Thomas Hughes is fond of saying, "Hindsight is never 20/20."[7] It is easy to claim that the Air Force should have taken the steps of the Force Improvement Program in 2009 rather than in 2015, but drawing a line from nuclear bombers to nuclear missiles is much easier with hindsight than with foresight. If the Air Force hopes to keep the institution heading on the path laid out by its core values, it needs to develop a strategy of making culture and process improvement a continual effort rather than a one-time event.

Areas for Further Research

Bolman and Deal's Four-Frame model is but one method of investigating an organization. Deirdre Carlock used it successfully as a model for determining organizational toxicity, while the Air Force used an

[7] Thomas A. Hughes, in discussion 17 February 2016.

accident prevention model to arrive at its conclusions.[8] Many others exist. In recent memory, the Air Force attempted to institutionalize Total Quality Leadership, Air Force Smart Operations for the 21st Century, and now the Culture and Process Improvement Program. The programs change as new leaders assume command. One specific area for further Air Force research is finding an enduring model. Shifting the "approved" management style to the latest fashion may help convince the stakeholders of "trying something," but it also takes leaders' focus away from leading in their own fashion. It also diverts precious resources towards learning and implementing a new system every few years, generating cynicism as personnel struggle to adapt to the latest fad.

Another area for further research is an across-the-board review of Air Force culture. Since the service took the time to perform a grassroots program in ICBMs and RPAs, other communities may benefit from similar efforts. Again, this sort of investigation is resource intensive and time-consuming, and unless the highest levels of leadership push the initiative consistently over multiple administrations, it will lose steam as it recedes into memory. The think tank paper published in 2014 by a group of Air Force captains at Squadron Officer College in Alabama demonstrates evidence that the integrity lapses of the ICBM community may exist in many other communities, contributing to the perception of a general integrity problem in the Air Force.[9]

The final area for further research is an effort to bring the history of ICBMs up-to-date. Historians may shy away from investigating recent history, but the American public deserves an education on the results of its budgetary and institutional choices over the last 25 years. The public needs a reminder on the importance of nuclear deterrence, and how close

[8] Deirdre Carlock, "Beyond Bullying: A Holistic Exploration of the Organizational Toxicity Phenomenon," EdD diss., Pepperdine University, 2013.
[9] Capt Andrew Browne, et al., "The Sacrifice of Integrity in the Pursuit of 'Excellence,'" Think Tank paper, Squadron Officer College, US Air Force Air University, 23 April 2014.

the US is to losing its nuclear edge due to organizational decay. Eric Schlosser wrote an insightful history of an ICBM accident in the 1980s and surrounded it with details of the entire organization from its beginning in the 1950s.[10] The Malmstrom AFB cheating operation could be an addendum to the Schlosser account, this time centering on the organization.

Final Thoughts

The recent history of the ICBM enterprise elucidates the ongoing tension between American national security and its financial well-being. As a wealthy country, the US enjoys the relative freedom from choosing between security and economic prosperity, but the federal budget still presents strategic dilemmas due to constrained resources. America's leaders must make strategic choices when preparing the military to fight in current and future conflicts, but the story of the ICBM community suggests that even the best-intentioned decisions may have long-term unintended consequences. For many years, the ICBM community cried out for the reassurance that nuclear deterrence mattered, and finally demanded that America's actions match its words.

Now that the ICBM community is getting the attention it has long needed, the challenge for the Air Force is to sustain the gains achieved thus far and build on them. As the impetus for change fades into memory, can future Air Force leaders ensure the continued institutional relevance of a niche organization? The Air Force needs a more enduring mechanism for organizational evaluation than it currently uses, something that will retain its usefulness after the current set of leaders retire. It is not for this study to say whether Bolman and Deal's Four-Frame Model of Organizational Analysis is that enduring method, but it

[10] Eric Schlosser, *Command and Control: Nuclear Weapons, the Damascus Incident, and the Illusion of Safety*, New York: The Penguin Press, 2013.

is certainly worth considering as a contribution of academia to the national security arena.

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