The Lens of Power: Aerial Reconnaissance and Diplomacy in the Airpower Century

by

Joe Santucci

A Dissertation submitted to the faculty of Air University in partial fulfillment of the requirements
for the degree of Doctor of Philosophy

Maxwell Air Force Base, Alabama

2013

_____
Dr. James Tucci, Chair
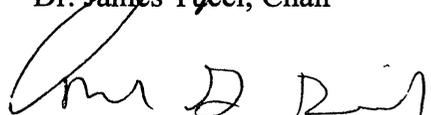
_____
Dr. Melvin Deaile
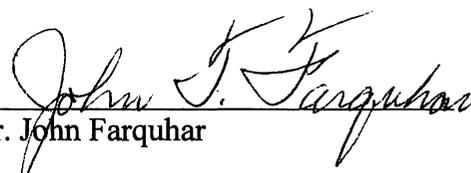
_____
Dr. John Farquhar

_____
Colonel Jeffrey J. Smith, PhD
Commandant and Dean
School of Advanced Air and Space Studies

Report Documentation Page

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE **2013**	2. REPORT TYPE	3. DATES COVERED **00-00-2013 to 00-00-2013**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
The Lens of Power: Aerial Reconnaissance and Diplomacy in the Airpower Century	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **School Of Advanced Air And Space Studies,,Air University,,Maxwell Air Force Base,,AL**	8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT

The United States and other nations pursue aerial reconnaissance daily. Thousands of sorties can be airborne simultaneously around the globe, all collecting vital information and providing different effects for authorities. Although the ability of aerial reconnaissance to find and fix targets and provide battle damage assessment in combat is well understood, its peacetime diplomatic impact is not. Absent an ongoing, large conflict to focus the reconnaissance enterprise, the goals of peacetime aerial reconnaissance, including collection and analyses become more complex and serve purposes beyond its ability to locate and analyze kinetic targets or military postures for combat. Historically, aerial reconnaissance in peacetime has proven politically useful and diplomatically versatile when employed independently of broader military operations.

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT **unclassified**	b. ABSTRACT **unclassified**	c. THIS PAGE **unclassified**	**Same as Report (SAR)**	**487**	

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 of Air University.

About the Author

Lieutenant Colonel Joe Santucci is an Air Force officer currently assigned to Air University as a Lorenz Research Fellow. He has flown reconnaissance missions around the world in the RC-135 and U-2 and commanded a U-2 operational squadron at Beale Air Force Base, California from 2009 to 2011. He has served on Air Combat Command's Headquarters Staff in Hampton, Virginia, and on the Air Staff at the Pentagon. Colonel Santucci holds a 1994 Bachelors of Science from the United States Air Force Academy, a 1999 Master of Arts from the University of Oklahoma, a 2007 Master of Operational Air and Space Power from Air University, and is a 2008 graduate of the Air Force's School of Advanced Air and Space Studies.

Acknowledgements

Abstract

The United States and other nations pursue aerial reconnaissance daily. Thousands of sorties can be airborne simultaneously around the globe, all collecting vital information and providing different effects for authorities. Although the ability of aerial reconnaissance to find and fix targets and provide battle damage assessment in combat is well understood, its peacetime diplomatic impact is not. Absent an ongoing, large conflict to focus the reconnaissance enterprise, the goals of peacetime aerial reconnaissance, including collection and analyses, become more complex and serve purposes beyond its ability to locate and analyze kinetic targets or military postures for combat. Historically, aerial reconnaissance in peacetime has proven politically useful and diplomatically versatile when employed independently of broader military operations.

This study investigates how America's aerial reconnaissance has supported diplomacy in peacetime. It hypothesizes that aerial reconnaissance operations have valuable and strategic diplomatic effect beyond simply contributing to a systematic intelligence-gathering process, and independent of its part in targeting and post-attack assessment in violent conflict. The study begins with a brief historical survey of peacetime aerial reconnaissance operations and explains how high-level political control over reconnaissance, established after World War II, enabled its strategic diplomatic impact. The study then examines diplomacy and aerial reconnaissance in three peacetime categories between 1956 and 2001: in evolving crises, in air monitoring, and in daily sensitive reconnaissance operations. Each category examines two historical case studies in an attempt to understand the relationship between diplomacy and peacetime aerial reconnaissance. The study concludes that peacetime aerial reconnaissance and diplomacy have shaped each other. By acting as a diplomatic indicator and agent through its physical presence, and by providing critical information to diplomatic principals, peacetime aerial reconnaissance has shaped diplomatic engagement and has served as a lens through which national decision makers view the world.

Contents

Chapter One: Introduction

Study of intelligence, surveillance and espionage…is the 'missing
dimension' to most studies of international relations and
diplomacy.[1]

Introduction

     As you read, there is a very high probability that tens to hundreds of American aircraft are

aloft around the globe surveying and collecting information important to the United States and its

leadership. The aircraft and their crews, deployed by national civilian and military authorities,

seek information on many subjects: national security, military postures, scientific research,

diplomatic, demographic patterns, and international treaties to name but a few. These missions

are agents of the questions asked by American leadership, who seek information to make

decisions, and of the answers returned to them. Similar aerial surveillance and reconnaissance

missions have contributed one tile at a time—outside of combat and major military operations—

to America's regenerative and robust mosaic of vigilance since the mid 1940s. Cumulatively,

they have provided much more than intelligence. The aerial reconnaissance program, especially

when employed outside of war, projects a unique daily American presence all around the world.

Because of this global reach and its information capabilities, the United States has placed aerial

reconnaissance in roles that delve into the diplomatic: to signal American interest, exercise

international freedom of navigation, analyze humanitarian crisis and natural disasters, investigate

developing situations for leadership, and underwrite diplomatic efforts to end violent crises.

---

[1] Martin S. Alexander, partially quoting Sir Alexander Cadogan, permanent secretary at the British Foreign Office from 1938 to 1945, in Martin Alexander, "Introduction: Knowing Your Friends, Assessing Your Allies--Perspectives on Intra-Alliance Intelligence," *Intelligence and National Security* 13, no. 1 (1998): 1.

This work is a study of American aerial reconnaissance in peacetime. It argues that aerial reconnaissance operations, exclusive of war and independent of other overarching military efforts, are primarily a diplomatic endeavor and can act as a catalyst to achieve American diplomatic goals—either through the information they collect or through their unique attributes. The United States deployed no systematic aerial reconnaissance program on a global scale until after World War II. Therefore, the period between 1945 and 2001 serves as a fruitful epoch from which to draw examples of three common categories of peacetime aerial reconnaissance activities: crisis reconnaissance, air monitoring, and sensitive reconnaissance operations, or SRO. Under this framework, we examine historical case studies that can help us understand the relationship between aerial reconnaissance and diplomacy.

The central goal of the investigation is to uncover how America's aerial reconnaissance has supported its diplomacy in peacetime. This question is based on the hypothesis that such reconnaissance operations have valuable, broad diplomatic impact beyond just their place in a normative, systematic, intelligence-gathering process and independent of their part in targeting and post-attack assessment in violent conflict. There are anecdotal examples that this hypothesis is true. Among the most obvious are the 1960 U-2 shoot-down over the Soviet Union which exacerbated the already tense political climate between that nation and the United States; the decades-long protests by North Korea and China regarding American reconnaissance flights off their coasts that, at times, threatened to escalate relations beyond peaceful engagement; and, more recently, displays by Iran of a captured American unmanned and unarmed reconnaissance aircraft, which it leveraged for maximum domestic and international propaganda. But examples such as these raise even further questions about the relationship between America's aerial

reconnaissance tool and its diplomacy. To simply affirm that the two are connected is necessary but insufficient for inquiry. How has aerial reconnaissance gained diplomatic relevance—even notoriety—in peacetime? What diplomatic issues have arisen because of American aerial reconnaissance and its interaction with other nations outside of war? What characteristics of aerial reconnaissance have produced the greatest diplomatic impact (e.g. overflight versus peripheral reconnaissance)? In what roles has America employed it? Has its availability or use during quiet peacetime or peacetime crises been stabilizing or destabilizing? How has American leadership managed the aerial reconnaissance mission to diplomatic effect? To pursue these and other questions, the analysis in the following chapters will focus on the *diplomatic context* and the characteristics of past aerial reconnaissance operations to explain *how* aerial reconnaissance interacted with state leadership and other agencies to achieve diplomatic effect.

Understanding the aerial Intelligence, Surveillance, and Reconnaissance (ISR) tool set and its relationship with the diplomatic instrument of power is useful. Specifically, a historical analysis of its peacetime characteristics and roles and how they affect diplomatic relationships or influence peace stability furthers our understanding of aerial reconnaissance beyond its well-known ability to inform tactical or strategic bombing.[2] To know why and how independent aerial reconnaissance operations can or cannot affect diplomacy deepens our understanding of airpower and its association with political primacy. If information gained through aerial reconnaissance becomes strategically important, then that is fortunate, but many times it is happenstance. Developing an awareness of peacetime aerial reconnaissance as a strategic

---

[2] For example, John Farquhar's *A Need To Know* concludes that the limits of strategic reconnaissance drove strategic doctrine against the Soviets during the Cold War. Before the United States collected sound, accurate information on Soviet military infrastructure via aerial reconnaissance, the US had very little precise information and American targeting strategy reflected it. John Thomas Farquhar, *A Need to Know: The Role of Air Force Reconnaissance in War Planning, 1945-1953* (Maxwell Air Force Base, Alabama: Air University Press, 2004). http://aupress.maxwell.af.mil/bookinfo.asp?bid=147, accessed 13 Dec 2011.

diplomatic tool is different from regarding it strictly as a routine intelligence collector. These

roles overlap, but the former perspective offers the statesman the useful wisdom about how aerial

reconnaissance and diplomacy can shape each other.

Definitions and Assumptions

       A few core terms are defined here for their use within the context of this work. First,

reconnaissance is an undertaking to obtain, by visual observation or other detection methods,

information about a subject of interest.[3] In the chapters that follow, that subject is usually

associated with the security and politics of other states. *Aerial* reconnaissance refers to this

undertaking using aircraft—fixed wing, rotary, or balloon—that operate according to the laws of

aerodynamics, not orbital mechanics. Aerial reconnaissance is often referred to as *Recce*

("recky") by the crews that fly the missions, or also informally as *Recon* in many circles.[4]

Surveillance, then, differs connotatively from reconnaissance in that it suggests such an

undertaking over time. Surveillance is the systematic observation of a subject by visual,

electronic, photographic, or other means.[5] Within this study, the terms reconnaissance and

surveillance are interchangeable for simplicity and because they are also as such in most of the

sources referenced and cited for the research.

       Reconnaissance and surveillance are employed to develop *intelligence*. Intelligence is

the product resulting from the collection, processing, integration, evaluation, analysis, and

interpretation of information, possibly from many sources including those outside of

---

[3] This definition is adapted from Joint Publication (JP) 1--02, *Department of Defense Dictionary of Military and Associated Terms*, 8 Nov 2010 (as amended through 15 Apr 2012). 271.
[4] This is just the beginning. A contemporary survey about the variations of the word "reconnaissance," especially in the aerial sense, would render certain farcical derivatives among pilots and crews such as "recce freestyle" and "hardcore recce."
[5] Adapted from JP 1--02, 8 Nov 2010 (as amended through 15 Apr 2012). 312.

reconnaissance, concerning a subject of interest.[6] This definition paints intelligence as refined

and necessarily many steps evolved from the collection of the raw data in myriad forms—human

sensing, textual, electronic, photographic, diplomatic, and measurements. Aerial reconnaissance

and surveillance may be only one contributor to *all-source* intelligence, which, as the name

implies, fuses data from many sources in an attempt to better triangulate the truth. The key is to

remember that presidents, national security staffs, secretaries of state and defense, military

service chiefs, and heads of government agencies—the decision makers at the national level—

usually reference intelligence and not unprepared data from technical collectors such as aircraft

or satellites, most of which has been screened for relevance by many experts and analysts before

reaching their eyes. This unwritten rule makes it almost impossible to determine which bits of

information presented to leadership are attributable to aerial reconnaissance and which are not.

Fortunately, there are historical exceptions to this rule, which this study seeks to exploit, in

which the national decision makers who steer American diplomacy have been physically or

logically connected with the products of aerial reconnaissance. President Dwight Eisenhower,

for example, often was presented with fresh U-2 imagery during the 1956 Suez Crisis in Egypt,

although such photographs were, in fairness, sometimes accompanied either by analytical

assessments that included other sources of corroborative information or the intelligence analysts

themselves.

Wrapped together, Intelligence, Surveillance, and Reconnaissance, or *ISR*, is the entire

enterprise that synchronizes and integrates the planning and operation of the aircraft and crews

that perform aerial reconnaissance and the analysis and dissemination of the data they collect.[7]

---

[6] Adapted from JP 1--02, 8 Nov 2010 (as amended through 15 Apr 2012). 158.
[7] Adapted from JP 1--02, 8 Nov 2010 (as amended through 15 Apr 2012). 160.

Unless otherwise noted in the text, reconnaissance, surveillance, and ISR all refer specifically to aerial operations.

There are also common modifiers to these terms as well as the almost-acronyms which have been jargonized over the years by an understandably zealous intelligence community. Photoreconnaissance is exactly as it says. Aerial electronic reconnaissance is as the reader pictures in their mind—an airplane with a forest of protruding antennae outside and an audience inside with fingers to their headphones, listening for the intercepted voice of a radio or telephone user, or for the sinusoidal whine-and-beep of radars and other electronic transmitters. With these and other modifiers comes the venerable *INT*, pronounced exactly as it is written and which is usually the completing suffix of an extensive catalogue of almost-acronyms meant to describe a particular discipline of INTelligence. The U-2 imagery mentioned above would be classified as IMINT, for IMagery INTelligence. SIGnals INTelligence, or SIGINT, is usually composed of ELINT, or ELectronic INTelligence, and COMINT, or COMmunications INTelligence.[8]

All the INTs during their infancy surely dream of crossing the checkerboard to be kinged ruler of all intelligence *takes,* that is, as *strategic* intelligence.[9] For our purposes, the definition of strategic intelligence is information that has disproportionately high effect beyond its singular place in the vast ISR enterprise. There are, to be sure, other definitions. For example, Mr. Dino Brugioni, a gentleman who constructed presidential briefing boards from aerial and satellite reconnaissance images for Presidents Eisenhower and Kennedy, in his powerful monograph of photo interpretation entitled *Eyes in the Sky* describes strategic intelligence as, "intelligence required for the formulation of strategy, policy, and military plans and operations at national and

---

[8] For a complete list of intelligence disciplines, i.e. the official list of "INTs," see Joint Publication (JP) 2-0, *Joint Intelligence*, 22 Jun 2007. B-1. Appendix B in JP 2-0 lists each "INT" discipline and its associated description.
[9] Ironically, I have never come across the term STRATINT.

theater levels."[10] Like so many other terms that are difficult and sometimes counterproductive to

define, strategic intelligence is reasonably easy to recognize. The bit of radioactive particles

sniffed from the air in 1949 by an American WB-29 off the coast of the Soviet Union would be a

suitable example of strategic intelligence (and strategic reconnaissance, which can be defined

here as reconnaissance intended to collect strategic intelligence). The collection and analysis of

those particles confirmed for President Truman the existence of a Soviet atomic program that

initially counterposed the American atomic monopoly. When laid aside the thousands of other

air samples collected by aerial reconnaissance from the Soviet Union in the late 1940s, there is

no mistaking that at least this one proved to be, indeed, strategic in impact.

Two final definitions are in order. *Diplomacy* retains its classic meaning, which is the

activity of managing international relations by a state's representative.[11] Here, it is synonymous

with statecraft, foreign affairs, or foreign relations. We come then to the most important term,

which is the meaning of *peacetime* aerial reconnaissance. In this work, peacetime aerial

reconnaissance means independent aerial intelligence, surveillance, and reconnaissance activities

not subordinate to major American wars or overarching combat operations and not exclusively

space-based.

The above final definition suggests the major assumption of this study.   Unlike bombing,

counter-air, or electronic attack, for example, the instruments of peacetime aerial reconnaissance

continue full operational employment between and among wars in *a different type of political

environment—one in which peacetime diplomatic paradigms and expectations prevail between*

---

[10] Dino A. Brugioni, *Eyes in the Sky: Eisenhower, the CIA, and Cold War Aerial Espionage*, ed. Doris G. Taylor (Annapolis, MD: Naval Institute Press, 2010). 80.
[11] This definition is adapted from the entry in *The New Oxford American Dictionary*, ed. Angus Stevenson and Christine Lindberg, 3rd ed. (Oxford: Oxford University Press, 2010).

the United States and other nations.[12] As an example, this paradigm can be readily seen in the

American administrations just after the Second World War as they struggled with how to employ

instruments thought previously to have utility only in combat. Aerial reconnaissance was among

them. "Pre-D-Day reconnaissance" is the wording in one declassified 1952 memo which

describes a meeting between Air Force and Central Intelligence Agency, or CIA, officials looking

for information on the Soviet Union, but with no overt conflict to justify flights in the far north

of the USSR, peripheral or otherwise.[13] The reconnaissance was to be carried out, "despite a

lack of war." Archival sources suggest that so new was the idea of employing widespread aerial

reconnaissance in peacetime that the act itself still was attached, linguistically at least, to wartime

terms.   Finally, note that this approach to evaluate peacetime reconnaissance does not assume

that perfect political harmony exists between the United States and any other state who is an

aerial reconnaissance target, only that the aerial reconnaissance in question is not subordinate to

other military or all-embracing operations. Thus, the case studies examined appropriately

include nations such as North Korea, with whom no formal peace treaty technically has been

signed to conclude the Korean War, but with whom the US is in an armistice/cease fire.

    Although, understandably, nations build their force structures and budgets around the

riskiest strategic scenarios, aerial reconnaissance and intelligence activities clearly do not cease

outside of major conflict. Aerial reconnaissance plays a critical role in military operations,

---

[12] The reader should be warned that the word "peacetime" is a contentious term in some circles. For example, Mary Dudziak argues (superbly) in *War Time* that a "peacetime" paradigm misrepresents the reality that conflict, not peace, is the norm. That discussion is relevant, but not threatening to the conclusions herein. Every month, there are thousands of aerial reconnaissance operations around the globe that are independent of ongoing conflict or parent operations. Mary Dudziak, *War Time: An Idea, Its History, Its Consequences* (Cambridge: Oxford University Press, 2012).
[13] The Korean War was raging in 1952, but CIA officials were discussing the possibility of reconnaissance flights along the USSR's northern coast and elsewhere far from the conflict on the Chosen Peninsula. Central Intelligence Agency, *Memorandum for Record, Meeting with USAF Representatives Regarding USAF Photo Reconnaissance Requirements, 15 February,* 1952. CIA-RDP83-00036R001100150033-7, Folder 1, Jeff Richelson Collection, The National Security Archive, George Washington University.

developing an understanding of the operations area and fixing prospective targets, but this role is outside the focus of the study. Absent an ongoing, large conflict to focus the ISR enterprise, the goals of peacetime aerial reconnaissance, including collection and analyses, become more complex and serve purposes beyond their ability to locate and analyze kinetic targets or military postures for combat. Thus, historically, aerial reconnaissance in peacetime has proven more diplomatically versatile and useful when employed independently of broader military operations. The coming chapters will explore the relationship between peacetime aerial reconnaissance operations and the contentious issues of diplomacy between America and her allies and adversaries. By narrowing the focus of the dissertation in this way, the research question examines the propensity of aerial ISR to achieve effects as an *independent diplomatic tool* for national and international leadership.

Approach, Conceptual Framework, and Chapter Summaries

To uncover the diplomatic contributions of aerial reconnaissance, this study applies a standard analytical set of four questions to selected individual historical events. Taken aggregately, the events selected for review represent a half-century of continuing aerial reconnaissance operations. The analytical question set is simple and based on the almost-too-obvious characteristics of aerial reconnaissance.

First and most important is the question of presence. *What aerial reconnaissance was present, and what diplomatic elements did its presence introduce into the domestic, bilateral, or multilateral relations of the states involved?* Addressing this question may produce factors associated with the physical appearance of the plane itself or the information collected during the

mission. Anthropologists and other social scientists may recognize the inquiry as somewhat analogous to the "observer effect," a term used by scientists to describe how human subjects change their behavior when they notice the presence and cameras of their observers.[14] This usually is the case with the nations who are the regular subjects of aerial reconnaissance, which measures its subjects in many ways: photography, collecting and evaluating electronic signals, or perhaps vacuuming up particles in the air. The fact that target nations commonly respond to reconnaissance aircraft with their own interceptors, usually fighter aircraft, or by conveying diplomatic protest are acknowledgments of presence. China's Defense Minister Liang Guanglie helped make this point when he mentioned to the China Daily Newspaper in June 2012 that he would like to see "more and better" military cooperation with the US, but specifically called for resolving "the issue of US military surveillance flights" off China's coast as a precondition.[15] Before the Chinese recently decided to renew their claim to the majority of the South China Sea as China's sovereign territory, the flights were simply intelligence-gathering efforts in international airspace. Now, for the US to stop the flights or curtail their mission tracks carries with it the inadvertent or intentional acknowledgement of the Chinese claim. Hence, the flights are no longer just reconnaissance flights, they now have "agency" as diplomatic signaling. This very brief example shows also that the question of presence proceeds beyond physical factors and looks to the diplomatic and political. It is the transduction of the physical presence of the aircraft into sometimes abstract diplomatic issues that concerns this part of the research the most.

_____

[14] Gregory Bateson described this effect during his early attempts to use film and photography to record isolated cultures in New Guinea and then Bali. As an example, see Gregory Bateson, *Naven* (Cambridge: The University Press, 1936). Epilogue, 257-279. The concept is sometimes confused with the "uncertainty principle" forwarded by Werner Heisenberg in 1927 at the University of Chicago. This principal of physics, which bears his name, has to do with the ever-limiting precision involved with simultaneously measuring pairs of physical properties of a particle, such as position and momentum. The uncertainty principle and the observer effect are related, but not the same.
[15] Zhao Shengnan and Cheng Guangjin, "Military To Strengthen Ties With US," *China Daily*, 27 Jun 2012, http://usa.chinadaily.com.cn/china/2012-06/27/content_15524489.htm, accessed 27 Jun 2012.

By mining for reactions, such as the one demonstrated by the Chinese above, the question of presence seeks to uncover a deeper understanding of how aerial reconnaissance interacts with diplomacy.

Second is the question of penetration. *What factors were introduced into the domestic, bilateral, or multilateral relations between states specifically due to the penetration of aerial reconnaissance?* This analytical query asks how aerial reconnaissance interacts with that part of diplomacy which is most valuable to any state—sovereignty. President Eisenhower wrestled morally with the idea of penetrating the Soviet Union with U-2s in 1956 and depended highly on the hope that the new technology would be undetectable to the Soviets. He did not convey similar worry regarding other, peripheral reconnaissance flights that had been under way against the Soviets since the mid-1940s because these operations did not penetrate Soviet airspace.[16] However, when the twenty-fourth U-2 mission was shot down in May 1960, the Soviets exploited the matter domestically and internationally to great theatrics, to include walking out of the May 1960 Paris Summit meeting. There is also a complicating element to evaluating the diplomatic impacts of penetrating reconnaissance due to the disputes over the legal recognition of international airspace versus sovereign territory—another point illustrated by China's constant claim to much of the South China Sea, and a theme which will be further investigated later. Where indeed, to put the border between national and international airspace? Hence, penetrative reconnaissance—or even the threat of it—changes the diplomatic game. It can, by itself, transfer the moral and legal high ground to the target nation and reveal portions of the perpetrator's

---

[16] It is likely that some early "peripheral" reconnaissance missions inadvertently crossed into Soviet airspace. Soviet radar usage and coverage was still very sparse in the late 1940s and early 1950s, so many of the missions could not be detected. Also, reconnaissance in the late 1940s remained service-independent and relatively unorganized at the national level, so it is difficult to know exactly what missions were flown and where unless the aircraft did not return or the Soviets protested.

worldview as serious enough to warrant profound risk-taking. Such was the case in 1960 for the

US, whose intelligence community held scant data about Soviet bombers and atomic might. This

dilemma is an appropriate segue into the next analytical question, which concerns justification.

What was the justification for aerial reconnaissance? Aerial reconnaissance, like other

military and diplomatic tools, compels those who wield it to weigh the expected benefits against

diplomatic risk—especially in peacetime as overflight missions can risk sparking a war. There

are quite a few authors, for example, who note that the U-2 Soviet overflights of the late 1950s,

as painful as it was to see them end with the Gary Powers affair, were well worth the risk.[17] It

was those twenty-four missions which contributed in no small part to exposing the truth to

President Eisenhower about Soviet bomber and missile programs. The missions were "a major

factor in keeping the United States from beginning a costly and destabilizing arms race in the late

1950s and early 1960s."[18] The pursuit of such strategic revelations was how President

Eisenhower justified his authorization of the U-2 overflights in 1956. Hence, investigating the

political justifications surrounding peacetime penetration missions can reveal much about the

domestic and international political context, and therefore the diplomatic stakes, associated with

the missions themselves.

The fourth and final analytical question simply asks what happened. *What were the*

results of the interaction between aerial reconnaissance and the political contexts involved? The

---

[17] For example: William Burrows, Paul Lashmar, L. Parker Temple, Chris Pocock, Gregory Pedlow, and Donald Welzenbach. Their works are covered more extensively in this chapter's upcoming literature review.

[18] In early 1959, the Soviets possessed just under a total of 200 Bison and Bear bombers, far less than the six-to-eight hundred predicted in 1956 by Air Force and Strategic Air Command estimates. See Christopher Andrew, *For the President's Eyes Only: Secret Intelligence and the American Presidency from Washington to Bush* (New York: Harper Collins Publishers, 1995). 224. Also see Gregory W. Pedlow and Donald E. Welzenbach, *The CIA and the U-2 Program, 1954-1974* (Washington DC: Central Intelligence Agency, 1998), Report, Center for the Study of Intelligence. 318. U-2 overflights between 1956 and 1960 revealed that the "bomber gap" between the US and the USSR was in America's favor. Overflights also revealed that the Soviets had encountered major difficulties in producing their first intercontinental ballistic missile, the R-7 (also dubbed the SS-6). See Norman Polmar, *Spyplane: The U-2 History Declassified* (Osceola, WI: MBI Publishing, 2001). 124.

diplomatic result may be as simple as a key bit of intelligence making its way to national decision makers who then apply it to diplomatic effect, as exemplified in October 1962 by US Ambassador Adlai Stevenson at the United Nations. Stevenson engaged the Soviet Ambassador in the Security Council using imagery from low-level aerial reconnaissance over Cuba that proved that the Soviets and Cubans were erecting nuclear missiles. The fact that such imagery could have been collected no other way in 1962 says much about the value of the aerial reconnaissance to the outcome of the crisis. The diplomatic results of reconnaissance could also be of a higher, more symbolic order. To stay within the same example, there was also a psychological impact on Cuban leadership during the crisis specifically born of President Kennedy's use of aerial reconnaissance. Newly ascended Fidel Castro was disgruntled about the demoralizing effect on his Cubans—and the affront to his competency—of the hundreds of unchecked and almost-supersonic-at-treetop-level American reconnaissance jets that overflew the island many times daily at the height of the Cuban missile crisis, a sensitivity that President Kennedy exploited.[19] In short, this question seeks to uncover such results and combine them to estimate how aerial reconnaissance affected diplomatic goals within the greater context.

The preceding set of four questions—*presence, penetration, justification,* and *result*—constitute the primary analytical framework for this study. The six case studies these questions probe are paired within three chapters named for their category of peacetime aerial reconnaissance: crisis reconnaissance is the use of aerial reconnaissance to support diplomatic goals and decision making during peacetime crises; air monitoring is the systematic application of aerial reconnaissance as part of a formal agreement between political agents; and the phrase

---

[19] The Cuban missile crisis will be discussed at length in Chapter Three.

"sensitive reconnaissance operations" (SRO) generally refers to aerial reconnaissance operations planned for and legally executed in international airspace, sometimes called peripheral reconnaissance. The chapters on these topics will be preceded by a chapter that surveys the history of peacetime aerial reconnaissance.

Chapter Two will illustrate the beginnings of peacetime aerial reconnaissance and its associated developmental highlights. It traces the origins of peacetime reconnaissance from the mid-1940s and flashes back to the interwar period during which European aerial reconnaissance was a proxy for diplomatic suspicions on the continent. This chapter will explain the early atomic and other security incentives that compelled American research into specialized peacetime reconnaissance aircraft, such as the U-2, A-12, and the SR-71, and which drove American leadership to employ aerial ISR on a grand scale for the first time. It ends with a discussion of the global political and legal regimes that developed alongside aerial reconnaissance and which have always bounded it, both terrestrially and diplomatically. The intent of Chapter Two is to familiarize the reader with the general origins, variety, nature, political control, and diplomatic proximity of peacetime aerial reconnaissance.

Chapter Three illustrates how aerial reconnaissance can help determine and support diplomatic goals during emergent crises in peacetime. To do this, the discussion applies the analytical question set to the 1956 Suez Crisis and the 1962 Cuban missile crisis. In both cases, American leadership was able to detect, assess, and then successfully navigate diplomacy, largely due to the contributions of aerial reconnaissance at their disposal. These case studies are also useful in that they control for satellite capabilities. Such technology was either unavailable at that time and place, as was the case over Suez in 1956, or was so new as to be relatively

inconsequential to the events. Chapter Three concludes that aerial reconnaissance, employed

regularly and with appropriate risk, can detect and profoundly affect diplomatic goals during

dawning crises.

Chapter Four examines air monitoring—the systematic application of aerial

reconnaissance as part of a formal agreement between nations. This chapter explores the Treaty

on Open Skies and the aerial verification regime in place over the Sinai Peninsula since the 1974

Egyptian-Israeli Disengagement Agreement. This pair of studies is unique in that they transcend

our usual view of reconnaissance as a covert, unilateral tool and highlight the bilateral and

multilateral application of aerial reconnaissance as a diplomatic confidence building measure

that can provide treaty verification and a positive diplomatic exchange. The Treaty on Open

Skies is a particularly recent and enlightening subject as it encourages permissive, penetrative,

and reciprocal aerial reconnaissance between former and potential adversaries—a mission not

easily replicated using satellites. Chapter Four concludes that aerial monitoring regimes help

achieve diplomatic goals in peacetime, in part, by reducing the risk and incidence of war. This is

because their construction and execution requires significant diplomatic investment and

compromise regarding the volatile issues that may lead to conflict.

Chapter Five looks at Sensitive Reconnaissance Operations, or SRO. SRO missions are

peacetime, overt reconnaissance missions planned for and executed in international airspace, also

referred to as peripheral reconnaissance, and are usually flown by specialized, unarmed

reconnaissance aircraft. Thousands of SRO missions can occur every month and constitute the

preponderance of America's contemporary peacetime reconnaissance program. This chapter will

evaluate SRO by discussing two specific events representative of the risks associated with

peripheral reconnaissance aircraft that necessarily fly in proximity to their target nations to maximize their take. In 1969, North Korea shot down a US Navy EC-121 aircraft, despite its probable position over 90 miles from the North Korean coast. In 2001, a US Navy EP-3 was forced to land on China's Hainan Island after colliding with a Chinese Navy (PLAN) F-8. Both incidents concerned US SIGINT, or signals intelligence, and reconnaissance aircraft on SRO missions, and both events were the first major tests of their newly inaugurated presidential administrations—Presidents Richard Nixon and George W. Bush, respectively. The incidents compelled immediate diplomatic engagement by the United States and associated investigations which, in effect, audited America's SRO program in important ways. By investigating these two case studies, Chapter Five concludes that SRO missions, because of their deliberate, constant, and sometimes provocative presence in an unpredictably varied and volatile diplomatic context, act primarily as diplomatic agents requiring constant assessment and mutual support from top political leadership.

Chapter Six contains observations and conclusions gleaned from preceding chapters. Among the main conclusions: peacetime aerial reconnaissance, in its own unique and profound way, can support and enhance diplomacy as much as it can endanger it. Understanding how and why aerial reconnaissance overlaps with diplomatic actions in peacetime is crucial to successfully employing it as a diplomatic tool.

Limitations and Scope

As this work was being prepared between the fall of 2012 and the spring of 2013, aerial reconnaissance was prevalent in current events, albeit subtlety in some cases. One such thread

was the domestic "drone" debate in the United States. *The Wall Street Journal*, for example,

reported in 2012 that many authorities and universities within the US were pursuing aerial drone

capabilities for policing and educational activities.[20] The Federal Aviation Administration (FAA)

was actively problem-solving to integrate unmanned aircraft with conventional, manned aircraft

within the same domestic airspace structure by sometime in 2015. This domestic drone boom

makes sense as institutions and businesses with tight budgets seek ways to leverage new

advances in data links and aviation computing to execute their charters, especially as the barriers

to space technology remain high. Along with this 'drone' expansion comes familiar issues

related to the subject herein: sovereignty, political and legal justification, privacy, effectiveness,

and more. But the drone debate, although of a similar character to the one addressed in the

upcoming chapters, differs in two important ways and therefore remains beyond the scope of this

work. First, a great part of the domestic drone debate is a uniquely domestic discussion about

unmanned aircraft which is taking place well within American social and political norms. This

means it exists *within* the legitimate and competent jurisdictional reach of American institutions

that practice control and adjudication over appropriate regimes, such as airspace, relevant to

unmanned aircraft and the contentious issues they submit. That situation is different from the

context surrounding international reconnaissance missions, which exist at the intersection of

diverse and divergent national paradigms and which effectively operate without a higher

jurisdictional authority to adjudicate between interested parties. Because this work looks to

examine the *diplomatic* impact of aerial reconnaissance, it must focus on reconnaissance

---

[20] Andy Pasztor and John Emshwiller, "Drone Use Takes Off on the Home Front," *The Wall Street Journal*, 20 Apr 2012, http://online.wsj.com/article/SB10001424052702304331204577354331959335276.html?
mod=WSJ_hp_MIDDLENexttoWhatsNewsTop, accessed 22 Apr. According to Pasztor and Emshwiller, the FAA granted more than 50 "universities and police agencies" permission to operate unmanned aerial vehicles by April 2012.

missions executed internationally while expecting to delve into certain domestic shades of the study as they become relevant.

Second, the domestic drone debate in America is not just about unmanned aircraft per se. It is more about the moral sensitivities associated with unmanned operations including the fearful perception of autonomous and automatic execution of those operations without deference to due process. Although this sensitivity certainly extends to US military and civilian agency drone operations in Yemen, Pakistan, Afghanistan, and others, the core question in this debate is about *how* and *whether* the US should use unmanned aircraft in certain roles, such as reconnaissance or strike.[21] This work will certainly address unmanned aircraft in its discussions, but only to the extent that such aircraft have been or are part of America's whole peacetime reconnaissance effort outside of war. The goal is to examine the links between diplomacy and aerial reconnaissance and not necessarily to enter into moral argument.

To be clear, this work will examine *peacetime* reconnaissance as it has been defined earlier. It will exclude missions that are part of overarching, parent airpower operations such as humanitarian assistance or large, long-term war efforts in which the US applies destructive force, e.g. Operations Iraq Freedom or Unified Assistance. The idea is to control for the other uses of military power and air power by focusing, in general, on the non-wartime use of aerial reconnaissance. Also, during combat, there is an understandable subordination of at least some aerial reconnaissance assets to the kinetic operation, both for intelligence preparation of the battle space and for post-strike battle damage assessment. Operations such as these are different

---

[21] For an example on the fascinating debate about using drones internationally for strike operations, see William Saletan, "Drones are the Worst Form of War, Except for All Others," *San Jose Mercury News*, 21 Feb 2013, http://www.mercurynews.com/ci_22628998/drones-save-civilians-bombs-more-deadly?IADID=Search-www.mercurynews.com-www.mercurynews.com, accessed 12 Jan 2013.

from independent peacetime aerial reconnaissance because the United States pursues the use of destructive force as a primary means to victory or deterrence in a particular case.

Two broader limitations are forwarded in the interest of length. The study focuses on *American* peacetime aerial reconnaissance, and only includes other nations' aerial operations where relevant. Chapter Four's discussion on the Treaty on Open Skies, for example, cannot help but take a multilateral approach since the treaty addresses reciprocal reconnaissance among many state parties. Finally, aerial reconnaissance and space reconnaissance exist in relation to one another, and as such are inseparable during analysis. Therefore, there is much included, necessarily, regarding space-based reconnaissance and its interaction with its older aerial sibling, but the focus will remain on aerial capabilities and effects due to the complications of operating aerial vehicles over or near another state's sovereign territory.

Existing Studies and Associated Literature

Most literature sharing this project's broader area of study focuses on a particular aircraft, region, or specific mission sets related to aerial reconnaissance. For example, Larry Tart and Robert Keefe's 2001 *The Price of Vigilance* was written to raise awareness about reconnaissance crews who never returned home during the Cold War, but contains a rich collection of newly declassified sources that have informed parts of this study. Chris Pocock's books are about the U-2 program specifically, but his works are of critical relevance because the story of the U-2 program is in many ways the story of American diplomacy.

The Air Force approach to aerial reconnaissance generally focuses on its ability to find targets. Such an approach underestimates the broad utility of America's reconnaissance

capabilities and subtly skews course-of-action analysis in favor of bombing. This is because Air

Force studies, and related scholarship, tend to focus on aerial reconnaissance's role in combat

operations to the exclusion of other air reconnaissance contexts. For example, most Air Force

"Lessons Learned" reports include chapters describing ISR in US, alliance, and coalition fighting

operations that were primarily kinetic. Recent reports include reviews of Operations Enduring

Freedom and Iraqi Freedom and Operations Odyssey Dawn and Unified Protector.[22] To be fair,

Headquarters Air Force has written studies that address aerial reconnaissance as part of larger,

specific humanitarian assistance and disaster relief operations (HA/DR), which are non-kinetic.[23]

But aerial reconnaissance in this role was not employed independently of the other airpower core

functions—domain dominance, global strike, mobility, and expert command and control.[24] The

fact that aerial reconnaissance can affect precision for an airlift campaign is not different from its

application to affect precision for a kinetic one. In both scenarios, reconnaissance remains

subordinate to the primary instrument to achieve effects—in the first case a mobility aircraft, and

in the second a bomb. Hence, Air Force studies tend to place aerial reconnaissance in its

subordinate role in these contexts.

In the same way, works that focus on political or diplomatic histories tend to mention

reconnaissance roles and events in passing only, because they focus on a vast array of political

and interpersonal factors to achieve their analysis. When Henry Kissinger in his memoirs *White*

---

[22] United States Air Force and Air Force Research Institute, "Enduring Lessons Learned from OEF/OIF: Adapting to Evolving Combat Realities," Headquarters United States Air Force, Air Force Lessons Learned AF/A9, Report, 31 March 2012. Also from Lt Gen Jodice Ralph Jodice, "Presentation regarding Operations Unified Protector," Discussion with the author, Pentagon Conference Center, Room B-1, 25 Jun 2012.

[23] For example, the 2005 DoD response to Hurricane Katrina and the 2011 ISR support to Operation Tomadachi reports both contain descriptions of how aerial reconnaissance was used to assess damage and assist relief forces in their missions. These discussions on aerial reconnaissance's applicability and responsiveness are useful to the extent they describe how aerial reconnaissance informed a diplomatic decision to undertake larger humanitarian assistance operations in the first place.

[24] These, along with Global Vigilance, constitute the core "competencies" of American airpower. Peacetime independent reconnaissance operations tasked by higher authorities constitute part of Global Vigilance.

House Years and *Crisis,* for example, discusses his efforts at peace in the Middle East in the 1970s, he mentions aerial reconnaissance only to the extent it is addressed in the documents leading up to and including the 1979 Treaty of Peace, which by that time had benefited from a robust aerial verification regime in the Sinai.

This study attempts to complement the existing literature on aerial reconnaissance in two ways. First, it attempts to connect works on aerial reconnaissance with works on diplomacy by analyzing case studies where both played major roles. It does this by focusing on peacetime aerial reconnaissance independent of war. Truly *independent* peacetime aerial ISR is not part of a broader airpower campaign. It is unique in that it is intended and undertaken as the sole air instrument to inform the next political step or strategy—as in the Cuban missile crisis in 1962. It may be tasked by the national command authority directly or its mission data may be significant enough to warrant direct national or international-level review—both are true about reconnaissance under the Treaty on Open Skies. By studying literature about such aerial reconnaissance missions during certain time periods, this study can control for the other airpower competencies and draw conclusions related specifically to aerial reconnaissance operations in peacetime and its interaction with diplomacy and diplomatic goals.

Second, this study hopes to broaden the knowledge on aerial reconnaissance by approaching the subject from the perspective of diplomacy, a theme that lies beyond the programatic and highly technical aspects that dominate reconnaissance studies about target-finding. Also, works that chronicle aerial reconnaissance operations or specific reconnaissance programs, such as those that occurred during the Cold War, are not necessarily studies on the relationship between peacetime aerial reconnaissance and diplomacy. This is because

chronicling aerial reconnaissance events may not be the same as examining it vis-à-vis a

particular diplomatic context, which this study attempts to accomplish. However, to be clear,

there are writers such as Paul Lashmar (*Spy Flights of the Cold War*) and Dino Brugioni (*Eyes in

the Sky*) who understand that "the study of reconnaissance is the study of politics."[25] Mr.

Brugioni's recollection of President Eisenhower's use of the U-2 during the 1956 Suez crisis, for

example, implicitly conveys the impact of the U-2's capability on the events in Egypt and its

impression on the president. This paper tries to build on such literature by examining case

studies on the subject using a common model of inquiry. The goal is to identify a pattern of

certain qualities, roles, and contextual factors regarding peacetime aerial reconnaissance that

produced a disproportionately favorable or unfavorable diplomatic result.

     Writing a study on aerial reconnaissance, or any intelligence-related subject, inevitably

presents the writer with the challenges of classification. CIA archives, military service history

officers, and department and agency depositories usually retain documents at their original

classification level until some action is taken to declassify them (classification inertia), either by

those organizations or by independent researchers. In the interest of time and to prevent any

"bleed over" from classified sources, this study focused on previously declassified and open

sources. It benefited greatly from a sustained and widespread interest among researchers and

academic organizations in Cold War history. Thus, most data needed to explore the research

question was either already available in declassified if even redacted form, or obtainable through

open sources. The Department of State's *Foreign Relations of the United States* series, for

example, constantly pursues the declassification of government documents. Its newest addition

---

[25] Dino A. Brugioni, Telephone interview conducted by the author. Fredricksburg, Virginia, 8 June 2012.

was published in 2012: 1969-1976, Volume XXVII, *Iran & Iraq 1973-1976*. Sustained efforts to declassify-and-publish, combined with the global reach of the internet, allowed access to diverse open sources that would not have been available just ten years ago. The Wilson Center's Cold War International History Project Digital Archive is an example. The segment of this study most impacted by classification is its section in Chapter Five on the 2001 EP-3 incident. In that section, most of the discussion is based on published statements by the principal players, White House and departmental press releases, and memoirs.

Works that share this study's specific topic—that is, works that investigate the connection between peacetime aerial reconnaissance and diplomacy—are relatively few, which seems anecdotal reason to pursue the subject. On the other hand, works on near and related topics abound: aerial reconnaissance programs, such as the U-2, SR-71, and the aerial ELINT collectors like the RC-135; space reconnaissance programs, such as the Corona and Samos systems; the intelligence community, such as studies on the Central Intelligence Agency (CIA) and the Defense Intelligence Agency (DIA); foreign relations and diplomacy, both in general and between specific nations such as the United States and China; the relationship between intelligence and politics; and of course relevant histories of the events in the case studies examined that serve as the fertile soil for this inquiry. Although there is a dearth of literature on the exact topic, there is an abundance of works that share its general area of study. The first paragraphs below relate the few works that are key to understanding what has been written on the topic or closely related topics thus far. They are followed by categories that reflect the organization of this study, but are representative of the genre of literature in the larger area of interest. Fortunately, the existing works almost organize themselves, from those most closely

associated with this topic (most of which could be prerequisites to this study) to those with a more broad applicability. Every effort has been made to keep the following list relevant and focused while providing an idea of the impressive volume of works representing the area of reconnaissance, intelligence, and their diplomatic implications.

Existing studies—scholarship on aerial reconnaissance and diplomacy. In 1954 and 1955, the RAND corporation's Alexander George led research into America's relatively new aerial reconnaissance program. His primary goal was to unearth the diplomatic impacts and trends associated with flying aerial reconnaissance (there was no space reconnaissance at the time) against the Soviet Union. The effort produced a series of five papers, a standalone set referenced here as "the George Reports." The first two reports listed the circumstances of 29 actual and alleged overflights by American and other reconnaissance aircraft between 1930 and 1953: *Case Studies of Actual and Alleged Overflights, 1930-1953*, and its associated supplement. The third report, *Soviet Reaction to Border Flights and Overflights in Peacetime*, built on the data in the first two and is the earliest study that links peacetime aerial reconnaissance to diplomatic implications. This third George Report concludes that the Soviets showed "an unexpected willingness to adapt to changing circumstances their policy for dealing with real or alleged overflights." Specifically, George found that the Soviets tailored their response to approaching reconnaissance aircraft to support their diplomatic policy towards the nation that sent it, to include no hesitation to shoot down an unarmed reconnaissance aircraft far off their border. This meant applying a "stereotyped" justification for violent incidents, which was usually self-defense coupled with sovereignty (a tactic which has been used by North Korea as the reader will see in Chapter Five). Importantly, George reported that it became diplomatically

difficult for the American State Department to seek remediation, or even information, for an air

incident involving reconnaissance aircraft because both governments wanted the events kept

very secret (the George Reports were classified until the mid-1990s), especially if wreckage and

the crew were far from their home base and never found. This put the American government in a

bind: to initiate disclosure and expose the Soviets for shooting down an unarmed aircraft in

international airspace meant also exposing the peacetime reconnaissance program about which

the American public in the late 1940s and 1950s knew little to nothing, and therefore was seen by

American leadership as very high political risk.[26] Hence, the Soviets leveraged this situation and

initiated, or did not initiate, disclosure or make diplomatic protests until the time and place of

their choosing. Basically, George discovered that peacetime aerial reconnaissance meant

providing the target nation a first-move diplomatic advantage when incidents occur—a theme

further explored in Chapter Five with the 2001 EP-3 incident.

The fourth and fifth George Reports continued to explore the meaning of the Soviet

response to aerial reconnaissance, in *Diplomatic Aspects of Soviet Air-Defense Policy,*

1950-1953, and *Intelligence Value of Soviet Notes on Air Incidents, 1950-1953*. The reader will

note that George probably chose his timeframe because it was not until April 1950 that the

Soviets began responding violently to reconnaissance aircraft, probably due to improvements in

air defenses. In *Diplomatic Aspects*, George concluded that the lack of well-defined international

legal precedent or treaties governing aerial intrusions gave the Soviet government a wide latitude

to "fit" their air defense responses to international law, forcing the United States into "sterile

debate over the facts of each incident, i.e., over who fired first." This was especially true in the

---

[26] George expands on the US Government's perception of public opinion in his fourth report, *Diplomatic Aspects of Soviet Air Defense Policy, 1950-1953*, see page v.

case of violent interception far out over international waters. George's fifth Report, *Intelligence Value*, concluded from official communiqués following air incidents that it was standard Soviet air defense policy to force any aircraft to land that it deemed an "intruder," or to shoot it down if the aircraft was not cooperative or was deemed "hostile," and then follow up with their stereotypical justification. The problem was that the criteria for "intruder" and "hostile" were created by the Soviets and were probably changed from case to case to accommodate diplomatic requirements—a situation which still haunts reconnaissance missions today around North Korea and China. Taken as a set, the George Reports compose a focused aerial reconnaissance-to-diplomacy study that this study attempts to compliment by expanding its themes to satellite-age case studies and looking at other peacetime reconnaissance categories such as air monitoring.

Like the George Reports, John Farquhar's works on aerial reconnaissance also focus on the diplomatic implications with the Soviet Union. A former Air Force reconnaissance aviator himself, Farquhar generally concentrates on pre-space age aerial reconnaissance in two primary works. The first is his 1986 Masters thesis, *A Cold War in Flames: The Impact of Aerial Reconnaissance on U.S.-Soviet Relations, 1948-1960*. Farquhar concludes, "aerial reconnaissance played a major role in shaping U.S. foreign policy during the Cold War… To say that reconnaissance caused the Cold War overstates its impact; however, aerial reconnaissance assumed a significant role. More than a mere tool of the policy makers, aerial reconnaissance shaped foreign policy." Of all the works outlined here, this dissertation aspires to continue and broaden the themes presented in *A Cold War in Flames*, which concludes just as the Corona spy satellites are beginning their successful missions in 1960. Farquhar discusses how early aerial reconnaissance successes in turn informed strategic successes in US national security. However,

he also demonstrates that peripheral reconnaissance and overflights embittered bilateral US-Soviet relations and that violent incidents limited the diplomatic and domestic flexibility of both the American and Soviet principals until the advent of satellites. The upcoming chapters reflect these same ideas but broaden their context to multilateral realms and offer a temporal focus extended to 2001. In doing so, this paper explores the continuing relevance of aerial reconnaissance amidst space systems that provide collection alternatives to policymakers. Furthermore, this dissertation organizes peacetime aerial reconnaissance into three major categories—crisis, monitoring, and SRO—that present unique opportunities to study it beyond its place in historical narrative. The result is the introduction of a new approach to reconnaissance that, as it turns out, affirms many of the conclusions in *A Cold War in Flames*.

Farquhar continues his look at American aerial reconnaissance in his 2004 book, *A Need to Know: the Role of Air Force Reconnaissance in War Planning*. Farquhar concludes "the limits of aerial reconnaissance shaped strategic doctrine" during post World War II years. Farquhar's book is indispensable in showing how aerial reconnaissance shaped war planning, even after technological challenges were overcome. *A Need to Know* is also a work that includes a broad survey of air reconnaissance programs instead of focusing on a single aircraft or intelligence type. As Farquhar writes in his introduction, "a study of strategic aerial reconnaissance illuminates the link between intelligence and strategy and between military capability and doctrine." The book examines the motivations and origins of peacetime aerial reconnaissance and explains how a desperate lack of exact information regarding the Soviet interior and military might shaped the aerial reconnaissance tool and political decisions about bombing strategy and targeting along with it. In short, strategic aerial reconnaissance was America's cornerstone for

strategic air war planning between 1945 and 1953. Farquhar's works provide the foundational analysis of the post-World War II interaction of the aerial reconnaissance instrument and its political and military masters.

Dino Brugioni, a prolific author and former CIA imagery analyst, offers a look at reconnaissance and its early diplomatic impacts by writing extensively about the Photo Intelligence Division during the Agency's romantic early years (PID, along with its long list of generational name updates). What's significant about Brugioni's work is that his job placed him at the confluence of photo intelligence and political leadership, as he commonly built the composite images and briefing boards for multiple American presidents during both quiet and crises. His location in the CIA's intelligence chain also allowed him to compare many types of imagery, not only from aircraft but also from satellites and human operatives. This confers upon Brugioni license to comment on which type of imagery was most useful or most in demand by American leadership at particular times—a resource on which this dissertation relies heavily for information in Chapters Two and Three. Brugioni's 2010 *Eyes in the Sky* literally begins at the beginning. He describes PID's set up and role in the construction of the Cold War intelligence empire built by Truman, Eisenhower, and Kennedy and discusses several important evolutionary advances in technology (e.g. camera and film types), policy (e.g. the unprecedented sharing of otherwise secret imagery with allies and adversaries for diplomatic effect), and leadership (e.g. the importance of Allen Dulles' timing as Director of the CIA, or DCI, and of the irreplaceable role of Edward Land, Richard Bissell, and Arthur Lundahl in the development of strategic reconnaissance). Although *Eyes in the Sky* incorporates many modern references and analogies, its end limit is in the early 1960s, when American reconnaissance solved the "missile gap" after

successfully solving the "bomber gap" before it. Among *Eyes*' most profound conclusions is the significance of Eisenhower's vision for national intelligence—and Kennedy's early diplomatic performance—placed on imagery collection, and the ever-constant need for America to train and develop the art of imagery analysis. As if to sew this seed for later harvest, Brugioni in his 1990 *Eyeball to Eyeball* focused his perspective on the imagery intelligence and processes during the 1962 Cuban missile crisis, a resource used in Chapter Three. What is surprising about this work is how it establishes the esoteric as diplomatically essential. President Kennedy, when he viewed the U-2 imagery of Soviet ballistic missiles being installed around San Cristobal, Cuba, would not have seen anything of interest were it not for the trained eyes and magnifying glass of a CIA imagery analyst who was quite literally leaning over his shoulder. Hence, the president in ordering further confirmatory reconnaissance missions over Cuba was *dependent* on and trusting of someone else's niche expertise. Brugioni describes how this dependency evolved to support Kennedy during the iconic diplomatic standoff of the Cold War. When combined with primary sources in this dissertation, *Eyeball* shows how SRO and crisis reconnaissance initiated, drove, and limited the events in late 1962—especially the use of low-level penetrating reconnaissance which provided tangible diplomatic effects through its impressive presence. Brugioni has written many essays and articles, and the above two works capture the themes in all of them.

R. Cargill Hall, National Reconnaissance Office (NRO) Historian Emeritus, connects peacetime aerial reconnaissance with diplomatic goals and consequences. His work made an unexpected and disproportionate impact on this dissertation by introducing me to the concepts that surround the practical diplomatic justifications of high-risk aerial reconnaissance missions. In two relatively short essays, Hall explores the legal justification behind Eisenhower's

peacetime overflights of the Soviet Union amidst a desperate need for intelligence on the perceived Soviet juggernaut. He places Chapter VI of the United Nations Charter and its "unannounced cobelligerent" clause inside the Oval Office as early legal support for aerial missions overflying China and the Soviet Union during the Korean War. Hall takes a domestic tack in describing how, later, Eisenhower employed new secrecy standards and special compartmentalization to protect Soviet and Chinese overflights that he knew violated international law and precedent. Hall's purpose in writing the 1997 *The Truth About Overflights* and the 2009 *Denied Territory: Eisenhower's Policy of Peacetime Aerial Overflight* is to expose and explain the high-level political control, participation, and domestic risks required for penetrative peacetime aerial reconnaissance, including the U-2 missions over the USSR, which embarrassed Eisenhower when he was compelled to confirm the truth in the 1960 Gary Powers incident. Hall's common implication is that peacetime overflights must place responsibility for the missions with the president, as he is the embodiment of American foreign policy, military command, and the focus of domestic scrutiny when secret reconnaissance missions go wrong.

   Existing studies on reconnaissance and reconnaissance-related histories. First in this category are works that incorporate a broad look at the American intelligence community and the history of its collection mechanisms of all kinds. Common among them are the authors' drive to "uncover" what is considered a hidden enterprise by default. This is either because of a sincere desire for more open information—and therefore open dialogue—about the intelligence community and its practices, as is the case with Jeffrey Richelson's impressive works, or because of an interest in what was or has been accomplished technologically, organizationally, and politically, as is the case with L. Parker Temple in *Shades of Gray*. Most of these works in their

conclusions credit the capabilities of intelligence collectors with profound political impact at specific times, such as the Vietnam War, or over a wider period, such as the Cold War.

Jeffrey Richelson's works are a collection representative of the standard for knowledge when it comes to intelligence collection systems. This dissertation has been informed by Richelson's 1985 *The US Intelligence Community*, which is effectively the encyclopedia of all US intelligence and should be the first book for any prospective researchers. In his words, the purpose of *The US Intelligence Community* is to, "provide a comprehensive and detailed overview" of the activities, processes, and management of the organizations that participate in intelligence for the United States. Although Richelson provides some comments on recent events in the conclusion of his later editions, he saves analysis and evaluation of specific topics for other works, of which there are many. Chapter Six in the 1995 *A Century of Spies: Intelligence in the Twentieth Century* is entitled "Spies Between the Wars 1930-1939," and contains much information about aerial reconnaissance in Europe during the interwar period. Richelson ties the successes of intelligence collection to successful, broad political goals: limiting the fear of surprise attack and enemy superiority, enabling arms control treaties by providing verification, and monitoring crises. He also reminds the reader that the first use of aviation—especially military aviation—was aerial reconnaissance. Richelson continues the aerial reconnaissance thread in his 2002 *The Wizards of Langley: Inside the CIA's Directorate of Science and Technology*. *Wizards* argues that the Directorate is under-appreciated as necessary in many of the intelligence events underpinning American foreign relations, including the US-Soviet bomber and missile gaps and the development of satellite technology at a time before the US interstate highway system had yet to be built. Without the Directorate and its organizational

immunity to the nuclear and bomber culture in the Air Force, the technological challenges of the Cold War would have come out differently. To do this, Richelson could not help but cover the development of the U-2, the A-12, and the Corona reconnaissance systems—all of which were technologies developed exclusively for the peacetime diplomatic environment. Contextual peacetime relevance is offered in his 2006 *Spying on the Bomb*, which is a useful history of nuclear programs in nations other than the US and is combined with a description of the American intelligence community's reaction to those programs. Throughout the book, Richelson weaves in relevant peacetime aerial reconnaissance contributions to include, for example, a riveting description of a carrier-launched U-2 mission sent to sniff out nuclear particles near French Polynesia. These aforementioned four books by Richelson represent the contextual foundation of intelligence knowledge and sources for this paper but are only some of his many contributions to the literature on US intelligence and its associated systems. If anything, the works convey the tireless, enduring, and white-hot intensity of US collectors, whether aerial or otherwise, their technological mastery, and the associated dependence on them of America's top leadership.

Alwyn Lloyd's intimidating 1999 *A Cold War Legacy: A Tribute to Strategic Air Command 1946-1992* is a detailed, chronological history of Strategic Air Command (SAC). It contains multiple sections on SAC's aerial reconnaissance operations and aircraft over the years. Along with SAC's official command histories, Lloyd's work is the only other comprehensive source for Cold War aerial strategic reconnaissance programs and aircraft. It provides a requisite context for this study.

After Richelson's and Lloyd's core works comes a collection of studies on reconnaissance as a specific subject of interest. L. Parker Temple's 2005 *Shades of Gray: National Security and the Evolution of Space Reconnaissance* must come first. It is no coincidence that although Temple's purpose is to chronicle the evolution of space systems, he considers aerial systems as a sustained and powerful motivation for the development of their orbiting cousins. Temple writes, "the progressive and cyclic advance of aircraft and replacement in many of the most hazardous roles (other than combat itself) by spacecraft has been played out for nearly half a century." *Shades* corroborates much of Richelson's work on the structure and missions of peacetime aerial reconnaissance by mining different sources. It also weaves them into a successful explanation of the national security space program and its evolutionary vulnerability from sharing common launch vehicles with other programs. Temple speculates in his conclusion that modern technology, allowing unmanned vehicles to perform stealthy aerial reconnaissance without endangering a pilot and with minimal diplomatic risk, may allow the reorientation of space systems to "the strategic level" again. More than any other work, Temple shows the interdependency of peacetime aerial and space reconnaissance.

William Burrows is able to prove the same interdependence, but across two separate works. *By Any Means Necessary* (2001) tallies America's airborne espionage during the Cold War in human terms. In his conclusion, he makes clear the difficulties that haunted Russian and American leaders in the 1990s and 2000s when they were compelled to act on behalf of the families of missing reconnaissance crews while at the same time trying to avoid revisiting political conflict to move the Russia-American post-Cold War relationship forward. Burrows' story suggests that the Soviets and Chinese saw the American aerial reconnaissance effort as a

diplomatic contest as much as (or even more so) than a military or technological one. It is

interesting that Burrows wrote *Deep Black* (1986) 15 years before he would compose *By Any*

Means Necessary. The result is *Deep Black's* unintentional revelations about peacetime aerial

reconnaissance. For example, Burrows discusses how President Kennedy in 1962 turned to low-

level and U-2 Cuban overflights because of the orbital limitations of early American satellite

photoreconnaissance systems. A few authors write about the fact that, by 1969, both the USSR

and the United States had engaged in regular space collection, presumably part of the reason

violent reconnaissance shoot-downs (such as the EC-121 in April of that year) ended. To

understand the diplomatic side of aerial reconnaissance, it is necessary to frame its alternative

contextually. Works like *Deep Black* and *Any Means* are irreplaceable in this regard.

Other valuable works interweave aerial and space reconnaissance together and are an

important part of the background for this study. Phillip Taubman's 2003 *Secret Empire:*

Eisenhower, the CIA, and the Hidden Story of America's Space Espionage describes why and

how the Eisenhower administration vigorously pursued satellite reconnaissance capability in the

1950s. Faced with a dearth of information on Soviet and Eastern Bloc defense postures, the

administration looked to satellite wet film reconnaissance as a follow-on to their soon-to-be-

threatened aerial reconnaissance programs. The shoot-down of a U-2 in 1960 renewed

Eisenhower's resolve and invigorated the NRO and CIA to find new ways to overfly denied

territory. They quickly learned, however, the limits in the timing, accessibility, and

responsiveness of satellite systems—a limitation which drove aerial crisis reconnaissance over

Cuba in the early 1960s. The NRO's declassified histories also contribute to the space context

with two volumes of *A History of Satellite Reconnaissance* (1973, released in 1997) and *The*

Corona Story (1988, released in 2010), both of which are newly available on the NRO website this Spring. Both sets are primarily focused on the Corona program, but offer firsthand discussion of other early space systems such as Samos, Sentry, Argon, and Lanyard, and their system-wise associations with early aerial projects such as the U-2.

Moving into purely aerial reconnaissance literature illustrates a few common themes. One which is prominent in researching reconnaissance in a diplomatic context is unmanned aircraft, commonly referred to as RPAs for remotely piloted aircraft (in this work, RPA is interchangeable with UAVs, which stands for unmanned aerial vehicle). This is because of an unmanned aircraft's capability to execute a risky reconnaissance mission without jeopardizing a crew's life and therefore denying a target nation of diplomatic leverage. In no other work is this risk more brightly colored than in Larry Tart and Robert Keefe's book, *The Price of Vigilance: Attacks on American Surveillance Flights*. *Vigilance* is an inclusive and detailed collection of reproduced archival sources concerning violent exchanges between target nation air defenses and American peacetime reconnaissance aircraft underway. The authors include transcripts of aerial communications in the air. While their focus clearly is on illuminating the facts to help ease the suffering of the families of downed and still-missing reconnaissance crews, their research is foundational to the diplomatic tensions and impact surrounding aerial reconnaissance flights. The forward and introduction were written just after the April 2001 EP-3 incident and reflect the authors' immediate ideas regarding the incident. Accordingly, the rest of the book is organized by incident in chronological order, and the authors fill in the gaps created by official documentation with their own interviews and conclusions. Tart and Keefe successfully illustrate

the personal sacrifices that embody "diplomatic risk" when deploying a manned reconnaissance aircraft.

David Irvin's books, *Reconnaissance is Black* (2000) and *History of Strategic Drone Operations* (2003) are representative of core RPA studies and serve also as a transition of sorts from the space literature to the aerial and RPA works.[27] Their bibliographies are finding aids to the bulk of the RPA sources before their respective publishing dates. *Black* and *History* together are Irvin's chronology of his career in reconnaissance, eventually serving at Strategic Air Command (SAC) Headquarters at Offutt AFB in 1964. His books are a firsthand account of major command-level programs that were active in strategic reconnaissance from the early 1960s to the 1980s. Irvin's descriptions and accounts of program evolutions include the RB/EB-47, RC-135, RB-57, U-2, SR-71, BQM-34, and many drones, like the prolific Ryan 147 series, the 154 (Compass Arrow), and the Senior Bowl D-21B. Although Irvin's focus is extremely technical, he does give descriptions of some recently declassified operations, including penetration flights into North Korea in the 1980s and North Korea's attempt at shooting down an SR-71 on 26 August 1981. Thomas Ehrhard continues to develop the always-interesting UAV theme in the dense *Air Force UAV's: the Secret History* (2010), in which he presents information on modern programs such as the RQ-1 and RQ-4 . Both Ehrhard and Irvin pull from and then update William Wagner's foundational work on the combat history of UAVs, *Lightning Bug and Other Reconnaissance Drones* (1982). The first three-quarters of Curtis Peebles' 1995 *Dark Eagles: A History of Top Secret US Aircraft Programs* is almost exclusively about

---

[27] This work will refer to all unmanned aircraft using the term UAV, or simply "unmanned aircraft," but there are many variations of the noun among the literature on reconnaissance: remotely piloted aircraft (RPA), unmanned aircraft system (UAS), and drones, for example. All variations have their technical and political justifications, but that is outside the scope of this study. Rather, this work is interested to glean from the literature the changes in diplomatic implications when the reconnaissance crew was removed from the equation—a task usually requiring cross-referencing diplomatic histories and primary sources. UAV studies tend to focus mostly on UAV technology and programatic milestones.

reconnaissance programs like the U-2, A-12, Ryan 147 and 154, and the D-21 UAVs. Peebles prophetically concludes "the secrecy surrounding these projects [was] necessary." Otherwise, he says, the inevitable setbacks when pushing technological limits would have been political fodder for politicians and the press. The result would have been the absence of the technology exactly when it was needed.

The NRO's R. Cargill Hall makes another showing in the core literature here with an anthology representative of literature whose main focus is mostly Cold War aerial reconnaissance, a staple of information required for this study. He and Clayton David Lauri edited the 2003 *Symposium Proceedings* on *Early Cold War Overflights 1950-1956*, held at the Defense Intelligence Agency in February 2001. The two volume set is the collection of memoirs offered at the symposium which, in its entirety, forwards the irreplaceability of aerial reconnaissance of the strategic kind. The concluding remarks recorded at the end of the first volume made by Major General Glen Shaffer, at the time the Air Force's Director of ISR, is particularly indicative. Although *Symposium* begins by emphasizing that most of the overflights discussed were about peacetime reconnaissance, General Shaffer focuses only on wartime reconnaissance. From his conclusion, as he speaks of modern reconnaissance: "One thing that has not changed, however: reconnaissance leads the battle. It is reconnaissance that finds the enemy. It is reconnaissance that finds the targets. Everything that you did was about that. It is the same way today, whether you are running a major military campaign or whether you are fighting against a terrorist group somewhere in Somalia. Reconnaissance today, as in your day, leads the fight. It still finds and identifies those targets." The contrast between what reconnaissance had accomplished in the Cold War and the way General Shaffer treats that record

could not have been more striking. In sum, the symposium documents suggest that reconnaissance had revealed truths about adversaries that allowed a rational political and diplomatic control to prevail instead of the anxious and ignorant pugnacity that was dominant in the absence of the solid information. Thus, General Shaffer's words represent a prevailing deficiency in how reconnaissance is understood and undervalued as a strategic tool, which is that reconnaissance is only there to find targets. The facts suggest otherwise and highlights the need for this study.

Fred Wack adds witness to the early Cold War aerial reconnaissance literature with his firsthand account of his reconnaissance operations in the Arctic as part of *The Secret Explorers: the Saga of the 46th/72nd Reconnaissance Squadrons* (1992). These units radar-mapped the Arctic, flying RB-17s and RB-29s, and interacted at pointblank with Soviet air defenses that queued other investigations into the new Soviet bomber capabilities. Anthony Thornborough's 1993 *Sky Spies: Three Decades of Aerial Reconnaissance* focuses on the period between the 1960 shoot-down of Gary Powers and the end of the "golden era" of manned reconnaissance in 1989 as the Berlin Wall fell. Interestingly, Thornborough discusses the cost-benefit calculus involved in the decision to restart overflights after the 1960 U-2 incident and the foreign policy implications of America's support to "proxy" reconnaissance from Taiwan over China (more on that in Pocock's *Black Bats*). Vastly expanding the applicable era for the same discussions on aerial reconnaissance is Glen Infield's 1970 *Unarmed and Unafraid*, which sweeps from the American Civil War to the Vietnam War and is a late-1960s perspective on the U-2 and SR-71 operations as well as a look into early satellite reconnaissance, and Robert Jackson's 1998 *High Cold War* which begins in 1949 and ends in 1997. To this group of core reconnaissance histories

can be added *Tactical Reconnaissance in the Cold War* by Doug Gordon (2006), a narrative and pictorial history of tactical and operational-level reconnaissance from 1949 to 1989 and a refreshing twist on the literature which focuses mainly on modified fighter aircraft like the RF-4, designed for risky and quick in-and-out missions.

John Taylor and David Money in *Spies in the Sky* (1972) depend mostly on secondary sources to discuss the national level decision-making behind post-World War II aerial reconnaissance. In Chapter Six, the authors introduce the probable benefits of the Open Skies proposal and how the project could be conducted. This is fascinating because the chapter was written before the Open Skies Treaty successfully re-emerged in 1992. Much of the second half of the book is dedicated to chronicling the reconnaissance missions against Cuba before the 1962 missile crisis. Major Tyler Morton's excellent thesis from Air University's School of Advanced Air and Space Studies, *Eyes and Ears in the Sky: The Evolution of Manned Airborne ISR* (2012), benefitted from the writer's proximity to Air Force archival records at Maxwell Air Force Base and mentoring from historian and author Larry Tart. Himself an experienced reconnaissance crew member, Morton's focus is on aerial reconnaissance employed in combat. However, he also covers strategic aerial reconnaissance in the Cold War and so was referenced frequently for context in this work's Chapter Two. I am grateful to Major Morton for his efforts and writing skill. Lastly, David Donald's 1987 *Spyplane* is a photographic index to the machines of aerial reconnaissance. Along with Donald's narrative of the history of aerial espionage, the book depicts, pictorially and graphically, all of the aircraft to be mentioned in this study. It contains no notes or annotations, but is useful as a visual reference. This is also one of the few sources that attempts to analyze the difference between strategic and tactical intelligence platforms by

comparing the characteristics of each. As Donald writes, "perhaps the best definition concerns the use to which the gathered intelligence is put."

Paul Lashmar's 1996 *Spy Flights of the Cold War* includes a "shoot-down chronology" which, interestingly, does not match precisely against similar information in Tart and Keefe's *Vigilance*. This work contains analysis on the relations between Britain and the United States regarding the sharing of reconnaissance information in the early part of the Cold War (corroborating some of Dino Brugioni's discussion points), analysis of the mutual paranoia that existed between General Curtis LeMay's SAC and Allen Dulles' nascent CIA aerial reconnaissance program, and a general overview of the human cost of spy flights. Of particular interest is how Britain and the United States differed in their view of aerial reconnaissance against the Soviet Union. According to Lashmar, the British were, and still remain, much more sensitive to the classification and release of information gained through aerial reconnaissance.

Finally in this section are works that focus exclusively on a particular aerial reconnaissance technology or program. Chris Pocock's multiple books on the U-2 are unmatched and were referenced heavily for this study. *Dragonlady: the History of the U-2 Spyplane* (1989) was his first narrative of the U-2 program through the 1960 Gary Powers incident. *Dragonlady* is the foundation of his more recent and more detailed U-2 histories, *50 Years of the U-2* (2005) and *Toward the Unknown* (2010). Mr. Pocock relied on extensive open sources, such as interviews, journals, and archival mission folders to discuss the nuts-and-bolts technology, missions formats, and diplomatic implications of the program which began in the early 1950s and continues today. His collection also includes a 2010 book on the hard-to-find topic of Taiwanese aerial reconnaissance overflights of China between 1951 and 1969. *The*

Black Bats depends heavily on testimony from the pilots who flew the missions and is the richest

source to be found on the subject. Joining the core of the extensive U-2 literature is Gregory

Pedlow and Donald Welzenbach's *The CIA and the U-2 Program 1954-1974* (released in 1998),

which is the official CIA history of the U-2 project through its Agency closure and transfer to the

Air Force in 1974. The report is highly redacted but valuable for its primary sources and CIA

origins. Norman Polmar's 2001 *Spyplane: The U-2 History Declassified* is essentially the same

study in most respects. Charles Wilson also contributed to the large set of U-2 compositions in

his 1999 *Strategic Reconnaissance in the Near East*. Wilson defines and categorizes tactical and

strategic reconnaissance and surveillance and introduces the basics of the intelligence cycle,

complimenting Richelson's *Intelligence Community*. He concentrates on aerial reconnaissance

between 1945 and the late 1970s. To make a diplomatic impact, Wilson says, aerial

reconnaissance must be close in proximity to policymakers. Also discussed is the "great political

fallout" of sensitive reconnaissance operations. The pros and cons of satellite reconnaissance are

covered in the middle of the book, just before ending with a forward-looking section on UAVs.

The work is useful as a perspective written by another U-2 pilot and Air Force professional.

Colonel Wilson worked at the Defense Airborne Reconnaissance Office (DARO) and the Joint

Staff J-3.

Paul Crickmore's works on the A-12 and SR-71 have no equal. In two volumes, he

covers the origins of the A-12 and SR-71 programs and their unbelievable record of impunity

over places like North Korea. More than any other aircraft, the A-12 and SR-71 command

respect as the technological apex of aerial reconnaissance technology. *Lockheed SR-71*

Operations in the Far East (2008) discusses the A-12 and the SR-71 programs from the early

A-12 Oxcart and Tagboard drone days (1964) to their deployment to Kadena, Japan beginning in May 1967. The A-12 made numerous overflights of North Vietnam and North Korea. More overflights and peripheral reconnaissance were to follow by SR-71s between 1968 and 1989, coupled with missions along the Chinese and Soviet coastlines. Also in this work is the SR-71's involvement in the Iran-Iraq war, the Iran hostage crisis, and the aircraft's part in discovering Iranian "silkworm" missiles in 1987—all missions that were flown west from Kadena Air Base, Japan. The sister volume, *Lockheed SR-71 Operations in Europe and the Middle East* (2009) includes the SR-71's employment in the 1973 Yom Kippur war. Crickmore discusses the politics of basing the aircraft and crews at Royal Air Force (RAF) Mildenhall in the late 1970s and the stand up of the permanent Detachment 4 there in March 1979. He ends the second volume with SR-71 operations over Lebanon and Libya in the 1980s, including SR-71 support to Operation El Dorado Canyon in April 1986. Europe and Middle East SR-71 operations were suspended after September 1989. Also useful is Cickmore's summary of diplomatic contentions associated with the operation of the SR-71 in Europe and the Middle East. For example, France, inconveniently located between the SR-71 base in England and its common "target region," the Mediterranean littoral, usually denied overflight to the SR-71 missions, consequently requiring an incredible effort from KC-135Q air refueling crews. The appendices of these volumes also include A-12 and SR-71 deployment and employment chronology for the periods covered.

Selected General Histories on Diplomatic Events. The analytical approach of this study requires discovering facts from American and, to a lesser extent, other political leadership as they participate in diplomacy. The focus of that search is on notes, comments, discussions, letters, memoirs, and other sources that specifically reference aerial reconnaissance at certain

times in history. Although the aerial reconnaissance topic is popular enough to produce many

secondary sources, its support and interaction with specific diplomatic goals and decisions in

peacetime—the motivation behind the case studies in this work—is esoteric enough to require

revisiting old information with a new question or attempting to discover new information

altogether. Hence, much of the diplomatic references for this study come from primary sources

which are reviewed later in the chapter as their own literary category. However, there are also a

few studies which provide contextual diplomatic background on events or contain relevant

sections written by the participants themselves.

Mary Dudziak's 2012 *War Time* argues that war, not peace, defines the preponderant

diplomatic paradigm. The book is part of the reason "peacetime" is defined as it is above—as a

set of criteria that separates the reconnaissance operations in question from combat operations or

other parent campaigns.

The Diaries of Edward Stettinius Jr., who was secretary of state between December 1944

and June 1945 before becoming Ambassador to the United Nations, captures a few of the

essential diplomatic contextual motivations behind early reconnaissance programs, such as

Arctic exploration. Stettinius' experiences leading Lend-Lease and then on President Truman's

Cabinet is important background for the post-World War II years in which peacetime aerial

reconnaissance grew its first legs. From that era also comes Lewis Strauss' *Men and Decisions*

(1962). Strauss was the first Atomic Energy Commissioner in the United States in 1947, and his

work reveals his personal emphasis on the importance of a reconnaissance system capable of

detecting the minuscule particles of dust that betray other nations' rival atomic programs—one of

the first atomic-specific sensors flown on peacetime reconnaissance aircraft.

Dwight Eisenhower's own 1963 *Mandate for Change* reflects his absolute reverence for secrecy as it contains little precise information about the secret reconnaissance programs just sprouting between 1953 and 1956. It is useful, however, as a firsthand diplomatic history of the 1956 Suez crisis, one of the studies in Chapter Three herein. What Eisenhower leaves out regarding then secret programs, Dr. James Killian, the first chair of Eisenhower's Technological Capabilities Panel (TCP), fills in to some degree in *Sputnik, Scientists, and Eisenhower* (1977). Perhaps it was because Killian was writing over twenty years later that he felt he could provide a little more information on the secret reconnaissance programs of the 1950s like the U-2. Adding to the reviewed literature here is David Nichols' 2011 *Eisenhower 1956* and Ambrose's 1981 *Ike's Spies*. Together, these two volumes provide an easily digestible context for diplomatic constraints surrounding Eisenhower in 1956.

Theodore Sorensen's *Kennedy* was written only two years after President Kennedy's death in 1963. As the Cuban missile crisis is one of the first case studies in this work, Sorensen's firsthand account of Kennedy's interaction with the Soviets—particularly at the June 1961 Summit meeting—is valuable in how it describes Kennedy's thinking. Sorensen also comments in a few places on how, exactly, Kennedy received and reviewed the reconnaissance imagery which was driving the crisis. Robert Kennedy's *Thirteen Days*, written in 1968, provides another firsthand account of Kennedy and his Cabinet during the crisis, and includes textual reproductions of some of the letters exchanged among Kennedy, Khrushchev, the United Nations, and Castro.[28] Aleksander Fursenko and Timothy Naftali's 1997 *One Hell of a Gamble*

---

[28] Thanks to Dr. James Tucci for directing me to this source.

is useful in that it tells the same story, but from the perspective of Soviet Premier Khrushchev. Fursenko and Naftali illustrate that Khrushchev was as surprised as Kennedy by the crisis.

Memoirs written by political leadership are also referenced in many places in this study. Richard Nixon's *RN: The Memoirs of Richard Nixon*, written in 1978, combine with Henry Kissinger's collection of works to support much of Chapter Four's discussion of air monitoring in the Sinai and Chapter Five's look at SRO. Kissinger's *White House Years* (1979), *Years of Upheaval* (1982), and *Diplomacy* (1994) offer firsthand analysis and critiques of the 1969 EC-121 shoot-down and the Sinai negotiations during the 1970s. George W. Bush's 2010 *Decision Points* counterposes Chinese Foreign Minister Tang Jiaxuan's 2011 *Heavy Storm and Gentle Breeze* regarding the 2001 EP-3 forced-landing incident on Hainan Island, China. It is telling to read the two accounts of the EP-3 events side-by-side as the two are radically different. Karen DeYoung's 2007 biography of Colin Powell, *Soldier*, also contributes to an understanding of the EP-3 incident.

In Christopher Andrew's 1995 *For the President's Eyes Only*, Andrew concludes that only four presidents had a talent for collecting and applying intelligence: Washington, Eisenhower, Kennedy, and George H.W. Bush. It is a necessary study in presidential access and actions on certain types of intelligence, such as Kennedy's trust in overflights during the 1962 Cuban missile crisis. Finally, Jonathan Tucker's *Negotiating Open Skies: A Diplomatic History* (1992), is an irreplaceable firsthand record of the issues that drove the debates over the Open Skies Treaty during its formation in the early 1990s.

Applicable studies on the 1956 Suez crisis and the 1962 Cuban missile crisis. Literature in this section supported the analysis in Chapter Three. *A Look Back: The U-2*

Monitors the Suez Crisis, Central Intelligence Agency, 2009, helps place U-2 control and

imagery squarely in the hands of President Eisenhower during the events at the Suez Canal in

late 1956. The paper concludes that the Suez crisis changed expectations for the U-2 and other

aerial reconnaissance collectors. Instead of sending back imagery of the Soviet Union over the

course of weeks, the U-2 and its CIA logistics chain were expected to respond to White House

requests literally overnight and have at least preliminary reports available the next day—a

standard to which they ascended. This theme is also prevalent in Brugioni's account of the Suez

incident from the CIA's PID perspective in *Eyes in the Sky*. Scott Lucas' 1991 *Divided We

Stand: Britain, the US and the Suez Crisis* provides almost an hour-by-hour chronicle from the

leadership perspective of the preliminary period, the crisis itself, and the ensuing diplomatic

issues in the months following the allied withdrawal from Egypt. Lucas concludes that Britain's

foreign policy after Suez became subordinate to that of the US, and that Britain could no longer

defy the United States in the implementation of that policy. Throughout the book, Lucas inserts

examples that show when U-2 operations over the Eastern Mediterranean informed Eisenhower's

application of diplomatic pressure to his allies. This is a credit to Lucas since the Department of

State's *The Suez Canal Problem, July 26-September 22 1956* (1956), contains no reference to the

then highly secret aircraft, but chronicles the diplomatic history of the crisis very well.

The next three works represent different camps that disagree somewhat about what

Eisenhower and his Cabinet knew during the Suez crisis and when he knew it. Ricky-Dale

Calhoun in his 2007 paper, "The Musketeer's Cloak: Strategic Intelligence During the Suez

Crisis of 1956," argues that Eisenhower had no idea of the coming Anglo-French-Israeli invasion

of Egypt despite, among other factors, seeing the U-2 imagery. Michael Coles is a little more

generous about what Eisenhower suspected in his 2006 essay, "Suez, 1956: A Successful Naval Operation Compromised by Inept Political Leadership," in which he implicitly argues that Eisenhower knew of the gathering military might in the waters off Egypt, but for the most part believed in the power of the UN and accepted what his allies were telling him, and therefore knew nothing of their real intent. In the other camp is Welfred Deac's essay, "Operation Musketeer" (2001), that gives Eisenhower and Secretary of State John Foster Dulles full credit that they may not have known the exact timing, but they were able to guess accurately the intent of the tripartite alliance. Enveloping this debate is Diane Kunz's excellent book, *The Economic Diplomacy of the Suez Crisis* (1991), in which she successfully argues that it was American economic leverage and the pitiful state of the British pound that ended the crisis.

As primary sources from the Cuban missile crisis, which saw its sixtieth anniversary during the writing of this study, are prevalent, there are only a few key studies listed here which contributed greatly to the aerial reconnaissance story during those dark weeks in October 1962. First is Wayne Whitten's new account of low-level aerial reconnaissance during the crisis in *Countdown to 13 Days and Beyond* (2012). Mr. Whitten collected the sortie results and technical contrasts among the different aircraft used at treetop level over Cuba in 1962 and 1963 and published them all in one place, an invaluable source that Chapter Three draws from extensively because of its fresh perspective and data. Dino Brugioni's 1990 *Eyeball to Eyeball* focuses on the imagery and aerial reconnaissance which prompted, drove, and then ended the crisis in Cuba. Among other points, Brugioni argues that without systematic peacetime aerial reconnaissance and the expertise to exploit it, the Soviets would have successfully accomplished their *fait accompli*. Brugioni's work is an almost minute-by-minute account in some places and includes

his personal experiences presenting the imagery to Kennedy and his Cabinet. Graham Allison and Phillip Zelikow's 1999 *Essence of Decision* remains a bedrock analysis of decision making and, by incorporating the crisis as a case study, connects many of the important reconnaissance events of the Cuban missile crisis to key decisions and actions of the Kennedy administration. Phillip Nash, in his matter-of-fact style, provides much of the greater diplomatic context across a wider swath of time in the 1997 book *The Other Missiles of October: Eisenhower, Kennedy, and the Jupiters 1957-1963*. Nash's balancing focus is, refreshingly, on the American Jupiter missile and other missile systems that became powerful diplomatic imperatives and bargaining chips for Kennedy and his staff during the Cuban crisis.

Applicable studies on Air Monitoring, the Treaty on Open Skies, and the Sinai aerial verification regime. Of all the peacetime aerial reconnaissance roles, aerial monitoring is probably both the most underestimated and the most diplomatically useful. For example, a suggestion to one famous reconnaissance author that a dissertation chapter on aerial reconnaissance and its role in monitoring accords would be appropriate, he replied, "that's all done with satellites." Yet the Olive Harvest mission, in which the U-2 monitors the Sinai and Eastern Mediterranean and shares the imagery with Egypt, Israel, and other states, has a tradition dating back to 1956. The literature on international accords, their histories, and their efficacies is vast, but it is difficult to find a source that spends more than a few words on the aerial verification element, which either partly or wholly enables certain treaties in the first place. To begin with, two works that are an excellent introduction to multi-method verification are Richard Darilek's 1984 *Political Aspects of Verification: Arms Control in Europe*, and Allan Krass' 1985 *Verification: How Much is Enough?* Both works introduce multi-method verification and

monitoring and offer historical examples to demonstrate its success and failures. The common

theme among these and most works that combine arms control and aerial verification is that both

efforts must be accompanied by good-faith diplomatic participation or such accords fall back to

square one. This is because, as Laurence Beilenson concludes in *The Treaty Trap* (1969), most

"political" treaties are nearly always broken.

A good place to start reading studies that generally focus on the use of aircraft for

monitoring purposes is Amy Smithson's "Multilateral Aerial Inspections," which is chapter five

in *Open Skies, Arms Control, and Cooperative Security* (1992), edited by Smithson and Michael

Krepon. The book as a whole praises the track record and, therefore, the value of aerial

monitoring as a diplomatic confidence-building measure. Chapter Twelve, written by Michael

Krepon and Peter Constable, chronicles the successful history of aerial monitoring in the Middle

East and concludes that, "one way to strengthen diplomacy and make the resort to war in the

region less likely is for peacemakers to make more use of an essential instrument for military

operations—the reconnaissance aircraft." Similarly, RAND's Maurice Eisenstein concludes that

combining onsite and aerial inspections provides inescapable accountability for treaty

participants in the 1994 *Methodologies for Planning On-Site and Aerial Inspection for Use in*

Treaty Negotiations.

The core scholarly literature on the Treaty on Open Skies can be found in a handful of

sources. Foremost is Pàl Dunay's 2004 *Open Skies: A Cooperative Approach to Military*

Transparency and Confidence Building is impressive with its unmatched line-by-line Open Skies

Treaty analysis and its technical and diplomatic detail. The book's purpose is to present Open

Skies as much more capable than just verifying arms control; Open Skies continues beyond that

to compel international closeness. Firsthand histories of the fascinating Open Skies negotiations can be found in John Borawski's 1988 *From the Atlantic to the Urals: Negotiating Arms Control at the Stockholm Conference*, and in Ambassador John Hawes' 1992 memoir *Open Skies: Beyond Vancouver to Vladivostok*. Both works reveal how it is that the Treaty on Open Skies reflects in its language the very anxieties of the nations who are party to it. Lastly, Mark Gabriele's published doctoral dissertation, *The Treaty on Open Skies and Its Practical Applications and Implications for the United States*, is for anyone comparing aerial inspections to other forms of treaty verification. Gabriele concludes that more is better in that combining space, aerial, and onsite inspections is most effective to prevent cheating by the parties to an accord, but each verification form has its most and least optimal place in that synergy.

The Sinai version of Gabriele's dissertation is Itshak Lederman's extensive study on *The Arab-Israeli Experience in Verification and Its Relevance to Conventional Arms Control in Europe*. Lederman concludes that the treaty verification used over the Sinai could be applied to European arms control agreements—prescient when you consider that Lederman was writing in 1989 before Open Skies was reintroduced. Lederman offered ideas useful to NATO and the Warsaw Pact, but his themes remain applicable for any group of nations requiring more transparency to strengthen a treaty. Accompanying Lederman's work on the Sinai verification regime is Brian Mandell's *The Sinai Experience: Lessons in Multimethod Arms Control Verification and Risk Management* (1987), in which Mandell explains that the longtime efficacy of the Sinai aerial regime is explained by the inter-party forums used to adjudicate the results of verification.

Following Lederman and Mandell are four selected histories of both the aerial

reconnaissance in the Sinai and its verification regime as a whole. John Mackinlay's *The*

Peacekeepers: An Assessment of Peacekeeping Operations at the Arab-Israeli Interface (1989)

concludes, among other things, that third-party verification is most effective in the Sinai region

because of the cultural differences between the Arabs and the Israelis. Fred Gaffen's 1987 *In the*

Eye of the Storm: A History of Canadian Peacekeeping is his account as part of the first UN

Emergency Force (UNEF). Also, Ensio Siilasvuo provides his firsthand experience of the impact

of aerial reconnaissance as a monitoring tool in his 1992 memoirs, *In the Service of Peace in the*

Middle East 1967-1979. Siilasvuo was the commander of the second UNEF in the Sinai.

Applicable studies on the 1969 EC-121 shoot-down and the 2001 EP-3 incident. The

sections on these SRO incidents rely mostly on primary sources, presented further below in this

chapter, but there are underpinning studies that are necessary reading to understand the contexts

in 1969 and 2001. The Unites States House of Representatives Committee on Armed Services in

1969 produced a *Report* based on that body's *Inquiry into the USS Pueblo and the EC-121 Plane*

Incidents. Both are published and available at the Library of Congress. Together, the two

constitute both a primary source and an analysis of the January 1968 USS *Pueblo* incident and

the April 1969 EC-121 shoot-down, two events which are inseparable as different results of the

same North Korean diplomatic setting. Along with Nixon's *RN* and Kissinger's *White House*

Years, the *Report* and its accompanying transcripts in *Inquiry* can generally account for the

American leadership perspective surrounding the EC-121 shoot-down on 15 April. In its

summary, the Committee concluded that the incredibly large frequency and size of the military

reconnaissance operation had outgrown leadership's ability to control it and also had become too

complex to be responsive to crises. These reports are drawn upon heavily by Richard Mobley in

Flash Point North Korea: The Pueblo and EC-121 Crises (2003), a detailed, scholarly analysis

of the incidents which graciously helped to indicate many primary sources at the National

Archives and Records Administration and archived North Korean press documents. Mobley in

his conclusions makes the case that the permanent presence of American aerial reconnaissance

aircraft off North Korea's coast has provided sufficient domestic justification for another attack

on US reconnaissance aircraft—a point explored a bit further in Chapter Five of this study. A

final bit of literary context for the 1969 EC-121 incident is the 2011 *Crisis and Confrontation on*

the Korean Peninsula 1968-1969, edited by Christian F. Ostermann and James F. Person. *Crisis*

and Confrontation presents an oral history of those critical years during which the United States

and North Korea were in constant low-grade diplomatic confrontation. Ostermann and Person

demonstrate how North Korea leveraged small infiltrations across the Demilitarized Zone

(DMZ) and the Vietnam War to their advantage, suggesting that the EC-121 incident was part of

a broader North Korean confidence plan and not a target of opportunity.

　　　Reliable literature on the April 2001 EP-3 incident begins with four sources. John Keefe

was personal assistant to the American Ambassador in Beijing during the events and published

his minute-by-minute memoir in *Anatomy of the EP-3 Incident* (2002), a book found at the Naval

Historical Center Library at the Navy Yard in Washington, D.C. Among his many conclusions,

which range from the domestic to the economic, Keefe argues that the Chinese government and

its people are "extremely prickly about sovereignty-related issues," a condition aggravated in no

small way by ever-present aerial reconnaissance aircraft off the coast of China. The aircraft in

question during this particular incident was piloted by Shane Osborn, who compiled his version

of events in the air and on the ground in China in *Born to Fly* (2001). The rest of the crew's

testimony and the Navy's official conclusions, which were that Osborn and the crew acted

honorably and were not "at fault" in the incident, are in Admiral William J. Fallon's official

Investigation, concluded in 2003, also found at the Naval Historical Center Library. Next to that

library at the Naval Yard is the Archives Branch of the Naval History and Heritage Command, in

which can be found the unit history of Fleet Air Reconnaissance Squadron One, VQ-1, which has

the distinction of being the home squadron to both the EC-121 shot down by North Korea in

1969 and the EP-3 that landed in China in 2001.

Next are three studies on the diplomatic implications of the 2001 EP-3 incident that were

useful for this study. Shirley Kan's 2001 Congressional Research Service Report, *China-U.S.*

Aircraft Collision Incident of April 2001: Assessments and Policy Implications, suggests that

China reaped a net diplomatic benefit from the incident and that its posture vis-à-vis American

SRO suggests a threat to aerial freedom of navigation. Two related studies also share the view

that China "won" the EP-3 incident. Andrew Scobell and Larry Wortzel edited *Chinese National*

Security Decisionmaking under Stress (2005), which forwards a common theme among its

contributors that diplomatic interaction, including aerial reconnaissance, between the Chinese

and Americans must consider the Chinese government's imperative for domestic credibility.

Paul Godwin writes chapter six in that work, "Decionmaking Under Stress: The Unintentional

Bombing of China's Belgrade Embassy and the EP-3 Collision," and provides the central

argument that the EP-3 incident and its context provided China the ability to achieve and hold a

diplomatic advantage over the United States.

Because the EP-3 incident raised many international legal issues, and because the United States claimed—and continues to claim—no wrongdoing in deploying SRO aircraft in international airspace, a few core sources are referenced here that were used to research the primary legal aspects of the incident. All were available through HeinOnline's Law Journal Library. They are: Kevin Avruch's 2005 "Culture, Apology, and International Negotiation: The Case of the Sino-US 'Spy Plane' Crisis," Stuart Kaye's 2005 "Freedom of Navigation, Surveillance and Security: Legal Issues Surrounding the Collection of Intelligence from Beyond the Littoral," Ivan Shearer's 2003 "Military Activities in the Exclusive Economic Zone: the Case of Aerial Surveillance," and Yann-Huei Song's "The EP-3 Collision Incident, International Law and Its Implications on the US-China Relations." The common theme among these works is that international law largely avoids the subject of military activities or intelligence gathering from international airspace. In some cases, this has allowed for a bilateral understanding, mostly unwritten, between two nations who wish to engage in reciprocal activities both find necessary to their security. In other cases, such as the EP-3 incident, the lack of international law addressing aerial reconnaissance only magnifies the cultural and diplomatic difficulties that prevent quick resolution to similar incidents.

Primary Sources. Modern internet connectivity and sharing allows unprecedented access to primary sources. More importantly, the efficiency with which one can find and peruse a collection of original documents or other sources expands the breadth of information available on a topic. Yet, for all this, online archives and depositories obviously cannot automate thoroughness or understanding. To hold in one's hand a 1959 letter on onion skin which was typed through a blotting ribbon and, quite literally, plucked from a stack of documents whose

only reason for collation is that they came from the same office in the Department of State, is to gain some appreciation for the culture and correspondence of the day and all of its allowances and limitations. This is why the research for this work, once the case studies were selected, usually began with online searches through databases and archival finding aids and then progressed to onsite sorting and reading where travel and time allowed. It ended when enough of the information had been collected to determine the probable truths. That being said, Washington, DC was propitious for research with its unrivaled collection of libraries and archival institutions.

Dr. Steve Randolph, historian at the Department of State, provided extraordinary assistance. His chief duty is to produce the *Foreign Relations of the United States* series, or *FRUS*, some volumes of which are available online at the State Department's website. Dr. Randolph pointed out many relevant volumes and helped find an effective mix of *FRUS* study online and onsite at the State Department's Bunche Library. The *FRUS* series provided, in the State Department's words, most of the "official documentary historical record of major U.S. foreign policy decisions and significant diplomatic activity" for this study. *FRUS* volumes are a collection of primary documents that, in the editor's mind, best reflect the diplomatic events of a particular topic—usually a region or prominent event within a certain period. They include the official and sometimes informal correspondence among the agents of government primarily responsible for diplomacy, usually the president and his immediate circle, secretary of state, the national security advisor and staff, agency chiefs, Department of Defense, and others. Because of this nature, *FRUS* is more than just a chronology. It can convey and represent the soul of American diplomatic history in its published dissenting opinions, debates, motivations, and other

fringe information that would otherwise be sterilized from the record. *FRUS* also contains notations as to the exact location of the documents it publishes, lighting the way for further research. Identifying individual *FRUS* volumes requires a date (or date range), volume title, and most require a volume number.

The *FRUS* volumes consulted for this work began with the period after World War II. *FRUS 1945-1950 Emergence of the Intelligence Establishment*, *FRUS 1946 Eastern Europe and the Soviet Union Volume VI*, *FRUS 1949 Eastern Europe and the Soviet Union Volume V*, *FRUS 1950-1955 The Intelligence Community*, and *FRUS 1952-1954 National Security Affairs* were the primary volumes which supported Chapter Two. They contain some of the evidentiary base for discussions on the post war atomic and then nuclear security context that motivated the establishment of the intelligence community and its peacetime reconnaissance arm. These volumes span the Truman and Eisenhower administrations. For the 1956 Suez Canal crisis, four volumes from the 1955-1957 set served as primary sources, most of which are at the Bunche Library: *Arab-Israeli Dispute January 1-July 26 1956 Volume XV*, *Austrian State Treaty Summit and Foreign Minister Meetings 1955 Volume V*, *Soviet Union and Eastern Mediterranean Volume XXIV*, and *Suez Crisis July 26-December 31 1956 Volume XVI*. This set, along with *FRUS 1958-1960 Part I Eastern Europe Region, Soviet Union, and Cyprus Volume X*, were crucial to developing the "before, during, and after" diplomatic actions surrounding Eisenhower and John Foster Dulles' engagement with Britain, France, and Israel over the Suez in 1956. The equivalents applicable to Kennedy and Dean Rusk's Cuban missile crisis are *FRUS 1961-1963 Cuba January 1961-September 1962 Volume X*, and *FRUS 1961-1963 Cuban Missile Crisis and*

Aftermath Volume XI. Chapter Three relies heavily on documents contained therein which record the 1962 Kennedy National Security Council and White House meetings.

Chapter Four references *FRUS* volumes largely for the section on air monitoring in the Sinai between 1956 and 1979. By contrast, the Open Skies Treaty (also part of Chapter Four) is relatively new and, as such, does not yet have corresponding *FRUS* publications. Applicable core volumes that provided diplomatic context for Chapter Four but were also useful for the Suez discussion were *FRUS 1964-1968 Arab-Israeli Crisis and War 1967 Volume XI*, *FRUS 1969-1976 Arab-Israeli Dispute 1974-1976 Volume XXVI*, and *FRUS 1969-1976 Arab-Israeli Crisis and War 1973 Volume XXV*. Supporting both the air monitoring and the Chapter Five inquiry into the 1969 EC-121 incident are two volumes from the 1969-1976 *FRUS* set: *National Security Policy Volume XXXIV* and *Organization and Management of U.S. Foreign Policy Volume II*. Lastly, Chapter Five's section on the 1969 EC-121 incident is supported by *FRUS 1964-1968 Korea Volume XXIX Part I*, *FRUS 1969-1976 China 1969-1972 Volume XVII*, and *FRUS 1969-1976 Korea 1969-1972 Volume XIX*. What is striking about these final three volumes is that they contain only a very few diplomatic sources where the United States and North Korea engaged *directly* over the 1968 USS *Pueblo* and 1969 EC-121 incidents. This is telling of the diplomatic relationship between the two nations and the resulting volatility of peripheral SRO in that region.

The Department of State Bulletin is available in its entirety from 1939 to 1989 at the Bunche Library. *Bulletin* was replaced with the Department of State *Dispatch* in 1990. *Bulletin* is referenced prominently throughout this work as it contains official speeches, statements, press conference transcripts, and letters by the secretary of state, the president, and ambassadorial and

UN documents and accords. Mercifully, each year's publication ended with an index containing entries for the major events and subjects from that year. Chapter Three relies heavily on *Bulletin* volumes XXXV (from 1956) and XLVII (from 1962). Both volumes contain primary documentation from the Eisenhower and Kennedy administrations. Chapter Five is supported by volumes LX and LXI, both cover parts of 1969 and include statements made by the United Nations Command at Panmunjom during the *Pueblo* and EC-121 crisis.

The Bunche Library holds, among many other secondary sources used in this dissertation, the original United States Sinai Support Mission (USSSM) *Reports to Congress* from 1977 to 1982. Duplicates exist at the Carter Presidential Library in Atlanta. The *Reports* contain the activities and some assessed impacts of the Mission's aerial reconnaissance activities set up in the Sinai and are referenced in Chapter Four. Also grouped at the Bunche is a publication written by the USSSM, *Peace in the Sinai* (1982), in which the authors chronicled the year-over-year highlights of their peacekeeping mission.

After State Department sources and collections, United Nations documents were irreplaceable to establish the diplomatic histories and results related to aerial reconnaissance. What is available online at UN.org can often also be found at the Bunche Library. First is the extensive UN Treaty Collection, which contains foundational accords such as the 1947 *Convention Relating to the Regulation of Aerial Navigation* (also called the Paris Convention) and the 1979 *Treaty of Peace Between the Arab Republic of Egypt and the State of Israel*. The UN's Official Document System (ODS) is accessible through UN.org and was used to find many official diplomatic statements, protests, Security Council and General Assembly resolutions, and secretary general reports the reader will find footnoted throughout this study. Also key for

Chapter Four was the official record of UN Peacekeeping activities, *Blue Helmets*, published by the UN Department of Public Information and available only in print at the Bunche Library and the Library of Congress.

A few record groups (RG) onsite at the National Archives and Records Administration (NARA) at College Park, Maryland helped fill in some information not found elsewhere or in online databases. They are cited where referenced. NARA's photographic division on the third floor can access most of America's archived U-2, low-level, and other aerial reconnaissance imagery from the events discussed in this dissertation, albeit in its original film canisters and rolls. There is no way to "lift" a developed frame from its original film roll while at NARA, that must be done using special equipment. Record Group 218 contains the records of the Joint Chiefs of Staff (JCS), which was useful in finding documents from General Earle Wheeler. He was Chairman of the JCS from 1964 to 1970, and so was in office during the 1969 EC-121 incident covered in Chapter Five. Record Group 59, which archives Department of State central records, also contained original chronologies relevant to the EC-121 incident. Record Group 273 holds the records of the National Security Council (NSC), mostly consisting of declassified or unclassified schedules, directives, and reports published elsewhere (such as the Manuscript Reading Room at the Library of Congress). Record Group 341 includes an unclassified chronological series from the Headquarters Air Force from multiple years, both early and recent. The series between 1950 and 1962 was useful to find intelligence memoranda that circulated among the Air Staff and Kennedy administration prior to and during the Cuban missile crisis. Finally, Record Group 263 contains the general files of the Central Intelligence Agency from multiple eras, most interestingly from 1955-1958, 1960-1963, and 1968-1969. Much of the more

prominent intelligence estimates, advisories, and personal correspondence can be found at the CIA's Electronic Reading Room at CIA.gov, which is expanded on below.

NARA's Presidential Libraries are priceless for their continuing efforts to place documents online and make their databases searchable. The Truman Library presents all of his *Executive Orders*, including number 9877 which created the Air Force, online under its own official documents archive. The Eisenhower Library possesses the Papers of *Andrew Goodpaster*, some of which are available online but most must be photocopied and then posted to the reader by the amazing staff there in Abilene, Kansas. Goodpaster was Eisenhower's staff secretary and his papers contain many of the execution orders and presidential directives that managed the early aerial peacetime reconnaissance programs such as Gentrix and Aquatone. Also present in Goodpaster's collection are James Killian's papers from the Technological Capabilities Panel (1955) and memoranda discussing balloon reconnaissance over the Soviet Union in the mid 1950s. The Nixon Library makes available online his presidential daily diary, which enables researchers to track just about every minute of Nixon's presidential life when at the White House and, therefore, to determine his reaction time to events like the 1969 EC-121 shoot-down. The Carter Presidential Center in Atlanta was quite helpful in locating corroborating sources on the US Sinai Support Mission and President Carter's daily dairy, although both are available either online or in the Manuscripts Division of the Library of Congress. Also useful is the George W. Bush Presidential Library archived White House website which can easily be accessed online and contains all of his press briefings, press releases, and official statements. This was especially handy to support Chapter Five's discussion of the EP-3 incident.

The Library of Congress is experiencing a renaissance in archival preservation. Its

almost endless stacks of publications make it the perfect location to read and write, but its new

digital methods of replication make it possible for researchers to download millions of

reproduced primary source documents at no transaction cost. All the online databases discussed

further below were accessed through the Library of Congress' onsite network. The Manuscripts

Division holds the *Minutes of Meetings of the National Security Council* from multiple years.

These were relied on thoroughly for Chapter Three and as context elsewhere, and provided a fly

on-the-wall perspective of NSC discussions pertaining to the 1956 Suez Crisis. Also in the

Manuscripts Division are *Reports to Congress* from the Comptroller General relating to the Sinai

Support Mission, and the Senate's Committee on Foreign Relations' hearings on the multiple

Sinai Agreements leading up to the 1979 *Treaty of Peace* (Sinai I and II). In the Microfilm

Reading Room, the reader may find the entire catalogue of the Foreign Broadcast Information

Service (FBIS) *Daily Reports* from 1943 to 1996. Many nations that were the targets of aerial

reconnaissance efforts broadcast propagandized information about the "spying" activity to their

citizens over radio and television stations. Those signals, and others, were recorded, translated,

and archived by the FBIS. North Korea, for example, transmitted warnings to the US over Radio

North Korea (Pyongyang) days before their April 1969 shoot-down of the EC-121. Many other

broadcasts from the USSR, China, North Korea, and North Vietnam contain some of the

"official" responses to American sensitive reconnaissance operations over the Pacific. The FBIS

allowed access to many helpful transcripts of radio and television broadcasts made by the Korean

Central News Agency (Pyongyang) and the Peking National Chinese News Agency (Beijing).

These especially were key in developing "the other side's" perception of peacetime areal

reconnaissance. The Worldwide News Connection (WNC), also accessible onsite at the Library of Congress, is the all-digital successor to the FBIS. The Library's extensive reference alcoves allowed access to multiple subject encyclopedia-type sources, such as Alwyn Lloyd's 1999 *A Cold War Legacy: A Tribute to Strategic Air Command 1946-1992* and Roy Grossnick's 1997 *United States Naval Aviation 1910-1995*.

The United States Strategic Command's History Office also provided support for this project. JC Hopkins and Sheldon Goldberg's 1986 *The Development of Strategic Air Command 1946-1986: The Fortieth Anniversary* accounts for just about every aircraft SAC owned within those years. Moreover, works such as Edward Longacre's undated *Strategic Air Command: The Formative Years* and the official unit history of the 544th Strategic Intelligence Wing help paint a complete picture of the incredible failures and successes in the early post-World War II era. Although this study is not specifically about the history of SAC, Dr. Jerome Martin's assistance in obtaining background materials from that office was invaluable.

The National Security Archive at The George Washington University's (GW) Gelman Library is a mother lode of primary sources. The Archive constantly is sorting, requesting, and updating research on national security topics and publishing them either in copy as Briefing Books or online as Electronic Briefing Books. Dr. Jeff Richelson was gracious enough to invite me to view all of his personal collections kept there, one of which contains extensive records, both old and new, on aerial reconnaissance and collection systems. His collections, for example, are where I discovered RAND's George reports that shared this study's main inquiry. Also present in his many folders are copies of primary documents from early Cold War reconnaissance programs that are noted throughout this work. The Archive published thirtieth and fortieth

anniversary collections containing the pacing documents of the 1962 Cuban missile crisis. Taken is succession, *The Cuban Crisis of 1962: Selected Documents and Chronology* (1992) and *The Cuban Missile Crisis, 1962: The 40th Anniversary* (2002) reflect the slow progression of knowledge surrounding even the 1962 Cuban missile crisis and were referenced heavily herein. Numerous primary documents were harvested from the Archive's stacks, such as Winthrop Brown's 1969 fascinating memo to the Under Secretary of State for Political Affairs U. Alexis Johnson on the "Basing of Strip Alert Planes at Tainan Airfield on Taiwan" following the EC-121 shoot-down in April of that year.

As a final genre among primary sources, online databases sourced facts in this dissertation and were critical. Formal online databases were extremely efficient for research because of their well-defined collection parameters, focused subject headings and finding aids, and professional source vetting. Most are pay-for-access and are worth every penny because they reduce search results from the thousands to the dozens, and allow multimedia downloading and archiving. First among them is The National Security Archive's online collection of Electronic Briefing Books. Many EBBs were consulted, all of which are cited when referenced, but a few deserve attention here. EBB 74 is *The U-2, Oxcart, and the SR-71: US Aerial Espionage in the Cold War and Beyond* (2002) tells the story of the subject programs in original documents published online. The same is true for the unnumbered 2001 EBB *Science, Technology, and the CIA*, EBB 186 *Eyes on the Bomb: U-2, Corona, and KH-7 Imagery of Foreign Nuclear Installations* (2006), and 2007 EBBs 225, 229, and 231, all of which document the rise and normalization of American satellite reconnaissance, a necessary familiarity for anyone writing on aerial reconnaissance in the Cold War. EBB 322 (2010) is entitled *How Do*

You Solve a Problem Like Korea; it endeavors to answer that question and provides many documents on the 1969 EC-121 incident and its associated diplomatic actions. Lastly are EBBs 24, 35 (2000), and 257 (2008), which are representative of briefing books focused on the rise of the certain intelligence and collection organizations, in this case the National Reconnaissance Office (NRO) and the National Security Agency (NSA). I am very grateful for the knowledge of Dr. Mary Curry of the Archive for her help in finding "just one more document."

The ProQuest Research Library is an online database that is as broad in its topic diversity as it is deep in its source availability. Published by ProQuest LLC, the database contains thousands of newspaper, journal, trade journal, and magazine titles—such as *Jane's*—that are available in full text. This project was particularly dependent on ProQuest's Historical Newspaper database to mine *The New York Times* and other national newspapers, which could help provide a date stamp on events discussed. ProQuest also was helpful to find original material such as the "Text of U.S.-Soviet Agreement on Prevention of Incidents Involving Warships" (1972) that seemed unavailable or inaccessible anywhere else. Other online database gems included HeinOnline.org for its hundreds of full-text law Journals that tackled airspace issues such as *The American Journal of International Law*, *Journal of Air Law and Commerce*, *United States Air Force JAG Law Review*, the United Nations Law Collection, and other law journals based internationally and cited throughout this study.

Online databases that take the declassification challenge head-on by executing multiple Freedom of Information Requests per month include the Gale Publishing Group's *Declassified Document Reference System* and The Wilson Center's *Cold War International History Project Digital Archive* (CWIHP). The former produced many declassified government documents

referenced in this work and the later is impressive for its ability to find original documents from the Soviet Union, Cuba, China, North Korea, Germany, and many others, translate them, and then upload them to their archive for research. Original correspondence from Soviet Ambassador Andrei Gromyko during the 1962 Cuban crisis, for example, is available at The Wilson Center's CWIHP. The CIA's FOIA Electronic Reading Room also contains hundreds of declassified National Intelligence Estimates, correspondence memorandums, and intelligence reports on Cold War matters. The original assessment and mission reports for the 1968 Operation Black Shield A-12 reconnaissance missions is a representative example of what can be found there.

The Department of State's *Open Skies* and archived websites, *U.S. Department of State* (state.gov), provided support to Chapters Four and Five. As a general rule of thumb, any secretary of state official statements and press conferences after 2000 can be found in transcript form here by accessing the "Media" tab. This is also true of the secretary of defense on the Defense Department's website, *U.S. Department of Defense* (defense.gov), under the "News" tab, which provided archived transcripts related to the events surrounding the 2001 EP-3 incident. Other organizational online databases were priceless to pursue their associated primary sources, including the Organization for Security and Cooperation in Europe's (osce.org/oscc) *Open Skies Consultative Commission* database and the *Multinational Force and Observers'* online documents archive (mfo.org). The OSCE database was the primary source for current decisions and sortie numbers for Chapter Four's Open Skies section. Finally, news stories and articles from media organizations also fill the footnotes in these pages. Some common sources

were *Xinhua*'s News Agency active and archived websites, and the online archives of *China Daily*, *Foreign Affairs*, *The Wall Street Journal*, and *The Washington Post*.

Onward

The next chapter begins the argument that peacetime aerial reconnaissance can be employed as a diplomatic tool and can directly support diplomatic goals. It begins at the beginning of America's peacetime aerial reconnaissance program, which did not exist as a deliberate, formal effort before the end of Word War II. It is telling that, even today, the enterprise bears indelible conceptual and operational stamps from its formative years. Leadership still searches for ways to collect information in the aerial realm while remaining undetected. Thousands of SRO missions execute every month, as they did during the burgeoning Cold War, and are focused on whatever priority leadership selects. Target nations continue to challenge the propriety of America's persistent aerial reconnaissance presence. Covert overflights gather information on the riskiest threats to the United States. These themes and others appear repeatedly in the coming chapters.

Chapter Two: The Beginnings of Peacetime Aerial Reconnaissance

[I]t would be an error to think that manned surveillance aircraft
can ever be replaced fully by observation and intelligence-
gathering satellites.[29]

Introduction

America's peacetime aerial reconnaissance mission was born of the political context

following World War II. In sole possession of the atomic bomb but faced with its duplication by

a rising ideological opponent, President Harry Truman and the United States grew desperate for

information that would help them calculate the new balance of power. America's postwar

defense planning was increasingly dependent on atomic bombers, but the US had little precise

data on the type, extent, or location of Soviet military weapons or bases. Aerial reconnaissance

had proven itself useful during the war, and it now seemed the natural tool to fill urgent

intelligence needs.

America had never operated a nationally controlled aerial reconnaissance fleet in

peacetime. Its defense organizations and weapons had been constructed to prosecute war. In the

years following World War II, individual armed services conducted piecemeal and uncoordinated

aerial intelligence missions, but with little interaction with Washington. Eventually, postwar

legislative changes and their resulting organizational impacts allowed for both high-level

political control and strategic diplomatic impact of the sensitive peacetime reconnaissance

mission. Successive American administrations would learn that employing strategic

reconnaissance aircraft in the peacetime diplomatic context could present as much volatility as

war. Nations that were watched by early American reconnaissance flights conveyed both

---

[29] Robert Jackson, *High Cold War: Strategic Reconnaissance and the Electronic Intelligence War* (Sparkford, UK: Patrick Stephens Limited, 1998). 165.

diplomatic protest and violent interception, compelling the United States to specialize its aerial

reconnaissance effort to lessen the diplomatic risk associated with peacetime snooping.

This chapter surveys America's progression into the peacetime aerial reconnaissance

mission. Its purpose is to show how and why the peacetime aerial reconnaissance mission

became so closely connected to diplomacy and political oversight. Quickly evolving military

capabilities and political anxiety on all sides motivated trial-and-error programs to execute

regular aerial intelligence collection with impunity. Specialized reconnaissance aircraft—the

U-2 and SR-71, among others—were the physical manifestations of America's political desire to

seek information on its enemies without risking public scrutiny or embarrassment in the

peacetime political and legal regime. Once underway and normalized, peacetime aerial

reconnaissance would prove its diplomatic worth, dispelling military myths and exposing

adversaries to each other. The chapter concludes with a look at international law and how it

accommodated, slightly late, the peacetime aerial reconnaissance mission.

World War II Ends—An Uneasy Peace

President Truman and his Cabinet ended the Second World War amidst rising domestic

anxiety about the Soviet Union. Emboldened by a proven but nascent atomic might, Truman's

approach toward a defeated Germany and his decision to drop the bomb on Japan without

forewarning damaged Soviet-American diplomatic relations.[30] In 1945, tensions between the

Soviet Union and the United States were apparent in many areas of diplomatic discourse, one of

the most evident examples being negotiations to review the Lend-Lease program. As a Senator

---

[30] Arnold A. Offner, "From Reims to Potsdam: Victory, Atomic Diplomacy, and the Origins of the Cold War," in *Victory in Europe, 1945: From World War to Cold War*(Lawrence, Kansas: University Press of Kansas, 2000)233.

from Missouri in the 1930s, Truman had backed the Lend-Lease Act for Britain and later the

Soviet Union. But, as president in 1945, his administration supported reducing Lend-Lease

shipments to the USSR, citing the end of the war in Europe and the necessity to ship only items

already under contract or required for the war in the Pacific theater.[31] Negotiations to end the

Lend-Lease program resulted in American-Soviet disagreements that represented a general

souring of relations. The Soviet Union attempted to acquire additional credit and equipment

piecemeal from an economically weary United States, explaining that it was in America's "short-

range" interest to unburden itself of surplus provisions. In response, America became

increasingly concerned with the good faith of Soviet requests for more aid and supplies. As then

Undersecretary of State Dean Acheson suspiciously conveyed to his Division Chief of Eastern

European Affairs, "I question whether surplus property disposal is an apt case."[32]

Truman and Acheson were not the first to display heightened mistrust of the USSR or its

satellite states during the conclusion of World War II. The program that created the atomic

bomb, the Manhattan Project (formally called the Manhattan District Project), was developed

through British and American cooperation, but Prime Minister Winston Churchill and President

Franklin D. Roosevelt withheld official notification of the program from Soviet leadership until

---

[31] Edward R. Stettinius, *The Diaries of Edward R. Stettinius Jr., 1943-1946*, ed. Thomas M. Campbell and George C. Herring (New York: New Viewpoints, 1975). 386-389. For a detailed letter-by-letter diplomatic correspondence record, see Department of State, *1946, Eastern Europe; The Soviet Union*, ed. S. Everett Gleason and Rogers P. Chruchill, vol. VI, Foreign Relations of the United States (Washington D.C.: Government Printing Office, 1969). University of Wisconsin Digital Collections Center, University of Wisconsin Madison Libraries. http://digicoll.library.wisc.edu/cgi-bin/FRUS/FRUS-idx?type=article&did=FRUS.FRUS1946v06.i0001&id=FRUS.FRUS1946v06&isize=M&q1=Lend-lease, accessed 10 Aug 2012. 816-865.
[32] Department of State, *FRUS, 1946, Volume VI*, VI: 821-822. Read Under Secretary of State Dean Acheson's reply to Mr. Elbridge Durbrow's memorandum of 21 Jan 1946. At the time, Mr. Durbrow was Chief of the Division of Eastern European Affairs, intensely involved in reviewing Lend-Lease agreements with the Soviet Union.

the weapon's employment was imminent.[33] The Soviets, aware of the American-British clique,

began their own program in earnest, the progress of which became a surprise to the West on 3

September 1949. On that day, a specially modified B-29 reconnaissance plane flying off the

coast of the Kamchatka Peninsula collected air samples that signaled an atomic blast somewhere

inside the geographic boundary of the Soviet Union.[34] It would take almost another three weeks

to complete additional analysis so President Truman could publicly announce the event on 23

September.[35] America was no longer the sole atomic power in the postwar world. The

diplomatic friction that characterized Soviet interaction with America and her allies, such as

Lend-Lease disagreement, became the larger context enveloping what would become a decades-

long arms rivalry and contest for superiority.

A lack of tangible intelligence about postwar Soviet military capabilities magnified

American suspicion of the USSR. Early intelligence estimates, for example, diverged on exactly

how the Soviet Union would structure its military forces and when the Soviet's capability would

reach "maximum danger."[36] The Central Intelligence Group (soon to become the Central

Intelligence Agency, CIA) published a 1946 report indicating the Soviets may already have

possessed an atomic device "of sorts."[37] In 1950, the CIA released a National Intelligence

---

[33] Originally, Churchill and Roosevelt began the secret atomic program as a race against a suspected similar German weapon. Truman would be the one to officially notify Soviet Premier Joseph Stalin about the program only just before the employment of the bomb—at the Potsdam Conference between 17 July and 2 August 1945. However, spies and domestic sympathizers penetrated the Manhattan Project much earlier. It remains unclear exactly what Stalin knew about the project and when he knew it. For a full review of the Manhattan Project and the espionage surrounding it, read these authors' account of Ted Hall and the atomic bomb: Joseph Albright and Marcia Kunstel, *Bombshell: The Secret Story of America's Unknown Atomic Spy Conspiracy* (New York: Times Books, 1997). Also, Kissinger discusses Soviet spies in the Manhattan Project in: Henry Kissinger, *Diplomacy* (New York: Simon & Schuster, 1994). 435-436.
[34] See Appendix B for the location of the Kamchatka. L. Parker III Temple, *Shades of Gray: National Security and the Evolution of Space Reconnaissance* (Reston, Virginia: American Institute of Aeronautics and Astronautics, Inc., 2005). 5-6. Some specially modified B-29s were designated WB-50s. The air sampling aircraft flew under the Air Force's Office of Atomic Testing.
[35] Richard Rhodes, *Dark Sun: The Making of the Hydrogen Bomb* (New York: Simon & Schuster, 1995). 370-371.
[36] "Maximum danger" may have been a way to indicate that the Soviets had both an atomic capability and the intent to attack Western powers. See Temple, *Shades of Gray*, 5-9. Also see Central Intelligence Group, *Soviet Foreign and Military Policy,* 1946. NARA #NN3-263-92-005; 24-AUG-92, National Intelligence Council (NIC) Collection, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/DOC_0000256601/DOC_0000256601.pdf, accessed 12 Aug 2012. 6.
[37] Central Intelligence Group, *Soviet Foreign and Military Policy*, NARA #NN3-263-92-005; 24-AUG-92, 2, 11.

Estimate (NIE) reporting that Soviet and American military strength would reach parity in 1952, a prediction the Agency later revised when 1952 came and went without a Soviet attack.[38] General Curtis LeMay, the commander of Strategic Air Command (SAC) in 1950, had anticipated parity in the year 1954 according to his own estimate.[39] Regardless of the forecasted timing, LeMay's early bomber crews did not know the exact locations of key Soviet military installations or infrastructure—a fact that undermined completely an Air Force growing emphasis on an atomic strategic air campaign to defeat the Soviets.[40] Although the Air Force began a postwar aerial electronic reconnaissance program to probe Soviet air defenses, "SAC needed photographic reconnaissance for chart preparation and target folders."[41] Vague and diverging intelligence estimates and a lack of precise targetable information were just some of the factors causing a great deal of uncertainty about the USSR in the immediate postwar years. From 1945 to 1946, "without empirical evidence, American political leaders struggled to understand Soviet capabilities and intentions during a period of rapid change."[42]

Equally difficult to estimating Soviet military capability was determining Stalin's intent. Stalin's declaration of his ideological vision did not exactly endear the Soviet Union to the West. In February 1946 Stalin addressed his Communist Party leadership at the Bolshoi Theater in Moscow with an indirect response to America's atomic bomb: "No doubt that, if we give our

---

[38] Central Intelligence Agency, *National Intelligence Estimate 3: Soviet Capabilities and Intentions,* 1950. NARA #: NN3-263-93-007; 09/22/93, National Intelligence Council (NIC) Collection, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/DOC_0000269240/DOC_0000269240.pdf, accessed 11 May 2012. 6. The 1952 revision is at Central Intelligence Agency, *National Intelligence Estimate 48: Likelihood of the Deliberate Initiation of Full-Scale War by the USSR Against the US and Its Western Allies Prior to the End of 1952,* 1952. NARA # : NN3-263-93-007; 22-SEP-93, National Intelligence Council (NIC) Collection, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/DOC_0000269268/DOC_0000269268.pdf, accessed 9 Jun 2012. 5.
[39] Temple, *Shades of Gray*, 6.
[40] William E. Burrows, *By Any Means Necessary: America's Secret Air War in the Cold War*, 1st ed. (New York: Farrar, 2001). 65-66. Also read Farquhar, *A Need to Know*, 171-172.
[41] Farquhar, *A Need to Know*, 41.
[42] Farquhar, *A Need to Know*, 42. For a full review of the period from 1945 to 1946, including the beginnings of postwar electronic intelligence, see Farquhar's discussion in Chapter 2.

scientists proper help, they will be able in the near future not only to overtake but to surpass the

achievements of science beyond the boundaries of our country."[43] Other early postwar

diplomatic sources seemed to support the notion of a scheming USSR pitted ideologically

against the West. Famously, American Chargé d'affaires George F. Kennan described in his

"long telegram" an understanding of "Russian expansive tendencies," and how Lenin and then

Stalin were men "prepared to recognize no restrictions, either of God or man, on the character of

their methods."[44] Stalin's actions over the upcoming years would seem to validate Kennan's

fears. Hot political quarrels between the Soviet Union and the West abounded: over Soviet troop

withdrawal from Iran in 1946, happenings in Greece and Turkey in 1947 and 1948, Berlin in

1948, and Soviet diplomatic support to North Korea and China during the invasion of South

Korea in 1950.[45] In March 1946, Winston Churchill delivered his "Iron Curtain" speech in

Fulton, Missouri arguing for the Anglo-American alliance to counter the rising Soviet threat.[46]

That alliance, Churchill could not have known at the time, would eventually include a close

partnership in the pursuit of aerial reconnaissance against the USSR.

 The Joint Chiefs of Staff joined in the skepticism about the future of the US-Soviet

relationship. As late as February 1945, the Joint Chiefs of Staff (JCS) Chair, Admiral William

---

[43] Quoted in Temple, *Shades of Gray*, 4. Also quoted in Albright and Kunstel, *Bombshell*, 233-234.

[44] The "long telegram" outlined what would become the US policy of containment. See the telegram's reproduced ideas in his famous "X" article in the 1947 archives of *Foreign Affairs* magazine: George F. Kennan, "The Sources of Soviet Conduct," *Foreign Affairs* 25, no. 4 (1947), http://www.foreignaffairs.com/articles/23331/x/the-sources-of-soviet-conduct?page=show, accessed 21 Jul 2012.

[45] Read the introduction to Chapter Thirteen in Jeffrey T. Richelson, *A Century of Spies: Intelligence in the Twentieth Century* (New York: Oxford University Press, 1997). 215.

[46] Kissinger, *Diplomacy*, 441-443. Also important was President Truman's 12 March 1947 declaration of policy which would later carry his name, the Truman Doctrine. Read his remarks at: Harry S. Truman, *Address of the President of the United States, 1947. Delivered Before a Joint Sessision of the Senate and the House of Representatives, Recommending Assistance to Greece and Turkey, 12 Mar*, Congressional Record of 1947, Document #171, Harry S. Truman Library. Online Documents, Truman Doctrine Collection, Harry S. Truman Presidential Library & Museum, Independence, Missouri. http://www.trumanlibrary.org/whistlestop/study_collections/doctrine/large/index.php, accessed 4 Aug 2012.

Leahy, continued to favor an overtly cooperative policy towards his Soviet counterparts.[47]

Admiral Leahy's early overriding concern was the preservation of the Soviet-American alliance.

He was fearful about the possibility that Soviets would pursue a separate peace agreement with

the Germans or elect not to enter the war in the Pacific against Japan.[48] However, by April 1945

Leahy and the JCS's sentiment had changed. A memorandum forwarded to the JCS by the Joint

Strategic Survey Committee (JSSC) and an Office of Strategic Services (OSS) paper, also

forwarded to the JCS and subsequently sent to the White House, warned of a "Russia more

powerful than Germany or Japan has ever been" and one that could "outrank the United States in

military potential."[49] On 19 April 1945, Admiral Leahy presented position papers to a newly

sworn-in President Truman that conveyed to the president a change of policy for Chairman

Leahy and his JCS.[50] Leahy advocated broad steps recommended by General John R. Deane, the

leader of the Military Mission to Moscow, and Averell Harriman, the American Ambassador to

the Soviet Union. Based on his experiences with the Soviets and his instincts about the Soviet

political psyche, Deane's recommendations were designed to reverse diplomatic cooperation

with the Soviets.[51] They included policies that would have "the JCS withdrawal from all Soviet-

American military projects not essential to the war, wait for Soviet initiatives, and approach

Moscow only on important issues and 'only' when they were prepared, in instances of refusal, to

---

[47] Mark A. Stoler, "Allies or Adversaries? The Joint Chiefs of Staff and Soviet-American Relations, Spring 1945," in *Victory in Europe 1945: From World War to Cold War*, ed. Arnold A. Offner and Theodore A. Wilson(Lawrence, Kansas: University Press of Kansas, 2000)148.

[48] Japanese suicide tactics and extreme American casualties during the Iwo Jima and Okinawa campaigns made an extension to the war likely if the Soviet Union opted out of the Pacific fight. See the discussion in *Victory in Europe, 1945: From World War to Cold War*, Modern War Studies (Lawrence, Kansas: University Press of Kansas, 2000). Chapters 1, 8, and 11.

[49] OSS R&A Paper, "Problems and Objectives of the United States Policy," 2 April 1945, pp. 2-3, as quoted in Stoler, "Allies or Adversaries," 153, 163.

[50] "Specific Actions to be Undertaken Under Revised Policy with Russia", 16 Apr 1945, JCS 1313/1, CCS, 092 USSR (3-27-45), sec 1, RG 218, NARA, Washington D.C.

[51] John R. Deane, *The Strange Alliance: The Story of Our Efforts at Wartime Cooperation with Russia* (New York: The Viking Press, 1947). 85-86. Prior to his post in Moscow, Deane had served as secretary of the Army General Staff, the Joint Chiefs of Staff, and the Combined Chiefs of Staff (US and UK).

take 'positive and effective action to force Soviet cooperation.'"[52] While Leahy's adoption of

Deane's ideas constituted a change in policy for the JCS vis-a-vis the Soviets, it was not yet a

posture of aggressive and outright opposition.

Importantly, the postwar world that the Chiefs of Staffs envisioned would help enable the

upcoming age of aerial reconnaissance. Although Admiral Leahy and General George Marshall

publicly respected the idea of a global security force presumably provided for by a cooperative

alliance that included the Soviets, they allowed for a world divided into regions policed and

controlled by respective nations or blocs of nations. Air and sea bases spread across American

sectors could be used for combined defensive operations in the event Germany and Japan

regressed into war, or if the American-Soviet partnership degenerated violently.[53] Which of

these two outcomes would become reality was yet to be seen in mid-1945 and much depended on

the Truman administration's approach to end-of-war negotiations.[54] As it turned out, "America

opted for Western unity over East-West negotiations," and a formal system of air and sea bases to

project American presence and power sprang up over the ensuing years.[55] Such a dispersed and

vast constellation of overseas bases was fortuitous. Not only was such a system unprecedented

in scale, but it would emerge as the skeletal infrastructure that supported peacetime aerial

reconnaissance and other new missions engendered by a new and unsettling ideological conflict

with the Soviets.

---

[52] John R. Deane, "Revision of Policy with Relation to Russia", 16 Apr 1945, JCS 1313, Records of the Combined Chiefs of Staff (CCS), 092 USSR (3-27-1945) sec 1, RG 218, NARA, Washington D.C. Also read Deane's write up of the matter in his book, *The Strange Alliance*, cited above.
[53] See discussion of the JCS postwar planning in Melvyn P. Leffler, *A Preponderance of Power: National Secuirty, the Truman Administration, and the Cold War* (Stanford: Stanford University Press, 1992). 55-60. Also "Air Routes Across the Pacific and Air Facilities for International Police Force", 10 Apr 1943, JCS 183/6, CCS 360 (2-9-42), RG 218, NARA, Washington D.C.
[54] Consult Chapter Seventeen in Kissinger, *Diplomacy*, 423-445.
[55] Kissinger, *Diplomacy*, 445. See Figures 3, 4, and 5 in Appendix B.

A Brief Look Back—Peacetime Reconnaissance Before World War II

The concept of establishing a continuous peacetime aerial reconnaissance program for defense was a relatively new idea to America in the late 1940s. The nation had no historical precedent for a centrally controlled, standing aerial intelligence program specifically to inform national security.[56] Still, aerial reconnaissance had a long history concurrent with the development of military airpower. Both sides used balloons during the American Civil War, but afterwards balloons became more of an activity for thrill seekers.[57] Aerial reconnaissance played an introductory role in General John "Black Jack" Pershing's pursuit of Pancho Villa beginning in March 1915. Pershing deployed JN-3s of the 1st Aero Squadron into "flying columns," an organizing model that, today, seems reflective of the then well established cavalry paradigm.[58] Both sides used aerial reconnaissance in World War I, but American military aerial photo and sighting capabilities became the victim of their own novelty and Service cultures when the war concluded.[59] Brigadier General George Goddard, a founder of early aerial reconnaissance, commented about the interwar years in his memoirs. He described how no one cared about aerial reconnaissance during the "long armistice of 1919-39."[60] "Furthermore neither the infantry nor the cavalry understood the value of photography. The cavalry thought reconnaissance was its job and the science of photo reconnaissance was too highfalutin' and alien for the man on horseback to accept."[61] There was a reason General Goddard called the years 1926 to 1936 "the lean years."[62]

---

[56] See Pedlow and Welzenbach, *The CIA and the U-2*, 1.

[57] John W.R. Taylor and David Mondey, *Spies in the Sky* (New York: Charles Scribner's Sons, 1972). 32.

[58] James W. Hurst, *Pancho Villa and Black Jack Pershing: The Punitive Expedition in Mexico* (Westport, Connecticut: Praeger, 2008). 122.

[59] See Gilbert and Malishenko's chronicle of aerial photography, its use in World War I, and during the interwar years in Chapters One and Two in Ron Gilbert and Tucker Malishenko, *Early Flight* (Dayton, Ohio: Landfall Press, 1984).

[60] George Goddard, *Overview: A Lifelong Adventure in Aerial Photography* (Garden City, New York: Doubleday, 1961). 19-21.

[61] Goddard, *Overview*, 22.

[62] Goddard, *Overview*, 177. Review Chapter Twelve for Goddard's perspective.

In 1910, the United States Navy began investigating aviation with reconnaissance in mind. In November, Lieutenant Eugene Ely made the first ship-to-shore flight from the scout cruiser *Birmingham* to the beach at Willoughby Spit near Norfolk, Virginia.[63] In April 1914, Lieutenants Patrick Bellinger and Melvin Stolz made the first aerial sortie over the port of Veracruz, Mexico, after being slung overboard from the USS *Mississippi*. Dispatched there to support President Wilson's order for occupation of the Port, the mission became not only the first overseas aerial combat mission, but also the first American crisis reconnaissance sortie.[64] By 1917, the Navy had three ships—*North Carolina*, *Seattle*, and *Huntington*—permanently fixed with catapults to employ spotting and scouting planes to site targets for US Naval warships.[65] Hence, the Naval aviation tradition began with the reconnaissance mission.

The primary American application of photoreconnaissance during the interwar years was photo-mapping for the use of surveys and chart construction. During America's Great Depression, many of the public works projects proposed by President Roosevelt's 1933 New Deal prompted the use of aerial mapping and surveys. The twenty damns commissioned through the Tennessee Valley Authority required extensive aerial mapping for their construction along the Tennessee River and its tributaries.[66] The Department of the Interior began photo-mapping the entire United States, mostly using Fairchild Model 71 and 82 airplanes to conduct the missions.[67] The project was an endeavor that Interior Secretary Harold Ickes recognized as nothing short of intergenerational as he adopted a twenty year plan for what would eventually become the National Mapping Program.[68] While employing aerial reconnaissance for domestic public works

[63] Rear Admiral (ret) George van Deurs, *Wings for the Fleet* (Annapolis: United States Naval Institute, 1966). 20-21.
[64] van Deurs, *Wings*, 108-110.
[65] van Deurs, *Wings*, 142.
[66] Michael Hiltzik, *The New Deal: A Modern History* (New York: Free Press, 2011). 72-78.
[67] Brugioni, *Eyes in the Sky*, 6.
[68] Brugioni, *Eyes in the Sky*, 5-6.

projects was far from a mature, centralized foreign reconnaissance and collection program, government leaders, agencies, and bureaucracies alike became familiar with the airplane's ability to survey.[69] Domestic programs like the New Deal gave government leadership awareness of and access to aerial reconnaissance technologies for later application. Overseas during the interwar years, Lieutenant George Goddard was leading his 6th Photo Section of the Army Air Corps on photo-mapping missions over Luzon and much of the Philippines primarily using DH-4s. His photo-mosaics later became the most current source of topographical maps for Pacific operations in World War II.[70] Goddard's project did not miss the attention of Army leadership, including General Douglas MacArthur.[71]

The peacetime reconnaissance mission was far more developed in Europe than in America during the interwar years. Enabled by close geographic proximity, Europeans conducted early peacetime reconnaissance (if it can be called that) against each other in the time leading up to the beginning of World War II. Throughout the 1930s, Germany employed aerial photoreconnaissance against Poland, the Soviet Union, France, Czechoslovakia, and Britain in preparation for its impending expansion. Theodor Rowehl, who, by 1936, was in the Luftwaffe flying He-111s along with his aerial reconnaissance unit (known as the "Squadron for Special Purposes"), provided Luftwaffe Chief Hermann Göring surprisingly detailed pictures of possible bomber targets in England as well as French defenses at the Maginot Line.[72]

---

[69] Brugioni, *Eyes in the Sky*, 5. As a separate example, also see General Goddard's accounts of his attempts to constantly advertise the Air Corps' accomplishments in aerial reconnaissance to Washington leaders. In one instance in 1926, while working on night photography, his unit took pictures of New York City and delivered the photos via parachute to President Coolidge on the White House lawn only two hours later. See Goddard, *Overview*, 177-195.

[70] Goddard, *Overview*, 176-214. Goddard's Photo Section produced exclusive photo-maps of areas later to become fierce battle grounds, including the Bataan Peninsula.

[71] Goddard, *Overview*, 200-202.

[72] David Kahn, *Hitler's Spies: German Military Intelligence in World War II* (New York: Collier Books, 1985). 116-118. The He-111 could fly just under 2,000 miles and provided a stable platform for aerial photography—a detail that aerial reconnaissance experts constantly tried to improve in the mid-20th century.

Germany's former and future enemies reciprocated. In 1936, the French began

conducting photoreconnaissance missions along the Franco-German border and shared its images

with Britain's Secret Intelligence Service (SIS), who began its own reconnaissance flights during

the same period.[73] Interestingly, the new Nazi emphasis on security during the mid-to-late 1930s

removed human intelligence as a dependable source for information on German developments, a

condition which also effectively closed Germany to sincere diplomatic efforts to avoid a

conflict.[74] Consequently, it is not a logical stretch to view European interwar reconnaissance as

representative of the period's diplomatic tensions. The missions resulted from, and eventually

contributed to, the political mistrust weighing heavy within the British-French-German axis. The

opaque diplomacy, the lack of information sharing between former enemies, and anxiety about

the possibility of revisiting another deadly war all animated reconnaissance efforts.

Peacetime Reconnaissance Finds a Home—Organizing for Intelligence

Following World War II, American intelligence and defense reorganization plowed two

fresh furrows for the rise of peacetime reconnaissance. Strategic aerial reconnaissance would

find a home in one of two places: the intelligence community or the United States Air Force and

its Strategic Air Command. President Truman began constructing these two entities in

September 1945 when he signed Executive Order 9621. The order closed the Office of Strategic

Services, transferred its Research and Analysis and Presentation branches to the Department of

State (under one office as an Interim Research and Intelligence Service), and transferred

---

[73] F.H. Hinsley and E.E. Thomas, *British Intelligence in the Second World War*, 3 vols., vol. 1 (New York: Cambridge University Press, 1979). 28.
[74] Richelson, *Century of Spies*, 97-98.

accompanying functions of the director of strategic services to the secretary of state.[75] The

president's later directive of 22 January 1946 forwarded as its main purpose "to assure the most

effective accomplishment of the intelligence mission related to the national security."[76] To

accomplish this, he created the Central Intelligence Group (CIG, the predecessor to the CIA), set

its chief as the Director of Central Intelligence (DCI), and required the secretaries of state, war,

and navy to act, along with his own representative, as the National Intelligence Authority (NIA).

Of note, Truman's letter was short, only ten main paragraphs and fourteen paragraphs total. The

briefness of the directive seemed to emphasize its intent to consolidate intelligence-gathering

organizations and funnel meaningful intelligence upward to a central national authority with the

president as a participating member.[77] The result was the creation of a relatively easier and faster

path for information to reach the president and cabinet secretaries than had previously existed.

The National Security Act of July 1947 and its following Executive Orders furthered

postwar restructuring of the national intelligence organization. The Act formally created the

Central Intelligence Agency (CIA) with the Director of Central Intelligence as its chief. The DCI

would advise the new National Security Council (the NSC included the president, secretaries of

state and defense, and the service secretaries) on "the coordination of such intelligence activities

of the departments and agencies of the Government as relate to the national security."[78] In

---

[75] Harry S. Truman, *Termination of the Office of Strategic Services and Disposition of its Functions,* 1945. Executive Order 9621, Executive Orders, Official Documents, Harry S. Truman Library. Official Documents (online), Harry S. Truman Presidential Library & Museum, Independence, Missouri. http://www.trumanlibrary.org/executiveorders/index.php?pid=787&st=9621&st1=, accessed 20 Aug 2012. The OSS was the US intelligence agency erected during World War II. It was charged with organizing and managing high-level intelligence and behind-the-lines espionage during the war.

[76] Harry S. Truman, *Directive on Coordination of Foreign Intelligence,* 1946. Letter to the Secretary of State, the Secretary of War, and the Secretary of the Navy, Presidential Directives, Public Papers of the President 1945-1953, Harry S. Truman Library. Public Papers of the President, Harry S. Truman Presidential Library & Museum, Independence, Missouri. http://www.trumanlibrary.org/publicpapers/index.php?pid=1461&st=&st1=, accessed 20 Aug 2012.

[77] Truman, *Directive on Coordination of Foreign Intelligence*, Letter to the Secretary of State, the Secretary of War, and the Secretary of the Navy. General Hoyt S. Vandenberg was the first director of the CIG.

[78] United States Congress, "National Security Act of 1947," (Washington, D.C.: Government Printing Office, 1947), Sec 102, (d) (102). This hardcopy accessible in the Main Reading Room, Library of Congress.

language born of the military-civilian conflict surrounding its origin, the Act specifically

prohibited any hindrance to the duties of the DCI should he be a commissioned military officer:

"[the DCI] shall be subject to no supervision, control, restriction, or prohibition (military or

otherwise) other than would be operative with respect to him if he were a civilian in no way

connected with the Department of the Army, the Department of the Navy, the Department of the

Air Force, or the armed services or any component thereof."[79] The language set standard from

President Truman: we need centrally coordinated information and intelligence constructed for the

national level, not whittled, separate pieces that float up from service agendas. In September,

Executive Order 9877, "Functions of the Armed Forces," clearly gave the mission of "strategic

reconnaissance" to the United States Air Force. In section IV, the order commanded the Air

Force to "organize, train, and equip air forces for…[t]he strategic air force of the United States

and strategic reconnaissance."[80] The Air Force placed the strategic reconnaissance mission under

the control of the Strategic Air Command (SAC). SAC's formal charge was to "conduct long-

range offensive operations independently or in co-operation [sic] with land and naval forces; to

conduct maximum range reconnaissance operations; and to provide units capable of operations

employing the latest and most advanced (i.e. atomic) weapons."[81] Hence, SAC and the Air Force

owned airplanes that could conduct the strategic reconnaissance mission, but the CIA's role was

to coordinate strategic intelligence and provide it to the national decision authorities in its needed

form.

---

[79] United States Congress, "National Security Act of 1947," Sec. 102, (b)(101)(A). To read about the tumultuous battle within the administration over who would control intelligence in the postwar years, consult Douglas T. Stuart, *Creating the National Security State: A History of the Law that Transformed America* (Princeton, New Jersey: Princeton University Press, 2008).
[80] Harry S. Truman, *Functions of the Armed Services,* 1947. Executive Order 9877, Executive Orders, Official Documents, Harry S. Truman Library. Official Documents (online), Harry S. Truman Presidential Library & Museum, Independence, Missouri. http://trumanlibrary.org/executiveorders/index.php?pid=847, accessed 16 Aug 2012. Sec. IV, para. 1.d.
[81] J.C. Hopkins and Sheldon A. Goldberg, *The Development of Strategic Air Command 1946-1986: The Fortieth Anniversary History* (Offutt Air Force Base, Nebraska: Office of the Historian, Headquarters Strategic Air Command, 1986). 2. Also see Paul Lashmar, *Spy Flights of the Cold War* (Gloucestershire: Sutton Publishing Limited, 1996). 21.

The National Security Act of 1947 also formalized the Joint Chiefs of Staff (JCS) and codified the operational chain of command for strategic aerial reconnaissance.[82] Initially comprised of the service chiefs, the JCS's duty was to act "as the principal military advisers to the president and the secretary of defense…"[83] Two years later, additional legislation added the Chairman of the Joint Chiefs of Staff position as a presiding officer with statutory authority that would grow over time.[84] The Act directed the JCS to "establish unified commands," a task the body already had begun when Truman approved the JCS's Unified Command Plan (UCP) in December 1946.[85] Unified commanders reported to the secretary of defense, but they did so through a service chief as an executive agent.[86] The only functional command designated within the UCP was Strategic Air Command. SAC reported to the secretary of defense through its executive agent, the Air Force Chief of Staff as part of the JCS.[87] This organization allowed the individual military services to control their reconnaissance operations almost autonomously, since they retained authority over the operating forces from their service. However, in August 1958, further Defense Department reorganization removed the executive agent role, routing the chain of command more directly from the president to the secretary of defense *via the JCS* to the unified and specified commanders.[88] Hence, following the 1958 legislation, military

---

[82] Steven L. Rearden, *Council of War: A History of the Joint Chiefs of Staff 1942-1991* (Washington D.C.: NDU Press, 2012). xi.

[83] United States Congress, "National Security Act of 1947," sec 211.

[84] Rearden, *Council of War*, xi.

[85] United States Congress, "National Security Act of 1947," sec 211. The Unified Command Plan (UCP) followed from the "Supreme Commands" in Europe during World War II. The UCP acknowledged that the US would have indefinite, enduring, and joint military responsibilities abroad. See Rearden, *Council of War*, 65.

[86] Ronald H. Cole et al., *The History of the Unified Command Plan 1946-1993* (Washington, D.C.: Joint History Office, 1995). 14. SAC was an example of what would later be designated a "specific command," but the term was probably not used until 1951.

[87] Cole et al., *Unified Command Plan*, 127.

[88] Rearden, *Council of War*, 186. The JCS became the "conduit" through which the secretary of defense presented orders to the unified and specified commanders.

reconnaissance activities could be controlled by the secretary of defense through the unified and specified commanders without having to go through the service chiefs.[89]

The combination of the National Security Act of 1947, Executive Order 9877, and associated follow-on legislation enabled for the first time high-level authoritative organizations, other than the Army and Navy, to emphasize strategic intelligence and aerial collection in a new way. Although these actions undoubtedly reflected an intent to match the organization of the intelligence and defense establishments to the political needs of the time, they also created a framework through which the president and cabinet secretaries could familiarize themselves with the means and methods of aerial collection. This was especially true in the case of the DCI, who had direct access to the president and secretary of state through his advisory role in the National Security Council. The fact that the strategic aerial reconnaissance mission was displaced from within the Army's service structure enhanced the mission's visibility to higher-ups—a condition it had not previously enjoyed. In short, the intelligence reorganization and the creation of the Air Force and SAC delivered a healthy structure for top-level appreciation for the aerial reconnaissance mission. The diplomatic anxiety over a military contest with the Soviet Union was rising, and so was the mound of questions regarding America's new Cold War enemy—an environment perfect for the rise of strategic aerial reconnaissance.

---

[89] Cole et al., *Unified Command Plan*, 28. Reconnaissance oversight was administrated through the newly reorganized Joint Staff under the J-3 (Operations) Directorate Rearden, *Council of War*, 185.

Setting the Pace—The Beginnings of Strategic Aerial Reconnaissance

"Strategic" was SAC's first name. In the years following World War II and throughout the Cold War, the word was all but interchangeable with "atomic" and later "nuclear."[90] General Curtis LeMay's pursuit of weapons and weapon systems such as the B-47, B-50, and B-36 bombers, which were intercontinental when air refueled, suggested that he believed only "strategic" systems could deliver the required deterrence against the Soviet Union. Everything about SAC was focused on the possibility and probability of a nuclear contest with the USSR— and the reconnaissance mission was no exception.[91] Peacetime aerial reconnaissance spent its beginning years after World War II pursuing information to address the services' and Truman's anxiety about the Soviet Union and, after its 1949 revolution, China.

Early peacetime reconnaissance operations were employed to compete with Soviet exploration. Some of the first missions were flown by modified B-29s to seek out prospective American land claims in the Arctic. In June 1946, under the guise of weather reconnaissance, SAC's 46th Squadron aircraft took part in Operation "Nanook," an effort to use aerial reconnaissance to find undiscovered land above the Arctic circle.[92] According to a United Nations international agreement regarding land possession in the area, nations could own lands within the confines of their respective converging lines of longitude.[93] Simply looking at the map, it became obvious to Air Force and national leadership that this would provide the USSR

_____

[90] Cole et al., *Unified Command Plan*, 110. General Butler, Commander of SAC in 1991, expressed as much when he recommended merging SAC's and Tactical Air Command's (TAC) reconnaissance aircraft into a single Numbered Air Force (NAF) following the end of the Cold War.

[91] See the discussion regarding SAC's budgetary supremacy and Air Force hegemony in 1948 at Temple, *Shades of Gray*, 12-19.

[92] See Appendix B for a map centered on the North Pole and the Arctic. Ladd Field was in Fairbanks, Alaksa. Lashmar, *Spy Flights*, 22. The B-29F had been modified with cameras for the photoreconnaissance mission in 1945 to extend Allied reconnaissance in the Pacific. See Brugioni, *Eyes in the Sky*, 31. The 46th was renamed the 72nd Strategic Reconnaissance Squadron in October 1947.

[93] Fred J. Wack, *The Secret Explorers: the Saga of the 46th/72nd Reconnaissance Squadrons* (Turlock, California: Seeger's Print, 1992). 43.

much more opportunity for land claims in the Arctic than the United States.[94] In his papers,

General LeMay commented on the operation: "the Soviets were active in air exploration of the

Arctic as early as 1937 and had operated temporary testing stations on ice floes off their coast.

But the polar ice cap had never been explored by air and there was concern that the Soviet Union

might find and operate forward aggressive military stations that could be a threat to the United

States."[95] According to some of the crewmen who took part in Operation Nanook, it was

supposed to last six months but instead lasted for three years.[96] Ironically, SAC's first unit was

formed around a reconnaissance mission, not a bombing one.[97]

The result of Operation Nanook was priceless, but not for its landmass discoveries. The

reconnaissance crews found no land in the Arctic, but they did discover a number of Soviet

installations of different sorts in Siberia and along the coast of the Bearing Sea—barracks,

submarine bases, and airfields.[98] Most importantly, these early reconnaissance sorties discovered

that the Soviets had built their own version of the B-29 atomic bomber, the Tu-4, and American

crews sometimes found themselves among airborne Soviet bombers in the same airspace.[99] It

was a safe bet that each side now knew the other was probing the same questions regarding

atomic and nuclear threats. By April 1947, six months before the 46th changed designations to

the 72nd Strategic Reconnaissance Squadron (SRS), the unit began flying electronic intelligence

missions (ELINT)—called "ferret" missions—to find and track the number and type of Soviet

---

[94] See Appendix B, Figure 2. Stettinius, *Diaries of Edward Stettinius*, 67.
[95] As quoted in Lashmar, *Spy Flights*, 23. LeMay visited the 46th on 15 October 1946.
[96] Read Fred Wack's account of his experiences in Wack, *Secret Explorers*.
[97] Burrows, *By Any Means Necessary*, 96. The crews of the 46th also pioneered polar navigation techniques should SAC bomber crews be ordered to attack the Soviet Union over the North Pole—not an easy proposition in 1946. The crews "invented" the grid navigation system for use over the pole, where magnetic compasses became useless.
[98] Burrows, *By Any Means Necessary*, 98.
[99] Burrows, *By Any Means Necessary*, 100. The Tu-4 was based on the B-29—quite literally. The Tu-4 was reverse engineered from American B-29s that landed in the USSR during attacks on Japan in World War II. The Soviets repatriated the American crewmen, but not the bombers. See note six to Chapter Two, Lashmar, *Spy Flights*, 219.

radars along the northern coast of the USSR.[100] The fact that sometimes the crews returned to

the Pentagon for debriefing indicated the level of service interest in their results.[101]

Agents in Truman's administration wanted information on a possible competing Soviet

atomic program. When Lewis Strauss became an Atomic Energy Commissioner in April 1947,

he voiced his concerns about America's ability to detect foreign atomic activity.[102] Partly

through cooperation with General Hoyt Vandenberg at CIG, and the War and Navy Departments,

Strauss concluded that no plans existed to develop long-range detection of atomic detonations.[103]

Given the mounting anxiety over inevitable Soviet atomic programs, Strauss and other

commissioners sought out Truman's support for an aerial detection system. He reported to

President Truman's Special Assistant for National Security Matters, Sidney W. Sours, and to his

longtime friend Secretary of the Navy James Forrestal, that the United States needed to develop a

system to monitor the atmosphere for atomic explosions.[104] Through a series of discussions with

numerous authorities to determine where to place the detection mission, Strauss and Forrestal

managed to convince Secretary of the Army Kenneth Royall that the Army Air Force had the

long-range planes and the technical expertise to accept the mission.[105] By September 1947,

Army Chief of Staff Dwight D. Eisenhower assigned responsibility for an aerial detection

program to the Army Air Force, which became its own service the week after his directive.[106]

Eisenhower asked the Air Force to develop a system to establish the "time and place of all large

explosions that might occur anywhere in the world and to ascertain in a manner that would leave

---

[100] See Burrows, *By Any Means Necessary*, 100-101. Also see Lashmar, *Spy Flights*, 32. Initial ferret missions were made in a
specially modified B-29 (tail number 45-21812). Individual Units in Greenland and Germany also began ELINT missions in
1946 and 1947. See Burrows, *By Any Means Necessary*, 99.
[101] Lashmar, *Spy Flights*, 32.
[102] Lewis L. Strauss, *Men and Decisions* (New York: Doubleday, 1962). 201.
[103] Strauss, *Men and Decisions*, 201.
[104] Strauss, *Men and Decisions*, 202.
[105] Strauss, *Men and Decisions*, 203.
[106] Temple, *Shades of Gray*, 25.

no question whether or not they were of nuclear origin."[107] After using the US's own nuclear

testing at Eniwetok Atoll in 1948 to perfect their detection instrumentation, the Air Force Office

of Atomic Testing began flying modified B-29 "sniffer" missions off the eastern coast of the

USSR in April 1949.[108]

The ability to monitor for atomic and nuclear testing using aerial collection revealed to

Truman and his Cabinet what they wanted to know, and the answer would be the first diplomatic

punch of Cold War strategic aerial reconnaissance. On 3 September 1949, when a WB-29

collected evidence of an atomic explosion within the Soviet Union, it spurred a political storm.

Truman's response was to readdress American political and military posture. He asked the

interagency for a strategy to balance the new Soviet atomic clout. By April 1950, he had

completed initial iterations with the National Security Council on a document that described the

new American national security approach, known as NSC 68.[109] The report called for massive

spending increases to counterbalance the political and military threat of the Soviet bomb.[110]

Ironically, this was exactly the condition Stalin was attempting to avoid by keeping his atomic

program secret.[111]

The Soviets responded domestically and internationally to the Americans' newfound

knowledge of Soviet atomic capability. After Truman announced discovery of the Soviet device,

diplomatic exchanges with the Soviets orbited around the existence of their atomic project and

---

[107] Rhodes, *Dark Sun*, 204.
[108] Temple, *Shades of Gray*, 26. The modified B-29s belonged to the 375 Weather Reconnaissance Squadron out of multiple bases in Alaska. It was later determined that the blast occurred at Semipalatinsk on 29 August.
[109] Harry S. Truman, *A Report to the National Security Council on United States Objectives and Programs for National Security,* 1950. NSC 68, Study Collections Series, Cold War Documents, Harry S. Truman Library. Official Documents (Online), Harry S. Truman Presidential Library & Museum, Independence, Missouri. http://www.trumanlibrary.org/whistlestop/study_collections/ coldwar/documents/sectioned.php?pagenumber=1&documentdate=1950-04-12&documentid=10-1, accessed 1 Sep 2012.
[110] Truman, *A Report to the National Security Council on United States Objectives and Programs for National Security*, NSC 68, 66.
[111] William Burr, "U.S. Intelligence and the Detection of the First Soviet Nuclear Test, September 1949." gwu.edu: National Security Archive, 22 September 2009. Subject Archival Collection "The Nuclear Vault". The National Security Archives, George Washington University, accessed 21 Sep 2012.

Soviet exploitation of the West's perception of it. In a Department of State draft paper circulated at a December 1949 Undersecretary's Meeting, the Department described how the "sniffer's" discovery, and the fact that its timing was a surprise to the West, was playing into Soviet propaganda. "Since the White House announcement concerning an atomic explosion in the USSR, the Soviet propaganda apparatus has increasingly exploited the putative possession by the USSR of the atomic 'secret.'"[112] The paper continued: "While maintaining the current line on Soviet utilization of atomic energy for peaceful purposes, Soviet propaganda is capitalizing on the psychological opportunities presented by the While House announcement,…in order to strengthen the suspicion that the USSR has developed considerable atomic warfare potential."[113] It seemed the reconnaissance effort to sniff out a Soviet bomb had resulted in two diplomatic outcomes, besides surprising both sides. First, it emboldened Stalin, even if it also spoiled any option to reveal the bomb's existence at the time and place of his choosing or to conceal it altogether, a situation that, no doubt, would have been a surprise to the Americans. Stalin and his foreign ministers championed a "peace offensive" campaign to sway noncommunist nations to their side, and at the United Nations (UN) they called for the prohibition of atomic weapons.[114] Also, as described in the below paragraphs, the Soviets took an aggressive turn towards air defense. Second, the event prompted further questions from the American political and military elite about the true nature of Soviet capabilities. SAC and Air Force leadership knew that America was no longer the only atomic power, but nobody understood the extent of Soviet

---

[112] Department of State, *1949, Eastern Europe; The Soviet Union*, vol. V, Foreign Relations of the United States (Washington D.C.: Government Printing Office, 1976). University of Wisconsin Digital Collections Center, University of Wisconsin Madison Libraries. http://digital.library.wisc.edu/1711.dl/FRUS.FRUS1949v05, accessed 11 Sep 2012. 841. The 16 December 1949 paper had attached to it an introductory cover letter from Executive Director Carlisle H. Humelsine. The "White House announcement" referred to here took place on 23 September 1949 from President Truman.
[113] Department of State, *FRUS, 1949, Vol V*, V: 841.
[114] Department of State, *FRUS, 1949, Vol V*, V: 840.

atomic or nuclear capability or the size of their bomber fleet, samples of which the 46th had

unwittingly discovered in their modified B-29s over the Arctic.[115] The result on the American

side was that the administration considered stepping up aerial reconnaissance efforts in attempts

to provide better information about America's new atomic opponent.[116]

On the Soviet side, the response was aggression. The Soviets wasted no time in

exploiting America's new knowledge of the Russian bomb, using public statements to mislead

Truman, his staff, and military leaders into thinking the Soviet atomic program had existed in

operational status since 1947.[117] Some sources say that Soviet military leaders were placing new

emphasis on air defenses and aerial intrusion.[118] The Soviets were increasingly annoyed at the

fact western reconnaissance aircraft acted with relative impunity, whether or not they overflew

Soviet territory. As late as December 1949, most Soviet bases were without radar and so were

most of their aircraft.[119]

Then the matter turned violent. In April 1950, about the same time that Truman sent NSC

68 to the Security Council to seek a new approach vis-a-vis the Soviet bomb, two Soviet La-11

fighters shot down a Navy PB4Y-2 Privateer off the Latvian coast.[120] Aerial reconnaissance had

thrust itself to the front of diplomatic exchange and revealed its mission as extremely volatile.

The aircraft and its crew would be the first losses in a long list of Cold War shoot-downs and

---

[115] Temple, *Shades of Gray*, 26.
[116] Temple, *Shades of Gray*, 26-30.
[117] Burr, "U.S. Intelligence and the Detection of the First Soviet Nuclear Test, September 1949," n. 6.
[118] See Appendix B for an example of common Soviet overflights. See Alexander L George, *Case Studies of Actual and Alleged Overflights, 1930-1953 — Supplement* (Santa Monica, CA: RAND Corp., 1955), RAND Report RM-1349(s).
[119] Larry Tart and Robert Keefe, *The Price of Vigilance: Attacks on American Surveillance Flights* (New York: Balantine Books, 2001). 22. The authors' conclusions come from Soviet documents from that same era.
[120] See Figure 7 in Appendix B. Tart and Keefe, *Price of Vigilance*, 15. The Soviets claimed the Privateer ignored landing orders and then fired at them first. We will never know what truly happened. Some authors report earlier Soviet shoot-downs of two American C-47s in 1946 that had wondered over Yugoslavia, but these likely were not dedicated reconnaissance aircraft nor does there seem to be surviving evidence of their mission. The CIA did plant cameras in transport aircraft during the Berlin Airlift between June 1948 and May 1949, and some of these missions came under ground fire. Dino A. Brugioni, Personal interview conducted by the author. Fredricksburg, Virginia, 20 Aug 2012.

violent attacks not ending until 1970. The impact of the shoot-down was best described in a 1955 RAND corporation report by Alexander George: "[the shoot-down of the Privateer] marked a major turning point in Soviet policy toward encroachment around the Soviet perimeter. For the first time in the postwar period the Soviets asserted the right to force foreign planes suspected of violating their territory to land upon Soviet territory, and to shoot them down if the refused."[121] Truman ordered the immediate stand down of similar sorties for 30 days until the matter could be analyzed diplomatically.[122]

While Truman and his Service chiefs paused at the surprising volatility of the reconnaissance flights, the truth was that there was simply no other way at the time to collect the type of data they needed. An October 1950 Air Force Intelligence Memorandum to Air Force Chief of Staff Hoyt S. Vandenberg noted that the alternatives to aircraft reconnaissance were few. The memo listed only three options: daytime photoreconnaissance missions over the Soviet Union, which were considered acts of hostility; the use of cruise missiles as a photoreconnaissance platform, which would not be available until 1953; or balloon reconnaissance as a stopgap measure until something else could be figured out.[123] For the fist time, an American administration was forced to weigh the need for solid security intelligence against an existential threat to reconnaissance aircraft and loss of American lives in peacetime. JCS Chairman General Omar Bradley put the situation bluntly in a letter to Secretary of Defense Louis Johnson: "It is recognized that there is a risk of repetition of such incidents [the Privateer shoot-down] upon resumption of the flights, *but it is felt that there would be more serious*

---

[121] Alexander L George, *Overflights 1935-1953* (Washington D.C.: RAND Corporation, 1955), RAND Report. 11.
[122] Rhodes, *Dark Sun*, 564. Also in John Thomas Farquhar, "A Cold War In Flames: The Impact of Aerial Reconnaissance on U.S.-Soviet Relations, 1948-1960" (Masters Thesis, Creighton University, 1986), 22.
[123] Air Force Intelligence Memo for Record, 3 Oct, 1950, Entry 214, Chronological Series 1950, RG 341, NARA, Washington D.C.

disadvantages occurring to the United States if the cessation of these operations were to be extended over an excessively long period [emphasis added]."[124] SAC's General LeMay agreed with General Bradley's sentiment. SAC needed more data to inform their bomber target folders and began requesting permission to overfly the Soviet Union through the Air Force's Director of Intelligence as early as October 1950.[125] The Cold War had turned hot and there was no turning back, so Truman decided to allow the missions to continue, but under his guidance.

Faced with the atomic imperative, a lack of other technological options (satellites were still a long way off), and a new aggressive air defense posture from the Soviets, between May and June 1950 Truman agreed to new aerial reconnaissance rules for ELINT missions.[126] The president approved guidelines recommended by General Bradley for peripheral ferret missions. The rules consisted of three basic stipulations. First, the closest point of approach (CPA) would not be any closer than 20 miles to Soviet borders or satellite territory. Second, missions were to deviate from their approved flight plans only for safety reasons. Finally, missions flown on routes normally flown by unarmed transport aircraft may fly either armed or unarmed.[127]

Truman's concurrence on mission guidelines was an important event in the history of aerial reconnaissance. Prior to NSC and presidential consideration of the matter in 1950, reconnaissance flights were managed and operated by the individual military services and only select information from operational missions rose to Security Council level, usually in all-source formats.[128] Consequently, there existed no formal mechanisms for high-level diplomatic visibility or control of the political risk inherent in aerial peacetime reconnaissance missions. By

---

[124] As quoted in Lashmar, *Spy Flights*, 45. Also quoted in Farquhar, "Cold War in Flames," 23.
[125] R. Cargill Hall, "The Truth About Overflights," *The Quarterly Journal of Military History* 9, no. 3 (1997): 27.
[126] Ferret missions were also called the Special Electronic Airborne Search Program, or SESP.
[127] As outlined in Lashmar, *Spy Flights*, 45. The third stipulation was probably meant to describe the Berlin and Vienna corridors and friendly allied occupation zones. Tart and Keefe, *Price of Vigilance*, 16-22. Farquhar, "Cold War in Flames," 23-24.
[128] See Brugioni, *Eyes in the Sky*, 67-68.

agreeing to the JCS's proposal, Truman and the NSC created an authoritative precedent that

highlighted the missions as diplomatically important. In early June 1950, the president allowed

the Air Force to continue ELINT ferret missions in the Baltics under the new guidance. As part

of the formal arrangement to manage aerial reconnaissance, the Air Force and the Navy split

Europe into north-south operating zones, each with its own area of responsibility.[129]

As if matters were not difficult enough for Truman, North Korean leader Kim Il Sung,

backed by Stalin who now had America guessing about Soviet atomic might, invaded South

Korea in June 1950.[130] Some viewed the Korean War as a distraction to an impending Soviet

strike, which again focused American leadership on the sparse intelligence available on Soviet

military and industrial targets.[131] President Truman had his hands full. Along with his guidance

for peripheral ferret missions, Truman banned reconnaissance overflights without his explicit

permission to decrease the likelihood of creating more diplomatic challenges than already existed

with the Soviets and the North Koreans.[132] But the war in Korea also presented an opportunity to

conduct strategic reconnaissance that may have proven politically impossible under other

circumstances. Under the UN Forces' charter, reconnaissance overflights of China and the

USSR could be justified because the two nations were "unannounced cobelligerents" to the

conflict.[133] The war on the Korean Peninsula provided a legitimate justification for what were

essentially peacetime aerial reconnaissance missions. RB-29s and RB-50s, now vulnerable to

newer enemy jet fighters over Korea (the MiG-15), began the first systematic reconnaissance of

---

[129] Lashmar, *Spy Flights*, 46. The Air Force operated in Northern Europe, around Murmansk, and the Navy was responsible for the southern half around the Mediterranean Sea.

[130] The spelling of Kim Il Sung, Kim Jong Il, and Kim Jong Un in this dissertation are taken from the Korean Central News Agency (KCNA) convention. Burr, "U.S. Intelligence and the Detection of the First Soviet Nuclear Test, September 1949."

[131] John L. Gaddis, *Strategies of Containment: A Critical Reappraisal of Postwar American National Security Policy* (New York: Oxford University Press, 1982). 114.

[132] Pedlow and Welzenbach, *The CIA and the U-2*, 15.

[133] Pedlow and Welzenbach, *The CIA and the U-2*, 3.

Soviet and Chinese air defenses along the Pacific coasts.[134] By April 1951, Truman had

approved reconnaissance of Manchuria using high-altitude overflights. The sorties would be

among the first in what would eventually be referred to as the Sensitive Intelligence, or

SENSINT, program. SENSINT missions reconnoitered inside the Eastern Bloc, Soviet Union,

inland China, and elsewhere primarily for data on nuclear and offensive forces.[135] In contrast to

SENSINT was the Peacetime Airborne Reconnaissance Program, or PARPRO. PARPRO

missions were peripheral and normally did not conduct penetrative overflight.[136] Both

SENSINT and PARPRO-type missions garnered appreciation for their strategic contributions

beyond their roles in the combat of the Korean War—especially their ability to better map the

Soviet military machine. As an affirmation of this, the Air Force activated the 55th Strategic

Reconnaissance Wing which greatly increased the size of American aerial reconnaissance

fleet.[137] Alongside the Korean War, strategic reconnaissance was underway via justification

within an existing international legal framework (the UN Charter). Afterwards, it continued

more formally as a variety of peacetime aerial reconnaissance missions that enjoyed the

authoritative support of the president and other national leadership. As John Farquhar wrote in

Cold War in Flames, "the Korean War solidified the need for a peacetime program of U.S. aerial

reconnaissance."[138]

During the 1950s, America and others would conceive of all the ways of peacetime aerial

reconnaissance still in use. The missions supported and challenged foreign and domestic policy

---

[134] Farquhar, "Cold War in Flames," 43-51. Alwyn T. Lloyd, *A Cold War Legacy: A Tribute to Strategic Air Command 1946-1992* (Missoula: Pictorial Histories Publishing Company, 1999). 152, 220.
[135] Pedlow and Welzenbach, *The CIA and the U-2*, 3. These missions used the RB-45C Tornados. Tactical aircraft from the 4th TFW in Korea such as the RF-86A were also used for tactical reconnaissance.
[136] Burrows, *By Any Means Necessary*, 69. PARPRO began with the 46th and 72nd missions in 1946.
[137] Farquhar, "Cold War in Flames," 49. The Wing consisted of the 38th, 338th, and 343rd Strategic Reconnaissance Squadrons, all flying diverse versions of the RB-50 and specializing in "ferret," or ELINT, missions.
[138] Farquhar, "Cold War in Flames," 55.

on all sides (see Appendices A and B). Strategic Air Command, with its new six-engined B-47s, could not help but modify the new high performance bomber for reconnaissance, but had to ask Truman for overflight permission in 1952.[139] Again, Truman approved the overflights based on the legal language of Chapter VII of the UN Charter. That chapter of the Charter conveyed how nations undergoing "peace enforcement" operations (at the time, the Korean War) could overfly sanctuaries used by combatants.[140] The RB-47s flew over Siberia in October, photographed five Soviet bases, and returned unharmed.[141] None of the bases pictured showed any long-range bombers—a direct contradiction to the common perception at the time.[142] In response to the overflights, the Soviets fired their respective air defense regional commander and reinforced the area's interceptor squadrons.[143] In 1956 under Project Home Run, SAC launched RB-47s from Thule, Greenland over the North Pole to investigate defenses and bases in the Northern Soviet Union. Impressively, Home Run included 156 missions without a single loss to Soviet air defenses, and returned much-needed intelligence about northern tier Soviet radars, bases, and precise mapping information.[144]

SAC was not alone in the overflight effort. A joint SAC-Royal Air Force (RAF) cooperative program in the early 1950s married the British PR7 Canberra bomber and its crews with American-made, long focal-length cameras for deep penetrating missions over Eastern Europe and the Soviet's Kapustin Yar missile test range.[145] Similar to American political control

---

[139] Hall, "Truth About Overflights," 31. A few versions of the RB-47 became workhorses for the Air Force in the 1950s. The Air Force flew RB-47Bs mostly as trainers. The RB-47E was primarily a photoreconnaissance aircraft. ELINT was conducted mostly by SAC RB-50s until they were replaced with the RB-47Hs in 1955. For a detailed history of SAC's RB-47 fleet, see Lloyd, *A Cold War Legacy: A Tribute to Strategic Air Command 1946-1992*, 213-214.
[140] Hall, "Truth About Overflights," 32.
[141] See Figure 9 in Appendix B. Hall, "Truth About Overflights," 30-32.
[142] Temple, *Shades of Gray*, 31.
[143] Hall, "Truth About Overflights," 32.
[144] Hall, "Truth About Overflights," 26-38.
[145] See Figure 8 in Appendix B. Temple, *Shades of Gray*, 32. The missions were launched from Giebelstadt, West Germany. Also see Alwyn Lloyd's excellent discussion of US-UK cooperative reconnaissance at Lloyd, *A Cold War Legacy: A Tribute to Strategic Air Command 1946-1992*, 188.

over sensitive peacetime reconnaissance operations, Winston Churchill, then Prime Minister, personally approved the flights.[146] The missions were tracked and attacked, without success, by Soviet interceptors who could not reach the altitude of the high-flying Canberra.[147] Interestingly, in 1953 French commanders in Indochina requested photographic assistance for operations there which would eventually lead to the battle of Dien Bien Phu in March 1954.[148] Although nothing was done with the request at the time, it was significant in that it represented foreign awareness of American aerial reconnaissance capability.

The 1950s saw peacetime aerial reconnaissance begin to build itself credibility in the air monitoring role around the globe. Reconnaissance as air monitoring was different from its unilateral counterpart because it was usually a cooperative effort between at least two governments or between governments and a third party, commonly the United Nations. Probably the most prominent example was over Egypt's Sinai Peninsula. In November 1956, the United Nations Emergency Force flew helicopters and light aircraft over the international boundaries of the Sinai Peninsula to monitor the peace following the 1956 invasion of Egypt and the Suez Canal by Israeli, French, and British forces.[149] A year earlier, in 1955, the Organization of American States (OAS) applied cooperative aerial inspections to the border area between Ecuador and Peru, where hostilities had rekindled old tensions from a 1941 war between the two states. Ecuador invoked the 1947 Rio Treaty, which accommodated such measures to sustain

---

[146] Overflight missions were presented to Churchill as Operation Robin. Several peripheral and preparatory missions were flown prior to the penetrating overflight. See relevant memos to Prime Minister Winston Churchill in the appendices of *Early Cold War Overflights 1950-1956, Symposium Proceedings*, vol. II (Washington D.C.: Office of the Historian, National Reconnaissance Office, 2003).

[147] Jackson, *High Cold War*, 47. The Canberra could reach altitudes well over 45,000 feet.

[148] Eventually, French commanders obtained reconnaissance photos using Grumman F8F-1 Bearcats and Morane 500 Criquets (the latter used primarily for artillery spotting). See the photos in the section between pages 252 and 253 and Appendix 3 at pages 704-5 in Martin Windrow, *The Last Valley: Dien Bien Phu and the French Defeat in Vietnam* (Cambridge, MA: Da Capo Press, 2004). Also see Temple, *Shades of Gray*, 35. This episode is covered more extensively in Chapter Four.

[149] See Figure 21 in Appendix B. Fred Gaffen, *In The Eye of the Storm: A History of Canadian Peacekeeping* (Toronto: Deneau & Wayne, 1987). 55.

peace in the region, to investigate reports that Peruvian troops were massing along the Peru-Ecuador border. A multilateral force from the United States, Argentina, Brazil, and Chile, flew missions along the border and confirmed that there was no "unusual activity."[150] Also under a 1955 Rio Treaty action, the OAS used aircraft to inspect the border region between Costa Rica and Nicaragua using aircraft from at least three different nations.[151] In September 1962, the outbreak of civil war in Yemen eventually involved Saudi Arabia and Egypt. By June 1963, the United Nations Security Council had established the UN Yemen Observation Mission (UNYOM) based in a newly created demilitarized zone on the Saudi-Yemeni border. UNYOM's purpose was to observe and report on a fragile peace in that mountainous region.[152] It flew aircraft daily to monitor the area, especially over the high mountain passes, and coordinated its air monitoring with ground checkpoints and patrols, a preview of the robust verification regime that was to root itself in the Sinai over a decade later.[153] Early air monitoring, such as these efforts in the Middle East and South America, seemed a natural use for aerial reconnaissance in peacetime and affirmed the mission as an international tool for cooperative diplomacy and third party peacekeeping.

America's CIA, meanwhile, became increasingly involved in peacetime reconnaissance of all types. Between 1951 and 1969, the CIA and Chinese nationalist organizations cooperated to fly numerous overflights of the coastline and deep interior of China, North Vietnam, and

---

[150] The formal name of the 1947 Rio Treaty was the Inter-American Treaty of Reciprocal Assistance. The United States, Argentina, Brazil, and Chile were the "guarantor" states of the treaty and, as such, were to assume the role of third-party monitor in situations that threatened peace in the region. See Amy Smithson, "Multilateral Aerial Inspections: An Abbreviated History," in *Open Skies, Arms Control, and Cooperative Security*, ed. Michael Krepon and Amy Smithson(New York: St. Martin's Press, 1992)124.

[151] John Child, "Peacekeeping and the Inter-American System," *Military Review* 60, no. 10 (1980): 48-49, Combined Arms Research Library Digital Library, US Army Command and General Staff College. http://cgsc.contentdm.oclc.org/cdm/singleitem/collection/p124201coll1/id/354/rec/11, accessed 13 Apr 2013. Also referenced in Smithson, "Multilateral Aerial Inspections," 124.

[152] United Nations, *The Blue Helmets: A Review of United Nations Peace-Keeping*, 3 ed. (New York: United Nations Department of Public Information, 1996). 121-127.

[153] United Nations, *The Blue Helmets, 3rd ed*, 125.

Tibet.[154] The effort employed a remarkable variety of aircraft day and night, usually painted with

nationalist markings or no markings at all. Pilots flew American military-supplied C-46s, C-47s,

B-17s, B-25s, and later P2Vs, U-2s, and C-130s.[155] The NSC knew of the Taiwan (then

Formosa) operations and viewed them and Soviet overflights as an important part of American

security policy.[156] In a November 1954 Security Council meeting, Secretary of State John Foster

Dulles commented that the overflights were evidence of a strong defense policy that projected

assertiveness in the eyes of American allies and enemies, but also left the US just short of

provoking a war with either the Chinese or the Soviets.[157] Covert CIA reconnaissance operations

from Taiwan helped develop the diplomatic relationship required for the two nations to finalize a

defensive treaty to counterbalance the Chinese communist threat.[158]

Military commanders in the Pacific region also began recognizing the growing

importance of designing effective peacetime reconnaissance operations. In July 1958,

Commander of US Forces in the Pacific, Admiral Felix Stump, sent a message to the Chief of

Naval Operations and Air Force Chief of Staff requesting that the Chinese nationalists

("ChiNats" in message vernacular of the time) on Taiwan be provided with more "high speed

high performance aircraft as soon as possible."[159] Stump noted that the Chinese nationalists

---

[154] Consult Chris Pocock, *The Black Bats: CIA Spy Flights over China from Taiwan 1951-1969* (Atglen, Pensilvania: Schiffer Publishing, 2010). Written in cooperation with a Taiwanese author, this account describes the overflights operations and organization in detail.
[155] Pocock, *Black Bats*.
[156] "Memorandum of Discussion at the 225th Meeting of the National Security Council, Wednesday, November 24 1954," Document 135 in Department of State, *1952-1954, National Security Affairs*, ed. Lisle A. Rose and Neal H. Petersen, vol. II Part 1, Foreign Relations of the United States (Washington D.C.: Government Printing Office). Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/frus1952-54v02p1, accessed 11 Sep 2012.
[157] Department of State, *FRUS, 1952-1954 National Security Affairs, VII Part 1*, II Part 1. Secretary of State Dulles was discussing the administration's failure "to create an organization for the effective conduct of subversive and counter-subversive operations against the enemy."
[158] Department of State, *FRUS, 1952-1954 National Security Affairs, VII Part 1*, II Part 1. Secretary of State Dulles also commented in the same meeting that the Chinese communists may consider such a treaty with Formosa "virtually an act of war."
[159] Felix Admiral Stump, "Message from CINCPAC to HEDUSAF // CNO, Subject is Chinat Recon Prgogram, 24 July 1958." 1958. Document Number CK3100444062. Declassified Documents Reference System (DDRS), Primary Source Media, The Gale Publishing Inc., accessed 20 Sep 2012.

were "extremely unhappy" because of their inability to reconnoiter inland Chinese communist ("ChiCom") bases and that RB-57s and RF-84s had been intercepted and shot down.[160] Most importantly, Stump summarized what he considered to be the overwhelming strategic impact of a successful peacetime reconnaissance operation: "[I] desire reiterate this is not routine map problem but rather a situation *where in US would benefit directly from successful recon missions*. [I] believe the future success of ChiNat recon effort depends on type equip offered at this time [sic, emphasis added]."[161] Stump's choice of language was telling in two ways. First, it suggested, at least in Stump's mind, that Service chiefs in Washington may not have understood that military reconnaissance goals from Taiwan entailed more than photo missions to update maps of China. Second, he raised the stakes for penetrating reconnaissance missions by arguing that the US "would directly benefit," meaning that successful aerial intelligence collection over China had implications far beyond the region. Specifically, he mentioned the Middle East and the possible outbreak of communist activity "elsewhere."[162] It is not clear if Admiral Stump knew that in June 1958 the CIA's Detachment C began flying U-2 missions over the Chinese coast and inland areas to investigate the violent dispute over the offshore islands in the Taiwan Straits.[163] Eventually, Detachment C flew four missions over mainland China and was able to offer photographic proof to the Taiwanese that communist China was not preparing to invade the islands.[164]

Peacetime aerial reconnaissance efforts did not consist solely of airplanes. The political liability and loss of life associated with violent attacks compelled the president, the CIA, and the

---

[160] Stump, "Message from CINCPAC to HEDUSAF // CNO, Subject is Chinat Recon Prgogram, 24 July 1958," 2.
[161] Stump, "Message from CINCPAC to HEDUSAF // CNO, Subject is Chinat Recon Prgogram, 24 July 1958," 4.
[162] Stump, "Message from CINCPAC to HEDUSAF // CNO, Subject is Chinat Recon Prgogram, 24 July 1958," 1.
[163] Pedlow and Welzenbach, *The CIA and the U-2*, 215.
[164] Pedlow and Welzenbach, *The CIA and the U-2*, 215.

services to seek other means of collection. By the early months of 1956, the Air Force developed

a ballon reconnaissance systems that coasted with the wind at around 45,000 feet with

photographic equipment and film. Named Project Gentrix, the film and equipment would be

released from the balloon once back in friendly or international airspace, to be plucked from the

air by transport-type aircraft (usually C-119).[165] Cover stories and control efforts included

weather research and numerous State Department communiques advising embassies to "carefully

coordinate" with Washington on all public inquiries should a balloon fall in the wrong hands.[166]

However, it is difficult to determine if authorities at the time considered Gentrix an intelligence

success.[167] Of 516 balloons released, only 47 were recovered and revealed limited information

about Soviet bombers, nuclear sites, or meteorological trends.[168] Also, the project endangered

US-Soviet relations at a time when the administration was trying to improve their relationship.

Although programs such as Gentrix proved payload recovery concepts later used to support

reconnaissance satellites such as Corona, evidence shows they produced enormous diplomatic

turmoil barely worth their intelligence return. In one telegram sent form the American Embassy

in Moscow in November 1955 (just before the beginning of Gentrix), Ambassador Charles

Bohlen commented that his Air Attache had yet received no cover story on Gentrix and further

wrote that the "Soviets might prefer to ignore operation in view of extreme sensitivity on balloon

---

[165] Burrows, *By Any Means Necessary*, 207.

[166] Herbert C. Hoover Jr., "Circular Airgram From the Department of State to Certain Diplomatic Missions," 14 November 1955, Department of State, *1955-1957, Soviet Union, Eastern Mediterranean*, ed. Ronald D. Landa, et al., vol. XXIV, Foreign Relations of the United States (Washington D.C.: United States Government Printing Office). Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/frus1955-57v24, accessed 2 May 2012. Document 15.

[167] Dino Brugioni argues that what little intelligence Gentrix produced was of vital importance. The project confirmed that the Soviets were building a secret installation on the Yenisey River near Krasnoyarsk—what turned out to be a large underground nuclear energy complex. See Brugioni, *Eyes in the Sky*, 144.

[168] Brugioni, *Eyes in the Sky*, 138-143. Sources disagree on exactly how many Gentrix balloons were recovered. Also see the number 44 in Tart and Keefe, *Price of Vigilance*, 135. Operations Moby Dick and Grayback are also associated with penetrating balloon reconnaissance over the Soviet Union, but in different stages of conceptual testing and deployment. See these same references and also Hall, "Truth About Overflights." See Table 1 at the end of this chapter for more details on Gentrix.

question/believe we should be prepared for every type Soviet political and propaganda reaction, possibly including raising matter UN. Anticipation of possible reaction is particularly important since in this instance there can be no question of disguising direct US Govt responsibility [sic]."

Overflights always came with extreme political risk and they affected foreign and domestic relations in a profound way. The interactions regarding the Gentrix program is an apt example. On 24 January 1956, President Eisenhower's Press Secretary, James Hagerty, wrote in his diary after visiting with Secretary of State John Dulles. The two men spoke about the probable subject of Soviet Ambassador Zaroubin's request to see the president. Dulles conveyed to Hagerty that he guessed the appointment was made so the Ambassador could personally protest balloon overflights. Afterwards, Hagerty went to see the president:

> I went in to see the President and told him of my talk with Dulles. He readily agreed that he should not see the Russian Ambassador before the press conference and then said, "Foster may be right on his guess. I haven't thought too much of this balloon thing and I don't blame the Russians at all. I've always thought it was sort of a dirty trick. But that was the gamble we took when we made the decision and they ought to have a good answer ready for me if I have to use it when I see the Ambassador. You call Foster and tell him that I want his suggestions for that answer over in my office in a sealed envelope no later than 9:30 tomorrow morning. Also tell Foster that I want him here with me when the Ambassador comes in.[169]

On February 4, the Soviets again protested balloon overflights and demanded that the program cease immediately.[170] The protest described the balloons' payload and suggested also that the devices were intended as part of a propaganda initiative. Two days later, the State Department responded by denying that the balloons were part of a propaganda effort, but were of a meteorological purpose.[171] "However," Secretary Dulles wrote, "in order to avoid

---

[169] James Hagerty, "Diary Entry by the President's Press Secretary (Hagerty)," 24 January 1956, Document 18 in Department of State, *FRUS 1955-1957*, XXIV.
[170] Department of State, *FRUS 1955-1957*, XXIV. Document 24. The note was delivered to the American Embassy in Moscow. Full text of the Soviet protest is also printed in the Department of State's *Bulletin* for February 20, 1956, page 295.
[171] Department of State, *FRUS 1955-1957*, XXIV: 53-55.

misunderstandings, and in view of the Soviet Government's objection, the United States

Government will seek to avoid the launching of additional balloons which, on the basis of known

data might transit the USSR."[172] The fact that Eisenhower and Secretary of State Dulles

immediately cancelled the program and designed the response to appear not to have been caught

"with jam on [their] fingers" is telling about the extreme sensitivity and diplomatic risk with

which the administration considered the mission.[173]

Throughout the Cold War, similar diplomatic exchanges prompted by American aerial

reconnaissance flights would take place—some far more heated than others. The political

response from Project Gentrix was not limited to the USSR. The domestic press resulting from

conflicting administration public statements on the Soviet protest questioned the credibility of

Eisenhower and his government. In February 1956, the New York Times ran a front page story

entitled "The Balloon Incident" in which the author called on the president to "say nothing" if

the government was otherwise forced to compromise its integrity.[174] Eisenhower would again

face similar domestic public scrutiny over the U-2 shoot-down four years later.

In 1953, Dwight Eisenhower had taken office already fluent in aerial reconnaissance. He

had depended on aerial overflights and photo analysis of German occupied territory to inform his

wartime decisions as Supreme Allied Commander in Europe.[175] He came to office deeply

concerned about the state of national security intelligence and possessed a desire to defuse the

tensions with the Soviet Union. In his memoirs, General Andrew Goodpaster, Eisenhower's staff

---

[172] Department of State, *FRUS 1955-1957*, XXIV: 55. The response was delivered to the Soviet Ministry in Moscow by Ambassador Charles Bohlen.
[173] This is how Secretary of State Dulles describes the matter in his papers recording a meeting with President Eisenhower on 6 February 1956. See *FRUS 1955-1957*, XXIV, Documents 23-25.
[174] Hanson W. Baldwin, "The Balloon Incident," *The New York Times*, 19 February 1956. The Soviets had released pictures of captured Gentrix payloads to prove themselves truthful in their claims.
[175] Brugioni, *Eyes in the Sky*, ix-xi.

secretary and primary advisor on reconnaissance matters, summarized the president's concern about intelligence: "President Eisenhower's decision to initiate overflights grew from his careful appraisal of the evolving intelligence needs of the United States in the 1950s. He brought to the presidency a deeply rooted view that intelligence was of vital importance to…the conduct of military and diplomatic affairs. He also brought a personal commitment to try and cool the state of tension and hostility existing [with the Soviets] that could, if unchecked, escalate into a catastrophic military confrontation involving nuclear weapons."[176] As part of his attempt to cooperate with the USSR, Eisenhower suggested to Krushchev reciprocal aerial reconnaissance as a peacekeeping and foreign relations mechanism in his "Open Skies" proposal during the Geneva Four-Power Summit in July 1955.[177] Krushchev declined.[178] When the decision to cancel or continue the SENSINT program came up during his first term in office, Eisenhower chose the latter, having commissioned a study that confirmed the absolute importance of accurately measuring Soviet and Chinese offensive threats.[179] Like Truman before him, Eisenhower was faced with a distinct lack of alternatives, and when briefed on Project Aquatone, the CIA's name for the new U-2 program, he authorized overflight only on his permission and stated anxiously that he desired "all the vital targets covered as quickly as possible."[180]

---

[176] Andrew J. Goodpaster, "Cold War Overflights: An Overview from the White House," in *Early Cold War Overflights, Vol II*, II: 37.

[177] See "Mutual Inspection for Peace" in Dwight D. Eisenhower, *Mandate for Change* (New York: Doubleday, 1963). 520. The Open Skies program was resurrected and successfully implemented by George H.W. Bush in 1989 and is one of the main case studies in Chapter Four of this paper.

[178] Andrew J. Goodpaster, "Cold War Overfligths," in *Early Cold War Overflights, Vol II*, II: 41. Khrushchev had shaken his finger at Eisenhower yelling "nyet, nyet, nyet!" The Soviet premier was sure that the suggestion was just another American ploy for spying on the deep interior of the USSR. Ironically, Open Skies was a sincere attempt at bridging the diplomatic gap between the two states. Later, Premier Bulganin would explain that the USSR believed that Open Skies would actually stimulate an arms race should it not be accompanied by a disarmament agreement. At the time, the Soviets had made concessions in military strength that were not matched by the West. See John Foster Dulles, "Memorandum from Secretary of State, Washington D.C. to The President, Gettysburg, Pennsylvania, 2 February 1956." 1956. Document Number CK3100374600. Declassified Documents Reference System (DDRS), Primary Source Media, The Gale Publishing Inc., accessed 20 Sep 2012.

[179] Temple, *Shades of Gray*, 33. The Solarium Study was so-called because the meeting that generated its recommendations took place in the White House solarium. The study weighed different policies towards national security goals including containment, massive retaliation, and rollback. See Andrew Goodpaster's entries in *Early Cold War Overflights 1950-1956, Symposium Proceedings*, vol. I (Washington D.C.: Office of the Historian, National Reconnaissance Office, 2003).

[180] Chris Pocock, *The U-2 Spyplane: Toward the Unknown* (Atglen, PA: Schiffer Publishing Ltd., 2000). 48.

The diplomatic risk was high as the Soviets continued to respond unpredictably to aerial reconnaissance missions. In his October 1954 RAND report, *Soviet Reactions to Border Flights and Overflights in Peacetime*, Alexander George described how the Soviets "have, in each case, tailored their reaction to conform with their overall policy for dealing with the foreign power in question. Accordingly, they have chosen a variety of means—violence, diplomatic protest, or propaganda—to discourage foreign planes from approaching or overflying Soviet territory."[181] From the end of World War II to 1953 (a period for which relatively accurate numbers are available), more than 250 cases of Soviet protests were logged with the State Department, the White House directly, or through the United Nations.[182] For the period 1950-1953, a related RAND report contains 26 cases of Soviet reactions to alleged or actual peacetime overflights of the Soviet Union with outcomes ranging from interception to destruction of the reconnaissance aircraft.[183] Knowing the extreme political danger, Eisenhower and his intelligence organizations turned to science and engineering to help them walk the thin line between the necessity for intelligence and the probability of sparking a diplomatic catastrophe. The atomic imperative and political mistrust had spurred America to pursue peacetime aerial reconnaissance in a desperate effort to protect itself and pursue peace, but the irony was that peacetime reconnaissance programs (especially overflights) could very easily provoke war.

---

[181] Alexander L George, *Soviet Reactions to Border Flights and Overflights in Peacetime* (Santa Monica, CA: RAND Corporation, 1954), RAND Report RM-1346 (TS-1106), declassified 3 Jul 1996. viii.
[182] George, *Soviet Reactions*, v. Protests continued throughout the Cold War. Some instances are documented in this paper to illuminate the argument.
[183] George, *Case Studies Supplement*, v-vi.

The Search for Impunity—The U-2 and SR-71 Programs

The ability to reconnoiter with impunity over the Soviet Union and communist China

became the primary goal of aerial peacetime reconnaissance in the 1950s. Specialized

intelligence and scientific panels and groups convened by the military and civilian authorities all

agreed that strategic intelligence collection via overflight was necessary, but most also

recognized the political ramifications of willfully violating another nation's sovereignty while

not at war.[184] The fact that overhead reconnaissance was required in *peacetime* made all the

difference. Diplomatic risk and political necessity shaped the task itself—any effort to overfly a

target nation should be not only survivable, but also, most preferably, undetectable.[185] At the

time, undetectability was thought to be a function of extreme altitude according to the best

intelligence on radar capability in communist states, so high-altitude aircraft and orbiting

---

[184] Air Force Deputy Chief of Staff for Development, Major General Gordon Saville, added more scholars and scientists to an underway project on air defense called Project Lincoln at MIT. This additional group met in Boston and called themselves the Beacon Hill Study Group. They produced a paper called the *Beacon Hill Report* in June 1952 that concentrated on photo surveillance and advanced reconnaissance platforms. One of their recommendations called for a high-altitude reconnaissance plane: "...from vehicles whose performance is such that they can operate in Soviet airspace with greatly reduced chances of detection or interception" (*Beacon Hill Report,* 164). In July 1953, the Air Force created the Intelligence Systems Panel (ISP) to implement the Beacon Hill recommendations, in which the CIA participated. But the Air Force had already decided to pursue the modified Martin RB-57 for high-altitude reconnaissance. In July 1954, President Eisenhower hired MIT President Dr. James Killian, Jr. lead the Technological Capabilities Panel (TCP). It was through the TCP that Killian and Ed Land, founder of Polaroid, were able to solicit President Eisenhower's support for the U-2 program and eventually to co-opt the Air Force to support the project. The TCP Report also included recommendations for advanced ballistic missile programs, continental defense, and communications. See Temple, *Shades of Gray*, 60-61. Dr. Killian's report is also worth reading: James R. Killian, *Meeting the Threat of Surprise Attack, Report of the Technologial Capabilities Panel of the Scientific Advisory Committee* (Washington, D.C.1955), President's Scientific Advisory Committee, 14 February 1955. For a study on the formative days of the U-2 program, see the following sources: Pedlow and Welzenbach, *The CIA and the U-2*, Chapters 1 and 2.; Pocock, *The U-2 Spyplane*, Chapter 1.; Chris Pocock, *Dragonlady: The History of the U-2 Spyplane* (Osceola, Wis., USA: Motorbooks International, 1989). 1-10.; and Brugioni, *Eyes in the Sky*, Chapter 5.
[185] It is clear from NSC discussions and later surprise from the White House that Eisenhower and the NSC expected that the U-2 would not only be invulnerable to Soviet missiles and interceptors for a few years following 1956, but also would not be tracked. As early as 1958, Eisenhower knew of plans for the U-2 follow-on, the aircraft that would become the A-12 Oxcart and the SR-71. See: Pedlow and Welzenbach, *The CIA and the U-2*, 19. Also see John D. Eisenhower, "Memorandum of Conference with the President, December 16, 1958 — 9:00 AM." 1958. Document Number CK3100455929. Declassified Documents Reference System (DDRS), Primary Source Media, The Gale Publishing Inc., accessed 19 Sep 2012. Also see: John D. Eisenhower, "Memorandum For Record, February 12, 1959." 1959. Document Number CK3100230922. Declassified Documents Reference System (DDRS), Primary Source Media, The Gale Publishing Inc., accessed 20 Sep 2012.

satellites became the goals of Air Force and civilian developmental reconnaissance efforts.[186] If

detected, reconnaissance missions should be either immune to interception or attack, or so far

beyond conventional vertical limits as to render the question of sovereignty irrelevant. Unlike

prisoners of war, for the American administration to be confronted publicly with captured

American personnel and equipment on what could only be a spy mission was compromising

politically on many levels. Therefore, peacetime aerial reconnaissance was a special mission

requiring a special craft, but the Air Force and the CIA pursued the task in two very different

ways.

The Air Force was bomber-centric in the early 1950s, and so was its approach at

developing a dedicated strategic reconnaissance aircraft. Most of the reconnaissance aircraft

listed in SAC's history from this period were modified bombers (the U-2 entered SAC's

inventory in 1957).[187] SAC was building up its bomber force against what it thought was

increasing Soviet might.[188] Simply following the number of new B-47s added to SAC's

inventory reveals 12 in 1951 and 1,367 in 1958.[189] So in 1954, when the Air Force's Office of

Development and Advanced Planning briefed LeMay on the idea for the aircraft and operation

that would become the U-2 program (a single-engine, unarmed, light-payload, high-altitude jet

---

[186] The idea that extreme altitude afforded undetectability was based on the suspected capability of Soviet radars, many of which were American-made and delivered via the Lend-Lease program in World War II. See Pedlow and Welzenbach, *The CIA and the U-2*, Chapter 1. Also see: Temple, *Shades of Gray*, Chapter 7.; Pocock, *The U-2 Spyplane*, 9-41. For the intelligence on which the CIA based its Soviet radar capabilities estimates, see National Intelligence Estimate (NIE 11-5-55), dated 12 July 1955, accessible at http://www.foia.cia.gov/docs/DOC_0000269426/DOC_0000269426.pdf.
[187] Hopkins and Goldberg, *The Development of Strategic Air Command*. RB-29, RB-36, RB-45, RB-47, RB-50, RB-57, RF-84, and U-2. Also review Lloyd's coverage of SAC in the 1950s. A good place to start is Lloyd, *A Cold War Legacy: A Tribute to Strategic Air Command 1946-1992*, 218. Look for the subheading "Strategic Reconnaissance Operations" on that page.
[188] Hopkins and Goldberg, *The Development of Strategic Air Command*. See the year-by-year aircraft listings at the beginning of the chapters between 1950 and 1959.
[189] Hopkins and Goldberg, *The Development of Strategic Air Command*, 30, 71.

glider), his attitude was dismissive. "I can do all of that stuff with my B-36!" was General

LeMay's response.[190]

The Air Force's initial rejection of the U-2 program was more than its SAC commander's

disdain for the idea. Air Force organizations with a role in aircraft development and selection

operated within a set of criteria that favored heavy, multiengine, armed aircraft built to make and

survive war in the sky.[191] In June 1954, Lockheed's Kelly Johnson received a letter from the Air

Force rejecting the U-2 because it was "too unusual," had only one engine, and the Air Force was

already committed to the modification of the B-57 bomber for its strategic reconnaissance

mission (the aircraft was based on the British Canberra bomber).[192] The modified B-57, built to

military specifications, had a maximum altitude of 65,880 feet, lower than the 70,000 feet

thought to be required to evade interception during overflight, according to Dr. Allen Donovan of

Cornell Aeronautical Laboratory and a member of the Air Force's Intelligence Systems Panel

(ISP) in 1954.[193] Donovan explained that any aircraft designed for penetrating overflight must

have a single engine, a glider-type wing for high-altitude, and minimum structural strength if it

was to evade detection and interception.[194] The RB-57 was almost the exact opposite. Hence,

SAC and the Air Force developed their reconnaissance plane around conventional ideas with a

bias towards robust, multiengine, bomber-type aircraft.

---

[190] As noted in Pocock, *The U-2 Spyplane*, 14. LeMay's words are based on Cargill Hall's March 1995 interview of Bud Wienberg, a staffer in the Air Force Development and Advanced Planning Division in 1954 who presented the design to LeMay. See notes 2, 11, and 12 on page 19. There is also interview-based evidence that General LeMay was (passionately) not interested in an unarmed, single-engine airplane. See Pedlow and Welzenbach, *The CIA and the U-2*, 12.
[191] The Wright Air Development Center in Ohio, for example, rejected the U-2 proposal in early June 1954 because of its unproven single engine (the GE J73) and the absence of a landing gear to make the airplane light enough to achieve high altitude.
[192] Entry for 7 June 1954 in Kelly Johnson, *Log for Project X*, Clarence Kelly Johnson Papers (Burbank, CA: Lockheed Corporation, Advanced Development Projects Division, 1954).
[193] Pedlow and Welzenbach, *The CIA and the U-2*, 24.
[194] Pedlow and Welzenbach, *The CIA and the U-2*, 25.

The CIA also had its organizational preferences, but the Agency turned out to be a more accommodating organization for a radically different reconnaissance aircraft. Director Allen Dulles had his own ideas about intelligence operations. Dulles believed in more traditional means of collection such as "human operatives and secret communications, the classic forms of intelligence gathering."[195] When Edward Land, the inventor of the polarizing filter, instant camera, and "Project 3" leader of the Eisenhower-commissioned Technological Capabilities Panel (TCP), briefed Dulles in October 1954 on the plans for the U-2 program, Land walked away "with the impression that Dulles somehow thought overflights were not fair play."[196] In early November 1954, Land and TCP Chair Dr. James Killian, briefed President Eisenhower on what would become the U-2 program. Eisenhower expressed his sensitivity to overflights, but approved the project and wanted it "handled in an unconventional way so that it would not become entangled in the bureaucracy of the Defense Department or troubled by rivalries among the services."[197] Eisenhower wanted civilians in control of the highly sensitive program.[198] Not because he trusted civilians more than the military, but because he believed putting military personnel over the Soviet Union in peacetime would be an act of war.[199]

Killian and Land turned back to DCI Dulles. In their letter from "Project 3" of the TCP to Dulles, they made clear that the CL-282 (the early name for the U-2) would "fly at 70,000 feet, well out of the reach of present Russian interceptors and high enough to have a good chance of avoiding detection."[200] What is most interesting is that Killian and Land included language in

[195] Pedlow and Welzenbach, *The CIA and the U-2*, 32.
[196] Pedlow and Welzenbach, *The CIA and the U-2*, 32. See note 134 for more information on the TCP.
[197] James R. Killian, *Sputnik, Scientists, and Eisenhower: A Memoir of the First Special Assistant to the President for Science and Technology* (Cambridge, MA: MIT Press, 1977). 82.
[198] Pedlow and Welzenbach, *The CIA and the U-2*, 33.
[199] Pedlow and Welzenbach, *The CIA and the U-2*, 60.
[200] "Letter, Edwin Land to Allen Dulles, November 5, 1954." Document 3 in Jeffrey Richelson, "Science, Technology and the CIA." gwu.edu: National Security Archives, 10 Sept 2001. Electronic Briefing Book (no number). The National Security Archives, George Washington University, accessed 12 May 2012.

the letter that directly addressed the diplomatic sensitivities of peacetime overflight as indicated

by Eisenhower: "The plane is so light (15,000 pounds), so obviously unarmed and devoid of

military usefulness, that it would minimize affront to the Russians even if through some remote

mischance it were detected and identified."[201] With Eisenhower's support and promising plans

from Kelly Johnson's division at Lockheed, DCI Dulles finally consented to take on the U-2

program with Air Force personnel and logistics support to make the plane operational. He sent a

message to the president recommending that a national requirement for overflights be

established, that the CIA and the Air Force be directed to cooperate on the "specially designed

reconnaissance aircraft" which Dulles described as the successor to the RB-57, and that the CIA

and Air Force jointly conduct, "at the earliest possible date, the reconnaissance overflights, and

to do so in such a way as to reduce the risk of involvement of the U.S. to the minimum

practicable."[202] The CIA's initial codename for the program was "Aquatone" while the Air Force

classified its support contributions to the U-2 with the codename "Oilstone." Although SAC

under its organizational mandate made multiple bids for control over the U-2, it would not gain

control over the entire program until after the CIA decided to end its involvement in 1974.[203]

Thus, by 1956, the CIA with the Air Force in support had launched what SAC initially would not

[201] Richelson, "Science, Technology and the CIA." Page 2, Attachment 1 in Document 3.
[202] "Memorandum by Director of Central Intelligence, Washington, November 24, 1954." Department of State, *1950-1955, The Intelligence Community*, ed. Douglas Keane, et al., Foreign Relations of the United States (Washington D.C.: Government Printing Office). Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/frus1950-55Intel, accessed 11 May 2012. 571. Document 198.
[203] During U-2 testing, SAC officials became impressed with the jet. Working through the CIA as a transaction agent, the USAF was eventually able to create a squadron of its own for strategic reconnaissance by 1958. Inter-agency rivalry about control of the program continued until the CIA decided to divest itself of the aircraft in 1974. See Pocock, *The U-2 Spyplane*, Chapters 1, 2. Also see Pedlow and Welzenbach, *The CIA and the U-2*, 60, 88.

—an aerial reconnaissance program based on an aircraft that was specifically designed for the peacetime diplomatic context instead of an all-out nuclear war.[204]

The U-2's peacetime reconnaissance mission—especially overflight—influenced high-level politics and diplomatic engagement. In a 1957 preparatory letter used by DCI Dulles in a 6 May NSC meeting on Aquatone/Oilstone, Richard Bissell, the CIA's Aquatone Director, outlined several issues that highlighted how the mission was linked to defense and foreign policy.[205] One of the most emphasized points was that the CIA and the Air Force disagreed about who would control the program because the two diverged over what their "own political authorities would prefer." Bissell argued that the CIA did not want to maintain an overflight capability "unless we stand a better chance than the Air Force of being allowed to use it." In those words, Bissell argued that the diplomatic risks inherent in the U-2's mission produced a resulting imperative that overflights be politically controllable above all else, far outweighing any regard for the Air Force's operational aviation expertise. The Air Force had already agreed to support Aquatone, making Bissell's argument stronger. In the introduction, he mentioned that the British government finally decided to allow Aquatone overflights from bases in the UK. He was reversing a 1956 decision in which the British restricted UK operations to training and weather reconnaissance due to the politically volatile nature of the overflight mission and a recent UK-

---

[204] The U-2 program began with the CIA codename "Aquatone" and later was called "Chalice" and then "Idealist." The Air Force's codename for its support to the CIA's U-2 program was "Oilstone." See Document 4 in Jeffrey Richelson, "The U-2, OXCART, and the SR-71: U.S. Aerial Espionage in the Cold War and Beyond." gwu.edu: National Security Archives, 16 Oct 2002. Electronic Briefing Book #74. The National Security Archives, George Washington University, accessed 20 Jun 2012.
[205] Richard Bissell, *High Level Meeting on Project AQUATONE, 3 May 1957,* 1957. Document #DSR-27361, National Intelligence Council (NIC) Collection, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/DOC_0000743237/DOC_0000743237.pdf, accessed 25 Sep 2012.

Soviet fallout.[206] In what was probably the best description of the U-2's ephemeral strategic

advantage, Bissell wrote that "it now appears that the U-2 will be…safe from interception at least

through the present reconnaissance season and possibly…longer. Nevertheless, both its margin

of advantage and the security surrounding this operation are subject to continuous erosion so the

AQUATONE capability must be regarded as a wasting asset."[207] Bissell went on to propose

overflights targeting Soviet missiles, nuclear installations, and bombers, as well as describing an

effort to modify the skin of the U-2 to make it more stealthy.[208] His final notes had to do with

reducing the program's political risks to the US and other governments. He suggested training

"non US pilots in order to heighten the possibility of plausible denial," and "the modification of

a few of the Agency's aircraft to permit basing them on an aircraft carrier and thereby to avoid

the exposure of friendly governments to the political and diplomatic pressures."[209] The tone of

Bissell's letter disclosed the CIA's interpretation of Eisenhower's sensitivities as well as their

anticipation of the foreign policy issues the program would raise for the president.

The Air Force's RB-57 and the CIA's U-2 both began operations in 1956. SAC accepted

delivery of the first RB-57 in May 1956 and kept the airplanes for less than four years.[210] In

June 1957, SAC accepted delivery of the first operational Air Force U-2 to the 4080th Strategic

Reconnaissance Wing in Del Rio, Texas.[211] The first operational U-2 overflight of Soviet

territory occurred on 20 June 1956, penetrating Czechoslovakia and Poland.[212] It was not until 4

---

[206] Shortly before U-2s arrived at RAF Lakenheath in May 1956, Premier Khrushchev visited the UK onboard a Soviet cruiser. Without the Prime Minister's knowledge, British Secret Intelligence Service (MI6) dispatched a special forces diver at Portsmouth harbor to reconnoiter the ship. The diver turned up dead days later and the Soviets publicly denounced the incident. British Prime Minister Anthony Eden informed Eisenhower of his decision to deny overflights from British bases on 18 May1956 —after U-2 aircraft were already based in England and making final preparations for the first Soviet overflights. The detachment moved to Germany to begin the missions. See Pocock, *The U-2 Spyplane*, 44.
[207] Bissell, *High Level Meeting on Project AQUATONE, 3 May 1957*, Document #DSR-27361, Tab A, para e.
[208] The effort to render the U-2 less detectable was called project Rainbow. See Pocock, *The U-2 Spyplane*, 62-64.
[209] Bissell, *High Level Meeting on Project AQUATONE, 3 May 1957*, Document #DSR-27361, Tab B, paras a and b.
[210] Hopkins and Goldberg, *The Development of Strategic Air Command*, 60, 92.
[211] Hopkins and Goldberg, *The Development of Strategic Air Command*, 66.
[212] See Figure 11 in Appendix B. Pocock, *The U-2 Spyplane*, 46.

July 1956 that CIA pilot Hervey Stockman overflew the interior of the Soviet Union with a

U-2.[213] Looking out the bottom of the U-2 through his driftsight, an optical scope peering down

from below the aircraft, Stockman watched Soviet MiG fighters attempting, unsuccessfully, to

intercept the flight. To the disappointment of Eisenhower and all behind the program, the

Soviets knew the U-2 was there.[214]

The CIA's U-2s produced remarkable intelligence for their time, but failed to deliver the

diplomatic impunity sought by Eisenhower and the State Department. Undeniably, the

intelligence return from the first eight U-2 overflights (five over the interior of the Soviet Union)

was impressive. One National Intelligence Estimate from the same period, for example, claimed

the Soviets possessed 35 M-4 Bison and 30 Tu-95 Bear bombers, and that they were likely to

have 800 total by 1960.[215] Photographic evidence from these first few U-2 overflights proved

that the estimates were simply wrong.[216] In intelligence terms, the discovery was priceless.

Because no strategic bombers were shown at the nine air bases photographed by the early U-2

missions, the White House denied Air Force requests for more B-52 bombers to close the

"bomber gap" with the Soviets.[217] Eisenhower truly appreciated the intelligence, but his

happiness was short-lived. On 10 July the Soviets delivered a protest to the American Embassy

---

[213] Pocock, *The U-2 Spyplane*, 48.
[214] Pocock, *The U-2 Spyplane*, 48-49.
[215] See Table 4 in the Index to Central Intelligence Agency, *National Intelligence Estimate (NIE 11-4-56): Soviet Capabilities and Probable Courses of Action through 1961,* 1956. NARA#: NN3-263-95-001; 31-Jan-95, National Intelligence Council (NIC) Collection, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/DOC_0000267690/ DOC_0000267690.pdf, accessed 20 Sep 2012. 61.
[216] See Figure 12 in Appendix B. U-2 imagery was about more than airfields, bombers, and missiles. The imagery also proved useful to produce economic estimates on industrial and agricultural production and resources. By interpolating facts from the U-2 imagery from the 1956 overflights, CIA and USAF intelligence experts concluded that the Soviets did not possess the numbers of bombers imagined, nor were they able to produce them at rates and scales to match contemporary intelligence estimates. Presented with the facts, the myth of the "bomber gap" disappeared. Pedlow and Welzenbach, *The CIA and the U-2*, 111-112. Pocock, *The U-2 Spyplane*, 53-54.
[217] Pedlow and Welzenbach, *The CIA and the U-2*, 111. Indeed, SAC's total bomber inventory peaked in 1959, with 1,854 total bombers, and declined after that. Much of the decline in bomber orders was a new emphasis on intercontinental ballistic missiles (ICBMs), which entered the SAC inventory beginning in 1959 with the SM-75 *Thor*. See Appendices Ten, Eleven, Sixteen, and Seventeen in Lloyd, *A Cold War Legacy: A Tribute to Strategic Air Command 1946-1992*, 677-680.

in Moscow. It was clear from the message that the USSR had detected and tracked the U-2

flights over long distances.[218] Not only was the president annoyed that CIA assurances of

undetectability had been proven wrong, but he had also to deal with a serious response from the

Soviet Union and any other target nation with similar air defense capabilities.

Eisenhower ordered overflights stopped on the same day and would never again provide

general approval for penetrating reconnaissance flights.[219] Like Truman before him, Eisenhower

would examine the option for peacetime overflights on a case-by-case basis. One such option

occurred in December 1956. Because of the uneven air defense capabilities around the Soviet

border and the similar mission altitude of the RB-57 (around 65,000 feet), General Twining, then

Air Force Chief of Staff, persuaded the president to approve three RB-57 overflights of

Kamchatka, missions which the Soviets also tracked and protested.[220] Re-expressing his

absolute anxiety over the thought of an American military airmen being shot down over the

Soviet Union, he ordered all overflights ceased after the Soviet's December protests and

considered canceling the SENSINT flights all together.[221] Author Chris Pocock put the matter

well in his book *The U-2 Spyplane: Toward the Unknown*, "…to Eisenhower detection was

almost as bad as interception."[222]

[218] Pocock, *The U-2 Spyplane*, 52.
[219] Pedlow and Welzenbach, *The CIA and the U-2*, 109.
[220] Temple, *Shades of Gray*, 92. It is important to note that, during this same time, SAC was carrying out many RB-47, RB-57, and some F-100 overflights of the USSR and Eastern Europe. It is not clear whether Eisenhower approved the military's overflights, but it is certain that after the December 1956 RB-57 Kamchatka missions, Eisenhower would only approve a few CIA U-2 overflights. At the time, SAC U-2s were used primarily for atmospheric sniffing missions off the East Coast of the USSR.
[221] Andrew J. Goodpaster, "Memorandum for Record, December 18, 1956." 1956. Document Number CK3100244014. Declassified Documents Reference System (DDRS), Primary Source Media, The Gale Publishing Inc., accessed 20 Sep 2012. Also see R. Cargill Hall, "Denied Territory: Eisenhower's Policy of Peacetime Aerial Overflight," *Airpower History*, Winter 2009, 9. There is some disagreement here among sources. It is clear from Goodpaster's 18 December memo that Eisenhower wanted to cancel SENSINT overflights, but SENSINT, at the time, was simply a term applying to sensitive overflights. There was no formal SENSINT "program" until late 1960. See F.L. Smith's entry, "Overflight Operations: Another View," in *Early Cold War Overflights, Vol II*, II.
[222] Pocock, *The U-2 Spyplane*, 52.

Eisenhower had good reason to be weary. Through an unexpected communications source, the Soviets were becoming more vociferous about defying any US reconnaissance near, and certainly within, their borders. In late 1958, when Motion Picture Association of America President Eric Johnston was visiting the Soviet Union on a cultural exchange, he made notes of his 6 October conversation with Premier Khrushchev and left them with the American Embassy in Moscow.[223] Khrushchev used Johnston as an unlikely courier, and it worked. After a discussion regarding Chinese-Soviet relations, Khrushchev continued: "…and another cause of irritations is you are constantly flying your planes around our borders. When a neighbor pulls his blinds down, you don't try to peek around the corner. We have shot down several of your planes in the East and West, and we are going to continue to shoot them down when you get around our borders…I'll let you in on a secret…We have no navy in the Black Sea and no submarines in the Black Sea…our missiles could wipe out Turkey in fifteen minutes."[224] Khrushchev's statements reached Eisenhower and also resulted in Deputy Undersecretary of State Robert Murphy asking the JCS to readdress all aerial reconnaissance activities to make sure that "none of the incidents occurring were a result of our own carelessness or neglect."[225] Very few knew at the time, but British pilots were also flying U-2s from a base in Turkey over the Soviet Union, Egypt, Israel, and Syria.[226]

Despite declining repeated requests for overflights by the Joint Chiefs of Staff and intelligence officials, by 1959 Eisenhower had been approving peripheral military

---

[223] Eric Johnston, "Meeting Between Eric Johnston and N. Khrushchev on October 6, 1958." 1958. Document Number CK3100164501. Declassified Documents Reference System (DDRS), Primary Source Media, The Gale Publishing Inc., accessed 9 May 2012.
[224] Johnston, "Meeting Between Eric Johnston and N. Khrushchev on October 6, 1958."
[225] Tart and Keefe, *Price of Vigilance*, 373.
[226] British pilots were attached to the innocent-sounding "Meteorological Office" of the Ministry of Defense. Nigel West, *Historical Dictionary of British Intelligence* (Oxford: The Scarecrow Press, 2005). 354. An RAF pilot took the picture at Figure 12 in Appendix B.

reconnaissance and single CIA U-2 overflights of the Southern USSR, where air defenses were weaker, for signals collection and imagery of possible missile test sites (the U-2 carried SIGINT systems that were constantly improving).[227] Much like intelligence shortfalls and miscalculations regarding Soviet bombers in 1956, the CIA and the intelligence community were wrapped in a similar "missile gap" controversy regarding their knowledge of Soviet intercontinental missile capabilities.[228] In the few overflights that occurred in the late 1950s, U-2 images were showing the first evidence suggesting the Soviets were not on a missile production binge, but undertaking a calculated, more deliberate program measurable by aerial reconnaissance. In front of Congress in May 1960, DCI Dulles was able to offer that "[the Soviet ICBM effort] is not now a crash program; instead, it is an orderly, well-planned, high-priority program aimed at achieving an early ICBM operational capability."[229] In short, the U-2's intelligence return continued to be impressive.

In the late 1950s, all Soviet efforts to shoot down the U-2 had ended in failure. In 1960, that changed. America's new satellite reconnaissance program, codenamed "Corona," and the U-2's successor—the program that would produce the A-12 and the SR-71—were both progressing very slowly.[230] In April 1960, faced with an impending mid-May Paris summit meeting with the Soviets, Eisenhower offered a final extension to 1 May for Operation Gland Slam, a series of U-2 overflights from Pakistan to Northern Norway to investigate Soviet missile

---

[227] Pocock, *The U-2 Spyplane*, Chapter 8. See the subheading "New SIGINT Systems" on page 147.
[228] See Figure 10 in Appendix B. Central Intelligence Agency, *Memorandum to Holders of NIE 11-5-58,* 1958. NARA #: NNS-263-95-001, National Intelligence Council (NIC) Collection, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/DOC_0000267653/DOC_0000267653.pdf, accessed 24 Sep 2012.
[229] As quoted in Pedlow and Welzenbach, *The CIA and the U-2,* 317.
[230] See Paul F. Crickmore, *Lockheed SR-71 Operations in the Far East*, Osprey Combat Aircraft (Oxford: Osprey, 2008). Chapter 1. Also see National Reconnaissance Office (NRO), "The CORONA Story," NRO Declassified Records, Dec 1988 (released 30 Jun 2010), http://www.nro.gov/foia/docs/foia-corona-story.pdf, accessed 2 Jun 2012.

installations.[231] Then, on 1 May during the execution of Grand Slam, Soviet air defenses finally

shot down a CIA U-2 south of Sverdlovsk and captured its pilot, Francis Gary Powers.[232]

The U-2 shoot-down and its diplomatic fallout would prove to be one of the iconic and

profound events of the Cold War. Soviet Premier Khrushchev used the event to exaggerate

Soviet military might and the superiority of Soviet ideology.[233] In the media, stories of the

aircraft and its captured pilot were on the front pages.[234] At the Paris summit, Khrushchev

demanded that Eisenhower denounce the U-2 flights over the USSR as "provocative."

Eisenhower declined and the Soviet Premier walked out of the meeting.[235] At home, Eisenhower

gathered the National Security Council and offered guidance for the pending Senate inquiry. He

did not want the public to know exactly how many overflights had taken place or that he had

approved individual missions. Nor did he want it known publicly that any other nations were

involved in overflights.[236] Additionally, the damage to America's reputation required the

administration to work harder at the United Nations to establish the truth during later aerial

---

[231] Pocock, *The U-2 Spyplane*, 175. Operation Grand Slam had been delayed due to weather and aircraft maintenance issues.
[232] See Figure 13 in Appendix B.
[233] Department of State, *1958-1960, Part I, Eastern Europe Region, Soviet Union, Cyprus*, ed. Ronald D. Landa, et al., vol. X, Foreign Relations of the United States (Washington D.C.: United States Government Printing Office). Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/frus1958-60v10p1, accessed 24 Sep 2012. Document 166.
[234] Osgood Caruthers, "PREMIER IS BITTER: Assails 'Provocation Aimed at Wrecking' May 16 Parley MOSCOW DOWNS AMERICAN PLANE." New York, New York: 6 May 1960. Newspaper Article. ProQuest Historical Newspapers: The New York Times (1851-2008), New York Times Company, accessed 20 Jun 2012.
[235] Pocock, *The U-2 Spyplane*, 230. Eisenhower and others argued later that the summit was doomed anyway, given the ideological gulf and heightened mutual mistrust between the two superpowers. See Eisenhower, *Mandate*, 558. Also see Farquhar, "Cold War in Flames," 187-188.
[236] "Memorandum of Discussion at the 445th Meeting of the National Security Council," Department of State, *FRUS, 1958-1960, X Part I*, X: 522-528. Document 153. The United States also trained British pilots to fly the U-2.

reconnaissance incidents.[237] The administration's worst fears had been realized, and Eisenhower

promised Khrushchev that there would be no more overflights.[238]

Designed as America's first dedicated peacetime strategic reconnaissance aircraft to help

prevent another strategic surprise like Pearl Harbor, the U-2's capability was impressive, but

enabled the administration to take new political risks. Eisenhower's decision to push U-2

overflights into 1960 allowed the Soviets ever more opportunity to catch it. The May 1960 U-2

incident almost ended US-Soviet diplomatic contact and placed the US on the defensive

internationally. In a September 1960 message from US Ambassador to the Soviet Union

Llewellyn Thompson to the secretary of state, he wrote: "Appears from here that on balance our

position in world opinion has been seriously injured by U-2 case."[239] The aircraft would never

overfly the USSR again, after completing 24 total overflights by the time it was shot down. The

incident caused the CIA to reconsider its operation of the U-2, but it did not divested itself until

August 1974 after several reviews of the program ordered by President Nixon.[240] By then, the

CIA had executed U-2 overflights in China, Cuba, Vietnam, and other Asian nations.[241] Satellite

reconnaissance was improving steadily, as were air defenses in the USSR and China.[242] The Air

---

[237] For example, on 1 July 1960 a USAF SAC RB-47 was shot down by the Soviets over the Barents Sea while flying a SIGINT mission off the coast. Khrushchev claimed another American violation of Soviet borders, but the US was able to prove the aircraft was in international waters by showing a map of the mission at the United Nations. By that time, the National Security Agency (NSA) was using signals interception to track reconnaissance flights and target nation interceptors. See Pocock, *The U-2 Spyplane*, 234. The NSA was established in 1952 as the organizational focus for national signals intelligence collection, but the CIA's involvement in signals collection increased in the 1960s with the Agency hanging SIGINT collection instruments on ground stations, aircraft, and eventually satellites. See Richard Bissell, CIA Deputy Director for Plans, "Memorandum on ELINT Requirements Requiring Sensitive Collection, September 9, 1959," Document 6 in Richelson, "Science, Technology and the CIA."
[238] Pocock, *The U-2 Spyplane*, 234.
[239] "Telegram From the Embassy in the Soviet Union to the Department of State, Moscow, 12 September 1960," Department of State, *1958-1960, United Nations and General International Matters*, ed. John P Glennon, et al., vol. II, Foreign Relations of the United States (Washington, D.C.: United States Government Printing Office). Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/frus1958-60v02, accessed 24 Sep 2012. 314-317. Document 159.
[240] Pedlow and Welzenbach, *The CIA and the U-2*, 257. Also see CIA, "Future of the Agency's U-2 Capability, July 7, 1960," Document 10 in Richelson, "Science, Technology and the CIA."
[241] Editorial note to Document 9 in Richelson, "The U-2, OXCART, and the SR-71: U.S. Aerial Espionage in the Cold War and Beyond."
[242] Pedlow and Welzenbach, *The CIA and the U-2*, 257.

Force became the trustee for the program and continues to operate the system in many peacetime roles: crisis response, sensitive reconnaissance operations, weather research, air sampling, air monitoring, and disarmament.

Despite its failure to live up to its promised stealthiness, the U-2 proved its worth then and continues to do so today. U-2 imagery informed America's diplomatic decisiveness among allies and enemies to end the crisis in the Suez in 1956—a major case study in the next chapter.[243] In 1958, U-2 flights revealed no troop buildup on the Chinese mainland opposite Taiwan, information that the CIA shared with the Chinese nationalists to quiet their panic over fears of communist invasion.[244] Other administrations employed the U-2 for critical information in crises to support diplomatic action. U-2 imagery informed the US-Soviet climax over missiles in Cuba in 1962, and the aircraft played a key peacekeeping role through imagery and SIGINT collection in the Arab-Israeli conflict and treaty monitoring in the Middle East.[245] More recently, the U-2 monitored Iraqi weapons status for the United Nations before the 2003 US invasion, has provided Korean Demilitarized Zone vigilance, natural disaster response to earthquakes and flooding, and continues to gather imagery and SIGINT around the world. These are only a few examples to paint a picture of the U-2's peacetime contributions to diplomatic affairs from the program's operational beginnings.[246]

Even before the 1960 U-2 incident raged, Eisenhower and the CIA continued their search to conduct peacetime reconnaissance with impunity and looked to the next generation of dedicated reconnaissance aircraft. On 20 August 1959, a joint Department of Defense-USAF-

---

[243] Stephen Ambrose, *Ike's Spies: Eisenhower and the Espionage Establishment* (Jackson, Mississippi: University Press of Mississippi, 1981). 273-275. The Suez Crisis of 1956 is one of the major case studies in Chapter Three of this paper.
[244] Pedlow and Welzenbach, *The CIA and the U-2*, 215-217.
[245] The U-2's role in Middle East intelligence gathering is a theme in Chapter Four.
[246] Read about the entire U-2 story in the following publications: Pocock, *The U-2 Spyplane*. Also: Pocock, *Dragonlady: The History of the U-2 Spyplane*.; Temple, *Shades of Gray*, Section 1.; Pedlow and Welzenbach, *The CIA and the U-2*.

CIA selection panel chose a Lockheed "Skunkworks" design proposal over the General

Dynamics submission for an aircraft that could cruise above Mach 3 and above 80,000 feet. The

design was designated the A-12 Oxcart, and it was to become the most advanced operational

reconnaissance airplane ever built.[247] By 1962, the Oxcart program was managed by the CIA's

new Office of Special Activities (OSA) in the Deputy Directorate for Research (DDR) and, just

like the U-2 program before it, supported by Air Force logistics and infrastructure.[248] It was not

until 1967 that the A-12 was deployed operationally, after what can be described fairly as

unprecedented accomplishments in aircraft design and technological breakthroughs.[249]

In May 1967, with President Johnson's approval and the Vietnam war raging, a

detachment of CIA pilots and three A-12s deployed to Kadena Air Base, Japan to validate NSC

reports that North Vietnam was about to receive surface-to-surface ballistic missiles.[250] After

nine sorties between May and July, the intelligence imagery from A-12 overflights had

confirmed that there were no ballistic missiles in North Vietnam.[251] This group of missions—

designated Operation Black Shield—were the first overflights of a target nation with the new

A-12 reconnaissance system. During its time over North Vietnam, the aircraft also collected

peripheral photography of Southern China.[252] The CIA flew these missions over Vietnam—a

nation where the United States was already engaged in armed conflict. The fact that combat

---

[247] Crickmore, *Lockheed SR-71 Operations in the Far East*, 7.
[248] See "HN 1-9, February 16, 1962," Richelson, "Science, Technology and the CIA." Document 15. The DDR was also responsible for the CIA's ELINT efforts as well as the Corona and Argon satellite systems.
[249] Crickmore, *Lockheed SR-71 Operations in the Far East*, 6-25. See this source for a complete account of the early years of testing and building the A-12 and SR-71. Also see Clarence L. Johnson, *History of the Oxcart Program,* 1968. Report Number SP-1362, Lockheed Aircraft Corporation, Advanced Development Projects, Burbank, California. Clarence Kelly Johnson Papers, Lockheed Corporation.
[250] Crickmore, *Lockheed SR-71 Operations in the Far East*, 16.
[251] Central Intelligence Agency, *Black Sheild Reconnaissance Missions 1 January - 31 March 1968,* 1968. National Intelligence Council (NIC) Collection, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/ DOC_0001472531/DOC_0001472531.pdf, accessed 14 Sep 2012. 1.
[252] See Figure 14 in Appendix B. Central Intelligence Agency, *Black Sheild Reconnaissance Missions 1 January - 31 March 1968*.

operations were already underway within Vietnam diluted any legal or political issues of the kind faced by Eisenhower during his peacetime overflights of the Soviet Union. However, by early 1968, President Johnson had approved CIA missions over North Korea where a condition of cease-fire existed under a United Nations Armistice Commission following the end of the Korean conflict in 1953. To justify the overflights, Johnson and the NSC cited "belligerent pronouncements by the communist country's civil and military leaders, and an increase in the number and expanded scope of North Korean probes along the DMZ, coupled with their efforts to establish he structure for guerrilla operations in the Republic, had established a critical requirement for intelligence."[253] North Vietnam and North Korea were able to track the A-12 and later the SR-71. Both nations attacked the airplanes with surface-to-air missiles (SAMs).[254] Like the U-2 before it, the A-12 and SR-71 were not as stealthy as Lockheed and the American administration had hoped.

Coincidentally, on 23 January 1968, North Korean patrol boats captured a US naval reconnaissance ship, the USS *Pueblo*, in the Sea of Japan, sparking a major international crisis for the Johnson administration.[255] The first A-12 mission over North Korea was flown three days later and included a description and photographs of the USS *Pueblo* at Wonsan port in its mission report.[256] Although sources speculate on the timing of this first mission, it is unclear from original documents if the mission was already scheduled for execution prior to the Pueblo incident, or if its timing was a result of the *Pueblo* seizure. In a meeting with President Johnson

---

[253] See Figure 15 in Appendix B. As quoted in Crickmore, *Lockheed SR-71 Operations in the Far East*, 20.
[254] Central Intelligence Agency, *Black Sheild Reconnaissance Missions 1 January - 31 March 1968*, 2. Most of the air defenses in North Vietnam and North Korea were Soviet-made equipment. Also see Crickmore, *Lockheed SR-71 Operations in the Far East*, 77-78.
[255] Richard A. Mobley, *Flash Point North Korea: the Pueblo and EC-121 Crises* (Annapolis: Naval Institute Press, 2003). 3.
[256] See Figure 16 in Appendix B. Central Intelligence Agency, *Black Sheild Reconnaissance Missions 1 January - 31 March 1968*, 8.

on 24 January concerning the Pueblo incident, Secretary of Defense McNamara acknowledged

that Johnson had approved the overflight for the twenty-sixth.[257] Either way, the A-12

availability must have been a welcome option for Johnson and the NSC once the *Pueblo* crisis

began. Because the imagery from the A-12 sortie showed that the crew had probably been

removed from the ship, Johnson decided against staging a rescue mission and sought diplomatic

negotiations instead.[258]

The circumstances associated with the January to March 1968 A-12 missions over North

Korea highlighted the peacetime reconnaissance options available to Johnson at the time. A

September 1967 memorandum from the United States Intelligence Board outlined the request for

the A-12 North Korean overflight missions, referring to the airplane as a "very high performance

aircraft."[259] The memorandum discussed how "the substantial number of SAM sites would

seriously limit the areas accessible to the U-2," and how "coverage by KH-4 [Corona satellites]

had been useful to identify SAM sites, ground force installations, new construction, etc., and can

provide air order of battle information. It [Corona] does not have adequate resolution, however

to provide ground force order of battle and related military information."[260] US Air Forces in the

Pacific had supplemented satellite reconnaissance with other aerial reconnaissance assets, but the

"oblique photography" from peripheral missions did not "satisfy all of the Commander's

requirements."[261] Hence, the A-12 constituted the only option available in 1969 for Johnson or

[257] "Notes of the President's Meeting, Washington, January 24, 1968," Document 221 in Department of State, *1964-1968, Korea*, ed. Karen L. Gatz and David S. Patterson, vol. XXIX, Part 1, Foreign Relations of the United States (Washington D.C.: United States Government Printing Office). Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/frus1964-68v29p1, accessed 30 Jun 2012. 492-495.

[258] Brugioni, *Eyes in the Sky*, 221.

[259] Central Intelligence Agency, *Memorandum for the United States Intelligence Board, Reconnaissance Coverage of North Korea, 27 Sep 1967,* 1967. National Intelligence Council (NIC) Collection, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/DOC_0001471954/DOC_0001471954.pdf, accessed 20 May 2012. 2.

[260] Central Intelligence Agency, *Memorandum for the United States Intelligence Board, Reconnaissance Coverage of North Korea, 27 Sep 1967*, 2-3.

[261] Central Intelligence Agency, *Memorandum for the United States Intelligence Board, Reconnaissance Coverage of North Korea, 27 Sep 1967*, 4.

anyone else to collect the information that the intelligence community desired—the detailed

numbers and locations of ground troops and their equipment deep inside North Korea.

The Oxcart A-12 program would be short-lived, eventually replaced by SAC's SR-71

program in 1968.[262] The battle over which program would survive revealed that the conventional

thinking about civilian versus military overflight had evolved (at least outside of the CIA) since

Eisenhower insisted that U-2 overflights be a civilian operation. The Air Force, in coordination

with the newly established National Reconnaissance Office (NRO), established within the

Defense Department a requirement for a "future reconnaissance aircraft" as a follow-on to the

U-2.[263] This follow-on aircraft became SAC's SR-71, a platform similar to the A-12 except a bit

lower and slower, with two seats instead of one, and with more sensor variety—SIGINT and

IMINT. The original plan for the separate programs was for the CIA to fly its A-12s on "covert

strategic reconnaissance missions," and the Air Force to operate a fleet of SR-71s on missions of

"general war strike reconnaissance."[264] Between 1965 and 1968, a bureaucratic battle ensued

among the CIA, the Air Force, the NRO, and the Bureau of the Budget over the expense and

redundancy of operating both programs.[265] The argument forwarded to President Johnson by the

Air Force, NRO, and Bureau of the Budget was that America had made sufficient advances in

---

[262] Interestingly, the airplane was originally designated as "RS-71," but when President Lyndon Johnson announced the existence of the aircraft on 24 July 1964, he mistakenly called it the "SR-71" during the press conference. Thousands of documents and drawings had to be changed. See Curtis Peebles, *Dark Eagles: A History of Top Secret U.S. Aircraft Programs* (Novato: Presidio Press, 1995). 71.

[263] J.V. Charyk, "Memorandum for the Secretary of Defense, Reconnaissance Aircraft, January 13, 1963," Document 12 in Richelson, "The U-2, OXCART, and the SR-71: U.S. Aerial Espionage in the Cold War and Beyond." The NRO was established in September 1961to coordinate the development and operational employment of aerial and satellite national reconnaissance means for overflight of target nations, including the USSR and China.

[264] Richelson, "The U-2, OXCART, and the SR-71: U.S. Aerial Espionage in the Cold War and Beyond." "Memorandum for the President, Subject Advanced Reconnaissance Aircraft, December 26, 1966," Document 23.

[265] Richelson, "The U-2, OXCART, and the SR-71: U.S. Aerial Espionage in the Cold War and Beyond." See the following: Bernard Schriever, "Letter to Eugene M. Zuckert, July 11, 1963," Document 15; Jack C. Ledford, "Briefing Note for the Director of Central Intelligence, Subject Bureau of the Budget Recommendation for the OXCART program, November 16, 1965," Document 21; "Memorandum for Director of Special Activities, Subject Comments to W.R. Thomas III Memorandum to the Director, BOB, July 27, 1966," Document 22; "Memorandum for the President, Subject Advanced Reconnaissance Aircraft, December 26, 1966," Document 23.

satellite and drone reconnaissance by 1966, reducing the operational need for all but one fleet of expensive, advanced reconnaissance aircraft. The counterargument made by then CIA director Richard Helms continued to emphasize the need for a nonmilitary strategic reconnaissance program for diplomatic sensitivity, noting "Soviet or Chinese leadership would consider the overflight more provocative if military sponsorship is established," and "the potential political problems inherent in a manned overflight of denied territory under military sponsorship would be unacceptable."[266]

The rebuttal to Helms' points (written by the Budget Bureau's (BoB) C.W. Fischer in a December 1966 memo to President Johnson) is worth reproducing here:

> Mr. Vance [Deputy Secretary of Defense], Dr. Hornig [Presidential Science Advisor], and I believe that the reconnaissance aircraft operations can be successfully carried out with the SR-71 aircraft and should be consolidated at a single military base (alternative 3). The limited altitude advantage projected for the A-12 is not operationally significant in light of other factors such as the availability of defensive systems and the equal or better range and payload capability of the SR-71. At the speed and altitude of those aircraft, the 3,000 feet or less altitude differential would not significantly affect survivability, even in a sophisticated defensive environment like the Soviet Union. The value of civilian sponsorship and a separate base [for the A-12 fleet] are limited because: [1] Either aircraft could be reasonably attributable to the U.S. military in the event of a shoot-down, since the military version has been officially publicized; [2] The deployment of a civilian sponsored fleet to advance bases…would expose and establish the use of a military base; [3] Civilian pilots could be used under military sponsorship to minimize subjective reactions of alarm on the part of Soviet or Chinese leadership; [4] *The primary provocation from the use of these aircraft over Soviet or Chinese territory is the violation of denied airspace, not the fact of military or civilian sponsorship* [emphasis added].[267]

---

[266] Richelson, "The U-2, OXCART, and the SR-71: U.S. Aerial Espionage in the Cold War and Beyond." Jack C. Ledford, "Briefing Note for the Director of Central Intelligence, Subject Bureau of the Budget Recommendations for the OXCART Program, November 16, 1965," Document 21.
[267] Richelson, "The U-2, OXCART, and the SR-71: U.S. Aerial Espionage in the Cold War and Beyond." "Memorandum for the President, Subject Advanced Reconnaissance Aircraft, December 26, 1966," Document 23.

On December 28, Johnson decided to accept the proposal made by Fischer and the others. The CIA's A-12 program was to be discontinued by January 1968, leaving the SR-71 and the U-2 as the only advanced strategic reconnaissance aircraft.[268]

Because neither an A-12 or SR-71 was ever shot down over enemy territory, we will never know how reactions may have differed had target nations known that the pilot was either civilian or military. However, it seems from published open sources that Fischer's argument was correct. The CIA's A-12s at Kadena and their Air Force's SR-71 successors flew many missions along target nation borders in the Pacific and often overflew the Korean DMZ and Vietnam after the 1973 Paris Agreement.[269] The governments of China, North Korea, and the USSR used their awareness of the missions to make overflight protests in the press. North Korea commonly published domestic propaganda that mentioned the aircraft by name. In January 1974 following an SR-71 DMZ run, the [North] Korean Central News Agency broadcasted a special report on US "military provocations," writing that "the U.S. imperialist aggressors perpetrated the vicious military provocations by infiltrating the high-speed, high-altitude reconnaissance plane 'SR-71' into the air above the areas along the military demarcation line in the Ongjin Peninsula on the west coast on 4 occasions on January 4 and 12 to carry out reconnaissance."[270] China produced similar protests in its press, but leveraged reconnaissance overflights in Vietnam to pronounce the US in violation of the 1973 Paris Agreements. A National Chinese News Agency spokesman issued a statement to the local press: "'On December 31, 1973, the U.S. ordered SR-71 spy planes to carry out reconnaissance over the areas of Dong Ha, Ai Tu, Lao Bao,…all under the

---

[268] Pedlow and Welzenbach, *The CIA and the U-2*, 310.
[269] Crickmore, *Lockheed SR-71 Operations in the Far East*. The Paris Agreement ended the Vietnam conflict for the United States.
[270] Pyongyang Korean Central News Agency, "KCNA Issues Report on Coastal 'Military Provocations'." Daily Report. Asia & Pacific, FBIS-APA-74-013: 18 Jan 1974. Foreign Broadcast Information Service, NewsBank, Inc. Accessed at the Library of Congress, accessed 25 Sep 2012.

control of the RSV Provisional Revolutionary Government.' The statement sternly condemns the U.S. for this violation of the Paris agreement on Vietnam, and demands that the U.S. stop at once its reconnaissance flights over the liberated areas and thoroughly respect and strictly implement the Paris agreement on Vietnam…"[271] The Soviets commonly echoed this type of protest in their own domestic press.[272] Hence, while these governments may have speculated about which American agency was controlling the missions, the only fact that mattered for public disclosure and denouncement was that the missions violated what they believed to be sovereign airspace.

The Air Force's SR-71 program lasted from 1968 to 1990 and made a profound contribution towards diplomatic goals. The aircraft normally operated from bases in Japan and England, but also flew from a few auxiliary locations to make overflight and peripheral runs against targets in the Middle East (including Iran), the Soviet Union and China, and much of Southeast Asia.[273] One illustrative example of the SR-71 program's diplomatic impact was its use during the 1973 Yom Kippur War. In an 8 October 1973 memorandum from the Joint Chiefs of Staff to members of the President's Special Committee on intelligence, JCS Chairman Admiral Thomas Moorer requested SR-71 imagery and ELINT of SAM sites in Syria, Egypt, and the Sinai Peninsula to determine the status of the conflict there.[274] This particular memo also revealed two important details surrounding SR-71 operations at the time. First, the United States still had no reconnaissance satellite with the resolution required to track individual ground troops

[271] Peking National Chinese News Agency, "PRG Statements Protest U.S., Saigon Violations " Daily Report. People's Republic of China, FBIS-CHI-74-005: 8 Jan 1974. Foreign Broadcast Information Service, NewsBank, Inc. Accessed at the Library of Congress, accessed 26 Sep 2012.

[272] Moscow TASS, "DRV Protests U.S. Reconnaissance Overflight." Daily Report. Soviet Union, FBIS-SOV-75-013: 20 Jan 1975. Foreign Broadcast Information Service, NewsBank, Inc. Accessed at the Library of Congress, accessed 25 Sep 2012.

[273] For a detailed beginning-to-end history of A-12 and SR-71 operations, read Paul F. Crickmore, *Lockheed SR-71 Operations in Europe and the Middle East*, Osprey Combat Aircraft (Oxford: Osprey Publishing, 2009). Also read Crickmore, *Lockheed SR-71 Operations in the Far East*.

[274] Joint Chiefs of Staff, "Memorandum for the Members of the Special Committee, Subject Proposed SR-71 Deployment, October 8, 1973," Document 38 in Richelson, "The U-2, OXCART, and the SR-71: U.S. Aerial Espionage in the Cold War and Beyond."

nor were satellites capable of on-the-spot execution and delivery of data in a crisis.[275] Second,

the SR-71 missions, while executed by SAC in 1973, still required political—usually presidential

—approval for overflights.[276] Secretary of State Henry Kissinger, Admiral Moorer, Secretary of

Defense James Schlesinger, and CIA Director William Colby depended greatly on the SR-71

intelligence to guide the international negotiation process for a cease-fire and resulting peace

negotiations.[277] Kissinger's efforts to coax the Egyptians and Israelis to retreat to previous lines

of demarcation included sharing portions of the film from the nine SR-71 missions with the

parties involved during the 1973 crisis.[278] That was not the first time, nor the last, that imagery

from aerial reconnaissance was used in a diplomatic setting to achieve stability in crisis.[279]

Like the U-2 and the Soviet bomber and missile gaps, the SR-71 was deployed to confirm

the existence of systems that would be game-changing if employed in conflict or diplomatic

brinksmanship. President Carter approved SR-71 overflights of Cuba that confirmed the

MiG-23s received by Fidel Castro from the Soviets were not nuclear capable, which would have

violated the Kennedy-Khrushchev agreement following the Cuban missile crisis.[280] In 1978,

Kadena-based SR-71s collected radar intelligence (RADINT) and ELINT of the Soviet Northern

Fleet, ships that usually patrolled from cloud-covered Barents Sea bases. These SR-71 missions

were commissioned by Chief of Naval Operations Admiral James Holloway to pinpoint Soviet

nuclear missile submarines ("boomers") to evaluate what was believed to be a new Soviet

---

[275] Richelson, "The U-2, OXCART, and the SR-71: U.S. Aerial Espionage in the Cold War and Beyond." See paragraph 4b.
[276] Richelson, "The U-2, OXCART, and the SR-71: U.S. Aerial Espionage in the Cold War and Beyond." See paragraph 6.
[277] *Memorandum of Conversation*, 1973. Kissinger, Schlesinger, Colby, Moorer, Series 031400080, Folder: October 31, 1973—Kissinger, Schlesinger, Colby, Moorer, Box 2, National Security Advisor, Memoranda of Conversations, Gerald R. Ford Presidential Library.
[278] *Memorandum of Conversation*, Kissinger, Schlesinger, Colby, Moorer. Impressively, the missions were flown from Griffiths Air Force Base in New York after being denied employment basing in England.
[279] Imagery from U-2 overflights of the Suez canal area remains a tool for peacekeeping diplomacy in that region. See Chapter four herein.
[280] Brugioni, *Eyes in the Sky*, 222.

nuclear attack strategy.[281] In 1986, SR-71s made post-strike overflights of Libyan airfields,

military bases, and SA-5 SAM sites during Operation El Dorado Canyon. The Chinese gave Iran

HY-2 Silkworm anti-ship missiles in 1987 which the Iranians began lobbing at Kuwaiti oil

stations in the Arabian Gulf. In 1988, SR-71 imagery and ELINT confirmed the location and

number of the missiles and many other types of Iranian weaponry and military equipment. The

missions informed US Navy operations in the Straits of Hormuz, international diplomatic

pressure on Iran, and the American-Kuwaiti oil tanker "re-flagging" effort to protect oil

shipments from the Gulf.[282]

The CIA's A-12 and the Air Force's SR-71 program would prove the closest of all

airborne programs to achieving impunity in peacetime reconnaissance. Of the numerous

missions flown during the programs' operational lifetimes, no nation ever shot down—or came

close to intercepting—an A-12 or SR-71. One of the first A-12 sorties over North Vietnam

returned to Kadena Air Base with shrapnel lodged near its engine inlets, presumably from North

Vietnamese SA-2 missiles whose detonations near the plane's track were noted by the pilot. At

the time the aircraft was struck, the pilot did not notice the impact. This was the only recorded

damage from successful military engagement of either system.[283] Once the SR-71 began

operations from England in 1979, Soviet attempts to intercept it began as well. The SR-71 and

Soviet MIG-25 and MIG-31 cat-and-mouse games represented diplomatic brinksmanship at its

highest. Between 1980 and 1989, numerous Soviet fighters would launch to attempt to intercept

the SR-71, but none would shoot it down as the perfect confluence of conditions never occurred:

---

[281] Crickmore, *SR-71 Operations in Europe*, 29-31.
[282] Crickmore, *Lockheed SR-71 Operations in the Far East*, 85-86.
[283] Crickmore, *Lockheed SR-71 Operations in the Far East*, 9.

inadvertent or deliberate overflight, adequate interception for weapons use, and approval from Soviet authorities.[284]

The SR-71's tactical preeminence probably had as much to do with wise strategic employment decisions by its political masters as it did with the aircraft's altitude and speed. The fallout from the 1960 U-2 incident and other equivalent incidents (like the USS *Pueblo*, which is now a floating museum at a dock in Pyongyang) left permanent lessons for successive administrations. For example, the A-12 or SR-71 never overflew the USSR, only conducted peripheral reconnaissance against it collecting oblique photography and SIGINT. In 1964, the NSC decided against deploying an A-12 to collect information on an antiballistic missile site in the Estonian capitol of Tallinn. The plan was finally declined by Secretary of State Dean Rusk who thought the idea was simply too politically dangerous.[285] Later, the NSC came close to employing A-12s over Cuba in 1966, but elected not to do so because the committee members knew the overflights would be provocative at a time when there was relative political calm following the 1962 missile crisis and the A-12's electronic countermeasure (ECM) suite was not yet fully operational.[286] Secretary of State Kissinger referenced the U-2 incident during the 1973 Arab-Israeli crisis, weary of the presence of advanced Soviet SAMs in the area.[287] Thus, high-level discretion and restraint characterized employment decisions and probably contributed to the aircrafts' survival and its lore of invincibility.

---

[284] Crickmore, *SR-71 Operations in Europe*, 55-68.
[285] Crickmore, *Lockheed SR-71 Operations in the Far East*, 14.
[286] Crickmore, *SR-71 Operations in Europe*, 14-15. The "303 Committee" was the deciding body. The "303 Committee" was the NSC committee responsible for managing sensitive intelligence operations. All CIA A-12 pilots were qualified and ready for deployment by the end of 1965. By that time, there were thirteen A-12s flying from Area 51 that could have been deployed.
[287] Department of State, *1969-1976: Arab-Israeli Crisis and War, 1973*, ed. Nina Howland, et al., vol. XXV, Foreign Relations of the United States (Washington D.C.: United States Government Printing Office, 2011). Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/frus1969-76v25, accessed 16 Jul 2012. 515.

The U-2 and SR-71 programs were the first aerial reconnaissance platforms developed for peacetime employment. Everything about the airplanes and their programs was new and unique because the non-wartime reconnaissance mission—a mission that never really existed before in the US at the national level—required it. Because the peacetime mission would not be executed amidst already-violent conflict, it presented the risk of political and military escalation. Eisenhower and the CIA recognized this fact, so they demanded a peacetime reconnaissance craft that produced an intelligence return *and* provided diplomatic flexibility, as evidenced by Eisenhower's demand that the U-2 be flown by civilian pilots. To the extent overflight was compelled by intelligence shortfalls, presidents and higher-ups expected jackpot returns for placing the United States in a legally and politically compromising position. Thus, the U-2 and SR-71 were designed with the technology for survivability and the hope for undetectability. When the latter failed to materialize, the former sufficed. Nonetheless, their design proved to be sufficiently benign for the circumstances. Even during the 1960 U-2 incident the Soviets could not make dangerous accusations of armed overflights when presented with the wreckage of an unarmed aircraft whose purpose was so clearly limited to reconnaissance—a mollifying quality that a modified SAC bomber could never provide. Although Eisenhower demanded that the initial U-2 operation be entirely civilian-controlled, later administrations were less sensitive to this detail. Taken as a whole, U-2 and SR-71 operations founded the peacetime reconnaissance paradigm for the United States and provided legendary returns on investment. While the SR-71 was retired in 1990 due to budgetary concerns, the U-2 continues its service.[288]

---

[288] Crickmore, *Lockheed SR-71 Operations in the Far East*, 86-87. Also see Crickmore, *SR-71 Operations in Europe*, 90-92.

Recon, Rinse, Repeat—Normalizing Peacetime Operations

In many ways, it is telling that, by 1970, peacetime aerial reconnaissance operated much as it does today. Peacetime reconnaissance missions continued either peripherally or on overflights, depending, just as before, on the urgency of the intelligence need and the appetite for political risk on behalf of the president and the NSC. SAC flew primarily U-2s, SR-71s, and RC-135s (the SIGINT aircraft that replaced the RB-47 in 1966) around the world, mostly on peripheral IMINT and SIGINT missions from bases in Alaska, Japan, Korea, England, and Europe.[289] The US Navy flew aerial reconnaissance using primarily P4-Ms, PB4Ys, EC-121s, and, beginning in 1964, EP-3 patrol aircraft.[290] The CIA continued peripheral and overflight missions for many purposes, an example being CIA U-2 crisis reconnaissance missions over the Sinai peninsula in 1970 until the Air Force picked up the mission in the ensuing years.[291] The Peacetime Airborne Reconnaissance Program (PARPRO) continued, with specialized aircraft from all military services and some civilian agencies flying long-endurance SIGINT and IMINT missions in international airspace.[292] With the addition of dedicated, multi-INT reconnaissance aircraft like the RC-135 and the U-2, the peacetime reconnaissance mission became regular, but remained diplomatically volatile.

Violent attacks and shoot-downs against American reconnaissance aircraft continued until 1970.[293] A Navy EC-121 Constellation shot down on 15 April 1969 by North Korean fighters

---

[289] Hopkins and Goldberg, *The Development of Strategic Air Command*, 160. Lloyd, *A Cold War Legacy: A Tribute to Strategic Air Command 1946-1992*, 218-219.

[290] Roy Grossnick et al., *United States Naval Aviation 1910-1995* (Washington, D.C.: Naval Historical Center, 1997). See Part 9, Part 10, and Appendices 33-34.

[291] Pedlow and Welzenbach, *The CIA and the U-2*, 252. Between August and November 1970, Agency U-2s flew 29 missions over the cease-fire zone in the Sinai. These missions were dubbed Even Steven and were flown by the CIA's Detachment G. Air Force SR-71s took over the mission after 10 November 1970, later succeeded by Air Force U-2s. Detachment G also deployed to the area with its U-2s for the 1973 crisis but were never tasked operationally.

[292] Burrows, *By Any Means Necessary*, Ch 8. Also see Temple, *Shades of Gray*, 119-121.

[293] Appendix A contains examples for the reader's reference.

was the last strategic reconnaissance mission destroyed during the Cold War, but it was not the

last violent incident.[294] On 17 November 1970, the crew of a KC-135R ("R" for reconnaissance

in this case) was conducting a SIGINT mission off the coast of Vaygach Island, USSR, when

they were intercepted by two MiG-17s. The fighters fired warning shots at the airplane and then

returned to base.[295] What is significant about the November 1970 incident is that the

reconnaissance aircraft and crew turned back towards Vaygach Island *after* the MiGs fired their

warning shots and no further violent action ensued.[296] The crew was bravely flexing their right

to conduct the mission over international waters. From a diplomatic point of view, episodes like

this one reenforced the right of the reconnaissance aircraft to be there—in international

airspace.[297]

While countless protests were filed from all sides over Cold War aerial reconnaissance

missions, it is not clear why violent incidents ended after 1970. Some authors argue that

diplomacy had come to allow for the reconnaissance activity after twenty-five years of

conditioning through constant mission execution off foreign coasts. Another tack is offered by

William Burrows in *By Any Means Necessary*:

> For one thing, by then the Soviet Union had enough nuclear weapons, as well as a
> reconstituted army and navy, to ease the old paranoia about being destroyed without a
> reprisal. While allowing for the fact that some deranged Strangelovian individual
> could attack the Soviet Union, successive Soviet leaders and their advisors knew that
> no rational person would order an attack, given the certainty of a devastating
> counterattack. In that circumstance, the Russians gradually became less brittle about
> the sanctity of their Siberian boundary. In addition, satellite reconnaissance was then
> more than a decade old, with each side collecting avalanches of intelligence from the

---

[294] This incident is one of two case studies discussed in Chapter Five of this study. Also see Mobley, *Flash Point North Korea*, 12-21.

[295] Burrows, *By Any Means Necessary*, 290-292. This version of the KC-135R was the predecessor to the RC-135U Combat Sent. The aircraft trailed a long antenna and flew close to Soviet ships and radar stations to make them bring up their radars. The aircraft would then "soak up" the signals for analysis and intelligence.

[296] Burrows, *By Any Means Necessary*, 291.

[297] International aviation norms and expectations regarding what constitutes international airspace is discussed in the next section.

protected precinct of space. While aerial reconnaissance remained important, and certainly for ferreting [ELINT], most of the action had shifted to low earth orbit, at least where prying secrets out of the USSR and Communist China were concerned.[298]

In short, Burrows argues that the Soviets knew they had achieved a security parity with the United States, and allowed their anxiety over American peripheral reconnaissance missions to decline. Also in the 1970s, President Nixon began Strategic Arms Limitation Talks (SALT) with the Kremlin and conducted a goodwill visit to China.[299] It seems logical that no side would have wanted to ruin a relatively cooperative diplomatic climate over a peripheral reconnaissance sortie. Hence, in a general sense, an improving diplomatic environment was supporting the peaceful continuation of peacetime aerial reconnaissance.

Organizational control affecting aerial reconnaissance collection evolved with sensor and mission capability. To manage a growing but extremely sensitive communications intelligence (COMINT) capability built into many types of collectors, President Truman established the National Security Agency (NSA) in October 1952. The organization still operates today.[300] Truman's memorandum established COMINT collection as "a national responsibility" and "transformed communications intelligence from a military activity divided among the services to a unified national activity" managed by the NSA and controlled by the National Security Council.[301] While the NSA Director could oversee COMINT activities, which included collection from later reconnaissance aircraft like the RC-135, Truman's memorandum gave the

---

[298] Burrows, *By Any Means Necessary*, 295.

[299] For a fantastic review of the early SALT talks between the US and USSR, see Gerard Smith, *Doubletalk: The Story of the First Strategic Arms Limitation Talks* (Garden City, N.Y.: Doubleday, 1980). For an introduction to the context surrounding Nixon's policy with China, see *The United States and China*, ed. John K. Fairbank (Cambridge: Harvard University Press, 1983).

[300] "Memorandum from President Harry S. Truman to the Secretary of State, the Secretary of Defense, Subject Communications Intelligence Activites, October 24, 1952," Document 2a in Jeffrey Richelson, "The National Securty Agency Declassified." gwu.edu: National Security Archives, 13 Jan 2000 (Updated 11 Mar 2005). Electronic Briefing Book #24. The National Security Archives, George Washington University, accessed 25 Jul 2012.

[301] Richelson, "The National Securty Agency Declassified." "National Security Council Intelligence Directive No. 9, Communications Intelligence, December 29, 1952," Document 2b. Also see editorial note to Documents 1-4.

Director no authority over electronic intelligence activities, or ELINT, such as signals collected from radars or missiles.[302] ELINT activities continued to be managed by the services.

By the early 1960s, satellite reconnaissance was becoming relatively regular and remained very politically sensitive, so the Kennedy administration opened the doors to the National Reconnaissance Office (NRO) in 1961.[303] Envisioned by Eisenhower and his NSC to preserve civilian oversight of sensitive reconnaissance operations, the office was charged with the coordinating management of national satellite and airborne intelligence collection programs —collectively, the National Reconnaissance Program (NRP).[304] Divided into divisions A, B, and C, which managed satellite programs for the Air Force, CIA, and Navy, respectively, the NRO's job was to integrate different reconnaissance efforts from a single point of control dubbed the National Reconnaissance Program (NRP) under a Director of the NRO.[305] It was a fourth division, Program D, under which aerial reconnaissance platforms were managed. Program D was where the NRO managed the U-2, SR-71, unmanned platforms, and other national aerial SIGINT collectors.[306] The NRO remained classified until 1992, when NRO Director Martin Faga and DCI Robert Gates agreed to bring the office out of the black.[307]

When the NSC and CIA conducted reviews of its U-2 operations in the late 1960s, they eventually concluded that the airplane could be flown more cost-effectively from the Air Force's

---

[302] Richelson, "The National Securty Agency Declassified," Document 3.
[303] Dr. Bruce Berkowitz, "The National Reconnaissance Office at 50 Years: A Brief History," The National Reconnaissance Office (NRO), Center for the Study of National Reconnaissance, September 2011, http://www.nro.gov/history/csnr/programs/NRO_Brief_History.pdf, accessed 12 Jun 2012, 2.
[304] Berkowitz, "The National Reconnaissance Office at 50 Years: A Brief History," 4.
[305] Berkowitz, "The National Reconnaissance Office at 50 Years: A Brief History," 12-13. The Air Force operated the SAMOS satellite program, the CIA operated CORONA, and the Navy operated a satellite collection SIGINT system that collected foreign radar signals.
[306] Thomas P. Ehrhard, *Air Force UAVs: The Secret History*, Mitchell Institute Study (Mitchell Institute Press, Air Force Association, 2010). 5.
[307] NRO, "Implementation Activities for Declassifying the Existence of the NRO, September 29, 1992," Document 31 in Jeffrey Richelson, "Out of the Black: The Declassification of the NRO." National Security Archives: gwu.edu, 18 Sept 2008. Electronic Briefing Book #257. The National Security Archives, George Washington University, accessed 6 Jul 2012.

larger U-2 program.[308] The CIA decided it would focus on satellite and other types of

intelligence collection and transferred its remaining U-2s to the Air Force in 1974, after it shut

down cooperative U-2 operations in Taiwan.[309] By 1975, the CIA's Office of Special Activities

was disbanded and its agents dispersed to other divisions.[310] At the NRO, Program D was

dissolved after the final CIA U-2 was transferred to the Air Force.[311]

       The organization of the Joint Chiefs of Staff continued to evolve with the desires of its

political masters. The 1986 Goldwater-Nichols Act made the Chairman the "principal military

advisor" to the president and the National Security Council, but did not fundamentally change

the chain of command from the president to the secretary of defense to the unified

commanders.[312] However, the Chairmen, in his continuing role as the translator of political

directives into operational orders, gained de facto mission execution authority from the new

legislation.[313] The JCS emphasized its control by continuing a process of monthly CJCS and

secretary of defense review and approval for peacetime reconnaissance operations known as the

"book process," with modifications available in the process for "quick-response" reconnaissance

in crisis.[314] This organizational step helped keep oversight of (and responsibility for) sensitive,

"normal," military peacetime reconnaissance operations at the NSC level while allowing for an

increasing number of missions to meet growing intelligence needs. Overflight permission still

---

[308] Pedlow and Welzenbach, *The CIA and the U-2*, 257-258.
[309] Pedlow and Welzenbach, *The CIA and the U-2*, 257.
[310] Wendell Bevan, "Cable for [Deleted], From Brig Gen Wendell Bevan [Director, Office of Special Activities, June 26, 1974," Document 42; also see the editorial note for Document 42 in Richelson, "The U-2, OXCART, and the SR-71: U.S. Aerial Espionage in the Cold War and Beyond."
[311] Berkowitz, "The National Reconnaissance Office at 50 Years: A Brief History," 13.
[312] Rearden, *Council of War*, 454.
[313] See the original legislation and detailed descriptions of the Goldwater Nichols Act at National Defense University Library, "Goldwater Nichols Department of Defense Reorganization Act of 1986," National Defense University, http://www.ndu.edu/ library/goldnich/goldnich.html.
[314] Rearden, *Council of War*, 454. The Joint Staff (J-Staff) division responsible for reconnaissance was the J39 Reconnaissance Operations Division (J39 ROD). Sensitive Reconnaissance Operations (SRO)—defined as "non-wartime reconnaissance operations by manually or remotely operated DoD platforms involving significant military risk or political sensitivity. The level of sensitivity is determined by analyzing the collection objectives, means of collection, and area of operations."

required (and, as far as current unclassified sources reveal, still requires) presidential and/or NSC approval.[315]

In November 1993, Secretary of Defense Les Aspin centralized all the services' aerial reconnaissance operations into the Defense Airborne Reconnaissance Office (DARO).[316] Opened under the Undersecretary of Defense of Advanced Technology, DARO was given budgetary authority to oversee all defense related reconnaissance activities and acquisition efforts under a single Defense Airborne Reconnaissance Program (DARP). One of DARO's mentionable successes was the development and support of the RQ-1 Predator reconnaissance unmanned aerial vehicle (UAV).[317] The organization failed in 1998 under intense budgetary pressure from Congress, management that marginalized the military services, and its simple lack of producing innovative weapon systems. Its programs and authority were redistributed to the appropriate services.[318]

In the Defense Department, organizational change reflected a desire to centralize aerial reconnaissance intelligence and missions. In January 1972, the Defense Mapping Agency began consolidating mapping functions and imagery previously spread over all the military services. Further refinement for its mission was indicated by DMA's name change to the National Imagery and Mapping Agency (NIMA) in 1996 and then the National Geospatial Intelligence Agency in 2004 (NGA).[319] NIMA was also special in that it, for the first time, enveloped the CIA's NPIC, making it and its successors truly far-reaching. In June 1948, the second Air Force Chief of

---

[315] Soren Col Jones, Personal interview conducted by the author. Pentagon, Virginia, 2 October 2012. Also see Ehrhard, *Air Force UAVs*, 9.
[316] Ehrhard, *Air Force UAVs*, 46.
[317] Ehrhard, *Air Force UAVs*, 49.
[318] Ehrhard, *Air Force UAVs*, 49.
[319] National Geospatial-Intelligence Agency, *The Advent of the National Geospatial-Intelligence Agency* (Washington D.C.: Office of the NGA Historian, 2011).

Staff, General Hoyt S. Vandenberg, had established the Directorate for Intelligence as part of the Air Force Headquarters in Washington DC.[320] Under the new directorate, he also established the Air Force Security Service (AFSS) with the charge of sustaining the cryptologic expertise founded in World War II and providing communications security for the newly formed Air Force.[321] AFSS cryptologists and linguists were flying aboard the first SAC-flown RC-135s in 1962, and, by the end of the Vietnam War, were a standard augmentation to SAC RC-135 crews.[322] Like other organizations, AFSS's name changed over the years reflecting different modifications in Air Force organization and legislation. AFSS became the Electronic Security Command (ESC) in 1979, Air Force Intelligence Command (AFIC) in 1991, Air Intelligence Agency (AIA) in 1993, and finally the Air Force Intelligence, Surveillance, and Reconnaissance Agency (AFISRA) in 2007.[323] Its members continue to provide cryptologic, linguistic, and electronic warfare expertise to the Air Force, including flying on modern Air Force reconnaissance aircraft.

All the aforementioned organizational actions represent very few organizational milestones that affected control and ownership of the peacetime aerial reconnaissance mission. In truth, organizational control changed, and continues to change, constantly with associated adaptations in peacetime reconnaissance collection and operational execution.

As the necessity for establishing AFSS demonstrated, the aerial reconnaissance mission was not just imagery. It included—and was often dedicated to—signals intelligence, or SIGINT

---

[320] Harold P. Myers and Gabriel G. Marshall, *USAFSS to AF ISR Agency 1948-2009* (San Antonio, TX: AF ISR Agency History Office, 2009). 1.
[321] Myers and Marshall, *USAFSS to AF ISR Agency*, 2.
[322] Myers and Marshall, *USAFSS to AF ISR Agency*, 4.
[323] Myers and Marshall, *USAFSS to AF ISR Agency*, 6-8.

(comprised of COMINT and ELINT).[324] SIGINT could be collected passively from the safety of

international airspace without the physical and political dangers associated with overflight.

Evolving from the electronics of World War II-era airborne radars, countermeasures, and

jammers, signals intelligence sensors collected everything from radar signals to voice

communications. From the beginnings of aerial reconnaissance, platforms were fitted with

SIGINT equipment to give breadth to their intelligence collecting. US Navy PB4Y-2 Privateers

flew early SIGINT missions over the Baltic, Black, and Adriatic Seas in the late 1940s.[325] In the

Pacific, the Navy flew P2V Neptunes and P4M Mercators on ELINT missions off the Soviet and

Chinese coasts.[326] In the early 1950s, 'ferret' missions—dedicated ELINT missions—were

common using special versions of P2Vs, PB4Y-2s, RB-50s, RB-36s, RB-45s, RB-47s, and many

other variations of reconnaissance aircraft.[327] While SIGINT equipment was installed on almost

every agency and military airplane, there was never an aircraft designed solely for SIGINT from

the bottom-up (some UAV designs such as Ryan 154 Compass Arrow may be considered an

exception).[328] Aerial SIGINT collectors have been modified from other missions—retrofitted

bombers, transport, fleet antisubmarine warfare, and fighters.[329] After Eisenhower banned

military overflights in late 1958, all of SAC's reconnaissance airplanes flew peripheral SIGINT

collection missions, usually against Soviet and Chinese radars on land bases or ships, until the

overflight restrictions were lifted.[330] It was not (and is not) uncommon for the majority of aerial

[324] There are many types of SIGINT, but the term is generally understood to include COMINT (communications intelligence—intercepting broadcasted voice and other "comm" signals) and ELINT (electronic intelligence--intercepting pro forma signals from radars and other digital machines).
[325] Jackson, *High Cold War*, 38-39.
[326] Jackson, *High Cold War*, 90.
[327] Jackson, *High Cold War*, Chapter Six.
[328] Pocock, *Dragonlady: The History of the U-2 Spyplane*, 165. Pocock writes that the 154 had been developed "from scratch for reconnaissance missions" and then goes on to explain its ELINT and camera sensors. The 154 was never deployed operationally.
[329] See the extensive list of reconnaissance platforms throughout the Cold War in David Donald, *Spyplane* (London: Aerospace Publishing Ltd., 1987).
[330] Temple, *Shades of Gray*, 92-93.

reconnaissance missions in any given month to be dedicated to peripheral SIGINT collection.[331]

The U-2, A-12, and SR-71 all carried extensive SIGINT equipment whose collection eventually

could be exploited in real time with the use of satellite data links.[332]

By the mid-1960s, SAC's RC-135 and EC-130 fleet, based on the KC-135 air refueling

tanker and C-130 transport platforms respectively, were representative of the new generation of

dedicated SIGINT reconnaissance aircraft that endures today. The aircraft were capable of air

refueling, some carried COMINT linguists, ELINT specialists, and numerous sensors that could

"see" different signals through all types of weather, and full communications links to pass

information off-board to other government agencies specializing in SIGINT exploitation (NSA,

described above, is a good example).[333] Civilian agencies also operated SIGINT aircraft. The

NSA, for example, flew peripheral EC-130 missions by the late 1950s against the Eastern Bloc

nations and the USSR.[334] Hence, the ability to collect SIGINT was not a later addition to

peacetime aerial reconnaissance, but evolved as part of it.

Peacetime aerial reconnaissance has always existed in a give-and-take relationship with

space-based reconnaissance. One cannot be understood without the other. Satellites finally

provided vast sources of intelligence while limiting diplomatic risk, but viable systems were not

available until the early 1960s.[335] In June 1960, the Navy orbited a SIGINT satellite system

named Galactic Radiation and Background, or GRAB, designed to collect Soviet radar signals

---

[331] Jones, Personal interview conducted by the author, 2 October 2012.
[332] Pocock, *Dragonlady: The History of the U-2 Spyplane*. The U-2 could transmit its take to a ground antenna by the mid-1970s (172). "Real time" data links were used operationally as early as the 1960s. The Model 147B Lightning Bug drone, for example, was controlled remotely by an operator aboard the C-130 mother ship. The SAMOS satellite reconnaissance system transmitted its take in near-real-time via radio signals while over the United States.
[333] Jackson, *High Cold War*, 137-142.
[334] Jackson, *High Cold War*, 7.
[335] National Reconnaissance Office (NRO), "The CORONA Story," 52.

and return them to Earth (the system's name supported a space exploration cover story).[336] The

first successful space photoreconnaissance missions were flown by systems known as Corona

and Gambit. Corona provided its first take on 18 August 1960 after photographing 1.65 million

square miles of Soviet territory—more than the twenty-four U-2 overflight missions

combined.[337] While Corona was designed to photograph large areas of the Earth so photo-

analysts could find target structures, a complimentary system called Gambit, with a camera

designated KH-7, shot much better resolution for point analysis. Gambit made its first successful

flight in July 1963 and flew 38 missions through its final flight in June 1967.[338] During their

operational life, Corona and Gambit returned mostly all of the photography and overhead

intelligence on Soviet, Chinese, and North Korean nuclear weapons programs.[339] It is important

to realize that these early missions were relatively infrequent; Gambit, for example, flew only 38

missions over four years.[340] Hence, the United States was using (and still uses) both space and

air collection as complementary intelligence collectors.[341]

Corona satellites flew until 1972, and, exactly like the inaugural group of air-breathing

reconnaissance systems, their operations taught national leadership about their advantages and

limitations. Noting their advantages was easy. Systems like Corona returned enormous amounts

of data while allowing plenty of room for cover stories and plausible deniability.[342] Most

---

[336] Jeffrey Richelson, "Secrecy and U.S. Satellite Reconnaissance, 1958-1976." gwu.edu: National Security Archives, 13 Jul 2007. Electronic Briefing Book #225. The National Security Archives, George Washington University, accessed 13 Jul 2012, Editorial Notes, para 4.
[337] National Reconnaissance Office (NRO), "The CORONA Story," 59. This first KH-1 camera system had a resolution of 40 feet—much less than camera systems installed on airborne systems of the time.
[338] Jeffrey Richelson, "Eyes on the Bomb: U-2, CORONA, and KH-7 Imagery of Foreign Nuclear Installations." gwu.edu: National Security Archives, 28 Mar 2006. Electronic Briefing Book #186. The National Security Archives, George Washington University, accessed 16 Jun 2012.
[339] Richelson, "Eyes on the Bomb: U-2, CORONA, and KH-7 Imagery of Foreign Nuclear Installations," See Editorial introduction to Images and Documents.
[340] National Imagery and Mapping Agency, *America's Eyes: What We Were Seeing* (Bethesda, Maryland: NIMA Publishing, 2002). 2-4.
[341] Model 147B Lighting Bug reconnaissance drones penetrated China during the late 1960s in an attempt to seek out more data on Chinese nuclear facilities, for example.
[342] Richelson, "Secrecy and U.S. Satellite Reconnaissance, 1958-1976," Editorial Notes, paras 1-6.

importantly, there were large diplomatic challenges easily solvable by operating reconnaissance satellites versus aircraft. During the 1967 Arab-Israeli war, CIA U-2s were denied overflight by the Italians and French on their way to the Suez Canal zone.[343] Neither would the British allow the U-2 to recover into their RAF base on the island of Cyprus following the Suez pass.[344] In the 1970s, Spain denied basing of all SR-71 units that were to conduct overflights of Europe and the Middle East.[345] During the 1986 execution of Operation El Dorado Canyon, the French would not allow passage to any aircraft on their trips to and from Libya.[346] Such political basing and overflight complications persisted (and still persist), but simply were not an issue with an orbital-based reconnaissance system. By 1967, it was generally accepted that national boundaries did not extend into space.[347]

The limitations of satellites were many. First, they were very complex. Corona's initial Discoverer flights were plagued by camera failures, Thor booster burn malfunctions, improper payload capsule ejection for recovery, and Agena orbital engine failure (the Agena engine burned to place the system into orbit following the initial Thor rocket boost from the surface).[348] Second, system performance was set after achieving orbit, so early systems had no way of knowing how the mission was progressing until the payload was recovered. During the 1967 war in the Middle East, it took days to recover satellite reconnaissance film, and, even then, some of the recovered canisters rendered damaged photographs, making the entire mission a

---

[343] Charles P. Wilson, *Strategic Reconnaissance in the Near East* (Washington: Washington Institute for Near East Policy, 1999). 57.
[344] Pocock, *Dragonlady: The History of the U-2 Spyplane*, 109-110.
[345] Crickmore, *SR-71 Operations in Europe*, 14.
[346] Crickmore, *SR-71 Operations in Europe*, 75.
[347] The sentiment that no nation owned space or any celestial bodies was codified in the Treaty on Outer Space signed by the United States, the Soviet Union, and many other nations in October 1967. See United Nations, *United Nations Treaties and Principles on Outer Space* (New York: United Nations Publishing, 2002). http://www.unoosa.org/pdf/publications/ STSPACE11E.pdf, accessed 1 Oct 2012. Article II.
[348] National Reconnaissance Office (NRO), "The CORONA Story," 50-52.

failure.[349] The first SAMOS imaging payload lost some of its reconnaissance take on each

successive orbit due to the system's design and transmitted its photographs as an open,

completely exploitable analog signal.[350] Also, satellite systems provided a snapshot in time, only

periodic coverage of an area—a limitation brought into focus when the Soviets developed mobile

missile systems such as the SS-20 which required much longer surveillance times to track there

whereabouts.[351] Third, public knowledge of the existence of satellite reconnaissance systems

was very difficult to hide. The Thor booster used for the Corona system could be heard around

Vandenberg Air Force Base for miles. The satellite itself transmitted telemetry data which could

be intercepted or at least heard on some frequencies, and the spacecraft could be detected in orbit

by relatively simple radars.[352] Finally, early on, it was thought that satellites could be more

vulnerable to intercept than reconnaissance airplanes. An October 1966 Memorandum from the

CIA's Deputy for Research and Development and Special Activities discusses this point:

"Aircraft can be defended more easily than satellites and have a high probability of mission

success. The merit of this will become apparent only at such time as the existing acquiescence to

satellite reconnaissance disappears, either when the posture of the Soviet Union changes, or

when some other power (such as Communist China) achieves and uses the capability of denial of

---

[349] Wilson, *Strategic Reconnaissance*, 56-57.
[350] R. Cargill Hall, "SAMOS To The Moon: The Clandestine Transfer of Reconnaissance Technology Between Government Agencies," National Reconnaissance Office, Center for the Study of National Reconnaissance, 2001, http://www.nro.gov/history/csnr/programs/docs/prog-hist-01.pdf, accessed 27 Jun 2012, 2-3. SAMOS was conceived in the mid-1950s as a cutting-edge electro-optical imaging satellite that could transmit its take in near-real time using radio signals as it passed over the United States. The system failed to achieve operational status because it suffered many technological failures and the CIA decided to focus on the Corona program. However, in a strangely unappreciated achievement, modified SAMOS spacecraft—the SAMOS Lunar Orbiters—successfully flew five missions to the moon between 1966 and 1967 and transmitted images that were the basis for selecting Apollo landing sites.
[351] Department of Defense, *Soviet Military Power* (Washington, D.C.: United States Government Printing Office, 1986). 35-37.
[352] National Reconnaissance Office (NRO), "The CORONA Story," 35-37.

satellite reconnaissance."[353] It would not be until much later that the Soviet Union, the United

States, and China demonstrated the successful engagement of a satellite in orbit.[354]

While this paper is ostensibly centered on aerial reconnaissance, the discussion herein

says much about its space counterpart. There continues to be an enduring, complementary

relationship between space and air-breathing reconnaissance platforms. Given how often space

launches occur today, it seems a much easier public relations task to mask the launch of a spy

satellite versus the initial Corona shots discussed above. Also, resolution has improved since the

6-foot resolution of the final Corona KH-4B satellite in 1972, rendering as rare the instances

where limited satellite resolution warrants sending aerial reconnaissance into harm's way.[355]

Responsiveness, capacity, and cost are probably the driving criteria most likely to force national

authorities to resort to one medium or the other for reconnaissance.[356] Dr. Jeff Richelson, a

leading expert on technical intelligence collection, has calculated that 365-day satellite photo

coverage did not begin until 1977.[357] Satellites continue to be subject to the confines of orbital

mechanics. The ability to make mid-mission adjustments requires either fuel expense in orbit or

payload costs at launch, but an aircraft can be simply re-tasked in flight. Although space-based

systems eventually were made to "loiter" over a fixed point on the Earth from geostationary

---

[353] Central Intelligence Agency, *Memorandum for Record, Subject Addendum to 5-10-15 Year Projection for Airborn Reconnaissance Systems,* 1966. Folder 2, Reconnaissance Subject Series, Jeff Richelson Collection, The National Security Archive, George Washington University. Para 2a.

[354] William J. Broad, "Flexing Muscle, China Destroys Satellite in Test," *New York Times*, www.nytimes.com, 2007, http://www.nytimes.com/2007/01/19/world/asia/19china.html?pagewanted=all, accessed 20 Sep 2012. For an in-depth discussion on early Soviet killer satellites, also read Chapter 11 in William E. Burrows, *Deep Black: Space Espionage and National Security* (New York: Random House, 1986).

[355] Corona KH-4B resolution is taken from Richelson, "Eyes on the Bomb: U-2, CORONA, and KH-7 Imagery of Foreign Nuclear Installations," Table 1. Also see Burrows, *Deep Black: Space Espionage and National Security*, 235. From 1977 to 1987, the KH-8, KH-9, and KH-11 reconnaissance satellites were the workhorses of American space-born reconnaissance. KH-8 was one of the first spacecraft to carry multispectral scanners (MSS) for "seeing" at night. While KH-9 still dropped "buckets" to the Earth for film exploitation, the resolution was very good (nine inches). The KH-11 probably had a resolution of less than five inches, even better under good light conditions (some sources report two inches). The KH-11 was the first reconnaissance satellite with the capability to transmit high-resolution images in near-real time to a ground receiver. All the KH systems mentioned above were used in arms limitation treaties (SALT agreements).

[356] See the JCS reconnaissance doctrine discussion at Wilson, *Strategic Reconnaissance*, 32. Also see the discussion about "air-breathers" in Chapter 3 of Burrows, *Deep Black: Space Espionage and National Security*.

[357] About fifteen days in 1981 being a notable exception. Burrows, *Deep Black: Space Espionage and National Security*, 242.

orbit, unmanned aircraft probably provide more responsive, controllable, and long-enduring

surveillance as intelligence hotspots come and go over the years.[358] Diplomatically, however,

satellites were—and remain—more politically flexible and less intrusive, as international

sentiment regarding national sovereignty and outer space remains largely unchanged since

1967.[359]

Like space platforms, drone and unmanned aerial vehicle (UAV) development reflected

the political desire to lessen the political risk of the aerial peacetime reconnaissance mission, but

was often a victim of technology that was overreaching and budgets that constantly breeched

expectations. Ideas for unmanned reconnaissance aircraft were plentiful in the intelligence

community after World War II, with rising fear about Soviet and, later, Chinese intentions and

the political risks of compromising a pilot during a peacetime overflight mission.[360] For

example, the May 1960 U-2 incident energized a contract between Ryan Aeronautical, the Air

Force, and the CIA for a reconnaissance drone named Red Wagon, based on the Q-2C Firebee

target drone.[361] The project never saw operations, however, because its $70 million price tag and

questionable prospects failed to compete against the SR-71 program which had received a $96

million contract earlier in 1960.[362] Although the Q-2C would be the foundation of other

successful drone designs, Red Wagon was among the first in a long list of UAV programs that

did not achieve operational status because of the "the myth of affordability" of unmanned

systems and technological and practical competition among UAVs, manned reconnaissance, and

---

[358] Author's opinion. Current reconnaissance satellite capabilities remain highly classified.
[359] United Nations, *Treaties on Outer Space*. In December 2011, 102 nations had ratified the Treaty on Outer Space.
[360] As a survey of the types of programs considered by the intelligence community, see David W. Irvin, *The History of Strategic Drone Operations* (Paducah: Turner Publishing, 2003). Part One. Also read Ehrhard, *Air Force UAVs*.
[361] William Wagner, *Lighting Bug and Other Reconnaissance Drones* (Fallbrook, CA: Aero Publishers, 1982). 18.
[362] Wagner, *Lighting Bug and Other Reconnaissance Drones*, 18. The SR-71 had shown very promising radar-return data during testing, and with a Mach-3 design the selection seemed easy for Harold Brown, Director of Defense Research and Engineering at the time. See Wagner, 17 for the context.

satellites.[363] Other early efforts may have reached operational status but were not effective due to technological overreach or political context. Examples included the D-21 Tagboard and Senior Bowl drone system, carried atop an A-12 mothership and designed for Mach 4 intrusion into the Chinese interior, and the Ryan Model 154 Compass Arrow, also a high-speed UAV designed especially to spy on Chinese nuclear facilities.[364]

The search for conducting reconnaissance with impunity extended beyond the initial U-2 and SR-71 programs into UAV development. Between the early 1980s and 1992, the CIA, the Air Force, the NRO, and other organizations attempted to produce an unmanned system eventually referred to as the Advanced Airborne Reconnaissance System, or AARS.[365] The system was envisioned to make use of advances in satellite navigation (then nascent Global Positioning System, or GPS), digital flight controls, global data links, and high-altitude long-loiter design so it could track new, mobile Soviet missiles such as the SS-20 (an intermediate range nuclear ballistic missile). AARS was also one of the first UAVs devised with an initial understanding of modern stealthy design concepts.[366] AARS was a system conceived to allow what a manned reconnaissance system could not—relatively stealthy, extremely long-endurance, uninterrupted surveillance capable of tracking mobile targets as they deployed, redeployed, and deployed again.[367] Faced with the end of the Cold War, the Air Force ceased funding for AARS in 1992 and the larger intelligence community cancelled the aircraft.[368] Programs like AARS represented the technological niche in peacetime reconnaissance that can only be filled by a

[363] Ehrhard, *Air Force UAVs*, 37.
[364] Wagner, *Lighting Bug and Other Reconnaissance Drones*, 21-30, 43. Also see Strategic Air Command, *SAC Reconnaissance History, January 1968-June 1971*, ed. Headquarters SAC History Division (Offutt Air Force Base, Omaha, NE: Strategic Air Command, 1973), Command History Project. 110-115.
[365] Ehrhard, *Air Force UAVs*, 13.
[366] Michael A. Dornheim, "Mission of Tier 3 - Reflected in Design," *Aviation Week & Space Technology*, 19 June 1995, 55.
[367] Ehrhard, *Air Force UAVs*, 13. Also see notes 95-99 on page 65. Connection of the AARS system with Soviet IRBMs is taken from Department of Defense, *Soviet Military Power*, 35-37.
[368] Ehrhard, *Air Force UAVs*, 13-18.

UAV. It was a terrestrially accessible, long-loitering, and survivable system capable of

delivering the type of uninterrupted surveillance that leads to greater understanding of an

intelligence target, versus the "episodic" coverage provided by a series of shorter reconnaissance

missions.[369]

Some unmanned systems have enjoyed success despite the technological and monetary

barriers associated with UAV history. Between 1964 and 1966, SAC operated the Ryan Model

147 Lightning Bug reconnaissance drone on reconnaissance missions against China and

Vietnam, a project known as "Blue Springs."[370] One variant of the 147 was a high-altitude

(around 62,000 feet) reconnaissance version of the old Ryan Q-2C Firebee target drone and was

flown remotely by an operator sitting in its parent C-130 aircraft.[371] SAC sent 147s on China

overflight missions following the first Chinese nuclear detonation in October 1964.[372] In

November, the Chinese were successful at shooting down a 147, but the episode presented

almost no political fallout relative to the magnitude and complexity of the 1960 CIA U-2 incident

(even though the 147 shoot-down was on the cover of *The New York Times*).[373] The incident was

one of the first of many in a secret, aerial cat-and-mouse game. According to David Irvin, a 147

operator at the time, the 147 loss rate was "almost 70%," with the leading causes of loss being

"SAM shoot down, MiG shoot down, and drone internal problems during flight."[374] Lightning

Bug reconnaissance drones continued to see action over Vietnam and China after 1964,

---

[369] Ehrhard, *Air Force UAVs*, See n. 93 on page 62. The term "episodic" is Tom Ehrhard's apt description of the type of intelligence coverage characteristic of a mission-over-mission reconnaissance system versus a long-endurance system capable of loitering for days. A more current example of the benefits of surveillance versus reconnaissance can be read in Peter Bergen and Jennifer Rowland, "Civilian Casualties Plummet in Drone Strikes," *CNN.com*(2012), http://www.cnn.com/2012/07/13/opinion/bergen-civilian-casualties/index.html, accessed 16 Jul 2012.
[370] Irvin, *Strategic Drone Operations*, 23-31. Ehrhard, *Air Force UAVs*, 8-9. Wagner, *Lighting Bug and Other Reconnaissance Drones*, 38-46.
[371] Wagner, *Lighting Bug and Other Reconnaissance Drones*, 32.
[372] Ehrhard, *Air Force UAVs*, 9. Irvin, *Strategic Drone Operations*, 33.
[373] "Pilotless US Plan Downed, China Says," *New York Times*, 17 Nov 1964. Also see the lack of Soviet response at "Silent on Peking Report," *New York Times*, 19 Nov 1964.
[374] Irvin, *Strategic Drone Operations*, 30.

especially after establishing that they could monitor Chinese targets with relatively little political fallout.[375]

More recently, two unmanned systems have enjoyed programatic and operational success. The Air Force operated the General Atomics RQ-1 Predator reconnaissance UAVs over the Balkans in 1995 under Operation Provide Promise.[376] The RQ-1's development and deployment arose out of a desire expressed by Chairman of the Joint Chiefs of Staff General Colin Powell in 1992 that he wanted long-loiter surveillance over the former Yugoslavia versus the shoot-and-run coverage provided by classic reconnaissance systems.[377] The evolutionary follow-on to the RQ-1 remains in service today as a medium-altitude reconnaissance and surveillance system combined with a ground strike capability called the MQ-1B Predator, a platform the Air Force dubs a "Remotely Piloted Aircraft," or RPA, as the system is indeed piloted remotely from a ground station.[378]

The long-endurance, unarmed RQ-4 Global Hawk began service in the Air Force after the events of September 11, 2001 compelled its entry into operations in Afghanistan to augment other airborne reconnaissance systems.[379] RQ-4 development benefitted from later generations of automated flight controls, global satellite communications links, and autonomous operation

---

[375] Irvin's loss rate appears in no other sources that I have seen. There is no reason to doubt his claim, given his detailed and firsthand experience. It is also important to note here that the Chinese state press released a statement on 15 November 1967 which announced that Chinese fighters had been shooting down "pilotless United States reconnaissance plane[s]." The North Vietnamese government followed suit on 17 November. In response, the American government had no comment. These two reports and a summary of the November 1967 American response are in Irvin, *Strategic Drone Operations*, 32-34. For a complete review of the 147B Lighting Bug program, read Wagner, *Lighting Bug and Other Reconnaissance Drones*.

[376] The RQ-1 was one of the few surviving DARO projects that eventually saw real world operations. See Ehrhard, *Air Force UAVs*, 49.

[377] Ehrhard, *Air Force UAVs*, 49. See notes 434 and 435 on page 81.

[378] In this paper, the term "UAVs" refers to the entire mix of UAVs, drones, and RPAs--any unmanned airborne system. "MQ-1B Predator Fact Sheet," United States Air Force, http://www.af.mil/information/factsheets/factsheet.asp?fsID=122. Also see "MQ-9 Reaper Fact Sheet," United States Air Force, http://www.af.mil/information/factsheets/factsheet.asp?fsID=6405.

[379] "RQ-4 Global Hawk Fact Sheet," United States Air Force, http://www.af.mil/information/factsheets/factsheet.asp?fsID=13225.

enabled by advanced computing power. The RQ-4 has since been employed worldwide for PARPRO missions as well as disaster response operations.

UAV and RPA operations increasingly are an important part of peacetime aerial reconnaissance. Modern systems continue to improve upon what earlier drones and UAVs introduced. Primary among their contributions continues to be the option UAVs provide to national leadership—the ability to conduct aerial reconnaissance without the political risk of compromising a pilot to whatever nation or region is reconnoitered. Just as useful is their ability to carry on beyond human endurance, allowing for long-term surveillance and therefore increased understanding of both individual intelligence targets or entire areas of interest. Diplomatically, increased understanding could result in better political decisions and foreign engagement by national authorities. In this sense, the potential diplomatic impact of aerial reconnaissance increases with the same technology that enables UAV persistence.

Legalese—Sovereignty, International Law, and Aerial Reconnaissance

Peacetime aerial reconnaissance exists within the greater international legal structure and cannot be divorced from it. Indeed, the legal airspace framework generally constructed for civil aviation connects aerial reconnaissance with diplomacy in peacetime. It is the grammatical, legal basis for both civil air transit and transport, and state-operated aerial military missions. The international airspace context provides recognizable physical and conceptual boundaries that inform both the peacetime reconnaissance mission and the contentions that surround it. Surprisingly, taken as a body of law, there is relatively little jurisprudence and treaty history that comprises the peacetime reconnaissance environment.

Among the most prominent legal milestones establishing the concept of national

sovereignty was the 1928 case of the Island of Palmas between the United States and The

Netherlands.[380] Swiss arbitrator Max Huber famously articulated the definition of national

sovereignty when he wrote: "Sovereignty in the relations between States signifies independence.

Independence in regard to a portion of the globe is the right to exercise therein, to the exclusion

of any other State, the functions of a State."[381] In short, sovereignty flows from the physical

recognition and identity of a nation. Although the idea of sovereignty was best defined by Huber

in 1928 (he was awarded an international arbitrator award for his description and legal skills),

precedence from the 1919 Paris Convention, nine years earlier, established that states own the

airspace above their sovereign lands: "each state has complete and exclusive sovereignty over

the airspace above its territory."[382] The Paris Convention was subsequently replaced by the 1944

Chicago Convention, in which the parties carried forward the airspace sovereignty principle in

Article 1 of the Convention on Civil Aviation.[383] When actors refer to "national" airspace, they

refer to the airspace over the nation in which that nation has "exclusive competence" to regulate

activities.[384] This is in direct contrast, then, with "international airspace."

International airspace has existed relatively unchanged in two forms since the Chicago

Convention—the airspace "over the high seas," or the airspace over "lands without a master."[385]

Antarctica is an example of the latter, as designated in the 1959 Antarctic Treaty, to which both

---

[380] United Nations, "Island of Palmas Case," in *Reports of International Arbitral Awards*(New York: United Nations, 1949), United Nations Law Collection, HeinOnline, https://heinonline.org.
[381] United Nations, "Island of Palmas Case," 838.
[382] International Council on the Rules of Aeroplanes and Use, *Convention Relating to the Regulation of Aerial Navigation (The Paris Convention)* (New York (originally published in Paris, 1919): United Nations, 1947), International Agreement No Longer in Force. International Treaties and Agreements Collection, Volume 19, Department of State Bunche Library. Article 1.
[383] United Nations, *International Convention on Civil Aviation* (Chiacgo: United Nations, 1944), 15 UNTS 295 (1947). http://www.mcgill.ca/files/iasl/chicago1944a.pdf, accessed 2 Jun 2012.
[384] Allen V. Banner et al., *Aerial Reconnaissance for Verification of Arms Limitation Agreements* (New York: United Nations, 1990). United Nations Law Collection, HeinOnline. http://heinonline.org, accessed 9 Sep 2012. 15.
[385] United Nations, "Island of Palmas Case," 839.

the United States and the USSR became parties in 1960.[386] The reference for international

airspace "over the high seas" is the legal structure prescribed in the Chicago Convention.[387]

The rights of overflight depend on the designation of the airspace that envelops flight

activities. Although the Paris agreement allowed for "freedom of innocent passage" during times

of peace, this liberal structure was supplanted by the Chicago Convention.[388] Article 5 allows

civil aircraft not engaged in international air service to transit another state's national airspace or

make stops within another state, provided such aircraft submit to the host state's requirements for

making such a flight (route restrictions, special permission, etc.).[389] Article 68 further allows

states to designate the airports and routes used by civil aircraft engaged in international air

service within their national airspace.[390] Articles 5 and 68 together made a precedent, recognized

at the time of signing, that put full control and authority to deny a "general 'privilege' of

overflight" squarely in the hands of the participating state.[391] Since commercial interests

intervened, two addendum were added to the Chicago Convention to allow additional freedoms

of navigation. The Transit Agreement, concurrently signed and ratified by many, allowed for the

"privilege" of overflight and landing using national airspace for non-traffic purposes.[392] The

Transport Agreement, however, attempted to further this by adding eight specific other freedoms,

including the right to take on and disembark passengers and cargo, and was not ratified.[393] The

---

[386] See ratification list at the URL for United Nations, *The Antarctic Treaty* (New York: United Nations, 1959), 402 UNTS 71. United Nations Treaty Collection, United Nations. http://treaties.un.org/Pages/showDetails.aspx?objid=0800000280136dbc, accessed 2 Oct 2012.
[387] United Nations, *International Convention on Civil Aviation*, Article 12.
[388] International Council on the Rules of Aeroplanes and Use, *Paris Treaty*, Article II.
[389] United Nations, *International Convention on Civil Aviation*, Article 5.
[390] United Nations, *International Convention on Civil Aviation*, Article 68.
[391] Banner et al., *Aerial Reconnaissance*, 16.
[392] United Nations, *International Convention on Civil Aviation*, Addendum 1.
[393] Banner et al., *Aerial Reconnaissance*, 16.

Transport Agreement was eclipsed by individual contracts and agreements between commercial air carriers and states that remain the legal mechanism for air service today.[394]

The Chicago Convention distinguished between civil and state aircraft. Article 3 explained that the Convention was not applicable to state aircraft, defined as "military, customs, and police services."[395] Military or government agency aircraft conducting reconnaissance would therefore fall in the "state" category.[396] The treaty further said that state aircraft were not permitted to overfly foreign national airspace unless authorized by the other state and even addressed unmanned aircraft in article 8.[397] The Convention also added guidance for wartime in article 89, saying that a condition of war did not affect the freedoms of action of any party state, whether "as belligerents or as neutrals."[398] Hence, state aircraft required, and still require, special permission or agreement outside the Convention to overfly foreign lands, in peace or in war. Absent such an agreement, a state aircraft in foreign national airspace is in legal violation of that state's sovereignty. Had the United States and the USSR agreed to the Open Skies Treaty in 1955, it would have been an apt example of a special overflight agreement outside the Convention.[399]

---

[394] J.M. Denaro, "States' Jurisdication in Aerospace Under International Law," *Journal of Air Law and Commerce* 36, no. 2 (1970), Harvard Research in International Law Collection, HeinOnline. https://heinonline.org.

[395] United Nations, *International Convention on Civil Aviation*, Article 3.

[396] There were counsels who argued that it is the *use* of the aircraft that determines its categorical placement, not the technical features of the craft itself. A civil aircraft contracted for official "state" use (reconnaissance), for example, could be considered a "state" aircraft, but the Chicago Convention is unclear in this matter leaving room for argument on either side. In the same logic, a state aircraft used for civil purposes could be considered a "civil" aircraft. See the discussion in Frank Fedele, "Overflight by Military Aircraft in Time of Peace," *United States Air Force JAG Law Review* 9, no. 5 (1967): 11-13, Law Journal Library, HeinOnline. https://heinonline.org, accessed 4 Oct 2012.

[397] United Nations, *International Convention on Civil Aviation*, Article 3c. Also see United Nations, *International Convention on Civil Aviation*, Article 8. "No aircraft capable of being flown without a pilot shall be flown without a pilot over the territory of a contracting State without authorization…"

[398] United Nations, *International Convention on Civil Aviation*, Article 89.

[399] The Open Skies Agreement was resurrected by President Bush in 1989 and is now in full force. See John R. Crook, "U.S. Open Skies Agreements Number More Than One Hundred," *The American Journal of International Law* 105, no. 3 (2011), ProQuest Research Library, Proquest.com. http://search.proquest.com.aufric.idm.oclc.org/docview/883590374?accountid=4332, accessed 24 Apr 2012.

The 1958 Geneva Convention on the High Seas provided most of the modern legal basis for the continued designation of international airspace and widely accepted security frameworks that exist in the margins between separate bodies of airspace—exactly where aerial reconnaissance commonly takes place. Article 2 of the High Seas convention articulated that the high seas were "open to all nations" and that no state could "validly purport to subject any part of them to its sovereignty."[400] This "freedom of the high seas" included *inter alia* the freedom for overflight.[401] However, the convention qualified the right of nations to exercise their access to the airspace over the high seas, saying that nations should do so "with reasonable regard to the interests of other States in their exercise of the freedom of the high seas."[402] Regarding the margin between national and international airspace, Allen Banner, an attorney who has written extensively for the UN regarding air reconnaissance for arms inspection, associated the above language in the Convention on the High Seas with the longtime precedent recognized internationally in the Monroe Doctrine: "That doctrine envisages the right of a State to take action to protect itself before events render the exercise of such right impossible." [403] Thus, most nations constructed airspace buffers between their sovereign airspace and airspace over the high seas. The common example is the ADIZ, or Air Defense Identification Zone—"an area of airspace over land or water in which the ready identification, location, and control of civil aircraft is required in the interest of national security."[404] Again, Banner writes, "[a]lthough there has been some dispute as to its legitimacy, its virtually unchallenged (at the diplomatic level) existence since 1950 may well have rendered the ADIZ a legitimate legal instrument. In

---

[400] United Nations, *Convention on the High Seas* (New York: United Nations, 1958), 450 UNTS 11. www.treaties.un.org, accessed 1 Oct 2012. Article 2.
[401] United Nations, *Convention on the High Seas*, Article 2(4).
[402] United Nations, *Convention on the High Seas*, Article 3.
[403] Banner et al., *Aerial Reconnaissance*, 17.
[404] Denaro, "States' Jurisdiction."

any event, it may be fair to describe it as a confidence-building measure which has generally contributed to increased security and stability by limiting dangerous opportunities for surprise [sic]."[405] Hence, any state has the right to fly in international airspace, but only with due regard for the "interests of other states." This "interest" has manifested itself as regulatory regimes such as the ADIZ, and provided basis for some nations to protest aerial reconnaissance in international airspace. Another example of a common regulatory regime that is not as imposing as the ADIZ but just as accepted in international law, is the NOTAM system, or Notices to Airmen system, under which states may hold pilots accountable should they not fly well-informed of published temporary air traffic restrictions or prohibitive conditions.[406]

The collection of international agreements and precedents on airspace delimit an otherwise borderless continuum of open sky, providing grounds for diplomatic contest when nations decide to challenge the peripheral reconnaissance mission. Peacetime aerial reconnaissance usually enjoys the freedoms of navigation provided for in the 1958 Convention on the High Seas, but cannot be afforded general privileges as a civil craft under the 1944 Chicago Convention. Since aerial reconnaissance missions endeavor to approach as close to a target nation as legally possible, in the case of IMINT, for example, they must conduct themselves in the margins of airspace where states erect systems such as an ADIZ in the interest of security. States have a right, therefore, to conduct reconnaissance in international airspace, but risk contentious diplomatic engagement or their aircrafts' safety the closer they fly to other states.

---

[405] Banner et al., *Aerial Reconnaissance*, 17.
[406] Denaro, "States' Jurisdiction."

How close is too close? Between 1958 and 1994, exactly what constituted the border that separated nations' territorial airspace from international airspace remained in flux.[407] The preamble to the 1994 United Nations Convention on the Law of the Sea (UNCLOS) recognized the dangers associated with leaving the criteria for territorial waters, and therefore territorial airspace, undefined.[408] The fact that the first Law of the Sea Treaty was signed twelve years after the convention convened in December 1982 speaks to the difficulty in achieving consensus among states on the matter. The United States remains an unsigned party to the convention.[409] However, there are as of this writing 157 signatories to the UNCLOS, all of them recognizing twelve nautical miles from their coast as the limit of territorial waters and therefore territorial airspace.[410] Article 2 of the UNCLOS Treaty specifically connects territorial seas to sovereign airspace: "This sovereignty extends to the air space over the territorial sea as well as to its bed and subsoil."[411] In general, aerial reconnaissance is therefore legal outside of twelve miles ("peripheral reconnaissance") and illegal inside of it ("penetrating reconnaissance" or "overflight"), provided the state conducting reconnaissance has not acquired special permission from the target nation.[412]

---

[407] Sources vary about informal norms governing the territorial boundary between national airspace and international airspace prior to the mid-to-late 1950s. The Soviets at one point in 1946, for example, set down 12 nautical miles from their territory as the line inside of which they could rightfully shoot down intruding reconnaissance aircraft. The DoD conformed at the time and set 12 nautical miles as the boundary, but this was only with missions against the USSR. See Associated Press, "Russ' Fire on U.S. Planes Protested By Capitol," *Milwaukee Sentinel*, 2 Mar 1946, Google News Archives, Google.com/Newspapers, http://news.google.com/newspapers?id=GbwdAAAAIBAJ&sjid=BQ0EAAAAIBAJ&dq=mariner%20aircraft%20soviet&pg=5997%2C8153, accessed 25 Aug 2012.

[408] United Nations, *United Nations Convention on the Law of the Sea* (New York: United Nations, 1994), 1833 UNTS 397. United Nations Treaty Collection, United Nations. www.treaties.un.org, accessed 4 Oct 2012. 397.

[409] United Nations, *UNCLOS, 1994.*

[410] United Nations, *UNCLOS, 1994*, Article 3. For signatory data, see the UNTS database at the URL provided above, under "Status." Most states that have signed and ratified the treaty have done so with qualifications.

[411] United Nations, *UNCLOS, 1994*, Article 2(2).

[412] The exact origins of today's twelve-mile limit are shady, but its precedent is well established. After Soviet aircraft fired on US Navy Mariner aircraft multiple times in February and March 1946, the United States filed protests through the US Embassy in Moscow. Part of the Soviet communiques told the United States that American reconnaissance aircraft were not to approach within 12 miles from the Soviet coast without permission. Thank you to Lieutenant Colonel Tyler Morton for bringing this example to my attention. See Associated Press, "Russ' Fire on U.S. Planes Protested By Capitol."

It is important to emphasize that states vary widely in their adherence to all the treaties

mentioned above for many reasons. The United States, for example, unilaterally extended its

legal offshore enforcement zone to 24 nautical miles for narcotics, pollution, and immigration

enforcement in 1999.[413] Other nations may significantly extend their territorial waters and

airspace due to their uneven coastlines and the location of offshore islands—a geographic

necessity if they are to successfully enforce domestic security policies, many of which are

recognized in the Convention on the Law of the Sea.[414] In many areas on Earth, such as the

Aegean Sea, the application of the 12-mile rule is impractical due to the proximity of other

nations' coastlines or island groups, a situation that commonly leads to disputes over resources

and territorial borders. Peripheral aerial reconnaissance missions must therefore allow for such

variance in sovereign territorial limits.

American peacetime reconnaissance missions have conducted peripheral reconnaissance

under constantly changing criteria that determine their allowable closest-point-of-approach

(CPA). In the late 1940s, Air Force RB-29s and Navy P2Vs commonly conducted

reconnaissance right up to the border or coastlines of their target states since there was no

universally agreed upon criteria other than the border that existed on maps.[415] As presidential,

NSC, and JCS control over reconnaissance missions improved in the 1950s, higher-ups could

better adjust reconnaissance missions' CPA to match the political temperature—the higher the

temperature, the farther the allowable CPA. In May 1950, following the Soviet shoot-down of a

Navy PB4Y-2 over the Baltic Sea, the JCS limited ELINT missions to twenty miles from the

---

[413] Philip Shenon, "U.S. Doubles Offshore Zone Under Its Law," *The New York Times*, New York, 3 Sep 1999, ProQuest Historical Newspapers, ProQuest, http://search.proquest.com/docview/109956576?accountid=12084, accessed 2 Oct 2012.
[414] See the Aegean Sea example at Figure 17 in Appendix B. United Nations, *UNCLOS, 1994*. See Articles 4-16. Most of the first part of the treaty is dedicated to defining precisely what constitutes a state's territorial waters and airspace by defining a "baseline."
[415] Brugioni, *Eyes in the Sky*, 24. Also see Wack, *Secret Explorers*, 18. Farquhar, *A Need to Know*, 61.

USSR or its satellite territories.[416] In 1952, RB-36 missions over Western Europe were pushed

back to 200 miles from Soviet territory.[417] To further illustrate this point, the crew of a KC-135R

engaged by Soviet fighters in November 1970 (with the dubious honor of being the last crew

attacked during the Cold War) were under instructions from SAC to stay 30 miles off the Soviet

coast following the 1969 shoot-down of a Navy EC-121.[418] The fact that many reconnaissance

aircraft have been attacked and shot down in international airspace clearly establishes that

conducting the mission outside of sovereign waters and land is not in itself sufficient to

guarantee the safety of the aircraft. States may recognize the international airspace construct, but

choose to exert violence against peripheral reconnaissance missions for different reasons.

There is solid precedent against violent interception of reconnaissance aircraft in

international airspace. During the deliberations over an RB-47 shot down by Soviet fighters in

the Barents Sea in July 1960, neither the United States nor the Soviet Union claimed or admitted

the right to shoot down a military reconnaissance aircraft in international airspace, despite its

proximity to a foreign nation.[419] In legal circles, the absence of such an argument buttressed the

idea that freedom of navigation in international airspace was superior to national security

interests there.[420] Importantly, the Soviets returned the survivors of the RB-47 without charging

them with espionage—a de facto acknowledgement as to their location at the time of the

incident.[421] In September 1983, after Soviet fighters shot down a civilian Korean Air flight that

had wandered into Soviet airspace after being mistaken for an American RC-135 that had just

[416] Farquhar, *A Need to Know*, 121-122. The Baltic Sea presents the aerial reconnaissance mission with a distinct challenge, with
overlapping territorial lines and numerous state borders and claims.
[417] Farquhar, *A Need to Know*, 138.
[418] Burrows, *By Any Means Necessary*, 290-291.
[419] Banner et al., *Aerial Reconnaissance*, 20.
[420] Raymond Hayton, "Jurisdiction of the Littoral State in the Air Frontier," *The Philippine International Law Journal* 3, no. 1
(1964), Harvard Research in International Law Collection, HeinOnline. https://heinonline.org.
[421] Burrows, *By Any Means Necessary*, 83-112.

exited the same area, the United Nations quickly added an additional amendment to the Chicago Convention.[422] The addition to Article 3 read "every State must refrain from resorting to the use of weapons against civil aircraft in flight and that, in case of interception, the lives of persons on board and the safety of aircraft must not be endangered."[423] This wording did not protect military aircraft in international airspace, but the additional phrase forwarded airspace jurisprudence as discriminatory to violent acts.[424] Furthermore, some authors reference the principal of proportionality, normally reserved for wartime, as applicable to state aircraft conducting peacetime reconnaissance: as aircraft designed for dedicated reconnaissance normally are unarmed, there is a limit as to the physical threat posed by their mission, either peripheral or penetrative.[425] Therefore, there exists no imperative on the part of the target nation for the immediate destruction of the flight.

One additional international treaty is worthy of mention here due to its timing. In 1972, the United States and the Soviet Union signed the Prevention of Incidents at Sea Treaty following a series of violent events involving reconnaissance vessels and aircraft.[426] The treaty established procedures for military ships and aircraft on and over the high seas to avoid violent incidents. Article 4 specifically advised aircraft commanders to use "the greatest caution and prudence in approaching aircraft and ships of the other party operating on and over the high seas, …and in the interest of mutual safety shall not permit: simulated attacks by the simulated use of

---

[422] The Soviets' action can be somewhat understandable in hindsight. The September 1983 KAL shoot-down came on the heels of an April 1983 US Naval exercise during which American warships conducted provocative maneuvers just beyond Soviet waters. At one point, on 4 April 1983, US Naval planes from the *USS Midway* and *USS Enterprise* violated Soviet airspace over the island of Zelyony. See David E. Hoffman, *The Dead Hand : The Untold Story of the Cold War Arms Race and its Dangerous Legacy*, 1st Anchor Books ed. (New York: Anchor Books, 2010). 65. Thank you to Dr. James Tucci for bringing this episode to my attention.
[423] United Nations, *International Convention on Civil Aviation*, Article 3 bis.
[424] Banner et al., *Aerial Reconnaissance*, 21.
[425] Banner et al., *Aerial Reconnaissance*, 20-22. Also see Hayton, "Littoral State."; Fedele, "Overflight," 8-19.
[426] "Text of U.S.-Soviet Agreement on Prevention of Incidents Involving Warships," *The New York Times*, New York, 26 May 1972, ProQuest Historical Newspapers, ProQuest, http://search.proquest.com/docview/119564916?accountid=12084, accessed 3 Oct 2012.

weapons against aircraft and ships, or performance of various aerobatics over ships,…in such a manner as...to constitute a hazard to navigation."[427] It is interesting that the United States and the Soviets signed this treaty at the beginning of the 1970s, a choice of timing that seems to support William Burrows' argument in *By Any Means Necessary* that the two powers had achieved a security parity that manifested itself as lessened anxiety that precipitated an end to violent attacks against reconnaissance aircraft.

Chapter Summary and Conclusion

Early on, peacetime aerial reconnaissance established itself as a diplomatic undertaking. American political and military leadership, driven by the atomic imperative and a perceived inferiority to communist might, threw aerial reconnaissance crews against the USSR and Communist China in the name of national security. The fact that these missions continued despite diplomatic protests from all sides and fatal aircraft and missile interceptions reveals the desperation with which the American administrations attempted to answer intelligence shortfalls.

Peacetime reconnaissance was different. The aerial intelligence collection effort risked sparking the very war it was undertaken to help deter. Hence, the Truman and Eisenhower administrations aggressively pursued reconnaissance while further attempting to understand the peacetime context. Truman's reorganization immediately following the war allowed for aerial reconnaissance to benefit from the centralization of intelligence and political control. For the first time, intelligence gained through aerial means was not relegated to ascend only to an intra-service or interdepartmental level where it would then be diluted as part of an all-source report.

---

[427] "U.S.-Soviet Agreement," article 4.

SAC's reconnaissance intelligence was only one step removed from the NSC and the president. The new CIA Director, in his role as the Director of Central Intelligence, had direct access to the president and tasking power as the DCI. As an agency in which intelligence was primary, the CIA's later aerial intelligence programs exploited this new pathway to provide information flow to the president and his immediate cabinet members in the NSC, including the secretary of state. This pathway was key for political control and awareness of U-2 overflights of the Soviet Union and subsequent A-12 missions. Aerial reconnaissance was now capable of directly informing and being controlled by the same senior government leaders who were also diplomatic principals. In short, the missions informed and became extensions of ongoing diplomacy or diplomatic goals.

When peacetime aerial reconnaissance missions proved as risky as they were promising, the administrations adapted. Following the 1950 Soviet shoot-down of a Navy PB4Y-2 Privateer, Truman approved the Joint Chiefs of Staff's 1950 proposal to change the reconnaissance rules for ferret missions, thereby formalizing authoritative oversight and control. Eisenhower pursued technological solutions that produced the first dedicated peacetime reconnaissance aircraft and satellites with the hope of reconnoitering with impunity. Even though the U-2 incident was a significant emotional national event, it had the effect of training subsequent leadership in peacetime aerial overflight and collection. The event showed that penetrating reconnaissance could resolve challenging intelligence gaps while affecting diplomatic goals both for the better and for the worse. Hence, the A-12 and SR-71, as advanced as they were beyond the U-2, were employed more cautiously. Truman and Eisenhower both decided to approve overflights on a case-by-case basis to achieve a greater measure of political

control. They knew that peacetime reconnaissance operations, if misunderstood, could provoke the war they were risking lives to avoid.

The evolution of strategic peacetime aerial reconnaissance changed the meaning of the term "reconnaissance aircraft." Just after World War II, the term generally pointed to *utilization* —a fighter or bomber, perhaps modified, that was employed on a reconnaissance mission. The production of dedicated, specially configured, unarmed aircraft like the U-2 and SR-71 were more suited to the peacetime context and its associated diplomatic norms, combining an intelligence return with a unarmed presence that was militarily impotent. In this sense, the type of aircraft mattered. In then-modern terms, "reconnaissance" now implied a certain *configuration* that was conducive to the peacetime environment.

The performance of strategic, peacetime aerial reconnaissance in its early days established the mission as necessary and effective.   Air Force ferret missions collected SIGINT on Soviet and Chinese radars and equipment that were used in later electronic equipment on fighters and bombers. The U-2 helped solve the bomber and missile gaps and therefore steer national procurement programs. Steven Ambrose, in his book *Ike's Spies*, commented that the U-2 saved the United States billions in what would have been excessive production of aircraft and intercontinental missiles.[428] Peacetime aerial reconnaissance in many forms also helped defuse crises in the Middle East, discover missiles in Cuba, verify arms control, and establish American presence and interest around the globe—the subjects of the following chapters. Finally, early peacetime reconnaissance helped bring about diplomatic action in the form of treaties and international agreements designed to moderate its risk. To threaten a nation's

---

[428] Ambrose, *Ike's Spies*, 275.

privacy with peripheral reconnaissance or violate its sovereignty with overflight, was to risk

political and military escalation. The Chicago Convention, the Treaty on the High Seas, and the

Prevention of Incidents at Sea treaties created the legal framework that informed, and continues

to inform, the peacetime aerial reconnaissance political and legal context.

Chapter Three: Crisis Reconnaissance

Are you sure?[429]

Introduction

Aerial reconnaissance has proven an incredibly versatile tool for American diplomacy. During the 20th century, presidents who sought diplomatic involvement in unforeseen predicaments without military commitment often employed reconnaissance aircraft. President Johnson sent the CIA's new A-12 over North Korea to investigate the USS *Pueblo* incident in early 1968.[430] President Nixon approved nine SR-71 missions between October 1973 and April 1974 to survey the Arab-Israeli crisis in the Eastern Mediterranean. In these cases and others reconnaissance retrieved what leadership needed to know, providing insight to military and diplomatic crises and informing the decisions that led to resolution. In 1968, for example, Nixon learned that the North Koreans had moved the *Pueblo* crew from their ship, so he decided to abort a planned rescue mission and pursue a diplomatic course.[431] Especially at a time before the availability of reconnaissance satellites, aerial reconnaissance provided leadership the opportunity to know more during times when tempers flared and the stakes were high.

This chapter explores the use of aerial reconnaissance to support diplomatic goals and decision making during peacetime crises. It introduces and examines two cases in which aerial reconnaissance informed a larger diplomatic strategy to pursue American interests when peace may have been delicate and difficult. The first discussion considers the 1956 Suez Canal crisis,

---

[429] President John F. Kennedy to Arthur Lundahl, Chief of the National Photographic Interpretation Cell, on 16 October 1962 while first viewing U-2 imagery depicting Soviet medium range ballistic missiles in Cuba. As quoted in Dino A. Brugioni, *Eyeball To Eyeball: The Inside Story of the Cuban Missile Crisis* (New York: Random House, 1990). 230.
[430] Mobley, *Flash Point North Korea*, 12.
[431] Special Subcommittee on the U.S.S. Pueblo, "Inquiry into the U.S.S. Pueblo and EC-121 Plane Incidents, Report of the Special Subcommittee on The U.S.S Pueblo," (Washington, D.C.: U.S. Government Printing Office, 1969), 139.

in which President Eisenhower found himself playing referee among Britain, France, Israel, and Egypt. Egypt nationalized the Suez Canal—normally an international entity—to the displeasure of the European powers who depended on the waterway for petroleum imports and trade. The Anglo-French-Israeli alliance invaded Egypt to secure the canal, but could not sustain the conflict. It was only luck that the CIA's U-2 had just begun to overfly the Soviet Union, but was in a strategic pause from that mission after having been detected by Soviet air defenses. Eisenhower applied the U-2 to the Suez crisis to aid him in understanding the situation on the ground, uncover allied plans for invasion, and affect the withdrawal of foreign forces.

The second discussion examines the use of aerial reconnaissance during the 1962 Cuban missiles crisis. As well-covered as this event has been in scholarship, there remains a story to be told about the role penetrating reconnaissance played during those few days in October 1962 and beyond. Low-level reconnaissance, in particular, deserves more attention. It not only provided useful imagery and accurate information, but its presence over Cuba—usually at treetop level and almost supersonic speeds—became diplomatic leverage for President Kennedy and his Cabinet. The discussions that follow are useful to demonstrate how peacetime aerial reconnaissance can support diplomatic goals and become a natural extension of diplomatic policy in a crisis.

The 1956 Suez Crisis

The 1956 Israeli, British, and French invasion of Egypt resulted from the convergence of a few key political events. Most importantly was Egyptian President's Gamal Abdel Nasser's

decision to nationalize the Suez canal on 26 July 1956.[432] One week earlier, the United States

Congress had withdrawn an offer to help fund construction of Egypt's prestigious Aswan High

Dam, so Nasser's new plan was to apply revenues from Suez Canal operations to the Aswan

project.[433] His action immediately alarmed the British and the French, among others, who relied

heavily on the canal for oil and trade shipments. British and French political leaders pointed to

Nasser's infringement of the 1888 Constantinople Convention and its "definitive concession"

which granted that the canal and its maritime ports "shall always be free and open, in time of war

as in time of peace, to every vessel of commerce or of war, without distinction of flag. The Canal

shall never be subject to the exercise of the right of blockade."[434] Prior to nationalization, the

canal existed as an Egyptian joint stock company named the Universal Suez Canal Company.

The Constantinople Convention and preceding arrangements effectively guaranteed international

rights of passage through the canal while concurrently acknowledging Egypt's entitlement to

compensation, since the canal was within Egypt's sovereign territory.[435]

　　　A criss-crossing web of unilateral interests and international agreements complicated the

situation. First, Article 1 of the United Nations Charter required member states to resolve

---

[432] See Figures 18-19 in Appendix B for an overview of the geography. Department of State, *1955-1957, Suez Crisis, July 26-December 31, 1956*, ed. Nina J. Noring and John P Glennon, vol. XVI, Foreign Relations of the United States (Washington, D.C.: Government Printing Office, 1990). Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/frus1955-57v16, accessed 2 Oct 2012. Document 1. Also see Abdel Nasser's argument in Gamal Abdel Nasser, "The Egyptian Revolution," *Foreign Affairs* 33, no. 2 (1955), 90 Years of Foreign Affairs Archive, Council on Foreign Relations. http://www.foreignaffairs.com/articles/71159/gamal-abdel-nasser/the-egyptian-revolution#, accessed 1 Oct 2012.

[433] Michael H. Coles, "Suez, 1956: A Successful Naval Operation Compromised by Inept Political Leadership," *Naval War College Review* 59, no. 4 (2006): 101. Nasser was unpopular with Congress for many reasons, including his many ties with the Soviet Union. In 1955, Nasser signed an arms contract with the USSR. For the record showing withdrawn US support for the Aswan High Dam project, also see Department of State, *1955-1957, Arab-Israeli Dispute, January 1-July 26, 1956*, ed. Carl N. Raether and John P Glennon, vol. XV, Foreign Relations of the United States (Washington, D.C.: Government Printing Office, 1989). Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/frus1955-57v15, accessed 4 Oct 2012. 906.

[434] Text as reprinted in Department of State, *FRUS, 1955-1957*, XVI: Document 1. As an example, see Dulles' remarks during the second London Conference at Department of State, "Second London Conference on Suez Canal," *The Department of State Bulletin* XXXV, no. 901 (1956): 505.

[435] The full text of the 1888 Constantinople Convention and its preceding agreements were reprinted in 1956 in Department of State, *The Suez Canal Problem, July 26-September 22 1956* (Washington, D.C.: Government Printing Office, 1956). 1-20. The 1888 Convention was signed by Viceroy of Egypt Ismail Pasha since Egypt legally existed under the Ottoman Empire at the time.

disputes via peaceful means—a point repeatedly referenced by Secretary of State John Foster Dulles during negotiations over the Suez Canal in 1956.[436] Second, constant low-grade hostilities between Israel and its Arab neighbors made such peaceful resolution difficult from the start. Egypt and Jordan-based *fedayeen* attacks into Israel had become more and more bold in 1956.[437] Third, the United States, Britain, and France signed a Tripartite Declaration in 1950 affirming that all three would intervene to prevent violation of the 1947 armistice lines delimiting Israel from its Arab neighbor states.[438] Fourth, and confusing the matter further, was a United Kingdom-Jordan treaty promising British support to Jordan should ongoing Israeli-Jordanian border violence escalate into all-out war between the two.[439] Enveloping all of this was the greater Cold War context in which Middle East tensions were a proxy for US-Soviet competition, Britain's belief that Nasser represented a threat to its interests in the Middle East, and France's frustration at Nasser for his support of an ongoing Algerian rebellion against France.[440]

America's initial response to Nasser's nationalization decree included calls for restraint from all sides. On 27 July, President Eisenhower received word from British Prime Minister Anthony Eden and French Foreign Minister Christian Pineau that both governments were considering military action to secure the canal.[441] The French government, under its

---

[436] United Nations, *Charter of the United Nations* (www.UN.org: United Nations, 1945), Accessible online and updated by the UN. http://www.un.org/en/documents/charter/index.shtml, accessed 5 Apr 2012.

[437] Coles, "Suez, 1956," 102. The UN Security Council affirmed Israel's right to use the Suez Canal in 1951 and again in 1953. See Secretary of State John Foster Dulles' comments in Department of State, "Transcript of Secretary Dulles' News Conference," *The Department of State Bulletin* XXXV, no. 898 (1956): 408.

[438] Coles, "Suez, 1956," 101, 111.

[439] Department of State, *FRUS, 1955-1957*, XV: Document 429. Also see "Telegram From the Embassy in Jordan to the Department of State, Amman, July 27, 1956" in Department of State, *FRUS, 1955-1957*, XVI: Document 10.

[440] For a summary of the greater context vis-a-viś the 1956 Suez situation, read the CIA's Special National Security Estimate, "SNIE 30-3-56: Nasser and the Middle East Situation," 31 July 1956 at Paul Kesaris, Ed., *Minutes of Meetings of the National Security Council with Special Advisory Reports,* 1980. Microfilm 21,735, reel 1 of 3, Manuscript Reading Room, Library of Congress. Also see Coles, "Suez, 1956," 101. French Prime Minister Guy Mollet viewed the Suez crisis as an opportunity to remove Nasser, who had offered Egypt as a refuge to rebels fighting the French in Algeria.

[441] Department of State, *FRUS, 1955-1957*, XVI: Documents 2, 4, 5.

responsibilities of the 1950 Tripartite Declaration, planned to send 24 Mystere-4 fighter aircraft

to Israel in response to Nasser's announcement.[442] Tongue-and-cheek correspondence from

Israeli Minister of Defense David Ben Gurion conveyed to Eisenhower that Israel reserved the

"right of retaliation" in light of Jordanian border violence and Egyptian *fedayeen* attacks, but that

the US had "no ground for worry that [Israel] will do anything to disturb [the] peace."[443] In his

written response to Eden and French Prime Minister Guy Mollet, Eisenhower insisted on

exhausting all peaceful means to resolve the problem before resorting to "drastic steps."[444] A 2

August joint statement from the governments of Britain, France, and the United States seemed to

confirm that all parties were committed to Eisenhower's sentiments. From London, the three

nations affirmed Egypt's sovereignty but condemned "the arbitrary and unilateral seizure by one

nation of an international agency which has the responsibility to maintain and to operate the Suez

Canal so that all the signatories to, and beneficiaries of, the Treaty of 1888 can effectively enjoy

the use of an international waterway upon which the economy, commerce, and security of much

of the world depends."[445] The final words in the statement asked for representatives of the

Egyptian government to attend a London conference with all concerned parties, including the

USSR, to resolve the crisis peacefully, an invitation which Nasser refused.[446] Still, Eisenhower

set out to convene the conference and directed contingency planning from the National Security

---

[442] "Telegram From the Embassy in France to the Department of State, Paris, July 27, 1956," Department of State, *FRUS, 1955-1957*, XVI: Document 4.

[443] "Telegram From Embassy in Israel to the Department of State, Tel Aviv, July 27, 1956" in Department of State, *FRUS, 1955-1957*, XVI: Document 12.

[444] "Letter from President Eisenhower to Prime Minster Eden, Washington, July 31, 1956" and "Message From President Eisenhower to Prime Minster Mollet, Washington, July 31, 1956," Department of State, *FRUS, 1955-1957*, XVI: Documents 35, 39.

[445] As reproduced in "Tripartite Statement Issued at London, August 2, 1956," Department of State, *FRUS, 1955-1957*, XVI: Document 53.

[446] Department of State, *FRUS, 1955-1957*, XVI: Documenet 53. Nasser's initial refusal is in "Telegram From the Embassy in Egypt to the Department of State, Cairo, August 4, 1956," Department of State, *FRUS, 1955-1957*, XVI: Document 59. The text of the telegram is telling of Nasser's views. Nasser told Ambassador Henry Byroade that he could not accept international control of the Suez Canal because it represented "not merely [a] return of the form of colonialism exemplified by 'a French Company' but a permanent subordination to 'nearly everybody.'" He felt he must decline the invitation to the London conference because he had been "placed in the position of attending under threat of invasion."

Council on everything from military estimates to alternate oil supplies should the Suez situation worsen.[447]

Until Israel began an invasion of Egypt in late October 1956, Britain, France, and Israel overtly played along with international efforts at peaceful diplomacy. Britain and France agreed to the text of a US-led declaration at the London conference held from 16 to 23 August.[448] The declaration began by affirming the conference members' commitment to seeking "a peaceful solution," while acknowledging the sovereignty of Egypt and "safeguarding the Suez Canal as an international waterway."[449] Britain and France also supported a Five Nation Committee sent to Cairo in early September to seek Nasser's agreement on the declaration, which, by then, was named the Eighteen Power Proposal.[450] When Nasser declined the proposal, the two supported further diplomacy during a second London conference from 19 to 21 September.[451] At the United Nations Security Council, Britain and France put forward a joint "U.K.-French Proposal" on 13 October reaffirming their desire to "bring about a settlement of the Suez Canal question by peaceful means."[452] For its part, Israel became increasingly concerned with Egypt's newfound boldness and other developments it viewed as threatening, such as more guerrilla attacks from Jordan and Egypt and Iraqi troops amassing in Jordan in October, a move condoned by the UK

---

[447] James S. Lay, Jr., "The Suez Canal Situation, August 10, 1956," in Kesaris, *Minutes of Meetings of the National Security Council with Special Advisory Reports*.

[448] Department of State, *FRUS, 1955-1957*, XVI: Document 95. Israel was not at the London conference because it was not a party to the 1888 Constantinople Convention (Israel did not then exist), nor was it in the top 20 users by tonnage of the Suez Canal, and therefore was not on the initial invitee list. A total of 24 nations were invited to the conference and only Egypt and Greece refused. Greece was in the heat of disputing the status of Cyprus with Britain in the summer of 1956.

[449] Department of State, *FRUS, 1955-1957*, XVI: Document 95. The full text of the Eighteen Power Proposal is in Department of State, "Conclusion of London Conference on Suez Canal," *The Department of State Bulletin* XXXV, no. 897 (1956): 373. The Proposal would have established an international organization to oversee and operate the Canal—the Suez Canal Users' Association (SCUA)—while providing for Egypt's sovereignty and its right to receive payments and royalties for canal use.

[450] Editorial Note, Department of State, *FRUS, 1955-1957*, XVI: Docuement 128.

[451] Nasser's statement declining the Eighteen Power Proposal can be found at Department of State, "Suez Canal Discussion at Cairo," *The Department of State Bulletin* XXXV, no. 900 (1956): 469. Proceedings of the Second London Conference are summarized in Department of State, "Second London Conference," 505.

[452] Full text of the UK-French Proposal is in Department of State, "The Suez Question in the Security Council," *The Department of State Bulletin* XXXV, no. 904 (1956): 616.

government as "stabilizing."[453] While all three governments routinely exchanged

correspondence with Eisenhower, Secretary Dulles, and their Ambassadors, they did not convey

to the US their hard-line intent to go to war.

While going through the diplomatic motions, Britain, France, and Israel colluded to

invade Egypt, establish Western control over the Suez Canal, and oust Nasser. Immediately

following Nasser's nationalization announcement in July 1956, the British defense staff prepared

a plan for invasion which they code-named Musketeer.[454] By 8 August, the British-led planning

staff included French officers and diplomats.[455] Unbeknown to Eisenhower and Secretary

Dulles, British and French leadership approved the plans for Operation Musketeer on 19

September, roughly around the same time as the second London conference.[456] On 22 October,

members of the Israeli, British, and French governments secretly met outside Paris to finalize the

plan which was heavy in its military deception.[457] Under the guise it would attack *fedayeen*

forces in Jordan to defend itself, Israel would amass its forces in the Negev Desert south of Be'er

Sheva—a position from which it could just as easily attack westward towards the Suez. Britain

could publicly note Israel's mobilization and then build up forces on Cyprus and send ships to

the Mediterranean under its UK-Jordan treaty obligations. France could do the same with its

forces at Toulon and Malta under the imperatives of the Tripartite Declaration. Coincidentally,

---

[453] "Telegram From the Department of State to the Embassy in Israel, Washington, October 10, 1956," in Department of State, *FRUS, 1955-1957*, XVI: Document 324. Secretary of State John Foster Dulles reassured the American press to this end in his 16 October 1956 press conference. See Department of State, "Secretary Dulles' New Conference of October 16," *The Department of State Bulletin* XXXV, no. 905 (1956).

[454] Ricky-Dale Calhoun, "The Musketeer's Cloak: Strategic Intelligence During the Suez Crisis of 1956," *Studies in Intelligence* 51, no. 2 (2007), Center for the Study of Intelligence, Central Intelligence Agency. https://www.cia.gov/library/center-for-the-study-of-intelligence/csi-publications/csi-studies/studies/vol51no2/index.html, accessed 5 Oct 2012. Later revisions to the plan carried the appropriate name, "Musketeer Revised."

[455] W. Scott Lucas, *Divided We Stand: Britain, the US and the Suez Crisis* (London: Hodder & Stoughton, 1991). 162. General Sir Charles Keightley was appointed supreme commander of the operation.

[456] Coles, "Suez, 1956," 106. Also see Lucas, *Divided*, 209.

[457] Lucas, *Divided*, 243-245. The details surrounding the secret meeting in Sèvres are quite amusing if the reader has time to investigate. Some French sources write of British Foreign Secretary Selwyn Lloyd donning a fake mustache and almost being hit by a speeding car on his way to the meeting. British sources dismiss this as "ridiculous," and of course Lloyd's memoirs mention nothing of the sort. See the comments in Lucas on the bottom of page 244.

there was a joint Mediterranean command and control exercise planned to execute in early

November that would further provide pretext for amassing British and French naval power.[458]

On 29 October, Israel would attack the Suez Canal zone followed immediately by an Anglo-

French ultimatum that required Israeli and Egyptian forces to withdrawal to ten miles either side

of the Suez Canal by 31 October. When Egypt declined, the British and French invasion would

begin at Port Said, presumably under the auspices of the Tripartite Declaration.[459] The dates

were probably chosen due to the dangers of attempting amphibious landings on Mediterranean

beaches after the beginning of November.[460]

American intelligence followed the Israeli, British, and French military build up, but was

unable to confirm their intent or uncover the fact that they were cooperating in secret.

Successive National Intelligence Estimates briefed to the National Security Council between late

July 1956 and the end of October showed increasing concern about military forces in the

Mediterranean, but none reveal suspicions of collusion.[461] A 5 September Special National

Intelligence Estimate (SNIE) reads "[w]e consider it highly unlikely that the Israeli government

would take advantage of a British-French military operation against Egypt to launch unprovoked

major attacks on the Egyptian forces in Sinai or against any of the other Arab states."[462] The 19

September SNIE entitled "The Likelihood of a British-French Resort to Military Action against

Egypt in the Suez Crisis" concluded that the "UK-French resort to military action is likely only

---

[458] Coles, "Suez, 1956," 107.
[459] Coles, "Suez, 1956," 103. Musketeer is also very well outlined in Calhoun, "Musketeer's Cloak."
[460] André Beaufre, *The Suez Expedition* (London: Faber and Faber, 1969). 64. General Beaufre was the French land forces commander during the 1956 Suez campaign. Also see Lucas, *Divided*, 188.
[461] See "Special National Intelligence Estimate, Washington, July 31, 1956, SNIE 30-3-56," "Special National Intelligence Estimate, Washington, 5 September, 1956, SNIE 30-4-56," "Special National Intelligence Estimate, Washington, September 19, 1956, SNIE 30-5-56," "Memorandum From the Director of the National Indications Center (Hitchcock) to the Intelligence Advisory Committee, Washington, October 26, 1956, NIC #6-2237." All are in Department of State, *FRUS, 1955-1957*, XVI: Documents 40, 175, 236, and 381 respectively.
[462] "Special National Intelligence Estimate, Washington, September 5, 1956, SNIE-30-4-56," as reproduced in Department of State, *FRUS, 1955-1957*, XVI: Document 175.

in the event of some new and violent provocation…" and went on to say that "over the course of the Suez crisis, the British and to a lesser extent the French governments have come increasingly to recognize disadvantages to the use of force."[463] A 26 October memorandum from the Director of the National Indications Center to the Intelligence Advisory Committee at the NSC just days prior to the Israeli invasion almost hit the mark, but fell short of describing a joint three-nation plan to invade Egypt: "[members of the intelligence watch] generally agree that the likelihood has increased of major Israeli reprisals, probably against Egypt in the near future. It is believed that the present Israeli mobilization, though on a large scale, is not a full mobilization, and therefore Israel does not intend that this action lead to general hostilities although it is preparing to meet the possibility of broader action." The memo concludes with "an unconfirmed report that France may be planning actions in conjunction with Israel against Egypt."[464]

To be sure, uncovering a secret three-way plot among unlikely allies would be difficult today but was probably much more so in 1956.[465] In October, the normally unburdened exchange of intelligence information between London's MI6 and Washington's CIA slowed to a drip.[466] The NSA routinely collected COMINT in Europe and the Mediterranean but reported abnormally low communications traffic around the Suez region and abnormally high cryptological traffic between London and Paris in October that exceeded the organization's

---

[463] Department of State, *FRUS, 1955-1957*, XVI: Document 236.

[464] "Memorandum From the Director of the National Indications Center (Hitchcock) to the Intelligence Advisory Committee, Washington, October 26, 1956, NIC#6-2237, SUBJECT: Possibility of Israeli Raid on Egypt," Department of State, *FRUS, 1955-1957*, XVI: Document 381.

[465] For example, British Prime Minister Eden was no sympathizer for Israel, and the British and French military planning staffs were always at odds over the strategy involved with Musketeer and Musketeer Revised. See Lucas' comments on page 228 in Lucas, *Divided*.

[466] MI6 and CIA were already at an impasse of sorts beginning in April 1956 over a British intelligence "reappraisal" of Nasser's intent and impact on British interests in the Middle East. See Lucas, *Divided*, Chapter 9. Also read Scott Lucas and Alistair Morey, "The Hidden 'Alliance': The CIA and MI6 Before and After Suez," *Intelligence and National Security* 15, no. 2 (2000), Taylor and Francis Online, Library of Congress. http://dx.doi.org/10.1080/02684520008432605, accessed 11 Apr 2013.

deciphering capacity.[467] As if information scarcity was not difficult enough, American political leadership, the American intelligence establishment, and the press were victims of deliberate British and Israeli disinformation campaigns before the start of the invasion.[468] DCI Allen Dulles noted that Israeli Defense Minister David Ben Gurion had told Nasser in August that Israel "would not take advantage of the present situation to attack Egypt."[469] As late as mid-October, Prime Minister Eden reassured Secretary of State Dulles that the British would support United Nations Security Council efforts to resolve the crisis by cooperating with Dulles' solution as the Suez Canal Users Association.[470] Hence, American leadership and its intelligence establishment knew that the three nations were *probably* posturing for war in the Suez, but did not have proof that the build up was more than a precaution to support an action of last resort. Nor did they know beyond speculation of Britain and France's collusion with Israel regarding an attack.

The surprise attack began on 29 October 1956. In the late afternoon, Israeli aircraft dropped hundreds of paratroopers East of the city of Suez near Mitla pass.[471] At 11:30 a.m. New York time on October 30th, the United Kingdom and France delivered their planned 12-hour ultimatum to Egypt and Israel to stop fighting and retreat to ten miles either side of the canal so that the Anglo-French force could occupy the canal zone.[472] Israel accepted and found itself in

---

[467] Jeffrey T. Richelson, *The US Intelligence Community* (Boulder, CO: Westview Press, 2008). 209. Also see Coles, "Suez, 1956," 104.

[468] Operation Boathook was the name of a faux command and control naval exercise in the Mediterranean that gave cause to assemble the British and French fleets, the plans for which were shared as a courtesy with the JCS and the US Navy's Sixth Fleet. Most American news media relied on British sources for news from the Middle East, and Israel hosted most American reporters in the Middle East (about 40 percent) while very few spent comparable lengths of time in Arab nations. The British and Israelis fed anti-Nasser propaganda to the American media in hopes of influencing America's support for invasion. See Ralph Negrine, "The Press and the Suez Crisis: A Myth Re-Examined," *The Historic Journal* 25, no. 4 (1982).

[469] "Discussion at the 292nd Meeting of the National Security Council, Thursday, August 9, 1956," in Paul Kesaris, Ed., *Minutes of Meetings of the National Security Council,* 1980. Third Supp, Microfilm 21,683, reel 3 of 7, Manuscript Reading Room, Library of Congress.

[470] Department of State, "Dulles' News Conference 16 Oct."

[471] Lucas, *Divided*, 255-256.

[472] "Statement of October 30th," in Department of State, "White House Statement Concerning Aggression in the Middle East," *The Department of State Bulletin* XXXV, no. 907 (1956).

the awkward position of being able to *advance* to ten miles east of the canal and remain in compliance.[473] Nasser immediately rejected the ultimatum, as anticipated, and the British and French began their invasion shortly following the ultimatum's expiration on 30 October. The French cruiser *Georges Leygues* shelled Egyptian positions around Rafa while Israeli soldiers crossed from Gaza into Egypt.[474] Cyprus and Malta-based RAF and seaborne naval air attacks began on the morning of 31 October, destroying Egyptian MiG-17s and neutralizing Egypt's air force in about two days.[475] Egyptian aircraft that managed to get off the ground were ferried to airfields in Southern Egypt or to neighboring Arab nations for refuge.[476]

The US Sixth Fleet, sent to protect and evacuate American civilians from the Suez region, was the largest naval fleet in the Mediterranean comprising 60 ships, 400 aircraft, and 40,000 men.[477] The fleet's commander, Vice Admiral Charles Brown, managed to evacuate 6,800 American citizens under difficult and confusing circumstances over several weeks. In doing so, the fleet effectively removed what could have been a confining diplomatic liability for the Eisenhower administration had American citizens been wounded or killed.[478] Brown was in an awkward position having to maneuver the Sixth Fleet among warring sides, yet remain outwardly neutral. At one point on 4 November, Brown cabled Washington and simply asked "who's side am I on?"[479] The British and French naval commanders would accuse Brown later

[473] Lucas, *Divided*, 261.
[474] A.G. Mezerik, "The Suez Canal 1956 Crisis - 1967 War," *International Review Service* XIV, no. 103 (1969): 37. Lucas, *Divided*, 263.
[475] See the U-2 imagery of the 1 November RAF attack on Al Maza airfield at Figure 20 in Appendix B. Mezerik, "Suez Canal 1956 Crisis - 1967 War," 37-38.
[476] Coles, "Suez, 1956," 109-110.
[477] Thomas A. Bryson, *Tars, Turks, and Tankers: The Role of the United States Navy in the Middle East, 1800-1979* (Metuchen, NJ: The Scarecrow Press, 1980). 107.
[478] Bryson, *Tars, Turks, and Tankers*, 120.
[479] Coles, "Suez, 1956," 110. This story is also reproduced in Leonard Mosley, *Dulles: A Biography of Eleanor, Allen, and John Foster Dulles and Their Family Network* (London: Hodder and Stoughton, 1978). 278.

of deliberately interfering with Suez invasion operations, charges that Brown publicly denied in the following months.[480]

By the time an Anglo-French assault force landed at Port Said on 6 November 1956, after steaming from Malta, Toulon, and Cyprus, British and French paratroopers, having been dropped into the city the previous morning, had been fighting for almost twenty-four hours.[481] The main naval fleet took position about five miles north of Port Said to offer pre-assault bombardment and supporting fire during the invasion.[482] On 7 November the weather deteriorated. Ground commanders already in the Suez Canal zone made a point of pressing as far south as possible knowing that their operations would soon be stopped by the worsening weather or a cease-fire agreement by their political masters.[483] A cease-fire eventually came on 8 November, but their withdrawal from the canal zone would be affected more by economics than by weather or arbitrary decree.

Back in Washington and at the United Nations in New York, Eisenhower and his Cabinet finally were deciphering the Anglo-French-Israeli scheme after Israel's invasion on 29 October and were aggressively attempting to broker peace. At a special session of the Security Council on 30 October, US Ambassador Henry Cabot Lodge introduced a resolution demanding a cease-fire and requesting that all UN members refrain from introducing military material into the area.[484] In a rare show of agreement, the USSR voted with the US on the resolution.[485] However, Britain and France vetoed the US resolution in anticipation of their ultimatum and

[480] Bryson, *Tars, Turks, and Tankers*, 121.
[481] David A. Nichols, *Eisenhower 1956* (New York: Simon & Schuster, 2011). 249. November 6th was election day in the United States.
[482] Coles, "Suez, 1956," 113.
[483] Coles, "Suez, 1956," 115.
[484] Mezerik, "Suez Canal 1956 Crisis - 1967 War," 36. Department of State, "U.S. Proposal in the Security Council, U.N. doc S/3710," *The Department of State Bulletin* XXXV, no. 907 (1956).
[485] United Nations chronology entry for 30 Oct 1956, "11.00 a.m. - 1.10 p.m." in Mezerik, "Suez Canal 1956 Crisis - 1967 War," 36.

imminent invasion of Egypt.[486] Consequently, the Security Council voted to invoke the Uniting-

For-Peace resolution that allowed for an emergency session of the UN General Assembly to be

convened if the Security Council could not agree.[487] On 2 November, during the first few days

of RAF and Royal Navy air strikes against the Egyptian Air Force, Secretary of State Dulles

introduced the cease-fire resolution to the General Assembly who voted overwhelmingly to

approve it.[488] Besides calling for a cease-fire, the resolution called for Egypt and Israel to

withdraw all forces behind the 1947 Armistice lines, for all members to refrain from sending

military aid to the area of hostilities, and for steps to be taken to reopen the Suez Canal and

secure freedom of navigation.[489] A resolution adopted later on 2 November authorized a UN

emergency peacekeeping force (UNEF) to occupy the canal as a stabilizing and security

action.[490] Oddly, the French and British wanted to go ahead with the invasion (planned for the

6th) and vetoed the resolutions, but Israel had already attained its military objectives by 2

November and wanted to comply.[491] The British and French had to persuade Israel to attach so

many conditions to its acceptance of the UN resolutions that it would delay the cease-fire long

enough for the Anglo-French invasion force to press ahead and occupy the canal.[492] In another

timing disconnect between the diplomacy at the UN in New York and the operations in the Suez,

Britain, France, Israel, and Egypt unconditionally accepted the UN cease-fire (and Egypt the

---

[486] Department of State, "U.N. doc S/3710," note 1.
[487] The Uniting-For-Peace Resolution is UN document S/PV 751. Its text can be found in Appendix V of Mezerik, "Suez Canal 1956 Crisis - 1967 War," 83.
[488] Department of State, "Statement by Secretary Dulles in the General Assembly, November 1," *The Department of State Bulletin* XXXV, no. 907 (1956). Department of State, "General Assembly Resolution on Middle East, U.N. doc A/3256," *The Department of State Bulletin* XXXV, no. 907 (1956). The vote was 64 to 5 (Australia, France, Israel, New Zealand, United Kingdom).
[489] Full text of the resolution and GA voting record is available at Department of State, "General Assembly Resolution on Middle East, U.N. doc A/3256."
[490] Mezerik, "Suez Canal 1956 Crisis - 1967 War," 38, U.N. doc A/3290. This resolution called for a United Nations Emergency Force (UNEF) to supervise the cessation of hostilities in Suez and provide security for the Suez Canal. It prohibited the forces of the five permanent members of the UN Security Council from participating in the UNEF (US, UK, USSR, France, and China).
[491] Beaufre, *The Suez Expedition*, 89-90.
[492] Beaufre, *The Suez Expedition*, 90.

UNEF) on 5 November, but did not actually cease hostilities until 2 a.m. on 7 November—about twenty hours after the Anglo-French invasion force had taken Port Said and foreign soldiers had control of the Suez Canal.[493]

Eventually, it was economic and political pressure that ended hostilities and forced the withdrawal of British, French, and Israeli forces from the Sinai Peninsula. In 1956, the British pound sterling was the predominant world reserve currency. Its stability was based on little more than trust in the soundness of British policies and the security of Britain's national banking system.[494] Much of the pound's stability rested on a dollar-pound parity that reflected market trading prices and reserve currency demand around the world.[495] After 30 October, it became clear from the British-French ultimatum that Britain had conspired with France and Israel to occupy the canal zone no matter what. Widespread pound sterling reserve selling ensued, which placed enormous pressure on Britain's own reserve system.[496] When British Chancellor of the Exchequer Harold Macmillan called upon the International Monetary Fund (IMF) to replenish British reserves on 4 November, the response from the IMF was that his request had been referred to Washington. Eisenhower denied the transaction until Britain, France, and Israel agreed to a cease-fire.[497] Chancellor Macmillan and Prime Minister Eden seemed surprised at Washington's posture, but the French, possibly anticipating the spat among otherwise close allies, had pre-arranged for a temporary IMF credit about a month prior to the invasion.[498] During a later meeting with Undersecretary of State Hoover and Secretary of the Treasury

---

[493] See the chronology of events with associated U.N. documents in Mezerik, "Suez Canal 1956 Crisis - 1967 War," 38-40.
[494] Diane B. Kunz, *The Economic Diplomacy of the Suez Crisis* (Chapel Hill, NC: University of North Carolina Press, 1991). 18.
[495] For an excellent description of the economics involved in the Suez crisis, read in full Kunz, *Economic Diplomacy*. Pages 131-144 get to the heart of the pound-dollar relationship in 1956, and selling pressure on Britain's treasury resulting from the crisis.
[496] Kunz, *Economic Diplomacy*, 139-142.
[497] Department of State, *FRUS, 1955-1957*, XVI: Document 516.
[498] Coles, "Suez, 1956," 115.

George Humphrey, Eisenhower laid out his negotiating leverage in money and oil assistance: "[t]he President said the sequence as he saw it was as follows: First, we are ready to talk about [financial] help as soon as the pre-condition (French and British initiation of withdrawal from Suez) is established; second, on knowing that the British and French forces will comply with a withdrawal undertaking at once, we would talk to the Arabs to obtain the removal of any objections they may have regarding the provision of oil to Western Europe; third, we will then talk the details of money assistance with the British."[499]

The Anglo-French-Israeli troops withdrew from the Suez Canal area by December 1956 and were replaced with UNEF forces under agreement with Egypt.[500] Salvage operations to clear the canal from blockages placed in the water during the fighting also began in December and were complete by the end of May 1957.[501] What had begun with diplomatic fervor from Britain and France ended on economic terms as the United States worked to repair the relationships among her longtime allies.

Presence—1956 Suez Crisis

When Nasser announced nationalization of the Suez Canal on 26 July, the CIA had only one unit of U-2s overseas, based at Detachment A in Wiesbaden, Germany.[502] Earlier in May, Turkish Prime Minister Adnan Menderes gave his approval for a second unit—named Detachment B—to be established at Adana, Turkey. Detachment B would not be ready for

---

[499] Memorandum of a Conference With the President, White House, Washington, November 20, 1956, 5:30 p.m., Department of State, *FRUS, 1955-1957*, XVI: Document 596. On 21 December 1956, just as Britain and France announced the completion of of withdrawal from the Suez, the US Export-Import bank lent $20 million to the the UK for purchases in the United States, including oil since the blocking of the Suez Canal during the crisis had halted more than half of British and French oil supplies.
[500] See Figure 21 in Appendix B. Mezerik, "Suez Canal 1956 Crisis - 1967 War," 40.
[501] See Figure 22 in Appendix B. Mezerik, "Suez Canal 1956 Crisis - 1967 War," 39-40.
[502] Pedlow and Welzenbach, *The CIA and the U-2*, 114.

operations until September, however, so U-2s flying from Wiesbaden would fly the first sorties

over the Sinai Peninsula in late August.[503] Also in July 1956, Eisenhower had ordered the CIA to

stop U-2 overflights of the Soviet Union upon receiving word that the Soviets could "see" and

track the U-2 missions using radars on the borders between the USSR and Europe.[504]

Consequently, the U-2s at Wiesbaden were either sitting on the airfield or flying peripheral high-

altitude reconnaissance missions until Eisenhower and his counselors could decide on how to

proceed with Soviet overflights. While there is no record of Eisenhower or the NSC delivering

the order to fly the U-2 over Suez, Dino Brugioni was working at the CIA's Photo Intelligence

Division (PID) at the time.[505] He remembers PID chief Arthur Lundahl announcing that

Eisenhower had authorized U-2 flights over the Middle East in mid-August 1956 and that PID

was to prepare for "round-the-clock" operations to feed the president and the NSC data from the

overflights.[506] DCI Dulles told the PID analysts to "call the shots as [they] saw them,"

emphasizing that Eisenhower was sending the U-2 to spy on American allies who were possibly

preparing for war and that the information would therefore be sensitive.[507] Throughout August's

National Security Council meetings, Eisenhower continually emphasized the importance of

gaining intelligence about happenings in the Suez region, since he was not obtaining much from

his counterparts in Britain and France, at one point commenting that the situation "must be

watched hourly."[508]

---

[503] Pedlow and Welzenbach, *The CIA and the U-2*, 114, 116.
[504] Pocock, *The U-2 Spyplane*, 52.
[505] Dino A. Brugioni, Personal interview conducted by the author, 22 August 2012. Fredricksburg, VA.
[506] Brugioni, *Eyes in the Sky*, 174.
[507] Brugioni, *Eyes in the Sky*, 174. Brugioni, Personal interview conducted by the author, 22 August 2012.
[508] "Discussion at the 295th Meeting of the National Security Council, Thursday, August 30, 1956," in Kesaris, *Minutes of Meetings of the National Security Council with Special Advisory Reports*. See Eisenhower's comments on page 6 of the meeting minutes.

The first U-2 sorties flew on 29 August 1956. Two U-2s three hours apart left

Wiesbaden, flew over the Mediterranean littoral, and then landed at Incirlik Air Base near Adana,

Turkey. The round trip flight from Germany was too far for one load of fuel. The missions were

around eight hours long, so two different pilots waiting at Incirlik flew the aircraft back to

Wiesbaden the next day, 30 August, but only after conducting overflights of the same areas in the

Sinai and the Eastern Mediterranean.[509] In September, Detachment A flew a total of eight

missions over the areas of interest, all of them following the same pattern as the first two—

departing from Wiesbaden and landing at Incirlik.[510] Detachment B's first sortie flew on 11

September 1956.[511] Det B would continue to fly periodically over the Suez area until the CIA

closed the Detachment in 1964.[512] After one more sortie in October from Detachment A, the

Suez missions were taken over by U-2s at Detachment B at Incirlik, now fully up and running

and whose location allowed for shorter flights with more extensive photographic coverage.[513]

Detachment B flew nine missions over the Suez in October and 14 in November.[514] After Britain

and France agreed to a cease-fire in early November, the missions became fewer and less

frequent but continued to provide the only accurate intelligence of battle damage in the Sinai and

Egypt and the extensive blockage of the Suez Canal (U-2 pictures taken after the fighting ceased

revealed enough sunken ships in the canal to completely block the waterway).[515] By the middle

---

[509] Pedlow and Welzenbach, *The CIA and the U-2*, 114. Pocock, *The U-2 Spyplane*, 54.
[510] Sources disagree exactly how many U-2 missions were flown over the Middle East in September 1956. Polmar, and Pedlow and Welzenbach say there were eight missions. Cogan says there were seven. Polmar, *Spyplane*, 97. Pedlow and Welzenbach, *The CIA and the U-2*, 116. Charles G. Cogan, "From the Politics of Lying to the Farce at Suez: What the US Knew," *Intelligence and National Security* 13, no. 2 (1998): 103, Journals Database, Taylor and Francis Online. http://www.tandfonline.com.aufric.idm.oclc.org/doi/pdf/10.1080/02684529808432479, accessed 23 Mar 2013.
[511] Polmar, *Spyplane*, 98.
[512] Pocock, *Dragonlady: The History of the U-2 Spyplane*, 83. CIA U-2 Mediterranean operations flew from RAF Akrotiri on Cyprus after that.
[513] Pedlow and Welzenbach, *The CIA and the U-2*, 116.
[514] Brugioni, *Eyes in the Sky*, 179. Pocock, *The U-2 Spyplane*, 55-56.
[515] Pocock, *The U-2 Spyplane*, 56. Brugioni, Personal interview conducted by the author, 22 August 2012. Brugioni, *Eyes in the Sky*, 187.

of 1957, the CIA's Detachment B in Turkey flew so regularly over the Sinai Peninsula and the

Eastern Mediterranean that the missions were called "milk runs."[516]

U-2 photographic coverage was under the direct control of the president during the 1956

Suez crisis. Needing to know what preparations (if any) the Brits and French were making for

war, Eisenhower asked DCI Dulles for photographic intelligence of the Suez Canal and Israel,

allied bases on the islands of Malta and Cyprus, Toulon, France, and of any assembling naval

vessels in the Eastern Mediterranean.[517] This initial target set became the core of most U-2

missions during the crisis. As the situation unfolded and especially as other diplomatic

intelligence sources extinguished, Eisenhower applied the U-2 to a wider target set to match his

concerns, including Israeli military installations in the Negev desert and Syrian airfields near the

Israeli border.[518] A standout example of presidential control concerned the verification of Soviet

actions in early November aimed at "keeping the pot boiling" in the Middle East.[519] While

showing the president U-2 pictures during an office conference on 6 November, DCI Dulles

conveyed an intercepted Soviet cable that indicated the Soviets intended to "'do something' in

the Middle East hostilities"[520] Eisenhower suspected the USSR would send aircraft to Syrian

airfields in preparation for whatever they had in mind and immediately "asked Mr. Dulles to

conduct high reconnaissance in this area, avoiding, however, any flights into Russia. Flights over

Syria and Israel should be conducted."[521] Detachment B flew the missions and, shortly

---

[516] Pocock, *Dragonlady: The History of the U-2 Spyplane*, 34.
[517] For an example of U-2 imagery from the 1956 Suez missions, see Figure 20 in Appendix B. Brugioni, Personal interview conducted by the author, 22 August 2012. Brugioni, *Eyes in the Sky*, 174-176. Also see Cogan, "Politics of Lying," 103.
[518] Pedlow and Welzenbach, *The CIA and the U-2*, 117-118. Ambrose also discusses U-2 missions over these areas at Ambrose, *Ike's Spies*, 274.
[519] "Discussion at the 303rd Meeting of the National Security Council, Thursday, November 8, 1956," Kesaris, *Minutes of Meetings of the National Security Council with Special Advisory Reports*, page 11 in the minutes.
[520] "Memorandum of a Conference With the President, White House, Washington, November 6, 1956, 8:37 a.m.," in Department of State, *FRUS, 1955-1957*, XVI: Document 518.
[521] "Memorandum of a Conference With the President, White House, Washington, November 6, 1956, 8:37 a.m.," in Department of State, *FRUS, 1955-1957*, XVI: Document 518.

thereafter, Eisenhower's military counsel, Colonel Goodpaster, informed the president that U-2

imagery showed no Soviet forces or aircraft in Syria.[522] Eisenhower could be relatively sure the

Soviets were bluffing, but Detachment B U-2s continued monitoring Syrian bases for the next

two weeks.[523]

Exploiting the imagery from the U-2 overflights initially proved difficult and excessively

delayed. Based on the president and secretary of state's need for an hourly watch over the

situation, Deputy Director for Intelligence Robert Amory established an interagency organization

known as the Paramount Committee at CIA's PID headquarters in Washington. It included U-2

photo-interpreters from the PID and intelligence personnel from the Department of State, NSA,

and the services.[524] While the Committee handed daily all-source reports to the members of the

NSC, PID chief Lundahl was frustrated with the time lag involved with pushing U-2 information

to the DCI and the president. He decided to set up a photo-interpretation cell in Wiesbaden so

the U-2 film could be analyzed upon recovery and the results immediately wired back to

Washington to whomever needed the analysis.[525] Named the Overseas Photo Interpretation

Center, or OPIC, the CIA, Air Force, and Navy eventually established many OPICs around the

globe—including Incirlik Air Base in Turkey—to produce faster photo intelligence for crisis

decision making.[526]

Following the initial U-2 overflights of the Eastern Mediterranean in late August,

Eisenhower shared some of the U-2 imagery with the British and Germans. In early September,

[522] Lucas and Morey, "Hidden 'Alliance'," 110. Pedlow and Welzenbach, *The CIA and the U-2*, 120.
[523] Nichols, *Eisenhower 1956*, 253. Pedlow and Welzenbach, *The CIA and the U-2*, 120. Brugioni, *Eyes in the Sky*, 185-186.
[524] Pedlow and Welzenbach, *The CIA and the U-2*, 114.
[525] Brugioni, *Eyes in the Sky*, 177. Also in Polmar, *Spyplane*, 97.
[526] OPICs were established at Eielson Air Force Base, Alaska; Hickam Air Force Base, Hawaii; Wiesbaden, Germany; Yokota Air Base, Japan; Clark Air Base, Philippines; Incirlik Air Base, Turkey; and on the US Navy aircraft carrier USS *Ranger*. Brugioni, Personal interview conducted by the author, 22 August 2012. Eisenhower also authorized the establishment of an "air task force" at Adana, Turkey, see Lucas, *Divided*, 294.

Dino Brugioni prepared briefing boards showing current imagery of Egyptian and Israeli military installations.[527] On 7 September the Chairman of the NSC's Ad Hoc Intelligence Requirements Committee, Jim Reber, and PID's Arthur Lundahl briefed "a number of [British] senior military and Foreign Service personnel, without mentioning that the U-2s were overflying British bases on Cyprus and Malta."[528] Leaving the briefing materials with the British in London, Reber and Lundahl repeated the briefings in Germany to Chancellor Konrad Adenauer.[529] As an ironic subtext to the entire Suez crisis, the British later used the CIA's U-2 imagery to plan "landing sites, drop zones, and invasion routes" for their Suez campaign.[530] Sources disagree about how many times the CIA shared imagery during the crisis, but this exchange probably represented the first of two instances when the US reportedly shared U-2 photography with foreign officials.[531]

U-2 imagery offered the most accurate source of learning the events that were unfolding around the Suez Canal during the 1956 crisis. Diplomatic correspondence between Washington on one side and London, Paris, and Tel Aviv on the other was plagued by misleading statements and met with skepticism from Secretary Dulles and President Eisenhower.[532] NSA COMINT intercepts provided some insight into the discussion among London, Paris, and Tel Aviv, but their main contribution was the indication of overall communications volume since deciphering analysts became overwhelmed around the middle of August.[533] According to DCI Dulles, British

---

[527] Brugioni, Personal interview conducted by the author, 22 August 2012.

[528] Quote is from Brugioni, *Eyes in the Sky*, 175. Pedlow and Welzenbach, *The CIA and the U-2*, 114. The meeting also appears in Polmar based on NPIC archive documents, Polmar, *Spyplane*, 96.

[529] Brugioni, *Eyes in the Sky*, 175.

[530] Pocock, *The U-2 Spyplane*, 54.

[531] Some sources report that the second occasion was on 31 October 1956, when a U-2 was overhead during the British and French attacks on Egypt. The CIA passed the images to "the British military," who responded, "Warm thanks. It's the quickest bomb damage assessment we've ever had." Lucas and Morey, "Hidden 'Alliance'," 110. This exchange is also in Mosley, *Dulles: A Biography of Eleanor, Allen, and John Foster Dulles and Their Family Network*, 418. Chris Pocock agrees with Lucas, Morey, and Mosley. But Brugioni, Pedlow and Welzenbach, and Polmar all claim that the early September 1956 meetings were the only time that "the president authorized" U-2 photos be given to foreign governments. See their references just above.

[532] "Discussion at the 302nd Meeting of the National Security Council, Thursday, November 1, 1956," in Kesaris, *Minutes of Meetings of the National Security Council with Special Advisory Reports*, page 2 of the meeting minutes.

[533] Richelson, *Intelligence Community*, 209. Coles, "Suez, 1956," 104.

intelligence had "crawled into a shell" and shared little if any information on allied intent in the Middle East.[534] One piece of relatively constant information was the US Navy's Sixth Fleet afloat in the Mediterranean, which sent back its observations of British, French, Israeli, and Soviet naval actions but could give little insight as to overall intent.[535] U-2 imagery was the only unalterable and visual source of events on the ground in the Suez area and was shown to Eisenhower and members of his Cabinet weekly (and eventually almost daily) between early September and mid November 1956.[536]

Penetration—1956 Suez Crisis

Between the first missions in late August and the withdrawal of the last Anglo-French troops at the end of December 1956, the U-2 missions overflew the territory of all the nations involved in the Suez crisis.   The Suez Canal and its surrounding desert were overflown on almost every mission.[537] Air and ground bases in Egypt, Southern Israel, and the coasts of Syria were photographed extensively but the most sensitive targets were allied bases and shipping since the British and French were not aware of the U-2 missions and therefore had not provided permission for overflight.[538] Missions overflew British bases at Akrotiri on Cyprus, at Valetta on Malta, and the French naval base at Toulon.[539] Imagery was also collected over the Greek island

---

[534] Lucas, *Divided*, 254. Also see Cogan's reproduction of DCI Dulles' remarks at Cogan, "Politics of Lying," 101, 104.
[535] Coles, "Suez, 1956," 112-115. Brugioni, *Eyes in the Sky*, 179, 182, 188.
[536] Brugioni, Personal interview conducted by the author, 22 August 2012. Brugioni, *Eyes in the Sky*, 172-189. "Discussion at the 292nd Meeting of the National Security Council, Thursday, August 9, 1956," in Kesaris, *Minutes of Meetings of the National Security Council*, Third Supp. Also see minutes from the 295th to the 305th meetings of the NSC in Kesaris, *Minutes of Meetings of the National Security Council with Special Advisory Reports*.
[537] Brugioni, Personal interview conducted by the author, 22 August 2012. Polmar, *Spyplane*, 95-98.
[538] "Memorandum of a Conversation, Secretary Dulles' Room, Walter Reed Hospital, Washington, November 7, 1956, 11:10 a.m.," in Department of State, *FRUS, 1955-1957*, XVI: Document 542, n. 542. Brugioni, *Eyes in the Sky*, 175. Polmar, *Spyplane*, 96.
[539] Polmar, *Spyplane*, 96. Cogan, "Politics of Lying," 103.

of Rhodes and of naval and air bases in Syria.[540] At first, U-2 missions did not cover the

southern tip of the Sinai Peninsula over the city of Sharm el Sheikh, but later missions that flew

at the end of October included this area to assess the extent of Israeli troop advances.[541]

The particular attention paid to Cyprus, Malta, Toulon, Rhodes, and Southern Israel paid

dividends for Eisenhower and Secretary of State Dulles. August and early September missions

over these areas showed troop tent encampments on Cyprus and sentry posts at Valetta on Malta.

Royal Navy and French ships were beginning to gather at Cyprus and Valetta including a higher-

than-normal number of troop transports.[542] By counting the tents near Nicosia on Cyprus,

Brugioni and analysts at PID were able to estimate the number of troops billeted there. In early

October the estimate reached 60,000 and was included in the reports provided to the NSC

members by the Paramount Committee.[543] Just prior to the Israeli invasion of Egypt on 29

October, U-2 imagery revealed "a number of cars and buses at [Israeli] military camps, an

indication that military reservists were being called up for action," and depicted a peak amount

of Anglo-French naval and troop assembly and activity around Cyprus, Malta, and Toulon.[544]

Overall, imagery from September and October U-2 penetrating missions revealed to Eisenhower

that the British, French, and Israelis were indeed preparing for war and it was coming soon.[545]

Once the fighting started at the end of October, the overflights concentrated on the battle areas

and the damage from the conflict—mainly the Suez Canal and its abutting areas.

---

[540] Pedlow and Welzenbach, *The CIA and the U-2*, 116. According to Pedlow and Welzenbach, U-2 missions that overflew British or French territory were referred to by all involved as "special missions," although this reference is not mentioned in Brugioni's *Eyes in the Sky*, or in Pocock's *The U-2 Spyplane*.

[541] Brugioni, *Eyes in the Sky*, 186. Also see "Memorandum of a Conversation, Department of State, Washington, December 28, 1956, 4:05 p.m.," in Department of State, *FRUS, 1955-1957*, XVI: Document 671.

[542] Lucas and Morey, "Hidden 'Alliance'," 110. Also at Brugioni, *Eyes in the Sky*, 177.

[543] Brugioni, Personal interview conducted by the author, 22 August 2012. Brugioni, *Eyes in the Sky*, 177.

[544] Mosley, *Dulles: A Biography of Eleanor, Allen, and John Foster Dulles and Their Family Network*, 413. Also see the discussion about late-October 1956 missions at Brugioni, *Eyes in the Sky*, 181. See Figures 18-19 in Appendix B for geography.

[545] Pocock, *The U-2 Spyplane*, 56. Also see Mosley's discussion in the middle of the page at Mosley, *Dulles: A Biography of Eleanor, Allen, and John Foster Dulles and Their Family Network*, 414.

Eisenhower felt more at ease tasking the U-2 over the Suez since, unlike the Soviet overflights, the aircraft was not detected by radars around the Suez area.[546] The result was that the CIA could easily overfly targets to determine what was going on and what was not. Besides confirming that there were no Soviet aircraft at Syrian airfields in early November, Eisenhower had tasked the U-2 to verify reports from Israeli Prime Minister David Ben Gurion that Iraqi troops were massing at the Iraqi-Jordanian border.[547] Eisenhower ordered a U-2 mission flown over Iraq and Jordan in late September, and the imagery showed only a very small number of Iraqi troops near an Iraqi oil pipeline pumping station close to the Jordanian border—information that was shared with Ben Gurion to assuage his fears. The freedom to perform penetrating overflights produced an enormous amount of information for Eisenhower and Secretary Dulles which they used to reconcile a very confusing and at times misleading diplomatic context.

Justification—1956 Suez Crisis

In a practical sense, no public justifications for the 1956 Suez crisis overflights were required of Eisenhower or his Cabinet because no other nations were aware that they were being watched. A lack of high-altitude radar coverage around the Suez area, the ultra-secret nature of the CIA's Project Aquatone, and the fact that the missions were being launched from Germany and Turkey seemed to provide the impunity Eisenhower sought for the aerial reconnaissance

---

[546] "Memorandum of a Conversation, Secretary Dulles' Room, Walter Reed Hospital, Washington, November 7, 1956, 11:10 a.m.," in Department of State, *FRUS, 1955-1957*, XVI: Document 542.
[547] Cogan, "Politics of Lying," 115.

mission.[548] In contrast to records of discussions regarding U-2 Soviet overflights, very few

references by Eisenhower, Secretary Dulles, or DCI Dulles exist that reflect their thoughts about

justifying U-2 overflights of the Suez.[549] Soviet technicians and advisors were with Egyptian

forces throughout the crisis, but did not indicate they knew of the U-2 overflights.[550] There were

no protests against American reconnaissance efforts over the Eastern Mediterranean filed by the

Soviets, Egyptians, Israelis, British, or French during the U-2 Suez crisis or through the end of

December 1956.[551]

It is clear from multiple sources that neither Eisenhower nor Secretary Dulles were

ambivalent about deploying the U-2 over the Suez in 1956. Eisenhower said as much while

visiting an infirm Secretary Dulles at Walter Reed Hospital on 7 November: "[t]he President then

told the Secretary of his satisfaction at having a certain highly classified observation operation

available to him at this time. He felt that others had conducted operations with a similar

objective, but these had been detected whereas our own had not been."[552] It is also clear from

public statements made by Secretary Dulles that the administration may have considered the

international nature of the Suez Canal compelling enough to warrant violating the sovereign

---

[548] The most extensive radar coverage in the region probably existed at the borders between Israel and her Arab neighbors, a fact which Israeli Prime Minister Ben Burion referenced in cables to the White House regarding the protection of American civilians in Israel should Egypt, Syria, or Jordan decide to attack. See Department of State, *FRUS, 1955-1957*, XVI: Document 401. For a summary of the incredible secrecy regarding Aquatone (the CIA codename for the U-2 program), read Pocock, *The U-2 Spyplane*, 26-29, 43-44. There are no sources that I have found which hint at British, French, Egyptian, or Israeli knowledge of the destinations of the U-2s flying from Incirlik or Wiesbaden. Turkish Prime Minister Menderes was informed of the U-2's primary purpose as reconnaissance against the Soviets, but it is not clear if he was privy to the Suez missions. Consult Pedlow and Welzenbach, *The CIA and the U-2*, 112.

[549] Minutes declassified from the National Security Council meetings during July and August 1956—the time when Eisenhower made the decision to use the U-2 over the Suez—are highly redacted and do not contain direct references to either Aquatone or the U-2.

[550] Department of State, *Reprisals to Interference with US Aerial Surveillance,* 1962. Memorandum from Deputy Undersecretary of State, November 5, 1962, Item Number CC01989, Cuban Missile Crisis Collection, Digital National Security Archive, ProQuest. http://nsarchive.chadwyck.com/home.do, accessed 20 Oct 2012.

[551] This conclusion comes from a survey of the Department of State FRUS files, collection "Suez 1956 and Arab-Israeli Dispute" 27 July 1956 to 31 December 1956, Department of State *Bulletin*, XXXV no 898, to XXXVI no 933. Also review Tart and Keefe, *Price of Vigilance*, 56-198.

[552] "Memorandum of a Conversation, Secretary Dulles' Room, Walter Reed Hospital, Washington, November 7, 1956, 11:10 a.m.," Department of State, *FRUS, 1955-1957*, XVI: Document 542.

airspace of Egypt and other states. In a statement made before the United Nations Security

Council on 9 October, Secretary Dulles commented:

> Much has been said about the need to respect the 'sovereignty' of Egypt in relation to the canal. Sovereignty exists where a nation can do whatever it wants. Generally speaking, a nation can do what it wants within its own territory. And generally speaking, no nation has any rights within the territory of another sovereign nation. Now the Suez Canal, to be sure, goes through what is now Egypt, and in this sense the canal is 'Egyptian.' But the canal is not, and never has been, a purely internal affair of Egypt with which Egypt could do what it wanted. The canal has always been, from the day of its opening, an international waterway dedicated to the free passage of the vessels of all nations. Its character as an international right-of-way was guaranteed for all time by the 1888 convention. Egypt cannot rightfully stop any vessel or cargo from going through the canal. And for those who use that right-of-way to combine to secure the observance of their rights is no violation of Egyptian sovereignty but a clear exercise of their rights accorded by international law.[553]

Statements of this nature by Eisenhower and Secretary Dulles throughout the crisis continued to

confirm the American mindset—that the crisis over the canal was its own justification.[554] The

canal itself belonged to everyone and, therefore, Nasser's nationalization of the Suez Canal and

the prospect of its closure to international traffic probably provided justification enough in the

mind of the president and secretary of state to justify penetrative overflights.

It is also probable that Eisenhower took offense at allied concealment of the Anglo-

French-Israeli invasion plan, so he simply dismissed any concern over possible protests

regarding reconnaissance penetration of sovereign airspace. The administration's frustration at

British, French, and Israeli deception during the 1956 Suez crisis is well documented. Probably

the best example is the collection of documents recording the 302nd meeting of the National

Security Council which took place on 1 November, the first NSC meeting after the Israeli

---

[553] Department of State, "The Suez Question in the Security Council."

[554] In early August 1956, Secretary Dulles remarked to Prime Minister Eden that no solution that left the canal in the hands of a single power was satisfactory. Mosley, *Dulles: A Biography of Eleanor, Allen, and John Foster Dulles and Their Family Network*, 410-411.

invasion on 29 October and just at the beginning of the RAF air campaign against Egypt.[555]

During this meeting, the group noted that they viewed Anglo-French actions as a reneging of

their commitment to the 1950 Tripartite agreement and that the two powers had "deserted [the

United States]."[556] Eisenhower commented, "how could we possibly support Britain and France

if in doing so we lose the whole Arab world?"[557] Sources agree that Eisenhower and Secretary

Dulles felt betrayed by the intentional deception and misinformation from the British and

French.[558] Under such a mindset and desperate for good information, it is easy to understand

how the administration—who otherwise employed penetrating overflights with extreme caution

—could order covert missions to monitor the inimical activities of errant allies.

Result—1956 Suez Crisis

The impact of aerial reconnaissance in the 1956 Suez crisis depended on how the images

from the U-2 missions were used (because in this case the aircraft itself provided no "presence"

as it was not detected). We know that imagery-derived data was combined with other

information in all-source reports written by the Paramount Committee and provided to President

Eisenhower, Secretary of State Dulles, and to other members in the administration.[559] It is also

true that images taken by the U-2 were mounted on briefing boards and shown to President

---

[555] "Discussion at the 302nd Meeting of the National Security Council, Thursday, November 1, 1956," in Kesaris, *Minutes of Meetings of the National Security Council with Special Advisory Reports*.
[556] "Discussion at the 302nd Meeting of the National Security Council, Thursday, November 1, 1956," in Kesaris, *Minutes of Meetings of the National Security Council with Special Advisory Reports*.
[557] "Discussion at the 302nd Meeting of the National Security Council, Thursday, November 1, 1956," in Kesaris, *Minutes of Meetings of the National Security Council with Special Advisory Reports*.
[558] A good summary of this aspect of the crisis is in Nichols, *Eisenhower 1956*, 159-215. Read Chapters Eight and Nine. Also ses Lucas, *Divided*, 258. Eisenhower favored an approach to the UN after hearing of the Israeli attack. He also shared with the secretary of state to notify Britain, "We recognise [sic] that much is on their side in the dispute with the Egyptians but...nothing justifies double-crossing us." This is as quoted in Lucas, 258.
[559] Brugioni, *Eyes in the Sky*, 176-178. Also see Pedlow and Welzenbach, *The CIA and the U-2*, 116.

Eisenhower and Secretary Dulles on many occasions during the crisis.[560] JCS Chairman Admiral

Radford, for example, used U-2 imagery to give the military briefing during the 1 November

National Security Council meeting—the first meeting following the Israeli invasion.[561] What is

unclear is whether the imagery and other intelligence provided Eisenhower or Dulles with

adequate foresight of the invasion plans. To be sure, Eisenhower was constantly surrounded by

speculation on what would happen in the Suez Canal area and among the states in the Eastern

Mediterranean. He continually was showered with predictions from Secretary Dulles and DCI

Dulles of an Arab-Israeli war breaking out along the Jordanian-Israeli border.[562] Some sources

argue that the president was taken completely by surprise by Israel's 29 October invasion of

Egypt.[563] Eisenhower himself was quoted to say that he learned of the outbreak of the war by

"reading it in the newspapers."[564] Although the president may have learned of the *timing* of

hostilities from the newspapers, the idea that he and others close to him were caught completely

off guard by the attack was probably not the case.

U-2 imagery was proving evidence to the president and the cabinet of allied deception.

The imagery served to create enough cognitive dissonance in Eisenhower's mind that he became

suspicious of British, French, and Israeli intentions. For example, the initial U-2 missions flown

from Wiesbaden over the Eastern Mediterranean overflew Israeli air bases and showed a total of

---

[560] Mr. Dino Brugioni prepared "many" boards for the president and the cabinet between August and December 1956 and was present during some imagery briefings to the president. Brugioni, Telephone interview conducted by the author, 8 June 2012.
[561] Brugioni, *Eyes in the Sky*, 184-185.
[562] See Secretary of State Dulles' and DCI Allen Dulles' comments during the 26 October NSC meeting in "Memorandum of Discussion at the 301st Meeting of the National Security Council, Washington, October 26, 1956, 9 a.m.," Department of State, *FRUS, 1955-1957*, XVI: 378. Also see "Memorandum of a Conference With the President, White House, Washington, October 27, 1956, 11 a.m.," Department of State, *FRUS, 1955-1957*, XVI: Document 387. Secretary of State Dulles' notion that Israel was preparing to attack into Jordan instead of Iraq remained consistent in the weeks leading up to the beginning of hostilities.
[563] One such source is Calhoun, "Musketeer's Cloak." Calhoun argues in his introduction that Eisenhower was caught by surprise because "the British, French, and Israelis hid their preparations in plain sight by allowing the Americans to see what they expected to see and thus led them to a false conclusion, then acted in an unexpected way."
[564] As quoted in Wilfred P Deac, "Operation Musketeer: Duel for the Suez Canal," *Military History* 18, no. 1 (2001), ProQuest Research Library, ProQuest. http://www.proquest.com, accessed 12 Oct 2012.

60 French Mystere-4 fighters delivered to the Israeli air force, more than twice the 24 claimed by

France to have been transferred. Eisenhower wrote in a memorandum for record, "[i]ncidentally,

our high-flying reconnaissance planes have shown that Israel has obtained some 60 of the French

Mystere pursuit planes, when there had been reported the transfer of only 24. Jordan has no

aviation."[565]   The 11 September U-2 mission flown from Incirlik ventured into the Western

Mediterranean and its photos depicted ships bringing British troops to Cyprus and Malta, a direct

contrast to reassurances from Prime Minister Eden that no such transport was taking place.[566]

Just before his invasion of Egypt in October, Israeli Prime Minister Ben Gurion repeatedly

assured Eisenhower that it was Jordanian-based threats that concerned him and that Israel would

not participate in the dispute among Britain, France, and Egypt.[567] But U-2 images shown to

Eisenhower in late October were conveying just the opposite. From Dino Brugioni: "...our aerial

photos were showing something different: Israeli tank transporters, columns of trucks, and half-

tracks were heading in the other direction, toward Beersheba [sic]."[568] Concurrent NSA

COMINT showed a spike in the amount of communications traffic between Paris and Tel Aviv

even though analysts could not decipher the transmissions.[569] The president obviously noted the

contrast between Ben Gurion's assurances and what U-2 imagery and other intelligence was

showing. He sent urgent messages to Ben Gurion on each of the two days preceding the Israeli

attack on Egypt—the 27th and 28th of October 1956—pleading that, "no forcible initiative be

---

[565] "Memorandum for the Record by the President, Washington, October 15, 1956," Department of State, *FRUS, 1955-1957*, XVI: Document 345.
[566] Polmar, *Spyplane*, 98.
[567] See "Message From Prime Minister Ben Gurion to President Eisenhower, Jerusalem, October 20, 1956," Department of State, *FRUS, 1955-1957*, XVI: Document 378.
[568] Brugioni, *Eyes in the Sky*, 181. I also viewed copies of these photographs and of the referenced presidential briefing boards during a personal interview with Dino Brugioni on 22 August 2012.
[569] Lucas, *Divided*, 254.

taken by Israel which would endanger peace in the Middle East."[570] Eisenhower went through a

similar sequence of events about the same time with Messrs. Eden and Mollet concerning

IMINT-revealed Canberra bombers and Nord Atlas paratroop transports at Tymbou on Cyprus.[571]

In this way, imagery from aerial reconnaissance was an intelligence product that reached

Eisenhower unadulterated and unmodified, providing him a baseline from which to digest

diplomatic correspondence and other information that was becoming more and more dubious as

events unfolded.

Eisenhower was able to dismiss red herrings and diversions during the Suez crisis

because the imagery from the U-2 was available. One of the major themes of concern during

NSC meetings between August and December 1956 was the degree to which the Soviets might

intervene in the Suez crisis, especially after the fighting started.[572] Soviet signals from UN

Security Council meetings and ambassadorial correspondence suggested the Soviets were

posturing to send "volunteers" to Egypt and providing Arab nations aircraft and arms to extend

the hostilities.[573] Reconnaissance imagery showed that these developments were not happening.

Eisenhower asked DCI Dulles to "keep a close watch on the Syrian airfields" in early November

and follow-on memorandums recording the president's discussions revealed that Eisenhower was

---

[570] See "Message From President Eisenhower to Prime Minister Ben Gurion, Washington, October 27, 1956," and "Message From President Eisenhower to Prime Minister Ben Gurion, Washington, October 28, 1956," Department of State, *FRUS, 1955-1957*, XVI: Documents 388 and 394, respectively. Quoted material from Eisenhower is from Document 394.
[571] Brugioni, *Eyes in the Sky*, 182.
[572] For example, in the first NSC meeting following the 29 October Israeli attack into the Sinai, Secretary of State Dulles made several points about what he viewed as a zero-sum leadership game in the Middle East between the US and the USSR: "Secretary Dulles noted with emphasis that if we were not now prepared to assert our leadership in this cause, leadership would certainly be seized by the Soviet Union." Quote is from "Discussion at the 302nd Meeting of the National Security Council, Thursday, November 1, 1956," Kesaris, *Minutes of Meetings of the National Security Council with Special Advisory Reports*.
[573] See "Editorial Note," in Department of State, *FRUS, 1955-1957*, XVI: Document 504. Also see D. Shepilov, *Cablegram Dated 5 November 1956 From the Minister for Foreign Affairs of the Union of Soviet Socialist Republics, Addressed to the President of the Security Council,* 1956. UN doc S/3736, UN Official Document System, UN.org. www.un.org/en/documents/ods, accessed 28 Oct 2012.

looking exclusively to aerial reconnaissance for the information.[574] U-2 missions flown shortly

afterward showed there were no Soviet fighters or transports at Syrian airfields and that there

was no evidence of Soviet troops in any appreciable number within the country.[575] The U-2

imagery became a bellwether to consider the probable accuracy of other intelligence like Special

National Intelligence Estimate 11-9-56, which concluded, "[the USSR] will probably not employ

Soviet forces on a large scale in the Eastern Mediterranean—primarily because their capability to

do so at an early date is inadequate, also because the risk of general war arising from such action

would be very great;… [the USSR] will at the least continue by threats to seek to create alarm in

the West, in order to produce a UN settlement tolerable to the USSR."[576] The same kind of

confirmative imagery from U-2 missions defused Eisenhower's and the NSC's concerns about

claims that Iraqi troops were amassing in Jordan in October, or that Egypt was preparing a

counter-attack in November with its Soviet-provided Badger bombers.[577] Knowing certain

claims were false—at least in the short term—allowed Eisenhower and the Cabinet to focus on

the situation at hand rather than chasing more possibilities than already existed.

When combined with other information, U-2 imagery allowed Eisenhower and his

Cabinet to recognize when hostilities likely were imminent. U-2 imagery from late October

depicted transport and fighter aircraft arrivals at RAF Luqa airfield on Malta and at RAF Akrotiri

airfield on Cyprus.[578] The imagery also showed the British troops on Cyprus dismantling their

---

[574] "Memorandum of a Conference With the President, White House, Washington, November 5, 1956, 10:20 a.m.," Department of State, *FRUS, 1955-1957*, XVI: Document 500. Then read "Memorandum of a Conference With the President, White House, Washington, November 6, 1956, 8:37 a.m.," Document 518.
[575] Brugioni, *Eyes in the Sky*, 185-186.
[576] "Sino-Soviet Intentions in the Suez Crisis, Special National Intelligence Estimate 11-9-56, Washington, November 6, 1956," as reprinted in Department of State, *FRUS, 1955-1957*, XVI: Document 521.
[577] Brugioni, *Eyes in the Sky*, 184. U-2 imagery showed that Egypt evacuated its Badger bombers to airfields near the Aswan Dam, well beyond the range of British aircraft. Also see Department of State, *FRUS, 1955-1957*, XVI: Document 289.
[578] Brugioni, *Eyes in the Sky*, 182.

tents and embarking on convoys to Limassol where they boarded transport ships.[579] The images

caused the CIA's Watch Committee, which was following the Suez situation around-the-clock, to

hold a special meeting at noon on 28 October and issue a special report to DCI Dulles and

Secretary of State Dulles which conveyed the data from the images along with other intelligence

sources: "[h]ighly sensitive information indicates that the British have brought up their air

strength on Cyprus in the last 48 hours to 63 Canberras (medium bombers), doubling previous

strength. French transport aircraft to the number of 18 have arrived within the last 24 hours

making a total of 21 and giving capability of airlifting 1500 men."[580] Eisenhower reviewed this

report in light of remarks by JCS Chairman Radford. Admiral Radford commented that the

French and British were planning to act soon because of the difficulties involved with keeping

such forces staged on the water and waiting for action—something Eisenhower very much

understood from his experience with the 1944 Normandy invasion.[581] The US Sixth Fleet was

also forwarding through the Watch Committee information that endorsed Radford's view.[582]

Responding to the information pointing to an attack in the next few days, Eisenhower pursued

diplomatic means to prevent it and to encourage restraint. Along with his 28 October note to

Prime Minister Ben Gurion pleading for nonviolence, he issued a statement to the UN Security

Council and to the British and French Ambassadors the same afternoon imploring restraint and

---

[579] Brugioni, Telephone interview conducted by the author, 8 June 2012. Lucas, *Divided*, 256.
[580] "Special Watch Report of the Intelligence Advisory Committee, Washington, October 28, 1956, No.325A," Department of State, *FRUS, 1955-1957*, XVI: Document 391. See note 1, the reference to "[h]ighly sensitive information" probably refers to U-2 imagery, the existence of which was extremely classified at the time.
[581] Nichols, *Eisenhower 1956*, 183. The British and French invasion forces were indeed experiencing difficulties with logistics and costs associated with delaying the invasion of the Suez. See Coles, "Suez, 1956," 107.
[582] Coles, "Suez, 1956," 106. While conducting their primary mission, which was the evacuation of civilians, the Sixth Fleet was shadowing British, French, Israeli, Egyptian, and Soviet vessels in the Mediterranean and reporting their actions to Washington. The British and US fleets rarely communicated, but each knew the other was there.

asking for more time for diplomacy to work.[583] With the knowledge that invasion forces were ready, Eisenhower sent multiple personal messages to Prime Ministers Eden and Mollet on 30 October. Eden's message read: "[w]ithout bothering here to discuss the military movements themselves and their possible grave consequences, I should like to ask your help in clearing up my understanding as to exactly what is happening between us and our European allies— especially between us, the French and yourselves."[584]

The diplomatic impact from aerial reconnaissance did not end when the Israeli invasion took place on 29 October 1956. Knowing that the Soviets would probably not intervene, that rumors of a Jordan-based Arab invasion into Israel were probably wrong, and that the Egyptians were not going to launch an air counteroffensive gave Eisenhower and his advisors time to let the situation deteriorate for the Anglo-French-Israeli invaders, creating leverage for American diplomatic efforts both bilaterally and at the UN. Great Britain, faced with an economic crisis and diminishing oil supplies, was particularly vulnerable having misjudged America's partnership in the Suez endeavor.[585] Eisenhower denied assistance to Britain and France in oil and loans until Eden agreed to withdrawal forces from the Sinai.[586] France, intimately integrated with the British in the invasion force and also facing an oil shortage, had no choice but to go along. On 7 November, Israel issued a refusal to withdraw its forces until Egypt also accepted the UN cease-fire order.[587] Eisenhower's response was confident, knowing that Israel was in no

[583] Eisenhower's statement to the UN Security Council was reproduced in Dwight D. Eisenhower, "Statement by President Eisenhower," *The Department of State Bulletin* XXXV, no. 906 (1956). This same statement was delivered to French Ambassador Herve Alphand and British Minister J.E. Coulson in the State Department offices that same day by Robert Murphy, the Deputy Undersecretary of State for Political Affairs. See Department of State, *FRUS, 1955-1957*, XVI: Document 396.
[584] "Message From President Eisenhower to Prime Minister Eden, Washington, October 30, 1956," in Department of State, *FRUS, 1955-1957*, XVI: Document 418.
[585] Kunz, *Economic Diplomacy*, 128-141.
[586] Department of State, *FRUS, 1955-1957*, XVI: Document 516. Also see Kunz, *Economic Diplomacy*, 141.
[587] Dwight D. Eisenhower, "President Eisenhower to Prime Minister Ben-Gurion, November 7," *The Department of State Bulletin* XXXV, no. 908 (1956). Also see "Editorial Note," Department of State, *FRUS, 1955-1957*, XVI: Document 534.

immediate danger of Arab invasion or Soviet influence but dependent on American support in the

long run. Eisenhower wrote to Ben Gurion the same day: "…I need not assure you of the deep

interest which the United States has in your country, nor recall the various elements of our policy

of support to Israel in so many ways. It is in this context that I urge you to comply with the

United Nations resolutions."[588] The standoff worked. The following day Ben Gurion promised

to withdraw Israel's forces when UNEF forces were ready to replace them.[589]

The CIA shared imagery with other organizations before, during, and after the fighting.

Eisenhower decided to share images early on with the British and Germans as a goodwill

gesture, but sources disagree on exactly when the CIA stopped sharing U-2 imagery and other

intelligence with their British counterparts.[590] One source contends that the CIA's Photographic

Intelligence Division sent U-2 imagery to MI6 that depicted a burning Cairo West airfield

following an RAF attack on 31 October, but there seems no reason for the analysts in PID to

have done so, especially given the administration's mistrust towards British officials at the time,

and corroborating data on that particular event is scarce.[591] U-2 imagery from missions flown in

early November verified for the first time that the French had mined the Suez Canal and a total

of 52 ships sank in the canal during the fighting.[592] At the time, the US Navy was the only

maritime force with extensive mine clearing capabilities, so the fact that Eisenhower knew the

extent of the mines contributed to his decision to offer up the Navy's help, a plan endorsed by

[588] Eisenhower, "President Eisenhower to Prime Minister Ben-Gurion, November 7."
[589] "Message From Prime Minister Ben Gurion to President Eisenhower, Jerusalem, November 8, 1956," Department of State, *FRUS, 1955-1957*, XVI: Document 560.
[590] Lucas, *Divided*, 63. Also see Brugioni, *Eyes in the Sky*, 184.
[591] See Pocock, *Dragonlady: The History of the U-2 Spyplane*, 34. The story is that once MI6 received the images, they wired back a message to the CIA saying "Warm thanks. It's quickest bomb damage assessment we've ever had." Mr. Brugioni and others contend that the "U.S. Government shared no information with the British during [the end of October]." Brugioni, *Eyes in the Sky*, 184. Also from Brugioni, Telephone interview conducted by the author, 8 June 2012. Also see note 530.
[592] Brugioni, Telephone interview conducted by the author, 8 June 2012. Also from Brugioni, Personal interview conducted by the author, 22 August 2012.

Ambassador Henry Lodge at the United Nations.[593] PID shared the pictures with naval

intelligence so the Navy could begin mine clearing operations in the canal.[594] Later, missions

flown to monitor the UN-directed cease fire and the withdrawal of Israeli forces from Sharm el-

Sheikh took images that were shared with the Canadian forces comprising part of the UN

peacekeeping effort.[595] It seemed there was nothing quite like a birds-eye-view from the high

flying reconnaissance planes that conveyed the situation on the ground so quickly to those

involved during the crisis.

Conclusion—1956 Suez Crisis

As the situation in the Eastern Mediterranean was unfolding, Secretary of State John

Foster Dulles argued that the United States had arrived at a strategic decision point. He viewed

the Suez crisis as a Rorschach test for the future American foreign policy. Would the United

States continue to support her allies under any circumstance, or take advantage of the context to

offer leadership to the "newly independent countries who have escaped from colonialism?"[596]

On the morning of 1 November 1956 at a National Security Council meeting, Dulles made

lengthy remarks regarding the permanent consequences of American diplomatic actions in the

Suez crisis:

> …Secretary Dulles stated that basically we had almost reached the point of deciding
> today whether we think the future lies with a policy of reasserting by force colonial
> control over the less developed nations, or whether we will oppose such a course of
> action by every appropriate means. Great Britain and France are, of course, our

---

[593] "Memorandum of a Conversation, Secretary Dulles' Office, Department of State, Washington, October 31, 1956, 11:30 a.m.," Department of State, *FRUS, 1955-1957*, XVI: Document 445. Also see Ambassador Lodge's comments in Department of State, "General Assembly Action on the Middle East Question," *The Department of State Bulletin* XXXV, no. 911 (1956): 914.

[594] Brugioni, Personal interview conducted by the author, 22 August 2012.

[595] Nichols, *Eisenhower 1956*, 253. Dino Brugioni prepared briefing boards and mosaics to show high-ranking UNEF officer prior to deployment to the Suez. Brugioni, Personal interview conducted by the author, 22 August 2012.

[596] Quoted words are from Dulles' remarks in "Discussion at the 302nd Meeting of the National Security Council, Thursday, November 1, 1956," in Kesaris, *Minutes of Meetings of the National Security Council with Special Advisory Reports*.

oldest and most trusted allies. If we became engaged in a war, these are the allies we would most surely depend upon for assistance. It is nothing less than tragic that at this very time, when we are on the point of winning an immense and long-hoped-for victory over Soviet colonialism in Eastern Europe, we should be forced to choose between following in the footsteps of Anglo-French colonialism in Asia and Africa, or splitting our course away from their course. Yet this decision must be made in a matter of hours—before five o'clock this afternoon.[597]

If the crisis worsened, with the Soviet Union supporting Egypt and other Arab states and America supporting her allies, the fight could explode into a direct confrontation between the two nuclear-armed superpowers. Yet Dulles' view was that the British and French would not win the Suez Canal or succeed in deposing Nasser.[598] So Eisenhower and Dulles were in the precarious position of having to take a tactical stand against the allies who were otherwise bonded partners in the strategic Cold War against communism and the Soviet Union. The solution was to defuse the Suez crisis by simultaneously supporting the sovereignty of Egypt, reestablishing the rights to international navigation of the canal, and force the withdrawal of the Anglo-French-Israeli invasion force to eliminate the possibility of escalation. In the process, the United States would inaugurate its newfound leadership in foreign policy and the cause of freedom.

When America's leadership was being tested in such a way by the Suez crisis, unaltered information was critical. Imagery from aerial reconnaissance proved to be priceless as it directly informed diplomatic decisions. As PID chief Arthur Lundahl described, reconnaissance imagery

---

[597] "Discussion at the 302nd Meeting of the National Security Council, Thursday, November 1, 1956," in Kesaris, *Minutes of Meetings of the National Security Council with Special Advisory Reports*. Dulles' comment, "long-hoped-for-victory," was probably in reference to uprisings against the Soviet Union and Soviet-friendly governments numerous nations in Eastern Europe, including Poland and Hungary. In late October, the Soviets sent in tanks and ten thousand troops to put down the rebellion and intervened even more ferociously in early November. With his allies occupied in Egypt, Eisenhower and his administration knew there were limits to what they could do vis-a-vis the Soviets in Eastern Europe. See Nichols, *Eisenhower 1956*, 285. Dulles' deadline, "before five o'clock this afternoon," was a reference to Ambassador Lodge's efforts at the United Nations and to Dulles' own appointment to speak at the General Assembly that afternoon and explain America's policy in response to the outbreak of hostilities in Suez. Read Dulles' 1 November remarks in Department of State, "Statement by Secretary Dulles in the General Assembly, November 1."
[598] "Discussion at the 302nd Meeting of the National Security Council, Thursday, November 1, 1956," in Kesaris, *Minutes of Meetings of the National Security Council with Special Advisory Reports*.

like that which informed Eisenhower and his Cabinet during the Suez crisis "enables

measurements of incredible accuracy to be carried out rapidly and with certainty and provides a

permanent and infallible memory record which is infinitely reproducible."[599] Suez 1956 offered

aerial reconnaissance—at the time in the form of the CIA's budding U-2 program—an

unforeseen opportunity to display one of its strengths: that aerial imagery could be removed from

the distorting context of human interaction, even amidst diplomatic efforts to deceive.

Eisenhower and the NSC could be relatively assured that the diplomatic crisis over the Suez

Canal would not expand because of an Arab invasion of Israel or from Soviet intervention

because the evidence for such actions was consistently absent from U-2 imagery. This

knowledge gave the administration breathing room to organize and lead diplomatic opposition

through United Nations resolutions and economic pressure using oil and money reserves.

The CIA's U-2 presence in the Middle East in 1956 was a fortuitous development of

which Eisenhower took full advantage. Having ordered USSR overflights ceased when faced

with their detection by Soviet air defenses, the president and the CIA put the aircraft to good

use.[600] The U-2's undetectability in the area gave Eisenhower his countermeasure to allied

efforts at diplomatic deception. The missions provided him a clandestine tool of his own.

Presented with British, French, and Israeli assurances to pursue peaceful means, he was able to

view their military buildup, attacks, and battle damage first hand and take appropriate diplomatic

action to allay the crisis. Eisenhower, Secretary Dulles, JCS Chairman Radford, and the NSC

used the imagery to recognize the "anomalies" of peace, the inconsistencies between the

arguments of their allies and the evidence of allied actions. This was especially true in the case

---

[599] Lundahl's words are from comments he made in 1954, as quoted in Brugioni, *Eyes in the Sky*, 2.
[600] U-2 overflights of Soviet Bloc nations and the USSR resumed in November—after cease-fire and force withdraw assurances from Britain, France, and Israel.

of Israel who was literally turning the other way, toward Egypt versus Jordan, as Ben Gurion had maintained.

The application of aerial reconnaissance during the Suez crisis also proved that a peacetime reconnaissance asset, normally relied upon for "strategic" intelligence, could be employed in a crisis mode. However, the timeline for analysis had to be compressed if it was to be of use diplomatically. PID established the Overseas Photo Interpretation Centers (OPICs) at Weisbaden, and eventually Turkey, so the system could keep up with events. In this case, it took a long time for the British and French to prepare for the invasion, allowing more opportunity for U-2 overflights and diminishing the impact of relatively long film analysis time.[601] After the crisis, the U-2 asset was "reset to strategic mode" and overflights of the USSR continued in November 1956.

Eisenhower and the NSC's use of U-2 imagery during the 1956 Suez crisis was not just the convenient application of a novel aerial reconnaissance system. The U-2 offered an active extension of America's diplomatic efforts at solving the Suez crisis via peaceful means. The fact that its specialized configuration allowed for covert imagery collection was attractive to American leadership and enhanced its utility as a peacetime instrument. In the case of Suez 1956, it merged perfectly with diplomatic efforts to understand the crisis and then reestablish and perpetuate peace. The episode was important enough to provide a formative context for a new US policy in the Middle East—the Eisenhower Doctrine—which established that the US retained the right to act unilaterally to defend its interests there.[602]

---

[601] Coles, "Suez, 1956," 107. British and French staffs had agreed to their initial plans by early August; the plan was not executed until the end of October.
[602] Lucas, *Divided*, 324.

The 1962 Cuban Missile Crisis

Fidel Castro's successful communist revolution in January 1959 marked the beginning of a seemingly permanent diplomatic winter between the United States and Cuba. The Eisenhower administration had withdrawn its military assistance to Castro's predecessor, Fulgencio Batista, just before the revolution began, but Batista enjoyed American diplomatic backing and monetary assistance for most of his reign.[603] By May 1960, Castro's new government established diplomatic relations with the Soviet Union, prompting investigations by Eisenhower's National Security Council on how to "bring another government to power in Cuba."[604] When John F. Kennedy swore the presidential oath in January 1961, the CIA already had recruited and trained hundreds of Cuban exiles to prepare to invade Cuab at Playa Girón. Kennedy approved the invasion plan in March 1961, but gave the condition that the plan should contain plausible deniability as to the participation of the US.[605] Consequently, Kennedy refused to approve air support as the invasion stumbled on 17 April 1962, resulting in the infamous Bay of Pigs fiasco.[606] Afterwards, the president and his administration viewed Cuba as a pressing danger to the United States, constituting "five threats" as outlined by Walt Rostow, Director of the Policy Planning Staff at the Department of State: Cuba might partner with the Soviets to become an "offensive air or missile base;" it may threaten the independence of other Latin American nations; it may set up a covert network to threaten other nations from within; its ideological

---

[603] The National Security Archive, *The Cuban Missile Crisis, 1962*, ed. Laurence Chang and Peter Kornbluh (New York: The New Press, 1992), National Security Archive Documents Reader. 4.

[604] Peter Wyden, *Bay of Pigs* (New York: Simon and Schuster, 1979). 25. Vice President Nixon met with Castro in April 1959, just after his successful revolution, and returned from the meeting "the strongest and most persistent advocate for setting up and supporting" covert operations to overthrow the new leader. Quote is from Wyden, 28-29.

[605] See Figure 23 in Appendix B for an overview of the geography. "Paper Prepared in the Central Intelligence Agency, Washington, March 16, 1961," in Department of State, *1961-1963, Cuba, January 1961-September 1962*, ed. Louis J. Smith and David S. Patterson, vol. X, Foreign Relations of the United States (Washington D.C.: United States Government Printing Office, 1997). Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/frus1961-63v10, accessed 5 Sep 2012. Document 61.

[606] The National Security Archive, *Cuban Missile Crisis*, 4.

contours are a "moral and political offense to us;" and its success may tend to "inflame disruptive forces [in Latin America], accentuating existing economic, social, and political tensions which we, in any case, confront."[607]

Kennedy's struggles with Cuba reflected his troubled relationship with Soviet leadership. Much of the tension between Kennedy and Soviet Premier Khrushchev was based on East-West confrontation over Berlin. At the first summit between Kennedy and Khrushchev in June 1961, Khrushchev demanded that the US meet Soviet demands on Berlin by December.[608] Kennedy's famous response was "it would be a cold winter." [609] The two also had a conversation about Cuba at the summit, with Kennedy commenting that his Bay of Pigs decision was a "misjudgment."[610] Kennedy emphasized that the purpose of the summit meeting was to "introduce greater precision in these judgements so that our two countries could survive this period of competition without endangering their national security."[611] Khrushchev would not accept the argument and specifically discouraged the president from attempting to overthrow Castro simply because the Cuban dictator was in good standing with the Soviet Union. The two discussed and acknowledged their diverging views on revolution in the third world, and some sources note Khrushchev's appraisal of Kennedy as "a weak leader."[612] It was clear upon leaving the Vienna summit that the Soviet Union had taken an interest in developing a strong Cuban

---

[607] W.W. Rostow, Memorandum to The Secretary of State, et. al., "Notes on Cuba Policy," April 24, 1961, The National Security Archive, *Cuban Missile Crisis*, Document 3.

[608] Khrushchev demanded that the two nations resolve the status of the city. Khrushchev mentioned to Kennedy at Vienna that if they could not agree on Berlin within six month, he would cut off Allied access to West Berlin.

[609] See the description of the Vienna summit in Theodore Sorensen, *Kennedy* (New York: Harper and Row, 1965). 548-550.

[610] Sorensen, *Kennedy*, 549.

[611] "Memorandum of Conversation, Vienna Meeting Between The President and Chairman Krushchev," 3 June 1961, in The National Security Archive, *Cuban Missile Crisis*, Document 1.

[612] "Memorandum of Conversation, Vienna Meeting Between The President and Chairman Krushchev," 3 June 1961, in The National Security Archive, *Cuban Missile Crisis*, Document 1. H. Wayne Whitten, *Countdown to 13 Days and Beyond* (Washington, D.C.: Colonel H. Wayne Whitten and Associates, 2012). 25. H. Wayne Whitten et al., "Aerial Reconnaissance in the Cuban Missile Crisis" (Panel presentation and discussion at the Naval Heritage Center, Washington D.C., 26 Oct 2012).

military capability (defensive or otherwise) to counterbalance the United States in the west, and

that the United States held exactly the opposing interest.[613]

In summer 1962, just as the CIA and the Kennedy administration were beginning the

execution of another plan to overthrow Castro from within—Operation Mongoose—the CIA

released an intelligence assessment describing "an unprecedented" amount of activity on Cuba

and concluding that, "clearly something new and different is taking place."[614] Kennedy now

begrudgingly entertained the idea that instead of effecting the overthrow of Castro, he may have

to contend with a threat from Soviet-provided offensive weapons in Cuba, only 90 miles from

the United States. On 23 August 1962, Kennedy's National Security Advisor McGeorge Bundy

issued an action memorandum calling for specific steps to increase the amount of information

available to the president and the NSC, and to prepare for the "military, political and

psychological impact of the establishment in Cuba of either surface-to-air missiles or surface-to-

surface missiles which could reach the U.S."[615]

By the time Bundy's action memorandum hit the streets, the CIA and the Marine Corps

already had been regularly reconnoitering Cuba using aerial reconnaissance. The CIA had begun

flying U-2 missions over Cuba beginning in October 1960 under the codename Project

Idealist.[616] CIA pilots and aircraft flew these initial missions from Laughlin Air Force Base in

---

[613] Sorensen, *Kennedy*, 548.

[614] See paragraph 1 of Central Intelligence Agency Office of Current Intelligence, Current Intelligence Memorandum, 22 August 1962, "Recent Soviet Military Aid to Cuba," in The National Security Archive, *Cuban Missile Crisis*, Document 11. For the Operation Mongoose plan and timeline, see "Program Review by the Chief of Operations, Operation Mongoose (Lansdale), Washington, February 20, 1962, "The Cuba Project," in Department of State, *FRUS 1961-1963*, X: Document 304.

[615] McGeorge Bundy, "National Security Action Memorandum No. 181", August 23, 1962, in The National Security Archive, *Cuban Missile Crisis*, Document 12. Interestingly, the Action Memorandum also asked the Department of Defense, "What action can be taken to get Jupiter missiles our of Turkey?" in a prescient question from Bundy. There is now plenty of evidence that supports the view that part of the Soviet's motivation for putting Medium Range Ballistic Missiles (MRBMs) in Cuba was in response to American deployment of the Jupiter missiles in Turkey, so close to the Soviet Union.

[616] Whitten et al., "Aerial Reconnaissance in the Cuban Missile Crisis," Comments by Chris Pocock.

Del Rio, Texas.[617] Agency U-2s had flown sixteen reconnaissance missions in support of the

failed Bay of Pigs invasion in April 1961, based on a request by the CIA planning committee to

the NSC's "Special Group."[618] The Air Force, which had taken delivery of its first SAC U-2 in

June 1957, began flying some of the aircraft on nuclear air-sampling missions over the North

Pole from Eielson Air Force Base in Alaska—a detail that would become important during the

Cuban missile crisis in October 1962.[619] Under the JCS Peacetime Airborne Reconnaissance

Program (PARPRO), Marine Corps F3D-2Qs (later designated EF-10Bs) had begun regular

peripheral ELINT missions around Castro's Cuba in September 1960 from Naval Air Station

(NAS) Boca Chico on Key West, Florida.[620] In December 1960, Marine Corps F8U-1Ps (later

RF-8As) flew their initial photo-reconnaissance missions around the border area separating

Guantanamo Bay Naval Base from the rest of Cuba and continued flying such missions through

the October 1962 crisis.[621] In the fall of 1961, Marine Corps EF-10Bs for the first time detected

a Soviet Token Ground Control Intercept (GCI) radar in Cuba.[622] The ELINT discovery was a

sign that the Soviets were significantly improving the air defenses on the island and was also a

validation of earlier concerns from the White House and the CIA.[623] At about the same time,

CIA operatives reported that Cuban pilots were returning from Czechoslovakia after being

---

[617] Whitten et al., "Aerial Reconnaissance in the Cuban Missile Crisis," Today, Laughlin Air Force Base. Then, it was the 4080th Strategic Reconnaissance Wing owned by Strategic Air Command.
[618] Pocock, *The U-2 Spyplane*, 77. Polmar, *Spyplane*, 175, 181. The "Special Group" was a part of the National Security Council that managed and approved covert operations. They remained in constant contact with the president.
[619] Polmar, *Spyplane*, 171.
[620] See Figure 23 in Appendix B. Whitten, *Countdown*, 17. The EF-10Bs belonged to Marine Composite Reconnaissance Squadron 2, VMCJ-2. The unit was designated "composite" because it also flew the F8U-1P Photo Crusader (later the RF-8A) tactical photo reconnaissance aircraft in addition to the EF-10B ELINT collectors.
[621] Whitten, *Countdown*, 19, 22. Whitten et al., "Aerial Reconnaissance in the Cuban Missile Crisis," Comments and presentation by Wayne Whitten. William B. Ecker and Kenneth Jack, *Blue Moon Over Cuba: Aerial Reconnaissance During the Cuban Missile Crisis* (Oxford: Osprey Publishing, 2012). 133.
[622] Whitten, *Countdown*, 27. Ecker and Jack, *Blue Moon Over Cuba*, 133.
[623] "Memorandum From the Chief of WH/4/PM, Central Intelligence Agency (Hawkins) to the Chief of WH/4 of the Directorate for Plans (Esterline), Washington, January 4, 1961," in Department of State, *FRUS 1961-1963*, X: Document 9.

trained in advanced MiG aircraft by the Soviets.[624] In November 1961 and again in May 1962,

the CIA requested from the NSC's Special Group to fly more U-2 overflights to monitor the

situation.[625] All the missions returned with evidence of a strengthening trend in Cuban air

defenses and possible SAM construction. One of the missions, flown on 29 August 1962,

returned with pictures depicting the irrefutable signs of a Soviet-style SA-2 SAM site under

construction in Western Cuba.[626]

The information returned by early aerial reconnaissance operations over and around Cuba

sparked a controversy among American leadership over what the intelligence meant and how to

proceed diplomatically. Almost immediately, DCI John McCone suspected that the Token

ELINT discovery and SAM site photography presaged Soviet intentions to place offensive

nuclear weapons in Cuba. He suggested to Secretary of State Rusk that the US should

immediately partner with "selected" Caribbean and South American states to "develop joint

policies."[627] At a 23 August meeting in his office, President Kennedy, while not completely

disagreeing with McCone, questioned McCone's notion and asked if the administration should

release a diplomatic statement "in advance of our position…should the Soviets install missiles,"

a comment based on the ELINT reconnaissance the president had read thus far.[628] National

---

[624] "Memorandum From the Chief of WH/4/PM, Central Intelligence Agency (Hawkins) to the Chief of WH/4 of the Directorate for Plans (Esterline), Washington, January 4, 1961," in Department of State, *FRUS 1961-1963*, X: Document 9, see paragraph b (3).

[625] DCI John McCone requested the initial increase shortly after he became the new CIA chief in November 1960; see Polmar, *Spyplane*, 182. For the May 1962 increase, see "Memorandum by Director of Central Intelligence McCone, Washington, May 7, 1962," in Department of State, *FRUS 1961-1963*, X: Document 336.

[626] Editorial Note, Department of State, *FRUS 1961-1963*, X: Document 395. Also see "Memorandum From the Deputy Director for Intelligence (Cline) to Acting Director of Central Intelligence Carter, Washington, September 3, 1962," in Department of State, *FRUS 1961-1963*, X: Document 407. Analysts began seeing SAM evidence as early as June 1962, but the photos were not sufficient to convince the higher-ups. See Polmar, *Spyplane*, 183. Photo analysts had learned exactly what the SA-2 configuration looked like from the air from the U-2's Soviet overflights between 1956 and 1960.

[627] John A. McCone, Memorandum, 31 October 1962, "Soviet MRBMs in Cuba," see paragraph 2 in Central Intelligence Agency, *The Secret Cuban Missile Crisis Documents*, ed. Graham T. Allison Jr. (McLean, VA: Brassey's, 1994), Published compilation of documents related to the 1962 Cuban missile crisis, declassified and archived by the CIA History Staff. Document 4.

[628] John A. McCone, "Memorandum of Meeting with the President," 23 August 1962, in Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Document 8. Kennedy reviewed ELINT notes and NSA data about the island with DCI McCone just before the meeting.

Security Advisor McGeorge Bundy made it clear to the president that he disagreed with McCone. Bundy did not think the ELINT intercepts or SAM site imagery in Cuba indicated "any new active threat to us or to the hemisphere."[629] It did not help matters when the CIA issued Special National Intelligence Estimate (SNIE) 85-3-62 entitled "The Military Buildup in Cuba" on 19 September 1962.[630] The estimate concluded that intelligence indicated either the installation of Soviet medium or intermediate range ballistic missiles (MRBM and IRBM) in Cuba or the establishment of a Soviet submarine base there.[631] Paragraph "d" of SNIE 85-3-62 deemed "either development…incompatible with Soviet practice to date and with Soviet policy as we presently estimate it. It would indicate a far greater willingness to increase the level of risk in US-Soviet relations than the USSR has displayed thus far, and consequently would have important policy implications with respect to other areas and other problems in East-West relations."[632] The debate continued well into September, when CIA operatives began to make firsthand reports of crates and packages "which resembled large missiles."[633]

Other pre-crisis developments made aerial reconnaissance missions over Cuba difficult and politically risky. On 4 September, the Soviet government filed a protest against an Air Force U-2 which had strayed over its far east Sakhalin territory on 30 August.[634] The Department of State apologized for the intrusion.[635] As if a warning to ongoing Cuban U-2 overflights, on 8

---

[629] "Memorandum From the President's Special Assistant for National Security Affairs (Bundy) to President Kennedy, Washington, August 31, 1962," in Department of State, *FRUS 1961-1963*, X: Document 401.
[630] "Special National Intelligence Estimate, SNIE 85-3-62, Washington, September 19, 1962," in Department of State, *FRUS 1961-1963*, X: Document 433.
[631] "Special National Intelligence Estimate, SNIE 85-3-62, Washington, September 19, 1962," in Department of State, *FRUS 1961-1963*, X: Document 433.
[632] "Special National Intelligence Estimate, SNIE 85-3-62, Washington, September 19, 1962," in Department of State, *FRUS 1961-1963*, X: Document 433. Also see Sherman Kent, "A Crucial Estimate Relived," *Studies in Intelligence, Archive Indexes* 8, no. 2 (1964), Studies Archive Indexes, Center for the Study of Intelligence, Central Intelligence Agency. https://www.cia.gov/library/center-for-the-study-of-intelligence/kent-csi/vol8no2/html/v08i2a01p.htm, accessed 31 Oct 2012. SNIE 85-3-62 would be studied over and over in the years that followed in attempts to understand why the estimate was so wrong.
[633] Editorial Note, Department of State, *FRUS 1961-1963*, X: Document 436.
[634] See Figure 1 in Appendix B for the location of the Sakhalin territory, just below the Kamchatka Peninsula. Graham T. Allison Jr. and Philip Zelikow, *Essence of Decision: Explaining the Cuban Missile Crisis* (New York: Longman, 1999). 336.
[635] Polmar, *Spyplane*, 184. Also see Pedlow and Welzenbach, *The CIA and the U-2*, 201.

September a CIA U-2 flown by a Taiwanese pilot was shot down over China by a Soviet-built SA-2, the same kind of SAM now known to be under construction at many locations on Cuba.[636] Due to these two events, Secretary of State Dean Rusk was especially concerned for the safety of the U-2 missions and the political implications should one be lost over Cuba.[637] The NSC suspended U-2 missions over Cuba from 10 to 17 September in response to the two incidents and bad weather over the target areas.[638]

The early strategic uncertainty sparked an increase in aerial reconnaissance requests from the CIA in late August and September. In response to SNIE 85-3-62, a frustrated DCI McCone, on his honeymoon at the time, wrote to his deputy, Lieutenant General Marshall Carter on 20 September to, "suggest most careful consideration to conclusion last sentence paragraph d."[639] Between 25 August and 14 October McCone made six requests for increased CIA U-2 or Air Force RF-101 coverage of specific SAM sites and possible MRBM and IRMB sites.[640] Air Force RF-101 Voodoo photo reconnaissance aircraft from the 363rd Tactical Reconnaissance Wing were stationed at Shaw Air Force Base in South Carolina and could be forward deployed to McDill Air Force Base in Florida for low-level Cuba missions to complement the Marine Corps' RF-8As.[641] In response to the discovery of the SA-2 SAM sites in August, the NSC (acting on recommendations from Secretary of State Rusk) had directed a change to the U-2 mission tracks on 10 September. The tracks were re-oriented for quick passes south-to-north instead of

---

[636] Brugioni, *Eyeball To Eyeball*, 132-133.
[637] John A. McCone, Memorandum, 31 October 1962, "Soviet MRBMs in Cuba," in Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Document 4. See paragraph 13.
[638] Polmar, *Spyplane*, 184. U-2 missions were flown on 17, 26 and 29 September 1962 by CIA pilots. See Pocock, *Dragonlady: The History of the U-2 Spyplane*, 76.
[639] John A. McCone, Memorandum, 31 October 1962, "Soviet MRBMs in Cuba," in Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Document 4. See paragraph 12.
[640] John A. McCone, Memorandum, 31 October 1962, "Soviet MRBMs in Cuba," in Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Document 4.
[641] Eventually, the 363rd RF-101s were forward deployed to McDill AFB during the October crisis.

prolonged east-to-west tracks (last flown on 5 September) which exposed the missions to

numerous SAM threats.[642] Consequently, only four more U-2 missions were approved in

September, two peripheral and two quick north-south passes over narrow widths of the island, all

planned around known SAM sites.[643] On 4 October, McCone noted to the Special Group that

reconnaissance had not flown over the center of Cuba or the western end "for over a month, and

all flights since 5 September had been either peripheral or limited and therefore CIA did not

know, nor could advise, whether an offensive capability was being created [sic]."[644] McCone

objected "strenuously" to the restrictions, prompting more discussion during a 9 October NSC

Special Group meeting.[645] The group decided that one U-2 overflight should be conducted from

south-to-north across the western part of the island where there were suspected MRBMs and that

more overflights should be undertaken if the initial one "did not activate ground-air fire."[646]

President Kennedy approved the plan and retained personal discretion to approve more flights

depending on how Cuban air defenses reacted.[647] After two peripheral coastal flights on 5 and 7

October and a significant weather delay, the overflight mission of Cuba's western end was

conducted on 14 October. It returned with the first photographic evidence of Soviet MRBMs in

Cuba near San Cristobal and sparked the beginning of the thirteen-day crisis.[648]

     Between 14 and 27 October 1962, the Kennedy administration navigated the missile

crisis successfully. Faced with numerous courses of action in response to Khrushchev's move in

[642] Whitten et al., "Aerial Reconnaissance in the Cuban Missile Crisis," Comments by Chris Pocock. Also at Pocock, *Dragonlady: The History of the U-2 Spyplane*, 767.
[643] See Figures 24-25 in Appendix B for example maps of the August and September 1962 U-2 tracks. Polmar, *Spyplane*, 185.
[644] John A. McCone, Memorandum, 31 October 1962, "Soviet MRBMs in Cuba," Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Document 4. See paragraph 13.
[645] John A. McCone, Memorandum, 31 October 1962, "Soviet MRBMs in Cuba," in Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Document 4. See paragraph 14.
[646] Editorial Note, Department of State, *1961-1963, Cuban Missile Crisis and Aftermath*, ed. Edward C. Keefer, et al., vol. XI (Washington D.C.: United States Government Printing Office, 1996). Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/frus1961-63v11, accessed 4 Jul 2012. Document 11.
[647] Editorial Note, Department of State, *FRUS 1961-1963*, XI: Document 11.
[648] See Figure 26 and 27 in Appendix B. Polmar, *Spyplane*, 189. Pocock, *Dragonlady: The History of the U-2 Spyplane*, 78.

Cuba, Kennedy and his Cabinet chose a strategy that included a naval quarantine of the island and reconnaissance overflights combined with the threat of invading Cuba and attacking the Soviet Union.[649] In the meantime, the nation was as close to nuclear war as it has ever been before or since. US strategic forces would load nuclear weapons on bombers and fighters and set their status to DEFCON 2—an increased alert posture just shy of imminent nuclear war.[650] In the early morning of 28 October, Khrushchev agreed to end the showdown and remove offensive ballistic missiles from Cuba in exchange for Kennedy's promise to remove Jupiter missiles from Turkey.[651]

Presence—1962 Cuban Missile Crisis

Aerial reconnaissance provided American presence during the Cuban Missile Crisis in three interesting ways. First, there were the aircraft and pilots themselves, physically around and over Cuba as ordered by the president and members of the National Security Council. Unlike Suez in 1956, the Cubans and the Soviets knew they were being watched because they employed advanced radars and sensors as part of an integrated air defense system (IADS).[652] Second, the electronic and photographic intelligence gained by the missions made its way directly into the hands of the president and other national leaders, and was also displayed to the public and to the members of the international community at the United Nations. Finally, there was an inadvertent

_____

[649] To review the progression of the crisis in minute-by-minute detail from Kennedy's and the NSC's point of view, consult The National Security Archive, *Cuban Missile Crisis*, 347. See "A Chronology of Events" beginning on this page.
[650] Allison Jr. and Zelikow, *Essence of Decision*, 218.
[651] Italy also hosted US Jupiter missiles. For background on these and other missile deployments in 1962, see Philip Nash, *The Other Missiles of October: Eisenhower, Kennedy, and the Jupiters 1957-1963* (Chapel Hill: University of North Carolina Press, 1997).
[652] Whitten et al., "Aerial Reconnaissance in the Cuban Missile Crisis," Comments by Chris Pocock. The Soviet Union was providing Cuba the same type of air defense and SAM radars used against the U-2 shot down over the USSR in May 1960.

reconnaissance presence that had direct effects on the crisis itself and on the already-strained relationship between President Kennedy and Premier Khrushchev.

U-2 missions flew under the direct control of the president and the NSC until the middle of October.[653] After the Bay of Pigs incident in April 1961, CIA U-2s flew monthly missions over Cuba, undetected until mid-1962, under the codename Project Nimbus.[654] The missions flew from Laughlin Air Force Base in Texas and some of them were air refueled to execute extensive photo coverage of the entire length of the island.[655] CIA pilots on Cuba missions had strict orders from DCI McCone that if their aircraft engines were leaving contrails—and therefore exposing their aircraft to ground observers—they were to abort the mission and return home.[656] After the August 1962 mission that returned with photographs of an SA-2 site under construction, concern about detection seemed to give way to a more compelling need to answer questions about exactly what capabilities the Soviets were installing. Consequently, McCone's CIA pilots flew four U-2 missions over the island in September, all returning imagery showing an increasing number of SAM sites under construction, but no definitive proof of Soviet ballistic missile installations.[657]

In mid-October, the Kennedy administration decided it was diplomatically important to ensure the right type of pilots were flying the U-2 missions. Following the 30 August Sakhalin Island incident and the 8 September shoot-down of a Taiwanese U-2 over China, the 9 October NSC Special Group, along with adjusting the tracks to reduce the aircraft's exposure to possible

---

[653] "Memorandum From the President's Deputy Special Assistant for National Security Affairs (Kaysen) to President Kennedy, Washington, September 1, 1962," in Department of State, *FRUS 1961-1963*, X: Document 405.

[654] Whitten et al., "Aerial Reconnaissance in the Cuban Missile Crisis," Comments by Chris Pocock. Pedlow and Welzenbach, *The CIA and the U-2*, 200.

[655] Polmar, *Spyplane*, 182. Also from Whitten et al., "Aerial Reconnaissance in the Cuban Missile Crisis," Comments by Chris Pocock.

[656] Whitten et al., "Aerial Reconnaissance in the Cuban Missile Crisis," Comments by Chris Pocock.

[657] By early October, there were a confirmed 19 SA-2 sites under construction which had been imaged by U-2 overflights. See Pedlow and Welzenbach, *The CIA and the U-2*, 206.

SAMs, noted the diplomatic implausibility of flying CIA pilots over Cuba[658] If an operational

SA-2 shot down a U-2 on an overflight, the CIA had planned to release the cover story that the

aircraft was being piloted by a Lockheed employee who was lost on a ferry flight to Puerto

Rico.[659] Deputy Secretary of Defense Roswell Gilpatric argued that it was better to use Air

Force pilots, and in the event a U-2 was shot down say that the flight was a routine peripheral

reconnaissance mission that had veered off course.[660] Eventually, the Group agreed to fly Air

Force pilots in CIA aircraft from Laughlin. The CIA jets had a better engine, and therefore could

fly higher, and better electronic countermeasures against fighters and missiles.[661] Kennedy

approved the plan officially on 12 October and included approval to change command and

control and operational execution for the U-2 overflights from the CIA to the Department of

Defense.[662] To provide more diplomatic breathing room in the event of a shoot-down, every U-2

flight over Cuba was piloted by a SAC military pilot beginning with the mission of 14 October

1962.

On that day, after a welcome break in the weather, a CIA U-2 flown by Air Force Major

Richard Heyser returned with film depicting eight large medium range ballistic missile (MRBM)

transports near San Cristobal.[663] Kennedy's Cabinet briefed him on 16 October and the events of

the missile crisis were underway.[664] In response to the president and the NSC's need for

information, SAC pilots flew sixteen missions between 19 and 22 October, the date when

---

[658] Editorial Note, Department of State, *FRUS 1961-1963*, X: Document 11. Marine Corps' EC-10Bs had intercepted an SA-2's Fan Song radar being tested in September. See Whitten, *Countdown*, 41.
[659] Pedlow and Welzenbach, *The CIA and the U-2*, 207.
[660] Pedlow and Welzenbach, *The CIA and the U-2*, 207. Department of State, *FRUS 1961-1963*, X: Document 11.
[661] Whitten et al., "Aerial Reconnaissance in the Cuban Missile Crisis," Comments by Chris Pocock. The CIA flew the U-2C by this time. The C-model was equipped with System 9 and System 12—electronic receivers that could warn the pilot if air interceptors of SAM radars were tracking his aircraft.
[662] Pedlow and Welzenbach, *The CIA and the U-2*, 208.
[663] Polmar, *Spyplane*, 189.
[664] "Transcript of a Meeting at the White House, Washington, October 16, 1962," in Department of State, *FRUS 1961-1963*, XI: Document 18. For in-depth review of the Cuban missile crisis, I recommend Allison Jr. and Zelikow, *Essence of Decision*.

President Kennedy announced to the world what the missions had discovered.[665] These and earlier U-2 missions had also uncovered the evidence of IL-28 medium range bombers at San Julian airfield and MiG-17, 19, and 21 aircraft at a number of airfields around the country.[666] Strategic aerial reconnaissance had uncovered a plot, originally conceived by Soviet Premier Khrushchev in April 1962, to counterbalance America's nuclear striking power by placing SS-4 and SS-5 ballistic missiles within range of the United States.[667]

Strategic U-2 overflights cued tactical, low-level reconnaissance sorties during and after the crisis. On 14 September, a meeting of the NSC's Special Group agreed to wait to fly low-level reconnaissance over Cuba until the results of U-2 missions could be attained in the same area.[668] U-2 imagery covered a large area in detail, but needed to be interpreted by an expert photo-analyst.[669] Low-level imagery of the kind collected by the Marine Corps' RF-8A and the Air Force's RF-101 Voodoo could be understood by the untrained observer and therefore was useful for displaying images to the American public and to the world.[670] On 23 October, RF-8As began flying low-level reconnaissance sorties over Cuba under Operation Blue Moon.[671] Escorted by Navy fighters on each mission until they reached the Cuban coast, RF-8As flew almost daily between 23 October and 15 November totaling seventy-seven missions.[672] The low-level reconnaissance missions flew against targets selected in Washington the night before based

---

[665] Whitten et al., "Aerial Reconnaissance in the Cuban Missile Crisis," Comment by Chris Pocock.
[666] "Memorandum of Meeting, Washington, October 17, 1962," in Department of State, *FRUS 1961-1963*, XI: Document 22.
[667] See entries for "Late April 1962" and "May 1962" in The National Security Archive, *Cuban Missile Crisis*, 351.
[668] "Memorandum for the Record, Washington, September 14, 1962," in Department of State, *FRUS 1961-1963*, X: Document 430.
[669] Whitten et al., "Aerial Reconnaissance in the Cuban Missile Crisis," Comments by Chris Pocock.
[670] Compare Figures 27 and 28 in Appendix B as an example. Read the comments at Ecker and Jack, *Blue Moon Over Cuba*, 66-72. Whitten et al., "Aerial Reconnaissance in the Cuban Missile Crisis," Comments by Wayne Whitten. Whitten, *Countdown*, 46. Also from Brugioni, Personal interview conducted by the author, 22 August 2012.
[671] See Figure 28 in Appendix B for an example of low-level aerial photography. Whitten, *Countdown*, 45. Operation Blue Moon is covered extensively in Ecker and Jack, *Blue Moon Over Cuba*.
[672] Whitten, *Countdown*, 55. Air Force RF-101s began flying on 26 October, but their imagery proved inferior to that of the RF-8A. The RF-8A's cameras could better compensate for the low-altitude, high-speed missions they were required to fly to avoid detection and interception. The RF-8As could also take photographs at night. See the discussion in Doug Gordon, *Tactical Reconnaissance in the Cold War* (South Yorkshire, England: Pen & Sword Books Limited, 2006). 179-180.

on the most recent U-2 mission film.[673] RF-8As returned close photography of the MRBM and

IRBM sites, SAM radar and missile sites, anti aircraft artillery (AAA) locations, and airfield and

aircraft imagery.[674] Probably the most notable low-level reconnaissance take was flown on 25

October, which returned showing imagery of a Frog/Luna tactical nuclear missile (2 kilotons)

that would have been waiting to meet landing craft and soldiers had the United States proceeded

with a plan to invade the island.[675] Blue Moon missions flew throughout the crisis until Kennedy

received Khrushchev's assurance that the Soviet Union would withdrawal the MRBMS, IRBMS,

and other offensive equipment.[676] On 17 November, the NSC decided to recommend to Kennedy

to discontinue the low-level reconnaissance missions because no further need existed for their

imagery and the diplomatic risk of a low-level mission being shot down was too high.[677] DCI

McCone concurred and mentioned that if reconnaissance must be continued, he and McGeorge

Bundy preferred high-altitude U-2 flights.[678]

The presence of aerial reconnaissance during the Cuban missile crisis was aided by a

relatively efficient command and control organization. Through the NSC, the president and his

cabinet could control reconnaissance missions flown by the civilians in the CIA, headed by DCI

McCone, and the military members of the Department of Defense (DoD), headed by Secretary

Robert McNamara.[679] The JCS established Joint Reconnaissance Centers (JRCs) to better plan

and execute PARPRO and other types of reconnaissance missions including the ones around and

---

[673] Whitten, *Countdown*, 47.
[674] "Memorandum, The Crisis USSR/Cuba, Information as of 0600, 26 October 1962," in Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Document 95.
[675] See Figure 29 in Appendix B for an example of Luna missiles taken from low-level. Whitten, *Countdown*, 52. Also at Ecker and Jack, *Blue Moon Over Cuba*, 142-143. Frog stood for Free Rocket Over Ground. That the Lunas were armed with actual nuclear warheads was not confirmed until many years after the crisis.
[676] Whitten, *Countdown*, 63.
[677] "Summary Record of the 26th-A Meeting of the Executive Committee of the National Security Council, Washington, November 17, 1962," Department of State, *FRUS 1961-1963*, XI: Document 190.
[678] "Summary Record of the 26th-A Meeting of the Executive Committee of the National Security Council, Washington, November 17, 1962," Department of State, *FRUS 1961-1963*, XI: Document 190.
[679] Department of State, *FRUS 1961-1963*, XI. See "List of Persons" in the Table of Contents.

over Cuba.[680] This construct also allowed the president and the NSC to review IMINT products very quickly as most of the photo reconnaissance imagery from the CIA or the DoD came to the new National Photographic Interpretation Center (NPIC, formerly PID).[681] Eisenhower had signed National Security Council Intelligence Directive Number Eight just before he left office in 1961, establishing NPIC within the CIA and under the direction of former PID chief Arthur Lundahl.[682] Eisenhower's goal was to consolidate, for the sake of efficiency and expertise, what he viewed as a foundational intelligence capability in photo-analysis at NPIC. During the 1962 Cuban missile crisis, the combination of the NSC, JRCs, and NPIC provided Kennedy with on-demand access to aerial reconnaissance and its products.

Aerial reconnaissance aided diplomatic goals during the crisis by providing intelligence products used in national and international forums. On 16 October, NPIC Chief Art Lundahl showed President Kennedy enlargements of the photographs from the 14 October U-2 mission.[683] Untrained in photo interpretation, the president was heavily somber when he asked Lundahl, "are you sure," and later asked for more detailed photos, an increase in surveillance of Cuba, and extensive military preparations.[684] The president was not alone in his inability to see the missiles in the photographs. Robert Kennedy would later write of the pictures: "I, for one,

[680] Marshall S. Carter, *Memorandum for the Record, 12 October 1962, Reconnaissance Overflights of Cuba,* 1962. Document 0001274180, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/ DOC_0001274180/DOC_0001274180.pdf, accessed 1 Oct 2012. Also see "Memorandum for the Record, Washington, September 14, 1962," Department of State, *FRUS 1961-1963*, X: Document 430. One JRC was established at CINCLAT (Commander-in-Chief Atlantic Command) through which much of the Cuban missiles crisis reconnaissance operations were controlled.
[681] Brugioni, Personal interview conducted by the author, 22 August 2012. Also from Whitten et al., "Aerial Reconnaissance in the Cuban Missile Crisis."
[682] Dwight D. Eisenhower, "National Security Council Intelligence Directive No. 8, Photographic Interpretation (Effective 18 January 1961)." 1961. Document Number CK3100360065. Declassified Documents Reference System (DDRS), Primary Source Media, The Gale Publishing Inc., accessed.
[683] "Transcript of a Meeting at the White House, Washington, October 16, 1962," Department of State, *FRUS 1961-1963*, XI: Document 18.
[684] John F. Kennedy, "Address by President Kennedy, October 22, 1962," *The Department of State Bulletin* XLVII, no. 1220 (1962). Brugioni, *Eyeball To Eyeball*, 230.

had to take their word for it."[685] As Dino Brugioni writes of his time at NPIC during the crisis, "[after the meeting, the] search for additional prospective MRBM missile sites assumed near frantic proportions."[686] Once low-level Blue Moon missions began on 23 October, the CIA and NPIC shared the photographs with other friendly governments around the world to prove the presence of Soviet missiles.[687] At the United Nations Security Council, with RF-8A photos of the MRBMs on an easel behind him, Ambassador Adlai Stevenson engaged Soviet Ambassador Zorin, famously asking him "do you…deny that the USSR has placed and is placing medium- and intermediate-range missiles and sites in Cuba? Yes or no—don't wait for the translation— yes or no?"[688] Stevenson already had shown the RF-8A photos to a number of nations in the room, but Ambassador Zorin refused to answer.[689] More photos showing a continuation of the build-up on Cuba prompted a plea from acting UN Secretary General U Thant to Premier Khrushchev to halt any ships on the way to the area lest they start a military confrontation with the naval quarantine put in place around the island by Kennedy.[690] Khrushchev responded by ordering Soviet vessels bound for Cuba, "but not yet within the area of the American warships' piratical activities," to stay out of the interception area, "as you recommended."[691] In this way, diplomacy "cued" off the regular release of reconnaissance information.

No one could have predicted the role that otherwise unrelated reconnaissance missions played during the Cuban missile crisis. The 8 September shoot-down of a U-2 over China with

---

[685] Robert F. Kennedy, *Thirteen Days: A Memoir of the Cuban Missile Crisis* (New York: W.W. Norton & Company, 1968). 2.
[686] Brugioni, *Eyeball To Eyeball*, 233. Also see paragraph 5 from Marshall Carter, "Memorandum for Record, 17 October 1962," Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Document 47.
[687] Whitten, *Countdown*, 46. Also at Ecker and Jack, *Blue Moon Over Cuba*, 123.
[688] Department of State, "Statement by Ambassador Stevenson to U.N. Security Council, October 25, 1962," *The Department of State Bulletin* XLVII, no. 1220 (1962).
[689] Department of State, "Statement by Ambassador Stevenson to U.N. Security Council, October 25, 1962."
[690] United Nations, *Letter from Acting Secretary General U Thant to Chairman Khrushchev, October 25, 1962,* 1962. Press Release SG/1357, UN Official Document System, UN.org. http://www.un.org/en/documents/, accessed 2 Oct 2012.
[691] N. Khrushchev, *Letter from Chairman Khrushchev to Acting Secretary General U Thant, October 25, 1962,* 1962. Press Release SG/1357, pp. 2-3, UN Official Document System, UN.org. http://www.un.org/en/documents/, accessed 2 Oct 2012.

an SA-2 was a not-so-subtle warning of the political dangers facing the administration from

conducting penetrating aerial reconnaissance. Secretary of State Dean Rusk argued for greater

caution in conducting the Cuban overflights, saying they posed too great a diplomatic risk given

the current tensions with the Soviets over Berlin.[692] At a 10 September White House meeting,

Rusk turned to Deputy CIA Director Marshall Carter and said, "How do you expect me to

negotiate on Berlin with all these incidents?"[693] Rusk was successful at making his point. The

NSC Special Group changed U-2 mission tracks and time-over-targets to accommodate Rusk's

diplomatic fears until Kennedy ordered increased surveillance after viewing the 14 October U-2

imagery depicting MRBM sites under construction.[694] On 28 October, in the middle of the crisis,

a U-2 on an air sampling mission accidentally violated Soviet airspace over the Chukotka

Peninsula.[695] Khrushchev played upon the incident to Kennedy's chagrin: "A still more

dangerous case occurred on 28 October, when one of your reconnaissance planes intruded over

Soviet borders in the Chukotka Peninsula area in the north and flew over our territory. The

question is, Mr. President: How should we regard this? What is this: A provocation?"[696] When

Kennedy was briefed on the mission, he was visibly upset and broke the tension famously by

saying that, "there's always some [s.o.b.] that doesn't get the word."[697] Fearful over the lack of

control of overseas reconnaissance missions, Secretary of Defense Robert McNamara cancelled

---

[692] Lyman Kirkpatrick, "Memorandum for Record, White House Meeting on 10 September 1962 on Cuban Overflights," 1 March 1963, Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Document 21.
[693] Allison Jr. and Zelikow, *Essence of Decision*, 336.
[694] Lyman Kirkpatrick, "Memorandum for Record, White House Meeting on 10 September 1962 on Cuban Overflights," 1 March 1963, Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Document 21.
[695] "Message From Chairman Khrushchev to President Kennedy, Moscow, October 28, 1962," Department of State, *FRUS 1961-1963*, XI: Document 102.
[696] "Message From Chairman Khrushchev to President Kennedy, Moscow, October 28, 1962," Department of State, *FRUS 1961-1963*, XI: Document 102.
[697] Allison Jr. and Zelikow, *Essence of Decision*, 241."Memorandum for the Files, Washington, September 6, 1962," in Department of State, *FRUS 1961-1963*, X: Document 415. See Stevenson's notes about Kennedy's "nasty comments." Also see "Memorandum Prepared in the Central Intelligence Agency for the Executive Director, Washington, September 10, 1962," in Department of State, *FRUS 1961-1963*, X: Document 421.

U-2 flights worldwide until he got explanations.[698] Hence, these unforeseen events affected

decision making until the time for boldness presented itself.

Penetration—1962 Cuban Missile Crisis

Satellite reconnaissance coverage over Cuba in 1962 was not sufficient to provide

Kennedy and his Cabinet the information they needed. Satellite imagery was available during

the October crisis, but the orbital mechanics did not complement the voracious collection need.

Corona and Samos satellites crossed the island on a very quick north-south track and were

overhead during the wrong part of the day when clouds and thunderstorms usually blanketed

prime target locations.[699] The long, thin island of Cuba, roughly on a perpendicular layout

beneath the passing spacecraft, enjoyed little time in the crosshairs of Corona and Samos

cameras in orbit.[700] Nonetheless, as the events of the crisis unfolded, the two satellite

reconnaissance systems were returning important contextual information to Kennedy and his

intelligence community. Corona and Samos missions confirmed earlier U-2 information that the

American-Soviet missile gap did indeed favor the United States, providing the new president

confidence in dealing with Khrushchev.[701]

Due to the limitations of satellite reconnaissance, penetrating aerial reconnaissance was

necessary over Cuba. Complemented by peripheral ELINT missions from Navy EF-10Bs and

later Air Force RB-66s, CIA U-2s penetrated the island monthly beginning in October 1960.

Then the mission frequency crescendoed beginning in the summer of 1962 and finally peaked in

---

[698] Allison Jr. and Zelikow, *Essence of Decision*, 241.
[699] Pedlow and Welzenbach, *The CIA and the U-2*, 211. Burrows, *Deep Black: Space Espionage and National Security*, 117.
[700] Burrows, *Deep Black: Space Espionage and National Security*, 117.
[701] Burrows, *Deep Black: Space Espionage and National Security*, 131.

October and November.[702] The imagery from U-2 missions depicting SAM installations, SS-4,

and SS-5 sites simply could not have been obtained by any other method. When Kennedy

needed more resolution, literally, to show evidence of Soviet activities in Cuba, penetrating low-

level reconnaissance missions were the only answer. Navy RF-8As and Air Force RF-101s

began flying on 23 and 24 October, respectively, during the crisis and continued through 15

November, when the NSC concluded that the missions were too risky and could have endangered

the fragile agreement that ended the crisis.[703] At their peak frequency in late October, Kennedy

and the NSC received hourly updates from reconnaissance overflights via CIA intelligence

memorandums, NSC Executive Committees, and verbal updates and briefings.[704]

The president and the intelligence community gleaned as much from the interaction

between the Cuban integrated air defense system (IADS) and American reconnaissance

overflights as they did from the intelligence products themselves. Sources from September 1962

NSC meetings and White House discussions show that US leadership was extremely interested

in the air defense response to reconnaissance overflights.[705] DCI McCone, for example, viewed

the buildup of SA-2s in Cuba as a deliberate attempt to deny ongoing high-altitude aerial

reconnaissance so that Soviet missile installations could proceed undetected.[706] Kennedy was

also following the status of the Cuban air defense system. Following the 9 October NSC Special

---

[702] Whitten et al., "Aerial Reconnaissance in the Cuban Missile Crisis." Pedlow and Welzenbach, *The CIA and the U-2*, 199-211.
[703] "Summary Record of the 26th-A Meeting of the Executive Committee of the National Security Council, Washington, November 17, 1962," Department of State, *FRUS 1961-1963*, XI: Document 190.
[704] "Memorandum, The Crisis USSR/Cuba, Information as of 0600, 26 October 1962," Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Document 95. See also Department of State, *FRUS 1961-1963*, XI: Documents 34, 38, 47. Sorensen, *Kennedy*, 121. Carter, *Memorandum for the Record, 12 October 1962, Reconnaissance Overflights of Cuba*, Document 0001274180.
[705] Marshall Carter, "Memorandum for Record, 17 October 1962," Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Document 47. Air defense status and response indications were included in the multiple intraday reports to Kennedy, "Joint Evaluation of Soviet Missile Threat in Cuba." As an example, see Supplement 1 to "Joint Evaluation of Soviet Missile threat to Cuba, 2200 hours, 20 October 1962," Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Document 69. The title page of the reports read "This report is based on relatively complete photo interpretation of U-2 photography made on:" and then lists the dates and mission numbers that returned the intelligence therein.
[706] John McCone to Marshal Carter, message of 10 September 1962, Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Document 20.

Group meeting, Kennedy based his approval of further U-2 overflights on whether Cuban air defenses fired upon a single mission sent over the island on 14 October. The aircraft encountered no resistance, so Kennedy approved two missions for 15 October.[707] Once briefed on the hard evidence showing MRBMs on the island, Kennedy gave broad approval on the 16th to conduct as many flights as possible to gain the quickest and most thorough coverage of the island.[708] During the increased surveillance thereafter, Cuban air defenses remained ominously passive, almost permissive.[709] This inactivity and lack of response to reconnaissance penetration was reported back to Kennedy in daily intelligence reports. "Known radar emissions have thus far been very few. However, at least one site has the C-band radar—the latest Soviet model now being widely deployed in the USSR and East Germany."[710] Kennedy and his Cabinet knew that once the Cuban air defense was fully integrated and employed it would be much more difficult to collect data using overflights.[711] They continued to conduct aerial reconnaissance over the island despite the increased risk from an ever-improving air defense. It is likely that Kennedy, McCone, and others viewed the progression of the Cuban air defense system as a proxy measure of the readiness of the nuclear-capable medium and intermediate range ballistic missiles at the center of the crisis.

On 26 October, the Cuban air defense posture changed. Frustrated by low-level overflights by RF-8As and RF-101s and anticipating an imminent American invasion, Fidel

[707] John McCone, Memorandum, 31 October 1962, "Soviet MRBMs in Cuba," Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Document 4.

[708] Memorandum, "U-2 Overflights of Cuba, 29 August through 14 October 1962," 27 February 1963, Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Document 45.

[709] "Soviet Military Buildup in Cuba, 21 October, 1962," briefing notes for heads of government, Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Document 74.

[710] "Soviet Military Buildup in Cuba, 21 October, 1962," briefing notes for heads of government, Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Docuement 74.

[711] See Lyman Kirkpatrick, Memorandum for the Director, "Action Generated by DCI Cables Concerning Cuban Low-Level Photography and Offensive Weapons, [undated]," Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Document 12.

Castro commanded his air defenses to seek out and fire upon American aircraft.[712] That night for the first time, the Cuban air defense system was up and running, as evidenced by ELINT intercepts of GCI and SAM radars by offshore EC-10Bs and RB-66s.[713] A report sent to Kennedy the morning of 27 October noted the increase in radar activity and air defense readiness.[714] Later that morning, a U-2 flown by Major Rudolph Anderson was shot down over Banes by an SA-2 surface-to-air missile.[715] There were also 14 Blue Moon low-level missions that flew on 27 October.[716] Nearly all reported being fired upon by AAA and some returned photos of the attacks.[717]

The violent awakening of the Cuban air defenses to reconnaissance overflights on 27 October was a key event in Kennedy's decision-making during the crisis. The same day, the morning CIA intelligence report told Kennedy that five MRBM sites in Cuba appeared to be operational.[718] Faced with the news, a newly aggressive Cuban IADS, and ongoing covert negotiations with Khrushchev, Kennedy's team examined many options including a retaliatory response for the U-2 shoot-down.[719] Secretary of Defense McNamara commented that conducting limited airstrikes to take out the MRBM site was "now impossible because our reconnaissance planes are being fired on…we must now look to the major airstrike to be

_____

[712] Prime Minister Fidel Castro's letter to Premier Khrushchev, October 26, 1962, as reproduced in The National Security Archive, *Cuban Missile Crisis*, Document 45. Interview with Sergo Mikoyan on Soviet Views on the Missile Crisis, October 13, 1987, transcript reproduced in The National Security Archive, *Cuban Missile Crisis*, 375.
[713] "Summary Record of the Seventh Meeting of the Executive Committee of the National Security Council, Washington, October 27, 1962," Department of State, *FRUS 1961-1963*, XI: Document 90.
[714] "Memorandum, The Crisis USSR/Cuba Information as of 0600, 27 October 1962," Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Document 99.
[715] "Summary Record of the Eighth Meeting of the Executive Committee of the National Security Council, Washington, October 27, 1962, 4 p.m.," Department of State, *FRUS 1961-1963*, XI: Document 94. Also see entry for "October 27, 1962—Around 12 noon," in The National Security Archive, *Cuban Missile Crisis*, 376.
[716] Whitten, *Countdown*, 59.
[717] Entry for "October 27, 1962—3:41 P.M.," The National Security Archive, *Cuban Missile Crisis*, 377. Secretary McNamara also mentioned low-level reconnaissance planes taking ground fire during the 4 p.m. meeting of the NSC. See note 714 above.
[718] Paragraph One is more legible in "Memorandum, The Crisis USSR/Cuba Information as of 0600, 27 October 1962," The National Security Archive, *Cuban Missile Crisis*, Document 47.
[719] Entry for "October 27, 1962—4 P.M.," The National Security Archive, *Cuban Missile Crisis*, 377.

followed by an invasion of Cuba."[720] Kennedy surprised McNamara and many at the Pentagon

with his response to the U-2 shoot-down. He ordered no immediate retaliation, but agreed that if

any more reconnaissance aircraft over Cuba were fired upon, he would order attacks against the

SAM sites.[721] He is quoted in the minutes of the 27 October 4 p.m. meeting of the NSC

Executive Committee: "…if our planes are fired on, we must be prepared for a general response

or an attack on the SAM site which fired on our planes. We will decide tomorrow how we return

fire after we know if they continue their attacks on our planes and after we hear from [acting UN

Secretary General U Thant] the Russian reply to our offer."[722] His instincts to bide time payed

off. By the morning of 28 October, Khrushchev agreed to dismantle the missile sites in Cuba in

exchange for an assurance not to invade Cuba and the removal of American nuclear missiles in

Turkey.[723] Knowing the Cuban air defenses were now on full alert, Kennedy ordered

reconnaissance overflights of Cuba cancelled for 28 October so as not to disturb the fragile

agreement by losing another reconnaissance plane.[724]

Penetrating reconnaissance over Cuba resumed because Kennedy needed validation that

Khrushchev and Castro were honoring their agreement to remove the missile sites. On 31

October, Acting UN Secretary General U Thant met with Fidel Castro in Cuba. During the

meeting, Castro complained of US aerial reconnaissance and warned Thant that the "Cuban

people can no longer tolerate such daily provocations."[725] Castro also refused to give Thant

[720] "Summary Record of the Eighth Meeting of the Executive Committee of the National Security Council, Washington, October 27, 1962, 4 p.m.," Department of State, *FRUS 1961-1963*, XI: Document 94.
[721] Entry for "October 27, 1962—4 P.M.," The National Security Archive, *Cuban Missile Crisis*, 377.
[722] Kennedy and his administration had offered to enter into negotiations over a Cuba invasion if the Soviets agreed to stop construction of bases in Cuba. "Summary Record of the Eighth Meeting of the Executive Committee of the National Security Council, Washington, October 27, 1962, 4 p.m.," The National Security Archive, *Cuban Missile Crisis*, Document 94.
[723] "Statement of Soviet Government of October 23, 1962 on Cuba," The National Security Archive, *Cuban Missile Crisis*, 380.
[724] "Summary Record of NSC Executive Meeting, October 28, 1962," in The National Security Archive, *Cuban Missile Crisis*, Document 59.
[725] Summary of U Thant's Meeting with President Dorticos, Premier Castro and Foreign Minister Roa of Cuba, 10:00 A.M., October 31, 1962, as reproduced in The National Security Archive, *Cuban Missile Crisis*, 383.

approval for any form of UN inspection to confirm the Soviet missile withdrawal.[726] Still

concerned over the presence of IL-28 bombers in Cuba and requiring validation that

Khrushchev's agreement to withdraw the missiles was not a political feint, Kennedy ordered

low-level reconnaissance flights resumed on 1 November, but continued to suspend U-2

flights.[727] On its first day back in the sky, low-level photoreconnaissance returned with proof

that all ballistic missile sites had been bulldozed over with soil and the missiles and launch

equipment removed.[728] U-2 flights resumed on 3 November and continued very frequently

thereafter.[729]

Kennedy and his administration continued to employ penetrating reconnaissance after the

crisis subsided. Low-level reconnaissance was especially politically useful in at least two ways.

First, low and fast penetration missions by RF-8As and RF-101s demonstrated to the Soviets and

the Cubans just how vulnerable to air attack the ballistic and surface-to-air missile sites really

were.[730] Some low-level missions reportedly received AAA damage, but none were stopped by

ground fire, even during the peak of the crisis when the Cuban air defense system "woke up" on

26 October.[731] Second, Castro resented the missions as an affront to Cuban sovereignty and his

own credibility. He threatened Khrushchev with unilateral action against the planes should the

Soviet Union allow the missions to continue.[732] Low-level missions could be witnessed by

anyone on the ground and were easily identifiable as American planes. The Kennedy

---

[726] Summary of U Thant's Meeting with President Dorticos, Premier Castro and Foreign Minister Roa of Cuba, 10:00 A.M.,
October 31, 1962, as reproduced in The National Security Archive, *Cuban Missile Crisis*, 383. The JCS and McNamara favored
low-level flights because they could get below the weather.
[727] "Summary Record of the 15th Meeting of the Executive Committee of the National Security Council, Washington, October
31, 1962," Department of State, *FRUS 1961-1963*, XI: Document 127.
[728] Entry for "November 1, 1962," The National Security Archive, *Cuban Missile Crisis*, 384.
[729] Whitten et al., "Aerial Reconnaissance in the Cuban Missile Crisis," Comments by Chris Pocock.
[730] Allison Jr. and Zelikow, *Essence of Decision*, 230.
[731] "Summary Record of the Eighth Meeting of the Executive Committee of the National Security Council, Washington, October
27, 1962, 4 p.m.," The National Security Archive, *Cuban Missile Crisis*, Document 94.
[732] Summary of U Thant's Meeting with President Dorticos, Premier Castro and Foreign Minister Roa of Cuba, 10:00 A.M.,
October 31, 1962, as reproduced in The National Security Archive, *Cuban Missile Crisis*, 383.

administration was able to leverage Castro's resentment to political effect. On 19 November,

Attorney General Robert Kennedy met with Soviet Press Attache Georgi Bolshakov and

threatened to resume low-level reconnaissance of Cuba (last flown on 15 November) unless the

Soviet Union withdrew its remaining IL-28 bombers.[733] On 20 November, Khrushchev informed

President Kennedy that he would indeed withdraw the IL-28s within a month since "the term for

the removal of these planes is not a matter of principle for us."[734] It is difficult to know just how

much influence the threat of further low-level reconnaissance missions carried with the Soviets,

but the fact that Attorney General Kennedy mentioned them at all is telling of their place in the

US-Cuban-Soviet exchange.

After the crisis, penetrating U-2 surveillance continued on a regular basis. SAC flew U-2

missions to confirm the withdrawal of MRBMs and IRBMs and to monitor the status of Soviet

and Cuban forces on the island. U-2s flew an unprecedented 63 missions in November 1962.[735]

These missions were nearly always scheduled to fly with an EF-10B or an RB-66 ELINT

collector orbiting off the Cuban coast to provide threat warning of Cuban air defense reaction.[736]

The SAC U-2 pilots had orders to abort the overflights if ELINT indicated an immanent hostile

reaction to their presence.[737] The U-2 overflights remained the foundation of reconnaissance

against Cuba well into the 1970s. National Reconnaissance Office (NRO) SR-71 and U-2

overflight summary memorandums from 1974, for example, show that the United States

---

[733] Editorial Note, Department of State, *FRUS 1961-1963*, XI: Document 194. Also see the discussion regarding this same theme at Ecker and Jack, *Blue Moon Over Cuba*, 144. President Kennedy had recognized the moral effect of the reconnaissance mission earlier in the crisis. From Ecker and Jack, 144, writing about 25 October 1962: "President Kennedy saw value in…the low-flying jets as psychological weapons of intimidation and agreed to apply further pressure by increasing the frequency of low-level incursions over Cuba from twice a day to once every two hours."
[734] "Message From Chairman Khrushchev to President Kennedy, Moscow, November 20, 1962," Department of State, *FRUS 1961-1963*, XI: Document 196.
[735] Whitten et al., "Aerial Reconnaissance in the Cuban Missile Crisis," Comments by Chris Pocock.
[736] Whitten, *Countdown*, 67.
[737] Whitten et al., "Aerial Reconnaissance in the Cuban Missile Crisis," Comments by Chris Pocock.

Intelligence Board (USIB) required 90% of Cuba to be photographed quarterly using U-2 overflights.[738]

Justification—1962 Cuban Missile Crisis

The Kennedy administration's political view towards violating Cuba's sovereign airspace evolved after the discovery of Soviet surface-to-air missiles (SAMs) on 29 August 1962. Before that date, U-2s flew over Cuba about once monthly between May 1961 and August 1962 to support regular intelligence needs and to provide data for covert operations such as Operation Mongoose.[739] Secretary of State Dean Rusk cautioned against frequent overflights because he could not justify the political risk.[740] Kennedy expressed appreciation for Rusk's view, but allowed regular reconnaissance over Cuba to keep an eye on Castro.[741] Kennedy and Rusk probably viewed pre-crisis U-2 overflights of Cuba as necessary political risks to aid in the effort to undermine Castro's government.

Once U-2 missions uncovered SAM sites under construction in late August, DCI McCone immediately passed his alarm that the SAMs portended Soviet ballistic missile installations.[742] That possibility put Kennedy and Rusk in a difficult spot. The intelligence community generally considered the presence of Soviet ballistic missiles in Cuba unlikely, as written in Special National Security Estimate 85-3-62.[743] But McCone's argument presented a scenario that was

---

[738] Charles L. Murphy, *Memorandum for Mr. Plummer, Summary of U-2 and SR-71 1973 Overflights,* 1974. Folder #2, Reconnaissance Subject Series, Jeff Richelson Collection, The National Security Archive, George Washington University.
[739] Pedlow and Welzenbach, *The CIA and the U-2*, 200. Also see Edward Lansdale, "The Cuba Project," February 20, 1962, The National Security Archive, *Cuban Missile Crisis*, Docuement 5.
[740] "Memorandum Prepared in the Central Intelligence Agency for the Executive Director, Washington, September 10, 1962," Department of State, *FRUS 1961-1963*, X: Document 421.
[741] Kennedy personally approved U-2 overflights until control was handed to SAC on 9 October. See Editorial Note, Department of State, *FRUS 1961-1963*, XI: Document 11.
[742] Lyman Kirkpatrick, "Memorandum For the Director, Action Generated by DCI Cables Concerning Cuban Low-Level Photography and Offensive Weapons," Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Document 12.
[743] Kent, "Crucial Estimate."

dangerous enough to compel Kennedy to seek answers about the improved Cuban air defenses.

Consequently, the administration struck a compromise. Between 29 August and 14 October, Kennedy allowed the overflights to continue as desired by DCI McCone, but also supported controls suggested by Secretary of State Rusk to limit the exposure of the aircraft to SAMs to avoid a political incident.[744] When one of the U-2 missions returned with hard evidence of Soviet ballistic missiles on 14 October, Kennedy immediately stepped up overflights—to a "frantic" pace—and relaxed risk controls.[745] His decision showed that he viewed the threat posed by the missiles as far outweighing any concern for the violation of Cuban airspace by American aircraft. Thus, Soviet ballistic missiles themselves became justification for more penetrating reconnaissance.

This is not to say that the McCone and others were blind to the need to justify the overflights, or to the risk of losing a U-2 or low-level reconnaissance aircraft over Cuba. McCone probably put it best in a February 1963 summary of events when he commented on the increased reconnaissance effort in September and October: "Within the intelligence community there was always at the backs of our minds the knowledge that in the event of a mishap we would have to be able to explain, convincingly and in detail, the justification—in terms of the highest priority intelligence needs—for having undertaken the missions."[746]

The evolution in justifying the overflights was particularly visible in Secretary of State Dean Rusk. As Kennedy's chief diplomat, Rusk was the one cabinet officer specifically sensitive

_____

[744] As discussed earlier, the administration agreed to fly CIA U-2 aircraft using military pilots from Strategic Air Command. They also rerouted U-2 reconnaissance overflights to limit their exposure to SAMs and time over Cuba. See Editorial Note, Department of State, *FRUS 1961-1963*, XI: Document 11.
[745] Dino Brugioni describes the pace of reconnaissance this way after the 14 October U-2 mission. See Brugioni, *Eyeball To Eyeball*, 233.
[746] Memorandum, "U-2 Overflights of Cuba, 29 August through 14 October 1962," 27 February 1963, Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Document 45.

to political issues arising from the deliberate violation of Cuba's airspace. Spooked by two earlier reconnaissance incidents elsewhere in 1962, Rusk's concern during a 10 September White House meeting was to "avoid a third incident."[747] Rusk understood the necessity to investigate the SAM sites found in Cuba on 29 August, but offered political controls that lessened the risk of a shoot-down.[748] At the same time, the CIA wanted to conduct reconnaissance of areas not covered on the 29 August and 5 September U-2 missions in attempts to discover McCone's elusive ballistic missiles.[749] Rusk's concerns, combined with the CIA's requirements, produced a September 1962 reconnaissance plan for Cuba that separated peripheral flights from overflights and limited the U-2's time over Cuba to only a few minutes.[750] Before the discovery of ballistic missiles on Cuba, Rusk was never convinced that the improving air defenses warranted more aggressive reconnaissance overflights. At one point, Rusk even offered to ask the Organization of American States (OAS) to "sponsor" the U-2 overflights to justify the airspace violations by pointing to international security for the Western Hemisphere nations.[751] Later, as the crisis was ending in November 1962, Kennedy approved US Information Agency radio broadcasts that tied US aerial surveillance of Cuba to OAS decisions and proceedings.[752]

After the discovery of Soviet MRBMs in mid-October and thereafter, Secretary of State Rusk offered no such resistance. He met the CIA's desire for more overflights and in fact

---

[747] On 30 August, a U-2 had strayed into Soviet airspace, prompting a complaint from Khrushchev; on 8 September, the Chinese had shot down a Taiwanese U-2 using an SA-2 surface-to-air missile. Quote is from "Memorandum Prepared in the Central Intelligence Agency for the Executive Director, Washington, September 10, 1962," Department of State, *FRUS 1961-1963*, X: Document 421.

[748] "Memorandum Prepared in the Central Intelligence Agency for the Executive Director, Washington, September 10, 1962," Department of State, *FRUS 1961-1963*, X: Docuement 421.

[749] Lyman Kirkpatrick, "Memorandum for the Director, White House Meeting on 10 September 1962 on Cuba Overflights," Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Document 21.

[750] "Cuba U-2 Overflights for September, 1962," and "Cuba U-2 Overflights for October, 1962," maps 2 and 3 respectively in chronological presentation, Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Document 1.

[751] Allison Jr. and Zelikow, *Essence of Decision*, 336.

[752] "Summary Record of the 15th Meeting of the Executive Committee of the National Security Council, Washington, October 31, 1962," Department of State, *FRUS 1961-1963*, XI: Document 127.

encouraged missions to produce greater political pressure. At a 17 November NSC meeting,

Rusk argued that low-level missions should be discontinued for the time being, but should be

resumed shortly to "build up pressure from our side."[753] Rusk agreed that reconnaissance flights

aided in negotiations over remaining IL-28s in Cuba by "keep[ing] the pressure on."[754]

Additionally, Rusk made a point about the physical presence of low-level flights over Cuba: "If

many more days go by without low-level flights, the Cubans and others might think that the

Cuban threat to shoot down our reconnaissance planes has scared us away from further

missions."[755] Rusk's comments show that he probably justified the overflights in two ways by

the end of the crisis. First, the overflights remained necessary to confirm that the Soviets and

Cubans were keeping their word. Second, the missions could add political pressure on the

Cubans and Soviets during negotiations over secondary issues.

In a practical sense, Kennedy also justified reconnaissance overflights because they were

an important part of the blockade strategy to force the Soviet Union and Cuba to capitulate.

Most sources on the Cuban Missile Crisis focus on the naval blockade that has become the iconic

representation of the creativity of the Kennedy administration. The naval blockade—a recourse

smartly between a purely political solution and an entirely military one—officially began at

10:00 a.m. on 24 October.[756] Six days earlier, when Kennedy reviewed different courses of

action, combining political negotiations, aerial overflights, and a naval blockade were all part of

_____

[753] "Summary Record of the 26th-A Meeting of the Executive Committee of the National Security Council, Washington, November 17, 1962," Department of State, *FRUS 1961-1963*, XI: Docuement 190.
[754] "Summary Record of the 26th-A Meeting of the Executive Committee of the National Security Council, Washington, November 17, 1962,"Department of State, *FRUS 1961-1963*, XI: Document 190.
[755] "Summary Record of the 26th-A Meeting of the Executive Committee of the National Security Council, Washington, November 17, 1962,"Department of State, *FRUS 1961-1963*, XI: Document 190.
[756] Kennedy, "Address by President Kennedy, October 22, 1962." Entry for "October 24, 1962—10:00 A.M.," The National Security Archive, *Cuban Missile Crisis*, 370.

a second option briefed to him by Secretary of Defense Robert McNamara.[757] In McNamara's

words to Kennedy: "A second course of action we haven't discussed but lies in between the

military course we began discussing a moment ago and the political course of action is a course

of action that would involve declaration of open surveillance; a statement that we would

immediately impose an, uh, a blockade against offensive weapons entering Cuba in the future;

and an indication that with our open-surveillance reconnaissance, which we would plan to

maintain indefinitely for the future, we would be prepared to immediately attack the Soviet

Union in the event that Cuba made any offensive move against this country."[758] Kennedy gave

final approval for the quarantine plan, including its associated reconnaissance operations, on 21

October.[759] Five days later, with exchanges between him and Khrushchev approaching a peak,

Kennedy commented to the NSC Executive Committee that he did not believe the naval

quarantine by itself would force removal of the missiles from Cuba. He decided to apply further

pressure by increasing the frequency of low-level reconnaissance flights from twice per day to

once every two hours.[760] Hence, Kennedy justified reconnaissance overflights—and the option

to increase them based on the situation at hand—as part of the strategy he had selected.

Result—1962 Cuban Missile Crisis

The foremost result of aerial reconnaissance in the 1962 missile crisis was that it

provided political certainty about specific threats in Cuba. Kennedy accessed other sources of

---

[757] "Off the Record Meeting on Cuba, Washington, October 16, 1962, 6:30-7:55 p.m.," Department of State, *FRUS 1961-1963*, XI: Document 21. See comments in the transcript by Secretary of Defense McNamara.

[758] "Off the Record Meeting on Cuba, Washington, October 16, 1962, 6:30-7:55 p.m.," Department of State, *FRUS 1961-1963*, XI: Document 21.

[759] Chronology Summary. Entry for "October 21, 1962—10:00 A.M.," The National Security Archive, *Cuban Missile Crisis*, 364.

[760] Bromley Smith, "Summary Record of NSC Executive Committee Meeting, October 26, 1962, 10:00 A.M.," The National Security Archive, *Cuban Missile Crisis*, Document 42. Also at Ecker and Jack, *Blue Moon Over Cuba*, 144.

intelligence, but it was regular peripheral reconnaissance and overflights that verified

information with finality. and prompted political moves. For example, Marine Corps EF-10Bs

detected a Soviet-built Token ground control radar in 1961.[761] The discovery confirmed the pace

of Soviet improvements to Castro's air defenses for the CIA.[762] The 29 August U-2 mission that

imaged an SA-2 SAM at Banes put the CIA and Kennedy on notice that they were running out of

time to answer questions using the U-2 spy plane—their main source of overhead

photography.[763]

Probably the best evidence for the certainty brought by aerial reconnaissance was the

immediate termination of the argument over whether the Soviets would go so far as to place

offensive ballistic missiles in Cuba. Early suspicion about the presence of ballistic missiles came

from CIA operatives within Cuba and intelligence on Soviet ships steaming to the Caribbean.[764]

Based on such evidence, DCI McCone informed the president about the possibility of Soviet

ballistic missiles as early as 10 August, but disagreement about McCone's conclusions ensued

thereafter.[765] It was this disagreement, represented by McCone on one side and Rusk on the

other, that drove cautious timing of U-2 overflights in September and early October 1962.[766]

However, after Kennedy and Rusk first viewed the U-2 imagery depicting MRBMs, the

---

[761] Whitten, *Countdown*, 27.
[762] Central Intelligence Agency, *National Intelligence Estimate: The Situation and Prospects in Cuba,* 1962. 85-62, 21 March, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/DOC_0000262093/ DOC_0000262093.pdf, accessed 18 Oct 2012.
[763] Lyman Kirkpatrick, Memorandum for the Director, "Action Generated by DCI Cables Concerning Cuban Low-Level Photography and Offensive Weapons, [undated]," Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Document 12. See paragraph 3. DDCI Carter referenced the newly discovered SAM sites in Cuba as the basis for immediate and thorough reconnaissance of a greater portion of the island.
[764] The Committee on Overhead Reconnaissance recommended coverage of sites in Western Cuba, where the first MRBMs would be found in mid-October, because of information obtained from "ground observers." See the committee's comments as quoted in Pedlow and Welzenbach, *The CIA and the U-2*, 206.
[765] John McCone, Memorandum, 31 October 1962, "Soviet MRBMs in Cuba," Central Intelligence Agency, *CIA Cuban Missile Crisis Documents*, Document 4, paragraph 1.
[766] Allison Jr. and Zelikow, *Essence of Decision*, 338.

disagreement ended. Discussion turned immediately from debates over the missiles' existence to strategies that might coerce their removal.[767]

Like Eisenhower in 1956, reconnaissance provided Kennedy a weapon against a diplomatic disinformation campaign and removed substantial doubt from his mind. In April 1961, Kennedy received assurances from Khrushchev that "the Soviet Union does not seek any advantages or privileges in Cuba. We do not have any bases in Cuba, and we do not intend to establish any."[768] In September 1962, Soviet Ambassador Dobrynin assured UN Ambassador Adlai Stevenson that, "only defensive weapons are being supplied to Cuba."[769] To be fair, primary sources make it clear that some Soviet officials, Dobynin among them, had not been informed by the Kremlin about the missile deployments.[770] Kennedy himself was extremely uncertain and therefore surprised by the discovery. He later commented to DCI McCone that he "was one of those who did not think the Soviets would put missiles in Cuba."[771] Flanked by uninformed Soviet officials who believed they were telling the truth, his own uncertainty, and his administration's disagreement over whether the missile threat was real, the U-2 imagery removed all doubt for everyone involved and focused the president and his staff on working the solution.

Kennedy was not the only one surprised. Khrushchev and his ambassadors did not expect the US to discover the missiles sites when they did. Soviet Ambassador Gromyko met with Kennedy and Rusk on 18 October after the president and the secretary had seen aerial

---

[767] Brugioni, *Eyeball To Eyeball*, 230-250. "Transcript of a Meeting at the White House, Washington, October 16, 1962, 11:50 A.M.," Department of State, *FRUS 1961-1963*, XI: Docuement 18.

[768] Entry for "April 19, 1961," in The National Security Archive, *Cuban Missile Crisis*, 349.

[769] As quoted in Entry for "September 7, 1962," in The National Security Archive, *Cuban Missile Crisis*, 355.

[770] Oral History Interview with Chester Bowles by Robert Brooks on 2 February 1965. Ambassador Bowles discussed the question of Soviet missiles in Cuba with Dobrynin on 13 October 1962. On that day, Dobrynin denied that the Soviet Union had any such plans. It is not clear from Brooks' interview exactly how Bowles later discovered that Dobrynin was telling the truth as he knew it. As reproduced in Roger Hilsman, *To Move A Nation* (New York: Doubleday, 1967). 166.

[771] John McCone, "Memorandum for the Record, Washington, March 4, 1963," Department of State, *FRUS 1961-1963*, XI: Document 291.

images of MRBMs.[772] In a letter to Khrushchev on 19 October, Gromyko conveyed no hint that he had any idea the Americans knew of the missiles.[773] Around the same time, Soviet Deputy Foreign Minister Georgi Kornienko commented plainly to other advisors that when Khrushchev was told by his staff that Kennedy knew of the missiles, he "shit his pants."[774] Khrushchev launched into his own crisis planning after learning that Kennedy was going to go public with the information on 22 October.[775] The fact that both sides were surprised—the Americans by the missiles themselves; the Soviets by the Americans—set the political tone for the remainder of the crisis. Knowing that nuclear weapons were at the ready from Moscow, Washington, and now Cuba, Kennedy and Khrushchev wanted no more surprises. Aerial reconnaissance over Cuba became the reliable and conclusive means, for both sides, to ensure that did not happen. Kennedy stepped up reconnaissance over Cuba and, after learning that the Cubans continued to fire on American planes, Khrushchev gave explicit orders to his forces there not to shoot down any more reconnaissance aircraft.[776]

Imagery from Cuban overflights also provided certain evidence to the countries addressing the crisis at the UN Security Council. US Ambassador Adlai Stevenson based his initial 22 October request to convene an emergency session of the Security Council on "incontrovertible evidence that the Union of Soviet Socialist Republics has been installing in

[772] "Memorandum of Conversation, Washington, October 18, 1962, 5 P.M.," Department of State, *FRUS 1961-1963*, XI: Document 29.
[773] A. Gromyko, *Telegram from Soviet Foreign Minister A.A. Gromyko to the CC CPSU,* 1962. Cold War International History Project Digital Archive, Cuban Missile Crisis Collection, Wilson Center. http://www.wilsoncenter.org/digital-archive, accessed 15 Nov 2012.
[774] Kornienko as quoted in Vladislav Zubok and Constantine Pleshakov, *Inside the Kremlin's Cold War: From Stalin to Khrushchev* (Cambridge: Harvard University Press, 1996). 266.
[775] Aleksander Fursenko and Timothy Naftali, *One Hell of a Gamble: Khrushchev, Castro, and Kennedy, 1958-1964* (New York: W.W. Norton, 1997). 238-240. Also see the discussion about Khrushchev's decision making during the crisis on 244-247.
[776] A. Gromyko, *Telegram from Soviet Foreign Minister A.A. Gromyko to A.I. Mikoyan (in Havana), November 18,* 1962. Ciphered telegram, Cold War International History Project Digital Archive, Cuban Missile Crisis Collection, Wilson Center (online). http://www.wilsoncenter.org/digital-archive, accessed 14 Nov 2012.

Cuba a whole series…of offensive nuclear missiles."[777] The next morning, the pictures of the missile sites were released by the Defense Department and appeared in some morning newspapers in the United States.[778] Of course, the reconnaissance images of the missile sites played the starring role during Stevenson's famous 25 October address in which he challenged Soviet Ambassador Zorin to deny the USSR had placed the missiles in Cuba.[779] It was reportedly President Kennedy who had passed an order to Stevenson that day to "stick him"—meaning confront Zorin in front of the Security Council using the aerial photos of the missiles.[780] Zorin responded that the "so called" evidence was false and that the images were manufactured by the United States.[781] However, the pictures proved sufficient to expose the Soviet deception. Other members of the UN filed resolutions with the Security Council after being sent copies of the images. The Organization of American States (OAS), for one, referenced the photos in its joint resolution condemning the Soviet's actions and condoning further overflights of Cuba.[782] Just as in Kennedy's office six days before, the reconnaissance imagery quenched UN disagreement over the Soviets' intent in Cuba and allowed the forum to progress beyond a bickering stalemate.

Missions over Cuba continued well after the US and USSR reached an accord, effectively providing Kennedy, Khrushchev, and the UN the means to follow-through with the agreement.

[777] Department of State, "U.S. Request for Convening U.N. Security Council, 22 October 1962," *The Department of State Bulletin* XLVII, no. 1220 (1962).
[778] *The Cuban Crisis of 1962: Selected Documents and Chronology*, ed. David L. Larson (Boston: Houghton Mifflin Company, 1963). 315.
[779] Brugioni, *Eyeball To Eyeball*, 426-429. Department of State, "Statement by Ambassador Stevenson to U.N. Security Council, October 25, 1962."
[780] Brugioni, *Eyeball To Eyeball*, 426. Kennedy passed the message through his brother, Attorney General Robert Kennedy.
[781] "Excerpts from Debate on Cuba in Security Council," *New York Times*, 26 October 1962, ProQuest Historical Newspapers, The New York Times (1851-2009), ProQuest, http://search.proquest.com.aufric.idm.oclc.org/docview/116201416? accountid=4332, accessed 15 Nov 2012.
[782] United Nations, *Resolution Adopted by the Council of the Organization of American States Acting Provisionally as Organ of Consultation,* 1962. UN Doc S/5193, UN Official Document System, UN.org. www.un.org/en/documents/ods, accessed 15 Nov 2012.

Khrushchev's 28 October letter to Kennedy ended the standoff by agreeing to common terms, but Kennedy and his administration had no way of confirming that Khrushchev would execute the withdrawal.[783] In his 28 October letter to the UN, Fidel Castro acknowledged the agreement but said it would be "ineffective" if numerous measures were not adopted.[784] Among them, Castro dedicated an entire paragraph demanding the "cessation of all violations of [Cuban] air space…"[785] He later refused onsite UN inspection teams to oversee and confirm the missiles' return to the USSR.[786] That left Kennedy with only aerial reconnaissance as the remaining means to verify the withdrawal. Ironically, it was Secretary Rusk who seemed most eager to resume overflights when he learned of Castro's refusal to onsite UN inspectors. Rusk commented to Kennedy, "…we must fly U-2 and low-level reconnaissance missions over Cuba if Castro remains adamant in his opposition to on-site inspection [sic]."[787] Ambassador Llewellyn Thompson added that he thought the "Soviets might go along with our air reconnaissance if we did not reimpose the [naval] quarantine."[788] This is more or less what transpired. While Castro continued to protest the overflights, low-level reconnaissance flew until 15 November and U-2s continued to overfly Cuba for years, albeit on a reduced schedule after Kennedy felt assured the ballistic missiles and other equipment were off the island. Even then, the missions continued via

---

[783] "Message From Chairman Khrushchev to President Kennedy, Moscow, October 28, 1962," Department of State, *FRUS 1961-1963*, XI: Document 102. The US gave assurance it would not invade Cuba and that it would remove Jupiter missiles from Turkey and the USSR agreed to withdrawal all offensive equipment from Cuba. Khrushchev outlined every aspect of the agreement as he understood it in his message to Kennedy that morning.
[784] Major Fidel Castro Ruz, "Letter from Prime Minister Castro to Acting Secretary General U Thant," October 28, 1962, as reproduced in *Cuban Crisis*, Docuement 72.
[785] Major Fidel Castro Ruz, "Letter from Prime Minister Castro to Acting Secretary General U Thant," October 28, 1962, as reproduced in *Cuban Crisis*, Docuement 72. See subparagraph 4.
[786] "Summary of U Thant's Meeting with President Dorticos, Premier Castro and Foreign Minister Roa of Cuba, 10:00 A.M., October 31, 1962," as reproduced in The National Security Archive, *Cuban Missile Crisis*, 383.
[787] "Summary Record of the 14th Meeting of the Executive Committee of the National Security Council, Washington, October 31, 1962," Department of State, *FRUS 1961-1963*, XI: Document 123.
[788] "Summary Record of the 14th Meeting of the Executive Committee of the National Security Council, Washington, October 31, 1962," Department of State, *FRUS 1961-1963*, XI: Document 123.

satellites.[789] Kennedy clearly stated his intent to follow-through using reconnaissance in his radio and television address on 2 November. "The United States intends to follow closely the completion of this work through a variety of means, including aerial surveillance, until such time as an equally satisfactory international means of verification is effected."[790] Overflights had sparked the crisis by proving conclusively the missiles were in Cuba, but also helped end it by proving they were absent.

Conclusion—1962 Cuban Missile Crisis

Soviet ballistic missiles were the focus of the crisis in October 1962, but the timing of the events was driven by aerial reconnaissance. The CIA's monthly Cuban overflights and Navy and Marine Corps peripheral missions between 1960 and early 1962 were designed simply to keep an eye on Castro's communist regime. As soon as the missions and other intelligence indicated the Soviets were quickly improving Cuban defenses, Kennedy needed to know more. Given the limited satellite coverage and McCone's suspicions about missiles, monthly U-2 overflights were insufficient to provide the president information he needed to make diplomatic decisions. The discovery of SAMs that could deny reconnaissance overflight added urgency to the president's quest for answers. Thus, Kennedy's approval for increased but careful reconnaissance between 29 August and 14 October made sense, as he attempted to balance Secretary Rusk's political concerns with DCI McCone's search for missiles. After the missiles were discovered on the 14 October U-2 mission, Kennedy pulled out the stops. Instead of using aerial reconnaissance with

[789] Whitten, *Countdown*, 63. Whitten et al., "Aerial Reconnaissance in the Cuban Missile Crisis," Comments by Chris Pocock. Also see Allison Jr. and Zelikow, *Essence of Decision*, 365.
[790] Department of State, "Brief Address By President Kennedy on Cuba, November 2, 1962," *The Department of State Bulletin* XLVII, no. 1221 (1962).

cautious economy, Kennedy and his administration applied it vigorously. U-2s, RF-8As,

EF-10Bs, and other platforms proved they could confirm changes in Cuba within hours. Hence,

Kennedy and his advisors came to depend on, and be prompted by, the information gained from

overflights as a kind of crisis score-keeping for any given day; the score being expressed in SAM

sites, ballistic missiles, and Soviet aircraft. In this way, the reconnaissance overflights both

informed and paced diplomatic decision making.[791]

Low-level reconnaissance, in particular, provided much more than just a means for

collecting close-up imagery. While U-2 images required a magnifying glass and analyst

expertise to interpret, the low-altitude, high-speed flight profiles of RF-8As and RF-101s

produced imagery that was diplomatically useful because it was easy viewing.[792] This is why

Ambassador Stevenson used the imagery at the UN to convince the world that the Soviets were

placing nuclear ballistic missiles in Cuba. In the words of NPIC's Dino Brugioni, low-level

photography allowed "detailed and pinpoint analysis of military activity" on Cuba."[793] The

presence of the aircraft themselves carried as much of a diplomatic impact as their imagery.

Unlike the U-2 missions, Castro could not deny knowledge of American low-level

reconnaissance overflights to the Cuban people. He complained specifically about them to the

UN and to Premier Khrushchev, and constantly attempted to shoot them down.[794] Knowing this,

Kennedy approved low-level missions on a day-by-day basis through their final sorties in

---

[791]Note that in Robert Kennedy's *Thirteen Days*, he describes many of his transitions from event-to event as prompted by the receipt of new aerial reconnaissance information. As an example, see Kennedy, *Thirteen Days: A Memoir of the Cuban Missile Crisis*, 46. Also see Ecker and Jack, *Blue Moon Over Cuba*, 144. Ecker and Jack write: "Presidential advisor Mcgeorge Bundy now realized the photo intelligence was key to the crisis too, with analysis of the aerial photography 'often precursing [sic] analytical thinking.'"

[792] Robert Kennedy described the U-2-low-level partnership as low-level reconnaissance "supplementing the photography of the U-2s." Kennedy, *Thirteen Days: A Memoir of the Cuban Missile Crisis*, 55.

[793] Brugioni, *Eyeball To Eyeball*, 368-369, pic 328.

[794] Allison Jr. and Zelikow, *Essence of Decision*, 350, 353. Also see Castro's comments as quoted at Ecker and Jack, *Blue Moon Over Cuba*, 153.

November 1962, yet handed control of less provocative U-2 overflights over to SAC in mid-October.[795] Vice President Johnson's Military Aide, Colonel Howard Burris, wrote a memo to Johnson in early December regarding the suspension of low-level reconnaissance which described its impact very well. "To suspend these flights is to eliminate one principal source of very precise intelligence. At the same time the provocative and psychological aspects against the Cubans of aircraft at near sonic speeds and tree top height are eliminated."[796] Kennedy would later recognize all the military reconnaissance units that participated in the crisis. The units that executed the low-level missions were awarded the first ever Naval Unit Commendations to be given in peacetime.[797]

Overall, aerial reconnaissance was an exceptionally flexible diplomatic tool during the Cuban missile crisis. It had foiled Khrushchev's plan to surprise the United States at a time when the stakes could not have been higher. When combined with the naval quarantine and a diplomatic negotiating strategy, aerial overflights helped provide Kennedy some middle ground in his reply to Khrushchev's plot.[798] Too timid a response may have encouraged further Cuban armament by the Soviets, and too provocative a response (such as limited air strikes) may have sparked escalation. Overflights had a way of revealing the truth about weapons in Cuba that informed the diplomatic dialogue well enough to make it frank and productive. At the same time, the physical interaction between reconnaissance aircraft and the Cuban air defenses became a lesser proxy for the war both sides wanted to avoid. In this case, reconnaissance was an

[795] "Memorandum From the Vice President's Military Aide (Burris) to Vice President Johnson, Washington, December 4, 1962," Department of State, *FRUS 1961-1963*, XI: Document 225.
[796] "Memorandum From the Vice President's Military Aide (Burris) to Vice President Johnson, Washington, December 4, 1962," Department of State, *FRUS 1961-1963*, XI: Document 225.
[797] "Citation" to accompany the Navy Unit Commendation to Marine Composite Reconnaissance Squadron Two, 26 November 1962, as reproduced in Whitten, *Countdown*, 66.
[798] See Laurence Chang's description of Premier Khrushchev's plan for Cuba in April 1962 in The National Security Archive, *Cuban Missile Crisis*, 351.

irreplaceable and primary part of a successful diplomatic strategy that brought the crisis to its

end.

Chapter Summary and Conclusion

Aerial reconnaissance was central to the outcome of the 1956 Suez Canal crisis and the

1962 Cuban missile crisis. Presidents Eisenhower and Kennedy struggled to find accurate

information amidst emerging diplomatic emergencies whose context included attempts to

deceive. They used aerial reconnaissance as a countermeasure against misinformation and

diplomatic distraction and to deliver intelligence that pointed them to the greater truths.

Eisenhower sent the U-2 over the Suez and the Eastern Mediterranean because it could return

IMINT without being detected. He was able to monitor directly the Anglo-French-Israeli build

up and their invasion and was therefore able to stay diplomatically engaged both bilaterally and

at the United Nations. When Israel invaded Egypt on 29 October 1956, Eisenhower and

Secretary of State Dulles may have been disappointed in the timing of the attack and the

deception of their allies, but because they used reconnaissance to stay informed of ongoing

military preparations they were probably not unsuspecting of the invasion. Thanks to the

organizational control and responsiveness inherent in the NSC and the mobilization of the OPICs

to decrease imagery processing time, Eisenhower could also quickly disprove diplomatic red

herrings and rumors that, if substantiated, could have been game-changing.[799] The president

eventually extracted a cease-fire and withdrawal commitment from his allies in part because he

knew exactly the situation on the ground—from the line of troops on all sides to the number of

---

[799] OPIC—Overseas Photographic Interpretation Centers

232

sunken ships in the Suez Canal. Combining the intelligence with the economic leverage in US

oil and monetary reserves proved to be sufficient to end the crisis and preserve the canal.

Afterwards, aerial reconnaissance verified the British-French-Israeli withdrawal and continued

over the area indefinitely.

Accurate information from aerial reconnaissance offered President Kennedy the same

type of diplomatic confidence. Imagery from overflights convinced Khrushchev and the world

that Kennedy and his administration knew the truth about what was happening in Cuba. Using a

combination of high-altitude U-2 missions and low-level photoreconnaissance, Kennedy was

able to to track Soviet missiles, aircraft, and other weapons with extreme accuracy (almost on an

hourly basis). This capability, mixed with broader, strategic information provided by other aerial

and satellite reconnaissance programs, provided Kennedy assurance that he knew the balance of

power and could negotiate appropriately. Unlike Suez 1956, aerial reconnaissance in the Cuban

missile crisis also offered Kennedy second-order intelligence and flexibility because of its

presence over the island. The dynamic between the Cuban air defenses and American

reconnaissance aircraft revealed both the time remaining until the Soviet ballistic missiles were

operational and the political sensitivity of Fidel Castro. This was especially true in the case of

fast, loud, low-level reconnaissance missions which Kennedy increased on 26 October just to

make a point. When Khrushchev finally agreed to the terms that would end the crisis,

reconnaissance continued indefinitely for two reasons. First, to verify the Soviets were keeping

their end of the bargain. Second, to continue to monitor Cuba so that such an incident would not

happen again.

From the preceding discussions in the chapter, it is easy to see the benefits of a standing peacetime reconnaissance program and its relationship to crises. While Eisenhower had to figure out for himself that his allies were secretly preparing for invasion, Nasser at least made a public announcement in 1956 that he was nationalizing the Suez Canal. Khrushchev and Castro made no such announcement in 1962 about installing missiles in Cuba. Periodic reconnaissance of Cuba helped tip off Kennedy and DCI McCone that something was indeed changing. This prompted further crisis reconnaissance overflights that discovered Soviet ballistic missiles and for which October 1962 is infamous. Discovery of the missiles may have been a surprise to Kennedy, but U-2s found them while still under construction. Had Khrushchev been able to reveal the missiles' presence at the time and place of his choosing, it could have made for an entirely darker type of surprise for the president and the United States. Ironically, crisis reconnaissance successfully fed Kennedy's immediate planning and strategy, but it was reconnaissance executed for everyday vigilance that sparked the episode before the Soviet missiles were ready.

In both cases, crisis reconnaissance became compelling for its own sake. At a time before satellites were reliable and responsive, aerial reconnaissance provided a third option beyond only diplomatic engagement or full military intervention. In Cuba especially, aerial reconnaissance made contributions beyond its capacity for intelligence gathering. Castro complained about reconnaissance jets violating his airspace, but that was all he could complain about. The fact that U-2s, RF-8As, RF-101s, and other peripheral reconnaissance aircraft were unarmed clearly limited their danger to Castro and therefore conveyed American restraint and also American resolve. Since the U-2 was not detected in 1956, its compelling role centered

solely on the great information it provided to Eisenhower's diplomatic decision making. In either

case, reconnaissance became an extension of diplomatic efforts to diminish the crisis without

being overly provocative.

Chapter Four: Air Monitoring

[C]ooperative aerial inspections can serve many useful purposes…
from confidence-building to monitoring tagged treaty-limited items
remotely, monitoring the life cycle of military weapons, helping to
verify chemical and conventional weapons reductions, keeping a
watch on nuclear proliferation, and supporting peacekeeping
missions. It may be hoped that eventually additional countries will
come to see the wisdom of this useful verification and confidence-
building tool.[800]

Introduction

Like crisis reconnaissance, air monitoring is a diplomatic tool. It is the systematic

application of aerial reconnaissance as part of a formal agreement between political agents. As

such, air monitoring can exist in many modes, but is most prominent as a primary or

complementary mechanism in bilateral or multinational security agreements. It departs from

unilateral crisis reconnaissance or sensitive peacetime overflight paradigms because it is the

result of prior diplomatic engagement and covenant. Thus, some level of political

permissiveness usually greets air monitoring missions as they observe cease-fire lines, inspect

locations or items of interest, record and report the location of weapons and troops, or exercise

their freedom to navigate over a disputed area.

States that participate in aerial monitoring are always making a diplomatic tradeoff. As in

the Open Skies Treaty, an accord built on the premise of reciprocal aerial reconnaissance,

countries sacrifice a bit of their sovereignty for the right to access and reconnoiter others'

territory. In the Middle East, air monitoring has been part of United Nations peacekeeping and

third-party reconnaissance that verifies states' military postures. In exchange for allowing the

---

[800] Andrew Goodpaster, former military aide to President Eisenhower, in his Foreword to *Open Skies, Arms Control, and Cooperative Security*, ed. Michael Krepon and Amy Smithson (New York: St. Martin's Press, 1992).

UN or a third-party access to their territory for overflights and inspections, Middle Eastern

nations gain confidence that their enemies will not achieve strategic surprise. It is fitting, then,

that where air monitoring exists it is commonly referred to as a "regime"—a descriptor that

refers to the collection of diplomatic deals, operational boundaries, and agreed-upon procedures

that steers aerial reconnaissance (and other methods) towards a particular, mutual diplomatic

end. Each party to an agreement must accept the imposition of an air monitoring regime in

exchange for its diplomatic benefits.

This chapter explores two case studies in air monitoring. First is the Treaty on Open

Skies, also called the Open Skies regime. It is a straightforward example of a diplomatic end

achieved and sustained solely through the application of peacetime aerial reconnaissance.

Originally proposed in 1955, the story of Open Skies demonstrates the difficult political

preconditions and associated elements necessary for constructive air monitoring. The second

study looks into the use of aerial reconnaissance as part of the treaty verification system in the

Sinai Peninsula, a historic hotspot and stage for vitriolic conflict between Egypt and Israel.

Aerial verification as a mode of air monitoring has been in place in the Sinai for four decades. It

owes its longevity first to a compatible diplomatic environment, and secondly to a robust

synergy with other methods of verification. Both cases highlight how peacetime aerial

reconnaissance is used to support diplomatic goals.

The Treaty on Open Skies

Today's Open Skies Treaty has its origins in the years immediately following World War

II. President Eisenhower introduced the idea of reciprocal aerial inspection at the Geneva four-

power summit (US, USSR, Great Britain, and France) on 21 July 1955.[801] Eisenhower's intent

was to parlay his confidence in aerial reconnaissance from World War II into a mechanism to

produce diplomatic transparency and confidence between the US and the Soviets.[802] His

proposal, immediately referred to as "Open Skies" by the Department of State, suggested *inter*

alia a bilateral aerial reconnaissance program that would show the world that the US and the

Soviet Union were serious about preventing the fear and danger associated with a surprise

attack.[803] The fact that the American intelligence establishment at the time knew little to nothing

about Soviet bombers or military capabilities further motivated the idea.[804] Prime Ministers

Anthony Eden of Britain and Edgar Faure of France enthusiastically supported Eisenhower's

suggestion, but Soviet leadership was unmoved.[805] Immediately after making his proposal in

Geneva, Eisenhower walked privately with Soviet Premier Khrushchev, who expressed his

perception that Open Skies was simply a "bald espionage plot against the U.S.S.R."[806]

In retrospect, Khrushchev's rejection at Geneva was understandable. As a closed society,

the USSR would not have been a net beneficiary of a reciprocal aerial reconnaissance program.

What the Soviets needed to know about the United States they could find relatively easily in the

press, commercially available maps, journals, and government reports—much of it beyond the

---

[801] "Telegram From the Delegation at the Geneva Conference to the Department of State, Geneva, July 21, 1955," Department of State, *1955-1957, Austrian State Treaty; Summit and Foreign Ministers Meetings, 1955*, ed. William Slany and Charles S. Sampson, vol. V, Foreign Relations of the United States (Washington, D.C.: United States Government Printing Office, 1987). Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/frus1955-57v05, accessed 20 Nov 2012. Document 221. See note 9 on that document for the interesting formative history of reciprocal aerial inspection.
[802] Eisenhower, *Mandate*, 519. From Eisenhower: "We knew the air forces could provide mobility and that airborne cameras could produce irrefutable information on troops and ground installations—and this without any opportunity to inspect personnel, or to indoctrinate, subvert, or interfere with the populations of the inspected country."
[803] Eisenhower, *Mandate*, 520. After Eisenhower made his proposal at Geneva, the lights when out in the meeting room. This prompted many a lighthearted comment and laughter as Eisenhower quipped he did not dream that he was "so eloquent as to put the lights out." (quote is from page 521)
[804] See Chapter Two in this study.
[805] Eisenhower, *Mandate*, 521. See Eisenhower's remarks about the British and French response to the Open Skies proposal in the third paragraph. Both leaders proposed to open their countries to aerial inspection if all parties agreed.
[806] Eisenhower, *Mandate*, 521.

type of photographic information available through aerial reconnaissance.[807] Had the USSR

agreed to Open Skies in 1955, they would have been adding a small, marginal amount of

information to an already sizable intelligence pile in exchange for revealing proportionately

larger state secrets to the US. Eisenhower in his memoirs recognized this point.[808] Further, the

diplomatic compatibility necessary for Soviet acceptance of Open Skies seems to have been

anachronistic. The distance between the two sides over more pressing issues such as the

reunification of Germany and the security of central Europe was enormous.[809] That Eisenhower

expected the USSR to bypass these issues and suddenly connect on Open Skies was likely

hopeful overreach.

Although Open Skies as Eisenhower proposed it in 1955 was commonly associated with

arms control, it was not an arms control or disarmament treaty. It neither limited the number or

type of weapons nor required their destruction.[810] Eisenhower clearly intended reconnaissance

under Open Skies to be a verification tool to improve transparency and diplomatic relations

between the US and the USSR—better known in treaty negotiation vernacular as a "confidence

and security building measure," or CSBM (sometimes written as CBM).[811] As he put it, Open

Skies would be "a beginning…such a system is the foundation for real disarmament."[812]

Disarmament, however, was exactly what the Soviets were after, knowing that the United States

---

[807] Mark Gabriele, *The Treaty on Open Skies and Its Practical Applications and Implications for the United States* (Santa Monica: RAND Corporation, 1998), RAND Graduate School Dissertation. Law Library, Library of Congress. 2.
[808] Eisenhower, *Mandate*, 522.
[809] See the discussion among Eisenhower, Soviet Ambassador Bulganin, Faure, and Eden in "Telegram From the Delegation at the Geneva Conference to the Department of State, Geneva, July 21, 1955-10 a.m.," Department of State, *FRUS, 1955-1957*, V: 207.
[810] Read the original proposal at "Telegram From the Delegation at the Geneva Conference to the Department of State, Geneva, July 21, 1955," Department of State, *FRUS, 1955-1957*, V: Document 221.
[811] Michael Krepon defines a confidence building measure as "any agreement between two or more states that decreases tensions and reduces the likelihood of accidental conflict or unintended escalation." See *A Handbook of Confidence-Building Measures for Regional Security*, ed. M. Krepon, 2 ed. (Washington, D.C.: Henry L. Stimson Center, 1995). 2.
[812] "Statement by President Eisenhower," in *The Geneva Conference of Heads of Government, July 18-23, 1955*, (Washington, D.C.: US Government Printing Office, 1955), Department of State Report, Library of Congress. 21.

possessed all it needed for a full counterforce nuclear attack.[813] It is no surprise, then, that the

three decades following Eisenhower's proposal produced agreements that applied verification

measures as corollaries to arms control stipulations rather than as antecedents.[814] For the

purposes of this chapter, the definition of "verification" given by Richard Scribner in *The*

Verification Challenge is useful: verification of CSBM or arms control agreements refers to 'both

the process and means by which the parties to an agreement are able to ascertain with confidence

that the other party or parties are abiding by the terms of the agreement'"[815]

      Peacetime reconnaissance overflight for treaty verification was not foreign to accords of

the time. Of particular relevance was the Treaty on Antarctica signed in Washington in 1959.

The treaty, still in force, claimed the entire continent of Antarctica solely for international

peaceful purposes and prohibited military bases, maneuvers, and weapons testing among other

provisions.[816] Article VII specifically allowed that, "aerial observation may be carried out at any

time over any or all areas of Antarctica…"[817] The accord applied aerial inspection as a

verification tool, "in order to…ensure the observance of [its] provisions…"[818] Additionally,

while satellites almost surely supplemented aerial verification over Antarctica as they became

available in the 1960s, satellites simply could not exercise the international freedom of

navigation over Antarctica that the treaty aspired to preserve.[819] The Soviet Union and the

---

[813] Allan Krass, *Verification: How Much is Enough?* (London: Taylor and Francis, 1985). 118.
[814] Information exchange and transparency came as supplementary to most Cold War arms control treaties, not as preconditions for their construction. See Pál Dunay et al., "Open Skies: A Cooperative Approach to Military Transparency and Confidence Building," (New York: United Nations, 2004), 18.
[815] *The Verification Challenge: The Problems and Promise of Strategic Nuclear Arms Control Verification*, ed. Richard Scribner, et al. (Boston: Birkhauser, 1985). 24. Interestingly, Krass connects verification with the response to whatever findings come from verification measures (such as aerial inspections). See Krass, *Verification*, 6-12.
[816] United Nations, *Antarctic Treaty*, Article 1.
[817] United Nations, *Antarctic Treaty*, Article 7, para 4.
[818] United Nations, *Antarctic Treaty*, Article 7, para 1.
[819] See the term "freedom of access" in United Nations, *Antarctic Treaty*, Article 6.

United States both ratified the Antarctic Treaty in 1960, but Open Skies as it was proposed in 1955 never returned to the negotiating table.

During the 1960s and 1970s, two factors impacted the relevancy of aerial monitoring. First was the successful deployment of reconnaissance satellites, also called national technical means (NTM). J.A. Hawes writes, "the information collected by satellites ultimately became an essential element of bipolar stability, in much the same way that Open Skies information could have done earlier, had it been available."[820] Second was the ratification of bilateral arms control agreements between the Soviet Union and the United States and the conclusion of many European treaties that required verification.[821] In other words, the two superpowers had signed treaties that required verification and both now possessed the capability to do so using satellites.[822] Satellite verification also provided a better "fit" to the Cold War context. The Soviets insisted on verification but remained opposed to measures that were too much an affront to their sovereignty such as an aerial overflight regime.[823] The Treaty on Outer Space, concluded in 1967, effectively legitimized satellites for the verification task because they were considered to operate in international no-man's land.[824]

---

[820] John Hawes, *Open Skies: Beyond "Vancouver to Vladivostok"* (Washington, D.C.: The Henry L. Stimson Center, 1992), Occasional Paper No. 10. 2.

[821] Dunay et al., "Open Skies: A Cooperative Approach to Military Transparency and Confidence Building," 20.

[822] For example, the Anti-Ballistic Missile (ABM) Treaty, concluded in May 1972, required satellite verification. This verification structure seemed to fit the Cold War context better than an Open Skies regime because of the insistence of the Soviet Union on verification without sovereign penetration. Additionally, the Outer Space Treaty—to which the Soviets were party— had legitimized satellites as nonintrusive and so they fulfilled the ABM Treaty's need for verification while not requiring intrusive other means. United Nations, *Treaty on the Limitation of Anti-Ballistic Missile Systems* (New York: United Nations, 1972), 944 UNTS I-13446. United Nations Treaty Series, United Nations. www.treaties.un.org, accessed 4 Dec 2012.

[823] Hawes, *Open Skies*, 10-11.

[824] UNited Nations, *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and other Celestial Bodies* (New York: United Nations, 1967), 610 UNTS I-8843. United Nations Treaty Collection, United Nations. http://treaties.un.org/doc/Publication/UNTS/Volume%20610/volume-610-I-8843-English.pdf, accessed 25 Nov 2012.

It was not until the mid-1980s that the diplomatic environment became more compatible

for confidence building and transparency measures of the kind outlined in Open Skies.[825] The

aerial monitoring of ground force training exercises in Europe was a controversial subject during

the Stockholm conferences on CSBMs between 1984 and 1986.[826] The Soviets initially rejected

the idea based on their familiar argument—that the proposal was a veiled attempt to spy on the

monitored nation.[827] However, the Soviets finally agreed to multilateral aerial monitoring by the

end of the conference, a surprise shift in policy that reflected ongoing tumultuous changes within

Soviet leadership.[828] Paragraph 76 of the final Stockholm agreement allowed for onsite

inspection, aerial inspection, or both.[829] It also assuaged fears of espionage by introducing

control measures. One measure required a member of the monitored nation to accompany and

supervise the personnel and equipment aboard an inspecting aircraft.[830] While very few

verification flights were flown under the Stockholm agreement, the fact that they were codified

at all affirmed an improving diplomatic context between the Soviet Union, the United States, and

Europe.[831] The beginnings of Soviet rapprochement with the West eventually brought about the

rise of Mikhail Gorbachev and the slow but deliberate pursuit of *glasnost*—openness.

---

[825] It is important to note that the idea of aerial monitoring for treaty purposes was eclipsed by the availability of satellites until the late 1970s. In 1978, France suggested during NATO talks to establish an aerial system of surveillance in Europe to enhance security. See John Borawski, *From the Atlantic to the Urals: Negotiating Arms Control at the Stockholm Conference* (Washington, D.C.: Pergamon-Brassey's, 1988). 21-22. Also, aerial monitoring was a necessary part of the 1979 Arab-Israeli Peace Accords signed at Camp David. It is part of the discussion in the second half of this chapter. In the meantime, consult *Open Skies for Peace*, ed. William Lambers (Washington: Lambers Publications, 2006), History News Service Collection.
[826] Borawski, *From the Atlantic to the Urals*, 21. These talks continued themes began by the Conference on Security and Cooperation in Europe (CSCE, the predecessor to today's OSCE) at Madrid in 1980.
[827] Dunay et al., "Open Skies: A Cooperative Approach to Military Transparency and Confidence Building," 21.
[828] See Conference on Security and Cooperation in Europe, *Docment of the Stockholm Conference,* 1986. Final Document, 19 Sep, Documents Library, Organization for Security and Cooperation in Europe. http://www.osce.org/library/, accessed 20 Nov 2012. para 1. The Stockholm agreement was vague about the specific aircraft and sensors nations could use for mutual inspection of ground exercises. The document simply stated that the two parties should "agree" on the type of aircraft and cameras to be used during verification.
[829] Conference on Security and Cooperation in Europe, *Docment of the Stockholm Conference*, Final Document, 19 Sep, para 76.
[830] Conference on Security and Cooperation in Europe, *Docment of the Stockholm Conference*, Final Document, 19 Sep, para 90.
[831] Borawski, *From the Atlantic to the Urals*, 39.

The new political climate introduced by the end of the Cold War provided fertile diplomatic ground for the reintroduction of the Open Skies initiative. The Stockholm agreement had confirmed that cooperative diplomatic efforts based on aerial reconnaissance were now back on the table. An Open Skies proposal was just one of many arms control and confidence building measures forwarded by the National Security Council staff for President George H.W. Bush to consider in early 1989.[832] On 12 May 1989, Bush presented the new Open Skies initiative during a speech at Texas A&M University.[833] From his words there, his intent was to hold the Soviets to their new claims of *glasnost* and to expand on the ideas from 1955: "…let us again explore that proposal, but on a broader, more intrusive and radical basis…Such surveillance flights, complementing satellites, would provide regular scrutiny for both sides. Such unprecedented territorial access would show the world the true meaning of the concept of openness. The very Soviet willingness to embrace such a concept would reveal their commitment to change."[834] Bush had made the offer, but it would be another decade before the Open Skies Treaty as we know it today would enter into force.

Open Skies 1989 was different from its 1955 predecessor in two important ways. First, while the participation of the Soviet Union was required for the United Sates to even begin negotiations towards an agreement, the 1989 proposal was open to all NATO and Warsaw Pact nations.[835] This was the starting point. The final treaty contains provisions for the accession of

[832] Arnold Kanter, *Memorandum for Record, May 18,* 1989. OA/ID CF00778, National Security Council, Arnold Kanter Files, Staff and Office Files. Open Skies Collection, George H.W. Bush Presidential Library.
[833] For a text of the speech, see George H.W. Bush, *Texas A&M Commencement Address, College Station, Texas, 5/12/89,* 1989. SP557, Box 101, Case Number 035645SS, Speeches Collection (SP), George H.W. Bush Presidential Library.
[834] Bush, *Texas A&M Commencement Address, College Station, Texas, 5/12/89*, SP557.
[835] George H.W. Bush, *National Security Directive 15, 22 Jun,* 1989. NSD 15, National Security Directives Collection, George Bush Presidential Library.   See paragraph 1: participation by the Soviet Union was listed as *sine qua non*.

an unlimited number of parties, making it a truly multilateral instrument.[836] Second, Bush's

Open Skies proposal created its own forum, the Open Skies Consultative Commission or OSCC,

from which the treaty was to be negotiated and executed.[837] In this way, the new Open Skies

regime was conspicuously independent from any specific arms control negotiations and

agreements yet could complement any of them as a verification measure.[838]

Bush's proposal, unlike Eisenhower's, was generally well received. The evidence for this

was the sheer endurance required of the parties who erected the new Open Skies Treaty. They

participated in almost three years of nonstop negotiations then followed by nearly ten years of

phased implementation and joint training exercises. Between Bush's proposal in May 1989 and

the signing of the treaty in March 1992, representatives from NATO and Warsaw Pact nations

met in four formal meetings: at Ottawa and Budapest in 1990, and at Vienna in 1991 and 1992.[839]

Over those dynamic years, the diplomatic imperative behind Open Skies transformed drastically

to reflect the changing political landscape in Europe. The document's preamble recognized "the

historic events in Europe which have transformed the security situation from Vancouver to

Vladivostok."[840] By 1992, the Warsaw Pact had dissolved, Eastern Europe founded democratic

governments, Germany reunified, the US solidly won the war to liberate Kuwait, and the Soviet

Union had broken up.[841] John Tucker was a member of the American delegation to the Ottawa

and Budapest rounds of negotiations. He aptly conveys the evolution of Open Skies during those

---

[836] Organization for Security and Cooperation in Europe, *Treaty on Open Skies* (Washington D.C.: Library of Congress, 2010), Updated Treaty on Open Skies as of September 2010 by the Open Skies Consultative Committee. Article 17, para 15. Accession by any state could begin after the first six months beyond entry into force (EIF).
[837] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 10.
[838] This Open Skies autonomy was President Bush's intent. See the first sub-bullet in Bush, *National Security Directive 15, 22 Jun*, NSD 15.
[839] Dunay et al., "Open Skies: A Cooperative Approach to Military Transparency and Confidence Building," Section 2.2, 24-34.
[840] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*. Preamble.
[841] Jonathan B. Tucker, "Negotiating Open Skies: A Diplomatic History," in *Open Skies, Arms Control, and Cooperative Security*, ed. Michael Krepon and Amy Smithson(New York: St. Martin's Press, 1992)6. War to liberate Kuwait mention is from Gabriele, *The Treaty on Open Skies and Its Practical Applications and Implications for the United States*, 4.

years as transforming "from an instrument for managing superpower relations during the Cold War into a measure for coping with the multifaceted security challenges of the new Europe."[842] The delegations that negotiated the Open Skies accord instilled in it their compelling spirit of brut force compromise and diplomatic cooperation required to exercise its privileges. Amidst the changes taking place at the time, their efforts must have been far from easy.[843] Since its entry into force in January 2002, there have been two OSCC review conferences—one in 2005, another in 2010—to track implementation of the agreement, deliberate challenges, and address members' concerns.[844]

While aerial reconnaissance is the mechanism for Open Skies, it is not the goal. Put simply, the Open Skies accord creates a regime for reciprocal aerial observation among its members "to improve openness and transparency, to facilitate the monitoring of compliance with existing or future arms control agreements and to strengthen the capacity for conflict prevention and crisis management."[845] Clearly, there are other means to accomplish confidence building and transparency, but none that can combine the treaty's cooperation imperative with a reconnaissance aircraft's range, speed, sensors, and probably its most important trait in this context—the capacity to carry team members from both the observed and observing nations. The sections below outline the major stipulations of the Open Skies Treaty by assessing them within this study's themes.

---

[842] Tucker, "Negotiating Open Skies," 6.

[843] The story of the negotiations surrounding Open Skies is a fascinating departure into diplomacy and statesmanship of the best kind. I suggest the following readings for an introductory brief: Tucker, "Negotiating Open Skies." Also, Borawski, *From the Atlantic to the Urals*.

[844] Open Skies Consultative Commission, "Second Review Conference for the Open Skies Treaty, Vienna, 7-9 June 2012," OSCE, Vienna, http://www.osce.org/secretariat/69797.

[845] See Figure 30 in Appendix B. Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Preamble.

Presence—Open Skies

Aerial reconnaissance under the Open Skies regime is unique from other peacetime operations because the presence of the aircraft is prearranged between the observer and the observed. This condition is the reverse of the reconnaissance-diplomacy interaction as we normally think of it. In peacetime, diplomatic exchanges usually follow from the conduct of the aerial reconnaissance mission, either because of the information collected, the location of the airplane's flight, or an incident. However, the arrival of an Open Skies aircraft is the operational result of preceding diplomatic agreement based on some degree of trust and shared interest. The requirement for signatories to accept within their sovereign territory the physical presence of another state's reconnaissance aircraft is the primary attribute of the Open Skies Treaty.[846] Each party possesses the right to conduct and the obligation to accept overflights.[847] The fact that no party is *required* to conduct any of its maximum allotted observation flights—its "active quota"—but each is *obligated* to accept a minimum number of observing overflights—its "passive quota"—codifies the accord's transparency goal.[848] By ratifying the treaty, a nation is risk-taking. The intangible cost of ascending to Open Skies is the psychological aspect of being overflown by another state who may have been a recent adversary.[849] As overflight exchanges become more frequent, the parties hope to stabilize their diplomatic interaction and familiarize themselves with each other's military and political posture. This is why the Open Skies Treaty falls squarely within the definition of a confidence and security building measure, or CSBM.[850]

---

[846] See the Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 1.
[847] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 3, Section 1.
[848] See definitions under Article 2 and then the first two paragraphs in Article 3, Section 1. Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 2.
[849] Gabriele, *The Treaty on Open Skies and Its Practical Applications and Implications for the United States*, 45.
[850] See note 810 above.

In no other way is the diplomatic risk-taking under Open Skies more obvious than by the physical presence of the aircraft.[851] During the Stockholm conferences, negotiations over whose aircraft to use during overflights, the observed or the observing party's, were fierce.[852] The Soviet Union insisted that the observed state's aircraft be used, lest the inspecting state's aircraft "be equipped with the appropriate intelligence gear that can check not only the actions of troops in this region, but also be capable of reconnoitering any installation that is not the object of monitoring. This would be unlawful intelligence activity and a violation of a state's sovereignty."[853] Although the Stockholm document left the choice of aircraft up to "mutual agreement between the inspecting and receiving states," the Open Skies Treaty pursues the matter in the exact opposite way, but for the same purpose.[854] Very specific requirements and criteria inserted throughout the text act as controls to prevent illegal collection while executing Open Skies overflights.

One primary set of controlling criteria applies to the observation aircraft. The treaty designates, almost to an obsessive degree, the type, size, range, performance, and availability of aircraft to be used in overflights. It specifies, for example, the aircraft should be unarmed and fixed-wing.[855] In article five, it requires that observation aircraft be of sufficient size to carry treaty-certified sensors, the observing flight and mission crew, the observed nation's escort crew,

---

[851] All of the core analytical early works regarding Open Skies view CSBMs as a diplomatic risk-taking measure for a given nation. See the early chapters in: *Handbook of Confidence-Building Measures*. Gabriele, *The Treaty on Open Skies and Its Practical Applications and Implications for the United States*. Dunay et al., "Open Skies: A Cooperative Approach to Military Transparency and Confidence Building."

[852] Dunay et al., "Open Skies: A Cooperative Approach to Military Transparency and Confidence Building," 22.

[853] Soviet representative Marshal Akhromeyev, Chief of the General Staff, as quoted in Borawski, *From the Atlantic to the Urals*, 98. Considering the frequency to which the Soviets were subjected to overflight espionage during the Cold War, Akhromeyev's skepticism at the time is understandable.

[854] Conference on Security and Cooperation in Europe, *Docment of the Stockholm Conference*, Final Document, 19 Sep, para 98. I have found no part of the Stockholm document or its accompanying studies that says what to do if the parties cannot agree on what aircraft to fly.

[855] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 2, Definitions. This is a departure from the Stockholm document, which allowed for observation using helicopters.

and have windows that face directly downwards.[856] The treaty designates a maximum allowable observation flight distance dependent on the observed nation's size (another control measure) and "encourages" that the distance be flown in one sortie.[857] Observing flights over Russia—the largest signatory to the treaty in terms of geographic territory—are allowed the longest maximum flight distance of 6500 kilometers.[858] So any party exercising its right to observe Russia must provide an aircraft capable of flying that distance in one or a maximum of two sorties to limit the inspecting crews' time on the ground, the excess of which could accommodate espionage. Other criteria constrain the observation aircraft to different altitudes at different times (above 5,000 meters in crisis zones, for example, to avoid man-pad type surface-to-air missiles).[859] To allow for nations without an appropriate aircraft and to assuage fears of spying, there is an alternative in the text called the "taxi option," inserted by the Soviets during Open Skies negotiations.[860] The taxi option allows an inspecting party to use another state's observation aircraft, and provides the right of the observed state to substitute its own observation aircraft for use by the inspecting party.[861] All of these stipulations surrounding the observation aircraft are accompanied by the right of validation and certification by the observed state. Hence, a treaty-compliant observation aircraft is more than just an airplane that meets the accord's list of constraints. It is the physical manifestation of the diplomatic interests and anxieties reflected by the Open Skies agreement.

[856] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 5.
[857] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 3, Section 2.
[858] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Annex A, Section 3.
[859] Dunay et al., "Open Skies: A Cooperative Approach to Military Transparency and Confidence Building," 70.
[860] Thomas Graham and Damien LaVera, *Cornerstones of Security: Arms Control Agreements in the Nuclear Era* (Seattle: University of Wisconsin Press, 2003). 823.
[861] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 6, paras 1 and 2.

The same can be said of the crew compliment. Most importantly, an Open Skies mission cannot proceed without members from both the observing and observed states.[862] The treaty also allows for any state who is party to the agreement to fly "escorts" aboard the mission to supplement the observed and inspecting crew members, effectively upgrading the flight from a bilateral to a multilateral endeavor.[863] This right of escort provides access to Open Skies observation missions for nations who either cannot provide an observation aircraft of their own or choose not to purchase one.[864] The multinational crew is the confluence of the diplomatic interests in confidence building and the technical expertise required for execution. Their diverse composition is required to implement a primary control mechanism in the Open Skies Treaty— the verification and certification of the aircraft, its sensors, and the flight plan. The inspecting crew presents the observation aircraft to members of the observed state so both parties can certify that the aircraft and its sensors are indeed treaty-compliant.[865] If the crew members from each party cannot agree, then the flight is cancelled.[866] This was the case in October 2011 when crew members representing Norway and Russia did not agree that the flight plan overflew each point of interest only once, a restraint contained in Article 6, Section 2 of the treaty.[867] From this

_____

[862] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Annex G, para 2.
[863] Multilateral missions occur frequently. For example, records from the OSCC report the US teaming with Germany and Norway to inspect Russia on two missions in November 2011; the Czech Republic, France, Germany, and Spain inspecting Ukraine on two missions in October 2011; Italy, Canada, and France inspecting Georgia in April 2011. A relatively current list depicting flight-by-flight activity is available at Open Skies Consultative Commission, *Open Skies Treaty Observation Flights,* 2012. OSCC.DEL/5/12/Corr.1, Documents Library, Organization for Security and Cooperation in Europe. www.osce.org/library, accessed 20 Nov 2012. Klaus Arnhold (see note 863, below) argues that a replacement airplane would have been an inefficient use of funds for Germany and that teaming with other nations on Open Skies missions fulfills the spirit of the treaty to a greater extent than bilateral execution. For the definition of "escort" and the right to place one on any mission, see Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 2, definitions; Annex G.
[864] Interestingly, it is not just small states who decide not to buy and configure an observation aircraft. Germany, for example, lost its aircraft to an accident in 1997 and chose not to replace it. I am grateful for the native language skills and time of Mr. John Trager, a fellow researcher at the Library of Congress, for his transcription into English of key passages of Klaus Arnhold, "Der Vertrag über den Offenen Himmel: Ein Konzept zur Aktualisierung des Vertrages," [The Treaty on Open Skies: A Concept for the Update of the Contract.] *SWP-Studie* (2002).
[865] See Figure 31 in Appendix B. Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 4, para 11; Article 16, paras 10 & 11; Annex D; Annex F.
[866] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 8.
[867] Open Skies Consultative Commission, *Open Skies Treaty Observation Flights*, OSCC.DEL/5/12/Corr.1, See entry below number 819.

regime of flight-by-flight verification and certification, it becomes clear why Open Skies as a confidence and security building measure cannot be executed using satellites.

An allowance for parties to organize themselves as groups produces an efficiency that is a presence multiplier. In Article 2, the treaty defines "group of States Parties" to mean "two or more States Parties that have agreed to form a group for the purposes of this Treaty."[868] Belgium, The Netherlands, and Luxembourg have organized as such, creating "Benelux" as signatory to the treaty.[869] The option to organize as groups also decreases the financial cost of participating and therefore provides access to aerial reconnaissance overflights some nations, under different circumstances, would not have. To this end, nine signatories initially pooled their resources to share a treaty-compliant observation "pod" that fits under the wing of a C-130, an aircraft that flies in many of the world's air forces.[870] Importantly, the treaty also provides each signatory the right to the mission report from *any* observation flight, to include a "first generation" copy of the image data.[871] If the physical presence of the reconnaissance aircraft is the primary attribute of Open Skies, then information sharing as a benefit multiplier is the second. The imagery obtainable through Open Skies is high-quality imagery that some states could not otherwise collect, albeit somewhat limited in resolution, especially if a member state operates no indigenous NTM or cannot afford on-demand access to commercial imaging satellites. Neither are Opens Skies mission reports or images subject to intelligence-sharing

---

[868] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 2, para 3. Also see Article 3, Section 2.
[869] Open Skies specifically allows in its text for Benelux as a formal group. Other groups of nations may achieve the same status through application and decision of the OSCC. Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 14.
[870] Benelux, Denmark, France, Greece, Norway, Portugal, Spain, Canada, and Italy. Paolo Col Latini, *Sharing Observation Flights: Lessons learned for joint planning and execution,* 2010. OSCC.RC/31/10, Documents Library, Organization for Security and Cooperation in Europe. http://www.osce.org/secretariat/68392, accessed 18 Nov 2012.
[871] See Figure 32 in Appendix B for an example of Open Skies imagery. Stipulation allowing access to any flight's mission report is at Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 6, Section 1. Use of the term "first generation" comes from Dunay et al., "Open Skies: A Cooperative Approach to Military Transparency and Confidence Building," 52.

agreements or other diplomatic restrictions, other than the data must be used "for treaty purposes."[872] The grouping and information sharing through the Open Skies construct multiplies the presence of the aerial reconnaissance mechanism and extends to many states the benefits of transparency and confidence building while keeping the barriers to participation low.

Penetration—Open Skies

The Open Skies regime is the legal basis for overflight by treaty certified aircraft, but the data collection—the "seeing and sensing" over an observed nation's territory—is provided by the sensors they carry. Airspace boundaries that normally provide barriers against penetration during unilateral aerial reconnaissance operations are transcended by the accord, so treaty-specified sensor controls affirm and protect national sovereignty and privacy for Open Skies signatories. The treaty specifies to exact degrees the type and performance limits of sensors used during overflights.[873] In general, Open Skies allows for imaging sensors capable of detecting and identifying relatively small objects and formations, but limits sensor performance so that products from overflights do not support detailed technical analysis.[874] This balance speaks to the nature of the treaty itself: to allow enough sensor performance for competent verification while protecting the observed state against advantages gained by the inspecting party from excessively detailed information.

---

[872] Gabriele, *The Treaty on Open Skies and Its Practical Applications and Implications for the United States*, 44.
[873] See Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 4. This is one of the most extensive sections of the document, with many illustrative annexes to provide clarity and avoid misinterpretation (e.g. Appendix 1, and Annexes B and D all contribute to the sensor aspect of the treaty).
[874] The sensor performance required for general object identification ("that is a tank and not a truck or car") versus technical analysis ("that is an Abrahms tank with two additional 30 millimeter machine guns and an enhanced propulsion system") depends on many factors to be discussed below. For an in-depth discussion on what level of sensor performance is required against a broad sampling of objects for (in order of increasing detail): detection, general identification, precise identification, description, and technical analysis, see David Armstrong, "Technical Challenges Under Open Skies," in *Proceedings of the Second International Airborne Remote Sensing Conference and Exhibition, Strasbourg*(Ann Arbor: Environmental Research Institute of Michigan, 1994).

When the original 27 member states signed the Open Skies Treaty at Helsinki in March 1992, the details regarding allowable sensors, performance, and sensor verification were not resolved. Negotiations over the accord had slowed alarmingly because of NATO's propensity to demand greater sensor performance than was needed for treaty purposes which, in turn, fueled the well-developed Soviet fear of dangerous and unfriendly espionage.[875] The United States, for example, in its initial sensor list proposed the use of measurements and signatures (MASINT) devices including air samplers, gravitometers, and radioactive isotope sensors.[876] Auspiciously, the Open Skies Treaty had built-in a mechanism to help progress beyond the impasse. The signatories passed on the sensor issues to the OSCC, who would make sensor decisions during the treaty's ratification processes and the three year phasing-in period.[877] The OSCC, mandated by the accord to meet four times per year, delegated the sensor questions to some of their many informal working groups (IWGs).[878] By late 2000, the OSCC had published twenty-two legally binding decisions based on the working groups' research and political negotiations, some of which filled in the blanks regarding allowable sensor types and performance.[879]

OSCC and working group negotiations resulted in prescribing an Open Skies reconnaissance sensor suite that is primarily image-centric. The accord specifically prohibits "the collection, processing, retransmission or recording of electronic signals from electro-

---

[875] Tucker, "Negotiating Open Skies," 22. See Tucker's excellent section under "Philosophical Differences" on that page.
[876] Tucker, "Negotiating Open Skies," 21. Gravitometers detect minute changes in the Earth's gravitational field, presumably to sense large stores of military equipment underground.
[877] Dunay et al., "Open Skies: A Cooperative Approach to Military Transparency and Confidence Building," 44, 64-66. According to the original Helsinki Document, the treaty would enter into force 60 days after all parties with a passive quota of eight or more had deposited their instruments of ratification. This occurred on 2 November 2001 when the Russian Federation and Belarus (together as a group of state parties) deposited their instruments of ratification, placing entry into force in January 2002. Between the accord's signing in 1992 and entry into force in 2002, the OSCC and signatory states hosted many rounds of informal working groups specifically designed to decide on difficult questions such as allowable sensor types, resolution, and flight formats. Military organizations in member states were also preparing for operations by establishing Open Skies units, selecting and certifying observation aircraft, and conducting trial inspections. For the three-year phasing-in period reference, see Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 16, para 13.
[878] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 10, Annex L para 13.
[879] All pre-entry into force OSCC decisions are available for download at the US State Department's Open Skies website at: http://www.state.gov/t/avc/cca/os/c26159.htm.

magnetic waves [sic]."[880] A "full" sensor suite includes only the following categories: (a) optical

panoramic and framing cameras; (b) video cameras with real-time display; (c) infrared line-

scanning devices; and (d) sideways-looking synthetic aperture radar.[881] Initially, only optical

cameras were allowed during observation flights until three years after entry into force.[882]

Western nations, including the US, insisted on the inclusion of infrared sensors that could

produce reliable data in northern latitudes in the winter when sunlight provides little illumination

for film photography, even during peak daylight hours.[883] The video camera category was the

result of the Russian demand to exclude electro-optical devices in exchange for the

understanding that the OSCC could decide on the introduction of further sensor types as

technology advanced.[884] One of the larger controls within the treaty is that state parties may use

any sensors in the above categories provided the specific sensor to be used is commercially

available to all state parties.[885] This constraint is among many types of controls that seek to level

all parties within the Open Skies regime, in this case by excluding superior sensor technology

that may be available only to one state with a robust research and development infrastructure.

Additionally, observing states may only operate sensors during actual Open Skies observation

flights. Collection during "transit flights," or flights into and from the observed party's territory,

is prohibited by the treaty.[886] To guard against covert collection during transit flights, the treaty

---

[880] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 2, para 7.
[881] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 2, para 1.
[882] Committee on Foreign Relations United States Senate, *Treaty on Open Skies: Article by Article Analysis,* 1993. Exec. Rept. 103-5, 103d Congress, 1st Session, www.state.gov. http://www.state.gov/t/avc/cca/os/106812.htm, accessed 20 Nov 2012.
[883] Rüdiger Hartmann and Wolfgang Heydrich, *Der Vertrag über den Offenen Himmel* [The Treaty on Open Skies], trans. John Trager (Baden-Baden: Nomos Verlagsgesellschaft, 2000). 49. Rüdiger Hartmann was the chief German delegate to all four rounds of Open Skies negotiations.
[884] The OSCC must reach consensus to include additional sensors. Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 4, para 3. The Russians were behind the West in electro-optical technology at the time. See Dunay et al., "Open Skies: A Cooperative Approach to Military Transparency and Confidence Building," 43.
[885] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 4, para 2.
[886] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 4, para 4. Also see definition of "transit flight" at Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 2.

requires all sensors to be equipped with aperture covers or disabling devices that are accessible only from outside the observation aircraft.[887]

Beyond controlling for the type of reconnaissance sensor, the Open Skies accord limits the potential of each sensor by prescribing its maximum performance. This is how the accord encodes the diplomatic compromise between transparency and security into verifiable aerial reconnaissance parameters. The result is that treaty compliant sensors are far less capable than similar sensors employed unilaterally through national technical means or defense reconnaissance programs.[888] Since all the sensors carried aboard Open Skies aircraft produce different types of imagery, controlling sensor performance was and is primarily a matter of controlling image resolution. Article Two defines "ground resolution" as "the minimum distance on the ground between two closely located objects distinguishable as separate objects."[889] This definition remains in the treaty today. However, when the OSCC took up unresolved sensor issues after the treaty was signed, it produced clarifying definitions of resolution specifically based on the expected procedure for certifying different types of imaging sensors.[890] That is, certifying sensors at "treaty resolution" was to be done by conducting a certification flight over the observed party's territory and testing the different sensors.[891]

---

[887] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 4, para 5.
[888] United States Senate, *Treaty on Open Skies: Article by Article Analysis*, Exec. Rept.103-5. This was true even in 1993. See Section 3, the last paragraph under "Sensors."
[889] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 2, para 13.
[890] See OSCC Decisions 3, 7, and 15: Open Skies Consultative Commission, *Decision Number Three to the Treaty on Open Skies, 29 June 1992,* 1992. OSCC/I/Dec.3, Treaty on Open Skies Collection, OSCC Decisions, United States Department of State. http://www.state.gov/documents/organization/106719.pdf, accessed 1 Dec 2012. Open Skies Consultative Commission, *Decision Number Seven to the Treaty on Open Skies, 10 December 1992,* 1992. OSCC/II/Dec.7, Treaty on Open Skies Collection, OSCC Decisions, United States Department of State. http://www.state.gov/documents/organization/106723.pdf, accessed 1 Dec 2012. Open Skies Consultative Commission, *Decision Number Fifteen, 12 October 1994,* 1992. OSCC/VI/Dec.15, Treaty on Open Skies Collection, OSCC Decisions, United States Department of State. http://www.state.gov/documents/organization/106733.pdf, accessed 1 Dec 2012.
[891] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Annex D. Also see Article 4, para 11.

During the certification flight, the observation aircraft overflies and images ground

calibration targets provided by the observed state. The calibration targets are ground displays of

various types that correspond to the imaging medium of the sensor. For example, in the case of

optical framing cameras, the calibration target is usually a ground display consisting of

increasing sizes of black and white bars separated by known distances.[892] By visually inspecting

the resulting image of the calibration target, both the observed and observing crew members can

agree that an observation aircraft's optical framing cameras can only distinguish between objects

no closer than 30 centimeters—the maximum allowable treaty resolution for optical framing

cameras.[893] The OSCC set the maximum allowable resolution for video cameras to 30

centimeters as well, for infrared scanning devices at 50 centimeters, and for sideways-looking

synthetic aperture radar (SAR, useable in bad weather) at 3 meters.[894] The treaty also recognizes

that the resolution for an optical and infrared sensor improves as it flies lower and closer to the

target. Hence, the accord specifies that these maximum resolutions are at "minimum height

above ground level" for the optical and infrared sensors and provides corresponding guidance for

SAR.[895] While the many aspects to defining and producing a specific photogrammetric and/or

---

[892] For an example, see Dunay et al., "Open Skies: A Cooperative Approach to Military Transparency and Confidence Building," 236. Also see example at page 79. Similarly, a ground calibration target for infrared devices is usually a ground target with alternating "hot" and "cold" bars, sometimes electrically heated to provide the needed contrast for the infrared sensor.
[893] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 4, para 2(A).
[894] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 4, para 2 (B-D). With the exception of SAR, these resolutions are good enough to allow for precise identification (tank versus truck, usually about 30 centimeters), but not good enough to allow detailed analysis (type of tank or truck, usually about 9 centimeters). SAR resolution at 3 meters is not that great—capable of identifying only the largest structures like buildings, ships, and airfields. For exactly what ground resolution is required for certain levels of detection, identification, or analysis, a common reference among sources is the discussion and figures at Committee on Commerce United States Senate, Science, and Transportation, *NASA Authorization for Fiscal Year 1978, Hearings before the Subcommittee on Science, Technology, and Space* (Washington, D.C.: United States Government Printing Office, 1977), Part 3, S. 365. HathiTrust Digital Library, Library of Congress. http://catalog.hathitrust.org/ Record/002941414, accessed 2 Dec 2012. 1642-1643. For example, vehicles may be generally identified as such at 4.5 meters ground resolution, but require 15 centimeters resolution for technical analysis. The table is also reproduced in other sources, one of them at Dunay et al., "Open Skies: A Cooperative Approach to Military Transparency and Confidence Building," Table 6.1.
[895] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 4, para 2 (A-D), Annex D. Also see Open Skies Consultative Commission, *Decision Number Three to the Treaty on Open Skies, 29 June 1992*, OSCC/I/Dec.3.; Open Skies Consultative Commission, *Decision Number Thirteen to the Treaty on Open Skies, 18 April 1994,* 1994. OSCC/V/Dec.13, Treaty on Open Skies Collection, OSCC Decisions, United States Department of State. http://www.state.gov/documents/organization/ 106731.pdf, accessed 5 Dec 2012. ; Open Skies Consultative Commission, *Decision Number Fifteen, 12 October 1994*, OSCC/ VI/Dec.15.

computer-enhanced resolution are beyond the scope of this discussion, the point is that the OSCC decisions prescribed both the acceptable resolutions and the methodology for achieving them. In other words, Open Skies dictates exactly *how* to achieve treaty resolution with different sensors during observation flights. Most importantly, even in today's completely automated environment, all the certification methodologies require crew members from the observed and inspecting states to visually analyze certifying imagery and agree that the observation aircraft and sensors are treaty compliant.[896]

The extraordinarily detailed technical and procedural controls over the sensors used in Open Skies are what provide the accord its diplomatic traction. The limits on resolution deliver security and sovereignty to the observed state, and transparency and confidence to the observing state. Without such extensive detail in the agreement, penetrative overflight for Open Skies purposes would be improbable, if not impossible, because of the anxieties associated with aerial reconnaissance.[897] The treaty's controls are the difference between air monitoring and spying. Executed unilaterally, peacetime aerial reconnaissance penetration over a target nation would be illegal and domestically contentious, but wrapped in the diplomatic credential of Open Skies it becomes a tool to foster mutual security and trust.

---

[896] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Annex D. Section 4, paragraph 4 of Annex D states "An observation aircraft and its associated set of sensors shall be deemed to be certified unless the States Parties taking part in the certification are unable to reach agreement on the contents of the certification report." OSCC decisions 3, 7, 13, and 15 require some sort of visual analysis of imagery by both observing and inspecting parties and agreement on the results.
[897] As an illustrative example, the Soviets, later the Russians, displayed anxiety during the Open Skies negotiations over the possibility of espionage. Anxiety on all sides resulted in many of the controls within the treaty. See Tucker, "Negotiating Open Skies." Also see United States Senate, *Treaty on Open Skies: Article by Article Analysis*, Exec. Rept.103-5., and Armstrong, "Technical Challenges." All portray Open Skies negotiations as having to overcome strongly entrenched Soviet memories from, ironically, American Cold War reconnaissance.

Justification—Open Skies

Signatories to Open Skies balance their obligation to allow overflight against the many ways to extract diplomatic utility from aerial reconnaissance. Because reconnaissance under Open Skies is reciprocal, permissive, and strictly controlled, it is not spying. Therefore, observation flights and the information they deliver to national leadership can be used in their own right as a diplomatic confidence building measure, strengthening peace, or as a supplement to any effort where aerial presence and observation can help achieve political goals. While the treaty is not itself an arms control instrument, it can be, and is, regarded as a compliment and a supplement to arms control verification regimes. As was described in the accord's original preamble, the justification supporting Open Skies operations is the general faith that it will help achieve a better diplomatic landscape, spawning greater efforts to pursue dialogue and peace.[898]

Arms control verification was the primary force associated with the Open Skies talks.[899] Indeed, Open Skies Treaty negotiations were influenced by relatively concurrent deliberations on arms control agreements, primarily the Treaty on Conventional Armed Forces in Europe (commonly the "Conventional Forces in Europe" Treaty or CFE). CFE was undertaken by the Conference on Security and Cooperation in Europe (CSCE, later the OSCE) at about the same time the body began considering the Open Skies accord and therefore was a product of the same

---

[898] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Preamble, paragraphs 1-5.
[899] To make the point, the Department of State's website categorizes its information and pages on Open Skies under the tab "Undersecretary for Arms Control and International Security." Click on http://www.state.gov/t/. Then continue to the "Bureau of Arms Control, Verification, and Compliance" at http://www.state.gov/t/avc/index.htm. Open Skies is under "Treaties and Agreements" on that page. Additionally, the Open Skies Consultative Commission's website is linked through the "Arms Control" page of the Organization for Security and Cooperation in Europe at http://www.osce.org/what/arms-control. All links accessed on 5 December 2012.

political conditions.[900] As such, CFE explored many of the ideas later woven into Open Skies.[901]

For example, CFE recognizes "groups of state parties" instead of basing the agreement on legacy

Warsaw Pact-NATO nomenclature—a propitious nod to the post-cold-war political map.[902] The

CFE Treaty arose from failed efforts in the 1980s to stabilize the military situation in central

Europe.[903] Unlike preceding negotiations that focused on limiting military personnel, CFE

focused on military equipment.[904] Signed in late 1990, CFE designated certain military hardware

as "treaty limited equipment," or TLE, and placed restrictions on the numbers, concentrations,

and location of TLE within the agreement's application zone, which stretched from the Atlantic

Ocean to the Ural Mountains.[905] It also required the reduction of TLE over a certain period.[906]

Along with these stipulations was the right to verify compliance. An attempt to include an aerial

inspection regime as part of CFE failed, but Articles Fourteen and Fifteen bestowed on

signatories the right to use national and international technical means (reconnaissance satellites)

for verification.[907] However, by the time the parties signed the document in late 1990, it became

---

[900] CFE negotiations began in January 1989 and ended in 1990. Widely referred to as the Conventional Forces in Europe (CFE), the accord was signed in November 1990 and entered into force in November 1992. United Nations, *Treaty on Conventional Armed Forces In Europe* (New York: United Nations, 1990), 2441 UNTS I-44001. United Nations Treaty Series, United Nations. http://treaties.un.org/doc/Publication/UNTS/Volume%202443/v2443.pdf, accessed 24 Nov 2012.

[901] First, CFE's area of application encompassed the whole of Europe, from the Atlantic to the Ural Mountains (Article 2), giving the agreement a sweeping geographic relevance. Open Skies was bigger, from Vancouver to Vladivostok, but at the time such far-reaching application was new to arms control negotiations that normally focused only on central Europe (See Graham and LaVera, 593). Second, CFE provided for an information exchange regime that included inspection protocols (Articles 8 and 9). These ideas and the mentalities that created them can be seen in the Open Skies accord.

[902] United Nations, *Treaty on Conventional Armed Forces In Europe*, Article 2.

[903] Graham and LaVera, *Cornerstones of Security*, 592.   The failed negotiations of the 1980s were dubbed the Mutual Balanced Force Reductions, or MBFR. See the entire background of the CFE Treaty here at Graham's Chapter 22.

[904] Graham and LaVera, *Cornerstones of Security*, 592. Limitations on personnel were agreed upon later. They were based on a German proposal that it would limit military personnel to 370,000, a detail extremely important to the Soviet Union while regarding a united Germany.

[905] United Nations, *Treaty on Conventional Armed Forces In Europe*, Articles 1-9. See "Definitions." Area of application is specifically outlined in Article 2, with a caveat for Greece and Turkey on the sea port of Mersin.

[906] United Nations, *Treaty on Conventional Armed Forces In Europe*, Article 8. Reductions (destructions) were to be completed in three phases after entry into force: twenty-five percent within sixteen months, sixty percent within twenty-eight months, and all obligated reductions within forty months.

[907] United Nations, *Treaty on Conventional Armed Forces In Europe*, Articles 14, 15. For discussions surrounding the failure of a CFE aerial inspection regime, see Tucker, "Negotiating Open Skies." Also, Ralph Lysyshyn, "Open Skies Ahead," *NATO Review* 40, no. 1 (1992), NATO Online Library, NATO. http://www.nato.int/docu/review/1992/9201-5.htm, accessed 3 Dec 2012. Also, Dunay et al., "Open Skies: A Cooperative Approach to Military Transparency and Confidence Building," 29.

clear that satellite verification within just the CFE application zone would not return sufficient confidence that all parties—namely the Soviet Union—were in compliance.

The problem was that the Soviets simply transported CFE-limited equipment and forces out of the CFE application zone to areas east of the Ural Mountains, a maneuver that did not go unnoticed by delegates involved in the Open Skies talks.[908] Ralph Lysyshyn was one of the Canadian lead delegates to Open Skies negotiations. He commented in *NATO Review* in 1992 on the changing map of Europe and on the thematic connections between CFE Treaty negotiations and Open Skies:

> Events in Europe between May 1990 and the summer of 1991 fundamentally changed the Open Skies dynamic but in a very complex manner. While it was clear that NATO no longer faced the same threat from the USSR, the failure to obtain an aerial inspection regime in the CFE treaty and the Soviet decision to move large numbers of forces and CFE treaty-limited equipment out of the 'Atlantic-to-the-Urals' zone, made an Open Skies agreement appear more urgent to many in the Alliance. As a result, it became possible for NATO countries to offer serious concessions on sensors, data sharing, and aircraft ownership. The Soviet Union, however, continued to refuse corresponding concessions on access to its entire territory.[909]

Thus, for the states involved in both sets of negotiations, Open Skies presented the opportunity to compensate for the verification loophole in the CFE that was being exploited by the Soviets. This is just one example that demonstrates how CFE and Open Skies negotiations were irrevocably interrelated. As the actual events unfolded, CFE and Open Skies negotiations referenced each other frequently and, at times, stopped one set of talks to wait on the outcome from the other.[910] In the end, the parties to negotiations sacrificed a dedicated CFE aerial inspection regime so they could establish the broad territorial access provided by Open Skies

---

[908] The Soviets also relabeled three motorized rifle divisions as Naval units. Ironically, this gave the Soviet navy more tanks than many European nations were allowed under the CFE Treaty. See Lee Feinstein, "CFE Treaty Hits Potholes in Road to Ratification," *Arms Control Today* 21, no. 2 (1991): 24, Newspaper and Current Periodical Reading Room, Library of Congress.
[909] Lysyshyn, "Open Skies Ahead." Jonathan Tucker also speaks to Soviet maneuvering from the American point of view in his writings. See Tucker, "Negotiating Open Skies," 29.
[910] Tucker, "Negotiating Open Skies," 30.

—"from Vancouver to Vladivostok." This came at the cost of conceding to Soviet demands to limit Open Skies to only a certain number of sensor types (imaging), to allow the observed party to substitute their own observation aircraft (the taxi option), and to require mission reports to be immediately available to the observed nation.[911] The maximum sensor resolution allowed by Open Skies is also the product of CFE-Open Skies interaction, with 30 centimeters being just enough to identify most types of hardware designated in the CFE Treaty as TLE.[912]

The relationship between Open Skies and CFE also places aerial reconnaissance in context as only one of many other treaty verification methods. RAND's Richard Darilek wrote that verification has three objectives: detection, deterrence, and confidence building.[913] As he posits, "these purposes are not independent but, rather, interdependent and cumulative. In other words, one's ability to detect improves with the ability to deter and the ability to do both—that is, both detect and deter—is what actually produces the confidence."[914] Verification, then, begins with the ability to detect. The more methods of detection employed, the more likely it is that conditions and items of interest will be detected at all. In the case of the CFE Treaty, satellites are used to detect the numbers and locations of tanks, ACVs, artillery, and aircraft. But satellite imaging may be obstructed by weather or restricted by orbital mechanics or fuel expenditure, or simply not be available due to workload. The capacity of Open Skies to supplement—even at a relatively reduced resolution—any other means of verification lies in its liberal view of territorial access. The Open Skies accord allows for imaging almost anything within the sovereign

---

[911] Feinstein, "CFE Treaty." Also from Ross Howard, "Talks on Open Skies Adjourne Amid Impasses," *Globe and Mail*, 26 February 1990, Newpaper and Current Periodical Reading Room, Library of Congress.

[912] For example, the CFE Treaty (as signed) limited battle tanks to 20,000, armored combat vehicles (ACVs) to 30,000, artillery pieces to 20,000, combat aircraft to 6,800, and attack helicopters to 2,000 for each of the groups of countries. See United Nations, *Treaty on Conventional Armed Forces In Europe*, Articles 3 and 4. Framing and video cameras at Open Skies Treaty resolution (30 centimeters) is enough to count individual tanks, ACVs, aircraft, and helicopters.

[913] Richard Darilek, "Political Aspects of Verification: Arms Control in Europe," in *A Proxy for Trust: Views on the Verification Issue in Arms Control and Disarmament Negotiations*, ed. John O'Manique(Ottawa: Carleton International Proceedings, 1984)65.

[914] Darilek, "Political Aspects of Verification," 65.

geographic limits of any signatory.[915] It can "cue," compliment, or supplement other verification methods such as onsite inspections, remote monitoring, or national technical means.[916] This freedom also allows observation flights to contribute to whatever effort the inspecting nation chooses, be it arms control verification or the simple exercise of overflight privileges which, at its core, is a diplomatic endeavor.

The justification for reconnaissance under Open Skies may have begun as an arms control discussion but it now lies in its synergy with other diplomatic efforts. The fact that Open Skies was *not* an arms control agreement, but *can* be used to support one speaks to its inherent versatility as a diplomatic tool. Jonathan Tucker noted that "in contrast with an arms control verification regime, the targets of observation in Open Skies were not narrowly defined in terms of specific military sites or treaty-limited items."[917] Open Skies observation flights were intended to be applied across the range of diplomatic goals. The fact that the parties who struggled through years of difficult negotiations to produce the treaty did not limit its aerial reconnaissance only to arms control conveys their hopes for its broad application. Crisis deescalation, strengthening peace, and environmental monitoring were all considered uses for observation flights during negotiations.[918] In any context, the reciprocal format constructed by

---

[915] There are a few prohibitions and restrictions, outlined in the Preamble and Articles 1, 3, 4, and Annex A. Most have to do with safety and controlling for sensor resolution.

[916] Examples of arms control treaties that apply different verification methods: (1) Anti-Ballistic Missile Treaty (ABM, or SALT I), signed in May 1972, requires only NTM for verification; (2) the Treaty on the Elimination of Intermediate Range and Shorter-Range Ballistic Missiles (INF Treaty), signed in December 1987, stipulates the use of NTM and onsite inspections and commands observed the party to "open roofs and cooperatively display contents" for satellite inspection, and allowed 13 years post-ratification of reciprocal aerial inspection to make sure "intermediate-range nuclear weapons [were] progressively eliminated by the year 2001,"; (3) the Chemical Weapons Convention, signed in January 1993, allows for onsite inspections only. Banner et al., *Aerial Reconnaissance*, 28-29. United Nations, *ABM Treaty*. United Nations, *Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction* (New York: United Naitons, 1992), 1974 UNTS I-33757. United Nations Treaty Series, United Nations. www.treaties.un.org, accessed 5 Dec 2012. The idea to use the term "cueing" here comes from Gabriele, *The Treaty on Open Skies and Its Practical Applications and Implications for the United States*, 28. Also see *Open Skies, Arms Control, and Cooperative Security*, 221.

[917] See Figure 32 in Appendix B for examples. Tucker, "Negotiating Open Skies," 44. See his discussion beginning on that page regarding "macro-" and "micro-" levels of transparency.

[918] Maurice Eisenstein et al., *Methodologies for Planning On-Site and Aerial Inspections for Use in Treaty Negotiations* (Santa Monica: RAND, 1994). v-xi. Crisis deescalation, environmental monitoring, and strengthening peace come directly from the Preamble, fourth, sixth, and seventh paragraphs, Organization for Security and Cooperation in Europe, *Treaty on Open Skies*.

the Open Skies regime produces the affirmation that there are "shared beliefs at work."[919] States

that exercise their privileges under the treaty are confirming that both sides want peace and both

are willing to sacrifice a bit of sovereignty to pursue it.

Result—Open Skies

The results of establishing the Open Skies regime have been encouraging. Its

performance can be measured in the vigor with which its members have participated during its

time in force and the fact that the treaty remains actively supported by its original twenty-seven

members and has added seven more nations to make the total membership thirty-four.[920] The

latest data on observation flights published by the Organization for Security and Cooperation in

Europe (OSCE) is as of 31 December 2011. That data shows 835 observation flights conducted

since entry into force in early 2002, with at least some over every member's territory.[921] The

data is particularly interesting when considering that some member states, such as Belarus and

Germany for example, do not own or operate their own observation aircraft. In fact, the US

Department of State's Open Skies data and corresponding OSCE information show only nine

types of certified observation aircraft as of late 2011, counting as one each the OC-135B fleet

operated by the United States and the certified observation "pod" now shared by eight nations as

---

[919] Gabriele, *The Treaty on Open Skies and Its Practical Applications and Implications for the United States*, 26.
[920] Department of State, *Open Skies Treaty Fact Sheet* (www.state.gov: Office of the Spokesperson, Department of State, 2012), Web Page, posted on 23 March 2012. http://www.state.gov/r/pa/prs/ps/2012/03/186738.htm, accessed 20 Nov 2012. The 34 state members to the treaty as of March 2012 (latest available from the US State Department) are: Belarus, Belgium, Bosnia-Herzegovina, Bulgaria, Canada, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, Slovak Republic, Slovenia, Spain, Sweden, Turkey, United Kingdom, Ukraine, and United States. Kyrgyzstan has signed but not yet ratified.
[921] Open Skies Consultative Commission, *Open Skies Treaty Observation Flights*, OSCC.DEL/5/12/Corr.1.

one group of state parties.[922] That more than half of the parties to the treaty exercise their active

quota by sharing a ride aboard another party's observation aircraft is evidence enough to the

ongoing cooperation that fulfills the treaty's intent, but it also raises some subtle issues.

Some parties to the Open Skies regime stand to benefit—and have benefitted—much

more than others. This is because the treaty creates somewhat of a "free rider" problem for

signatories that are wealthier societies. Consider the example of the United States.[923] If the

treaty allows for any party to request the data from any observation flight over the US, then there

is little incentive for some signatories to purchase and operate their own observation aircraft,

especially given the cost of deploying an aircraft from Europe to the continental United States.

Instead of collecting their own data over the US, parties may purchase imagery at an extremely

low monetary cost.[924] This means that relatively less wealthy states have access to all the

benefits of Open Skies, but the handful of wealthier states bear the complete financial burden of

funding a standing Open Skies flying unit.[925] The Republic of Belarus, who does not operate an

observation aircraft, is an apt example of the former. In the period between the first and second

Open Skies review conferences, 2005 and 2010 respectively, Belarus obtained imagery directly

from 190 observation flights over other state parties through a sharing arrangement with Russia,

---

[922] Department of State, *Open Skies Fact Sheet*. The "pod" group now consists of a group of eight state parties (Benelux, Canada, France, Greece, Italy, Norway, Portugal, Spain) with Denmark being the only deletion from the original group of nine. Also see Open Skies Consultative Commission, *20 Years of Open Skies* (www.osce.org: Organization for Security and Cooperation in Europe, 2012), Web Page, updated March 2012. http://www.osce.org/oscc/89033, accessed 20 Nov 2012.
[923] The term "free rider" is used in Gabriele to make a different argument. I use it here because it precisely fits the discussion. Gabriele, *The Treaty on Open Skies and Its Practical Applications and Implications for the United States*, 48.
[924] The treaty simply says that the state requesting the imagery from observation flights must compensate the providing state for duplication fees and contains provisions for cost-sharing when observation flights are shared by more than one party. See Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 6, para 21. Also see "Basic Elements of the Treaty" in Department of State, *Open Skies Fact Sheet*. "As a result [of the information sharing provisions], each State Party may obtain more data than it actually collects under the Treaty quota system."
[925] The US operates its Air Force OC-135Bs from the 45th Reconnaissance Squadron at the 55th Wing, Offutt Air Force Base, Nebraska. See http://www.af.mil/information/factsheets/factsheet.asp?fsID=120.

and was able to purchase data from an additional 154 flights over other territories.[926] Over the

same period, it hosted only 31 observation flights over Belarus.[927] This fact of life is the

intended "leveling effect" of the treaty. Open Skies was designed to normalize benefits for

budget, scale, and technology across its international membership, making all parties equal in

terms of territorial access and information exchange. However, that parity comes at a relatively

higher monetary price for those with the ability to fund aircraft and operations.

That is not to say any unequal monetary cost to members within the Open Skies regime is

a pacing result from its first ten years in force, it is only an observed anomaly. The United States

benefits in different ways that are difficult to measure, but diplomatically logical. Ambassador

John Hawes claimed as much in his memoirs about the Open Skies negotiations.[928] He listed

many potential gains from America's sponsorship and participation in the Open Skies Treaty.

First, there is the day-to-day confidence building and the diffusing of tensions that accompanies

arranging and executing observation flights.[929] This includes the diplomatic satiation from

collecting imagery over a possible adversary's military installations, but it also goes beyond

routine intelligence because Open Skies reconnaissance can be precisely targeted by the

observing nation to inform its pressing concerns of the day.[930] Next, there is, of course, the

contribution to arms control as was discussed above in the case of the CFE Treaty. Along that

line of thought, Hawes gave specific mention to the Open Skies provision allowing additional

quotas to help assuage fear in times of crisis.[931] Eighteen years after Hawes' comments,

---

[926] *Statement by the Delegation of the Republic of Belarus at the Second Review Conference on the Implementation of the Treaty on Open Skies*, 2010. OSCC.RC/33/10, Documents Library, Organization for Security and Cooperations in Europe. www.osce.org/library, accessed 1 Dec 2012.
[927] *Statement by the Delegation of the Republic of Belarus at the Second Review Conference on the Implementation of the Treaty on Open Skies*, OSCC.RC/33/10.
[928] Hawes, *Open Skies*.
[929] Hawes, *Open Skies*, 32, 40.
[930] Hawes, *Open Skies*, 40.
[931] Hawes, *Open Skies*, 41.

Ambassador Ian Kelly was the chief American delegate to the Second OSCC Review Conference in Vienna in 2010 and confirmed that the treaty had performed as Hawes predicted.[932] In his opening remarks, Kelly claimed sweeping results from the first ten years of the Open Skies regime: "The Open Skies Treaty has become a model for cooperation and transparency, operating not only within the letter of the Treaty, but also within the spirit of the Treaty. I say that last part about the spirit of the Treaty in earnest, because as we transition away from a Cold War mentality, realizing that European security is not a zero-sum game…one of the key benefits of the Treaty was, and still is, the close official cooperation required to implement it…The Treaty on Open Skies is an interlocking part of European security, supporting and supported by other means."[933] The United States has recognized robust diplomatic benefits for itself simply by pursuing enduring relationships with others within the Open Skies context.

The treaty and its provisions are not static, something easily observed from the most recent OSCC review conference.[934] First and probably most relevant, the conference recognized that many of the reconnaissance observation aircraft were aging and required replacement.[935] One idea resurrected from the original Open Skies negotiations was the possibility of creating an international squadron of observation aircraft to be shared by all.[936] Second, the collection,

---

[932] Ian Kelly, *Opening Remarks by Ambassador Ian Kelly to the Open Skies Review Conference, Vienna, June 7, 2010,* 2012. OSCC.RC/34/10, Documents Library, Organization for Security and Cooperation in Europe. www.osce.org/library, accessed 1 Dec 2012.

[933] Kelly, *Opening Remarks by Ambassador Ian Kelly to the Open Skies Review Conference, Vienna, June 7, 2010*, OSCC.RC/34/10.

[934] Officially called the "Second Review Conference for the Open Skies Treaty," held in Vienna in June 2010. Click on http://www.osce.org/secretariat/69797.

[935] Open Skies Consultative Commission, *Final Document of the 2nd Open Skies Review Conference,* 2010. OSCC.RC/39/10, Documents--Second Review Conference for the Open Skies Treaty, Vienna, 7-9 June 2010, Organization for Security and Cooperation in Europe. http://www.osce.org/secretariat/68703, accessed 26 Nov 2012. Ambassador Kelly also mentioned this aspect. Kelly, *Opening Remarks by Ambassador Ian Kelly to the Open Skies Review Conference, Vienna, June 7, 2010*, OSCC.RC/34/10.

[936] Ambassador Kelly submitted this idea and referenced Mikhail Gorbachev as its originator. It was also presented by the Russian delegation. See Kelly, *Opening Remarks by Ambassador Ian Kelly to the Open Skies Review Conference, Vienna, June 7, 2010*, OSCC.RC/34/10. Also, *Statement by the Head of the Delegation of the Russian Federation at the Opening Session of the Second Review Conference on the Implementation of the Treaty on Open Skies*, 2010. OSCC.RC/23/10, Documents Library, Organization for Security and Cooperation in Europe. www.osce.org/library, accessed 3 Dec 2012.

storing, and sharing of imagery data was updated to electro-optical formats, significantly

increasing the transportability of information and reducing the cost of reproduction.[937] Such

changes make the exchange of information, one of the pillars of the Opens Skies regime, much

easier. The attention and time paid by OSCC members to the advancement of treaty

reconnaissance sensors and data technology is telling. The OSCC's sensor working group

presentation at the 2010 review conference was the starting item on the agenda and discussions

over its content lasted the entire first day.[938] The working group's chief, Scott Simmons, noted

that at the last OSCC review conference in 2005 no state party had certified an infrared or SAR

sensor and all treaty optical framing and video cameras were still using black-and-white film.[939]

By the 2010 conference, all that had advanced. The treaty now allows for the use of digital color

cameras and some parties now operate certified infrared and SAR devices that record to digital

media in treaty-exchangeable formats.[940] The historical and ongoing progression on sensor and

data technology is an indicator that member states value the treaty and wish to see it remain

sustainable.

Ironically, although Open Skies is not an arms control agreement, its contribution to arms

control usually gains first mention during discussion of the treaty's performance. Of the nine

member states who delivered opening statements at the 2010 review conference, only the

delegate from Norway did not praise Open Skies specifically as a necessary and successful arms

---

[937] Scott Simmons, *Report to the 2010 Review Conference on the Work of the Sensor Working Group,* 2012. OSCC.RC/29/10, Documents Library, Organization for Security and Cooperation in Europe. www.osce.org/library, accessed 7 Dec 2012.
[938] Open Skies Consultative Commission, *Draft Agenda of the Second Open Skies Review Conference (OSRC) 2010,* 2010. OSCC.RC/2/10/Rev.2, Documents Library, Organization for Security and Cooperation in Europe. www.osce.org/library, accessed 2 Dec 2012.
[939] Simmons, *Report to the 2010 Review Conference on the Work of the Sensor Working Group*, OSCC.RC/29/10.
[940] Simmons, *Report to the 2010 Review Conference on the Work of the Sensor Working Group*, OSCC.RC/29/10. Page 2 in the downloadable pdf file. Also see OSCC decisions 1/12, 2/12, 4/11, 6/11, and 8/10, available at the US Department of State's Open Skies website http://www.state.gov/t/avc/cca/os/c26158.htm. Note also that in years 2007, 2008, 2009 and 2010, prolonging the work of the sensor working group was the first decision made by he OSCC (decisions 1/07, 1/08, 1/09, 1/10).

control device during his remarks.[941] All the member state delegates claimed Open Skies was irreplaceable as a military transparency tool among an unequal group of member states, allowing less endowed parties uninhibited access to their militarily superior neighbors.[942] Considering its proximity and historic ties to the CFE Treaty, such accolades and hopefulness for Open Skies as an arms control verification instrument makes sense. Its provisions that allow the OSCC to expand the type of reconnaissance sensor, to include air samplers or multispectral imaging systems in the future, for example, are prescient and allow for its continued relevance.[943] Also to that end, the OSCC second review conference members included an outreach clause in their final document in the hope of expanding the regime from the Northern Atlantic to a more global representation.[944]

Conclusion—Open Skies

The objectives of the Open Skies Treaty are to improve openness and transparency, support the verification of existing and future arms control agreements, and strengthen the capacity for conflict prevention and crisis management among its members.[945] The nucleus of the Open Skies Treaty is the right to penetrate and reconnoiter any point from over the territory of the state parties. This right is balanced by the treaty's controls on observation aircraft, sensor performance, flight distance, and certification and procedural requirements. Controls act in the interest of the observed state to protect its security and sovereignty. The Open Skies Treaty also

---

[941] See the opening remarks from the delegates from Belarus, France, Germany, Greece, Hungary, Norway, Russia, Sweden, and the United States at the OSCE's OSCC documents library. Open Skies Consultative Commission, "2nd Open Skies Review Conference Website". Click on the tab "Documents" from the Opening Session, Monday, 7 June, 2010. The delegate from Greece called the treaty "both a conventional arms control instrument and a confidence building tool."
[942] Open Skies Consultative Commission, *Final Document of the 2nd Open Skies Review Conference*, OSCC.RC/39/10.
[943] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 4, para 3, and Article 10.
[944] Open Skies Consultative Commission, *Final Document of the 2nd Open Skies Review Conference*, OSCC.RC/39/10.
[945] See the Preamble. Organization for Security and Cooperation in Europe, *Treaty on Open Skies*.

applies creative elements to foster strengthened diplomatic ties using aerial reconnaissance. It compels close and sometimes tedious cooperation between observing state and observed state crew members during observation flights, unlike unilateral satellite reconnaissance operations for national or commercial application. Aircraft and crew are the elements of the observing state's presence within the Open Skies construct. The imagery from observation flights is available to all signatories of the accord for treaty purposes and is not beholden to other intelligence-sharing or alliance restrictions. Thus, Open Skies members gain equality among each other through reciprocal access and information exchange. By preventing an information monopoly among its members, the treaty reduces anxiety over other states' military posture and activities.

Open Skies is unique in how it uses peacetime aerial reconnaissance to achieve its diplomatic goals. As mentioned at the beginning of this discussion, the 1959 Antarctic Treaty also allows for observation overflight, but there are important differences. The Antarctic treaty provides for aerial observation over the whole of Antarctica as an international continent. The aim of aerial observation in the Antarctica case is to provide a mechanism of verification for any state to ensure other states are adhering to the accord, much like the goal of Open Skies. However, there are no constraints to freedom of navigation or sensor performance within the Antarctic treaty because there is no requirement to protect the sovereignty and security of Antarctica other than as an international entity. The legal basis for reconnaissance over Antarctica comes from the international character of the continent itself, the same basis as reconnaissance over international waters. The Open Skies agreement is a much more complex entity because it bestows a higher order of privileges among its members. Rather than preserving a state's right to access and observe an international landmass, Open Skies provides

legal grounds for penetrating and imaging a sovereign state's territory for *any* purpose. While

the goals of the agreements are the same, their logic is inverse. The Antarctic agreement permits

aerial reconnaissance to preserve an already international entity, the Open Skies agreement

encourages aerial reconnaissance to create one.

Finally, the Open Skies regime is about avoiding strategic surprise, but it is not limited to

that end. The political cooperation compelled by its provisions could be attained through other

means to be sure, but the mechanism of the accord happens to use aerial reconnaissance for

treaty verification *as a means to* strengthening peace. In other words, Open Skies may

complement or supplement other means of verification in synergy, but this fact does not lessen

its importance as a diplomatic tool. Here, it is unavoidable to note that Open Skies was an

affirming step in a long chronology of successive and cumulative confidence-building

agreements. Its lineage can be drawn from the 1963 "hotline" agreement between the United

States and the Soviet Union, the 1975 Helsinki, the 1986 Stockholm, and the 1990 and 1992

Vienna accords.[946] Its mechanism can be applied, and is meant to be applied, to other diplomatic

endeavors like environmental monitoring, population study, or crisis management. Also, Open

Skies may provide a model regime for pairs of nations that may not see themselves as compatible

with the treaty community. The regime is the largest of its kind, but there have been similar

agreements and efforts in the past. In 1991, Romania and Hungary implemented a similar

bilateral agreement to lessen tensions between the two adversaries.[947] Representatives from

---

[946] Michael Krepon and Peter Constable, "Confidence-Building, Peacemaking, and Aerial Inspections in the Middle East," in *Open Skies, Arms Control, and Cooperative Security*, ed. Michael Krepon and Amy Smithson(New York: St. Martin's Press, 1992)243-244.
[947] This bilateral agreement was supplanted by the current Open Skies Treaty, but remains the basis for a continuing set of military exercises between the two. *Open Skies for Peace*, 6. Also see Marton Krasznai, "Cooperative Bilateral Aerial Inspections: The Hungarian-Romanian Experience," in *Open Skies, Arms Control, and Cooperative Security*, ed. Michael Krepon and Amy Smithson(New York: St. Martin's Press, 1992).

India and Pakistan worked on the beginnings of a bilateral, micro-Open Skies regime in 2001.[948]

Thus, the underlying diplomatic justification for Open Skies and its use of aerial reconnaissance

is generally accepted as sound. The treaty is doing exactly as it set out to do. At the time of this

writing, Open Skies has just past its twentieth birthday. It is likely to see its fortieth.

Air Monitoring in the Sinai

Aerial monitoring in different forms has quietly accompanied modern Middle East

history since the mid-1950s. United Nations reconnaissance over the Iran-Iraq border, the Sinai

Peninsula, and the Lebanese-Israeli boundary are demonstrable examples.[949] The histories of

United Nations or third-party peacekeeping forces in these areas are relatively well known, but

the facts about their associated employment of aerial reconnaissance as a means for treaty and

cease-fire verification are usually footnotes and asides woven into broader discussions.[950] This is

understandable. The Arab-Israeli impasse and the colonial and sectarian struggles that have

always shaped the region are unavoidably complex, as are the locations and status of contentious

international borders—a contextual factor invariably relevant to any discussion of aerial

---

[948] The talks did not produce an agreement, but the effort was there. *Open Skies for Peace*, 6.

[949] This general claim comes from Peter Constable, who served previously as as US Senior Deputy Assistant Secretary of State for Near East and South Asian Affairs, and from 1984 to 1988 as the Director General of the Multinational Force and Observers (MFO) in the Sinai. Krepon and Constable, "Confidence-Building, Peacemaking, and Aerial Inspections in the Middle East," 244. United Nations Observation Group in Lebanon and United Nations Interim Force in Lebanon (UNOGIL and UNIFIL) began in 1958 and 1978, respectively, and employed aerial observations in the north area of the the UN security zones (roughly between Israel and Lebanon) using light aircraft and helicopters, some equipped for aerial photography, in contact with ground observation and patrolling stations. UNOGIL ended the same year, but UNIFIL persists still. Current UNIFIL status is available in detail at http://www.un.org/en/peacekeeping/missions/unifil/index.shtml, published by UN.org and accessed 11 Dec 2012. UN Iran-Iraq border monitoring between 1988-1991 (UNIIMOG) used indigenously provided Iranian and Iraqi helicopters with UN markings, a frustrating and overall poor experience for UN inspectors. Aerial observation in the Sinai began in 1956 following that year's Suez Canal crisis and is the primary subject of this section. All UN data in this sentence is from United Nations, *The Blue Helmets, 3rd ed*, Chapters 6 and 7.

[950] As an example, review chapter twenty-three in Henry Kissinger, *Years of Upheaval* (New York: Simon & Schuster, 1982). Aerial reconnaissance as a treaty verification measure is pointed out as footnotes to the section on the numerous Sinai agreements, on pages 1250, 1251, and 1254.

reconnaissance. Thus, different designs of peacetime air monitoring for treaty verification over the Middle East have tended to be the analog of their complicated diplomatic circumstances.

To begin with, at least three categories of aerial verification as a form of aerial monitoring can be discerned from a study of post-World War II reconnaissance operations in the Middle East. All are cooperative in the sense that two or more parties accept a given set of constraints for aerial verification and agree to varying degrees of accommodation, which may be as simple as each party providing a promise of noninterference with the other's aircraft. The January 1974 Egyptian-Israeli Disengagement Agreement, now commonly cited as Sinai I, illustrates such simple requirements and is an example of the first category of aerial verification: bilateral. This agreement and its Israeli-Syrian equivalent, which was signed four months later in May 1974, are usually credited to Secretary of State Henry Kissinger's famous "shuttle diplomacy."[951]

Sinai I codified the cease-fire following the 1973 Yom Kippur War and created a simple, straightforward verification regime that monitored each side's adherence.[952] The agreement striated the Sinai Peninsula with three north-south lines, roughly parallel to the Suez Canal, extending from the Mediterranean Sea to the Gulf of Suez.[953] Egypt was to withdrawal its forces west of "the Egyptian line," while Israel was to withdraw the other way, east "the Israeli line."[954] The resulting buffer zone between the two was to contain the second United Nations Emergency Force, UNEF II, that embodied half of the agreement's verification regime. It was UNEF II's job

---

[951] As examples: Itshak Lederman, *The Arab-Israeli Experience in Verification and Its Relevance to Conventional Arms Control in Europe* (College Park: University of Maryland, 1989), Center for International Security Studies at Maryland, Occasional Paper 2. 4. Ensio Siilasvuo was the Finnish commander of UNEF II and subtitles chapter seventeen of his memoirs "Kissinger's first shuttle," Ensio Siilasvuo, *In the Service of Peace in the Middle East 1967-1979* (New York: St. Martin's Press, 1992). 193.
[952] See Figure 33 in Appendix B for a map of the Sinai I agreement. For a full text version of the Sinai I agreement, see Kissinger, *Years of Upheaval*, 1250-1251. Signed 18 January 1974.
[953] See the map at Kissinger, *Years of Upheaval*, 839.
[954] Kissinger, *Years of Upheaval*, 1250.

to sustain the buffer zone and "stabilize the shaky cease-fire."[955] The second half of the

verification regime comprised bilateral aerial reconnaissance. Each side could fly its air forces

"up to the their respective lines without interference from the other side."[956] In the ensuing days,

Egypt and Israel flew verification missions within the letter of the agreement, each one flying

reconnaissance along their respective lines while allowing the other to do the same

unmolested.[957] In any other context, such an arrangement could almost be labeled "standard,

unilateral reconnaissance." After all, each side flew its own aircraft within its own

internationally recognized boundaries without coordinating mission timing or most other details.

However, the fact that the two sides had just ceased fighting, and each had agreed to allow the

other to operate aircraft free from interference, made the arrangement truly bilateral. The Israeli-

Syrian Separation of Forces Agreement, signed on 31 May 1974, established a roughly

equivalent verification regime in the borderlands between Israel and Syria (the Golan Heights),

also the site of vicious fighting in the 1973 Yom Kippur War.[958] The simple yet stringent format

of these two aforementioned bilateral verification regimes stand in obvious contrast to the more

intricate and intrusive arrangement granted by Open Skies.

In at least two ways, Sinai I's arrangement of the aerial verification regime probably

reflected the diplomatic anxieties of the time. Israel remained deeply suspicious of the United

---

[955] Smithson, "Multilateral Aerial Inspections," 114. Also see the history of UNEF II at United Nations, *The Blue Helmets, 3rd ed*, 57-71. UNEF II was composed of forces from states who were nonpermanent members of the UN Security Council. UNEF I was the name for the previous UN Emergency Force sent to the Sinai following the 1956 Suez Canal Crisis. UNEF I is briefly discussed below.
[956] Sinai I agreement, subparagraph 6 of paragraph B, Kissinger, *Years of Upheaval*, 1251.
[957] Lederman, *Arab-Israeli Experience*, 7.
[958] Lederman, *Arab-Israeli Experience*, 3-5. See full text of the Agreement on Disengagement between Israeli and Syrian Forces, 31 May 1974, see Kissinger, *Years of Upheaval*, 1253.

Nations and had viewed the body as pro-Arab at least since the end of the 1967 war.[959] Egypt's

Sadat was searching for ways to free Egypt from overbearing Soviet sponsorship since the 1956

Suez crisis. As an example, he considered returning four Soviet Mig-25s Egypt happened to be

using for reconnaissance over the Sinai from Cairo West airport.[960] It makes sense that Sinai I

was a broad framework and, as such, went as far as the existing diplomatic appetites would

allow. Hence, the 1974 aerial verification regimes were simply "a first step," in the language of

the Sinai I agreement, to maintain order and the minimal cooperation necessary to progress

beyond a military cease-fire.[961] Later aerial verification constructs would reflect the diplomatic

progression from subsequent peace negotiations.

 The second category of aerial verification in the Middle East is best labeled as third-party.

The second Egyptian-Israeli Disengagement Agreement—Sinai II—built upon the first when it

extended aerial verification to third-party participants. Signed on 4 September 1975, Sinai II did

not enter into force until the parties agreed over its verification protocol on 22 September—an

indication of the importance of treaty verification to all involved.[962] Sinai II began by providing

specific parameters for aerial reconnaissance set up under Sinai I.[963] Article 5 of the protocol

---

[959] Ensio Siilasvuo, the UN commander of the UNEF II following the Sinai I agreement, wrote about Israeli mistrust of the UN during his exchanges and negotiations following the 1967 Six Day war. Henry Kissinger echoed this perception and carried it forward to the negotiations in 1973. Kissinger documented in his memoirs the difficulty in gaining Israel's attendance at the December 1973 Geneva conference: "Israel was so highly suspicious of the United Nations and did not want anything more than a ceremonial UN role." Siilasvuo, *In the Service of Peace*, 69. Kissinger, *Years of Upheaval*, 750-757. Quote is from page 757.
[960] Kissinger, *Years of Upheaval*, 768. Information here comes from Kissinger's account of a conversation with Sadat in his Cairo office on 13 December 1973.
[961] Paragraph D in Sinai I reads "This agreement is not regarded by Egypt or Israel as a final agreement. It constitutes a first step toward a final, just and durable peace according to the provisions of Security Council Resolution 338 and within the framework of the Geneva Conference." Kissinger, *Years of Upheaval*, 1251. Security Council Resolution 338 called for the immediate cease-fire in the fighting during the Yom Kippur war, also called the October War of 1973. United Nations Security Council, *Resolution 338 (1973) of 22 October 1973,* 1973. S/RES/338 (1973), UN Official Document System, UN.org. www.un.org/en/documents/ods, accessed 11 Dec 2012. Also see Siilasvuo, *In the Service of Peace*, 87.
[962] See Figure 34 in Appendix B for a map of the Sinai II agreement. Smithson, "Multilateral Aerial Inspections," 130.
[963] The full text of Sinai II can be referenced at Comptroller General of the United States, *Report to the Congress: An Evaluation of the U.S. Early Warning System in the Sinai* (Washington, D.C.: United States General Accounting Office, 1977). Appendix 1, 47-60.

was dedicated wholly to "Flights and Aerial Reconnaissance."[964] It outlined exact routes,

timelines, and constraints for aerial reconnaissance to verify disengagement.[965] For example,

either party could fly up to their respective "forward line" (newly defined in Sinai II as Line J for

Israel and Line E for Egypt, see Figure 34 in Appendix B) with up to two reconnaissance planes

at once and could fly up to seven flights per week. Reconnaissance aircraft were to remain

above 15,000 feet and each party had to provide the other six hours notice.[966] In these

provisions, Sinai II further clarified reconnaissance operations already ongoing. On the ground

and in unison with aerial efforts, UNEF II remained in place to do its part for peace enforcement

and arms verification. However, there was more to it. The Sinai II agreement continued on in

the Annex to place the United States in the role of honest broker.

Sinai II entrusted the United States on behalf of all sides to: (1) monitor Mitla and Gidi

Pass areas of the Sinai buffer zone (providing Israel with "strategic depth" and therefore

warning); (2) monitor the operations of the Egyptian and Israeli surveillance stations; and (3)

conduct aerial reconnaissance missions over the entire Sinai as covered by the agreement.[967] To

fulfill its role, the United States opened the Sinai Support Mission (USSSM) in Washington to

oversee and engage its diplomatic responsibilities while sending civilian members to the Sinai to

populate what became the US Sinai Field Mission (USSFM) to execute required inspections

---

[964] Comptroller General of the United States, *Report to the Congress: An Evaluation of the U.S. Early Warning System in the Sinai*, Appendix 1, 59.
[965] See Comptroller General of the United States, *Report to the Congress: An Evaluation of the U.S. Early Warning System in the Sinai*, Appendix 1, 59.
[966] Comptroller General of the United States, *Report to the Congress: An Evaluation of the U.S. Early Warning System in the Sinai*, Appendix 1, 59. Information in this section is in paragraph 2, subparagraphs a, b, c, and f.
[967] These provisions from Sinai II as paraphrased from Brian Mandell, *The Sinai Experience: Lessons in Multimethod Arms Control Verification and Risk Management* (Ottawa: Canada Department of External Affairs, 1987). 6-8. Also see the discussion in Nadar Safran, *Israel: The Embattled Ally* (Cambridge: Harvard University Press, 1978). 546. Israeli Defense Minister Shimon Peres argued for "strategic depth," meaning the constant monitoring of the Mitla and Gidi passes in the Sinai. Israel was very leery of another Arab surprise attack of the type from October 1973. Maintaining 24/7 watch over the Mitla and Gidi pass would provide Israel with its much-needed 12 hours early warning.

there.[968] As for the third element—the directive to conduct aerial reconnaissance—the US began flying reconnaissance missions every seven to ten days or whenever it received a special request from either party or the UNEF. Flying SR-71 Blackbirds and then U-2s over the peninsula, the US provided mission results to all parties.[969] To be clear, the US had already been flying unilateral aerial reconnaissance over the area with SR-71s from the outbreak of the 1973 Yom Kippur War.[970] That America shared some of the revealing photographic results from early Blackbird overflights to broker peace probably accounts for the language in Sinai II that directs the "continuation of aerial reconnaissance missions by the United States over the areas covered by the Agreement…following the same procedures already in practice."[971] Thus, Sinai II expanded the use of aerial reconnaissance over the Sinai by merging both bilateral and third-party aerial verification.

It is no less of a point to emphasize that the aerial verification regimes under Sinai I and Sinai II were one element among many robust, treaty-constructed verification measures. UNEF II comprised 4,000 people on the ground in the Sinai to verify, through human observation and onsite inspection, that the Israelis and Egyptians were indeed in compliance with mandated troop and equipment restrictions within their respective "limited force zones."[972] Sinai II also established Egyptian, Israeli, and US third-party ground electronic monitoring stations to provide

---

[968] Department of State, *Peace in the Sinai* (Washington, D.C.: Department of State, 1982). i-ii. Ambassador Frank Maestrone, Director of the Sinai Support Mission, provided this section of *Peace in the Sinai*.
[969] Mandell, *The Sinai Experience*, 13, 15. See Table 1 on page 15. Confirmation that the US began using the U-2 in this role is from Lederman, *Arab-Israeli Experience*, 9. Also from testimony by Ambassador Michael Sterner in United States Senate Committee on Foreign Relations, *Sinai Agreement: Hearing Before the Committee on Foreign Relations, United States Senate, Ninety-seventh Congress, First session, on S.J. Res. 100 July 20, 1981* (Washington, D.C.: United States Government Printing Office, 1981). HathiTrust, Library of Congress. http://hdl.handle.net/2027/pur1.32754076920754, accessed 11 Dec 2012. 37.
[970] Crickmore, *SR-71 Operations in Europe*, 6-13.
[971] Sinai II Agreement as provided in Comptroller General of the United States, *Report to the Congress: An Evaluation of the U.S. Early Warning System in the Sinai*, Article 5.
[972] Sinai II created Egyptian and Israeli "limited force zones" separated by a UN buffer zone. See Figure 34 in Appendix B. Within the limited force zones, Sinai II capped troops at 8,000, tanks at 75, and artillery at 72 pieces (no larger than 120 mm) with a maximum range of 12 kilometers. See Article 4B of the Sinai II agreement at United States Sinai Support Mission, *Report to Congress* (Washington, D.C.: Department of State, 1982). Annex A.

early warning in strategic areas such as the Mitla and Gidi passes.[973] The combination of these

elements was meant to restrain all sides from warring until a more permanent peace could be

secured.[974] In 1979, that peace came, and, along with it, an even more robust aerial verification

construct built upon the success of Sinai I and II.

The conclusion in March 1979 of the Treaty of Peace between Israel and Egypt allowed

for continued third-party (US) aerial reconnaissance for verification purposes while Israeli forces

withdrew from the Sinai Peninsula on an established timetable.[975] Israeli withdrawal was

complete by April 1982, presumably ending the Treaty's sanction for third-party verification

overflights. The treaty was also supposed to usher in a new "United Nations Forces and

Observers" to help monitor the Israeli withdrawal and provide permanent verification, but

fragmented Arab support for the 1978 Camp David Accords (which outlined general principals

that informed the Treaty of Peace) and a Soviet veto in the Security Council prevented the

animation of the UN Forces and Observers.[976] In response, authorities from Egypt, Israel, and

the United States signed a Protocol to the Treaty of Peace in August 1981.[977] The Protocol

established the Multinational Force and Observers, hereafter the MFO, to supplant the ill-fated

UN Forces.[978] The MFO was to succeed the US Sinai Field Mission by deploying a

---

[973] Lederman, *Arab-Israeli Experience*, 9.
[974] This assertion is discussed in detail below under the *Results* section. The language in Sinai I and Sinai II make clear that they were interim agreements until a more permanent peace treaty could be written. See Paragraph D in Sinai I in Kissinger, *Years of Upheaval*, 1251. In Sinai II, see Article 8 of the agreement at United States Sinai Support Mission, *Report to Congress*.
[975] See Figure 35 in Appendix B. See Article 7 of the Appendix to Annex 1 of the treaty. United Nations, *Treaty of Peace Between the Arab Republic of Egypt and the State of Israel (with annexes, maps and agreed minutes, Letter Agreement)* (New York: United Nations, 1979), 1136 UNTS A-17813. United Nations Treaty Series, United Nations. www.treaties.un.org, accessed 3 Dec 2012. Annex 1. Following the Israeli withdrawal, Egypt resumed sovereignty over the entire Sinai Peninsula with an allowance for UN and third-party peacekeeping and verification activities there.
[976] See Article 6 of Annex 1 to the treaty, entitled "United Nations Operations" in United Nations, *Treaty of Peace Between Egypt and Israel, March 1979*. Department of State, *Peace in the Sinai*, i. Mandell, *The Sinai Experience*, 18, second note.
[977] *Protocol to the Egyptian-Israeli Treaty of Peace dated March 26, 1979*, 1981. Documents, Multinational Force and Observers. mfo.org, accessed 12 Dec 2012.
[978] From the preamble in the MFO Protocol: "A Multinational Force and Observers is hereby established as an alternative to the United Nations Forces and Observers." *Protocol to the Egyptian-Israeli Treaty of Peace dated March 26, 1979*.

multinational contingent whose composition was agreed upon by all three parties.[979] The 1979

Treaty of Peace carried forward the provisions for bilateral and third-party aerial verification

from Sinai I and II (each side flying within its own airspace coupled with US aerial

reconnaissance), but the 1981 Protocol also gave warrant for the MFO to conduct multinational

aerial reconnaissance for verification within all treaty zones (the entire Sinai after Israeli

withdrawal).[980] MFO operations persist today.[981] Hence, MFO aerial verification represented

the final category of air monitoring in the Middles East: multinational.

By 1981, aerial verification over the Sinai represented all categories of air monitoring:

the MFO conducted multinational aerial verification using MFO-designated aircraft, Egypt and

Israel flew bilateral reconnaissance missions within their own airspace, while allowing the other

to do the same, and the US flew third-party aerial verification and shared its take with all parties

involved.[982] Authorization for the latter was provided by Annex 1 of the Treaty of Peace

(Article 7) until the completion of the Israeli withdrawal. That authorization was extended

indefinitely in 1979 by correspondence between President Jimmy Carter and Egyptian President

Anwar Sadat.[983] The US continues its role today through Operation Olive Harvest, a twice-

monthly U-2 mission over the Sinai that provides its imagery to all parties under a seemingly

unending enterprise to preserve the lasting peace of the 1979 treaty.[984]

---

[979] Preamble. *Protocol to the Egyptian-Israeli Treaty of Peace dated March 26, 1979*.

[980] United Nations, *Treaty of Peace Between Egypt and Israel, March 1979*, Annex 1, Article 3, "Aerial Military Regime". *Protocol to the Egyptian-Israeli Treaty of Peace dated March 26, 1979*, Annex, paragraphs 16-18.

[981] See Figure 36 in Appendix B. *Multinational Force and Observers Director General's Report to the 2012 Trilateral Meeting*, (Rome: Multinational Force and Observers, 2012). Documents, Multinational Force and Observers. mfo.org, accessed 12 Dec 2012.

[982] The US Air Force flew these missions with U-2s stationed at Akrotiri, Cyprus. For context, see *Open Skies, Arms Control, and Cooperative Security*, 116.

[983] Jimmy Carter, *Letter Agreement on the implementation of the Treaty of Peace of 26 March 1979 between the Arab Republic of Egypt and the State of Israel* (New York: United Nations, 1979), 1252 UNTS I-20414. United Nations Treaty Series, United Nations. www.treaties.un.org, accessed 11 Dec 2012.

[984] Personal correspondence with the Commander, 1st Expeditionary Reconnaissance Squadron (U-2s) from 2009 to 2010, 15 December 2012. Also from personal correspondence with Mr. Connaughton, Defense Threat Reduction Agency Public Affairs, 18 December 2012.

This section generally focuses on aerial verification over the Sinai Peninsula, but there were, and are, many other examples that could be discussed from relatively recent Middle Eastern history. The UN organization charged with monitoring the 1987 cease-fire between Iran and Iraq, the United Nations Iran-Iraq Military Observer Group (UNIIMOG), relied on each of those two states to donate helicopters for its aerial verification mission.[985] The United Nations Iraq-Kuwait Observation Mission (UNIKOM), created after the 1991 Gulf War, flew Chilean helicopters and its own UN fixed-wing aircraft to observe the cease fire between Iraq and Kuwait, especially over the minefields of the southern Iraqi demilitarized zone where ground travel was dangerous.[986] At the Israeli-Lebanese border, the United Nations Observer Group in Lebanon (UNOGIL) combined aerial reconnaissance with ground inspection posts to prevent violent clashes in 1958.[987] Thus, the details and analysis of these and other operations in the region is extensive. For finite space and time, the following sections will continue to focus on the Sinai but draw on other examples where their details may be illuminating. Yet nowhere has aerial monitoring been more dense and longer ongoing than over the Sinai Peninsula. Emily Landau, in her 1994 essay, interestingly observed that the Sinai offers a geography particularly suited for confidence building measures such as aerial verification—it provides ample space between belligerents and is sparsely populated.[988] That it happens to disjoin Egypt and Israel (it even looks like a wedge from the air) seems to arise from nothing but luck. For all these points, the Sinai offers case enough for the discussion.

---

[985] Peter Jones, "Peacekeeping and Aerial Surveillance III: The Post Cold War Era," *Peacekeeping & International Relations* 23, no. 4 (1994), ProQuest Research Library, ProQuest. http://search.proquest.com/docview/234504871?accountid=12084, accessed 12 Dec 2012. United Nations, *The Blue Helmets: A Review of United Nations Peace-keeping*, 2 ed. (New York: United Nations Department of Public Information, 1990). 323-332.
[986] United Nations, *The Blue Helmets, 3rd ed*, 682-684.
[987] United Nations, *The Blue Helmets, 3rd ed*, 116.
[988] Emily Landau, "CBMs in the Middle East: A Conceptual Framework," in *Confidence Building and Verification: Prospects in the Middle East*, ed. Shai Feldman(Jerusalem: The Jerusalem Post, 1994)212, 215.

Presence—Air Monitoring in the Sinai

The end of the 1956 Suez Canal crisis was the beginning of an aerial verification

presence over the Sinai.[989] From January to March 1957, the first United Nations Emergency

Force (UNEF at the time, but later UNEF I to distinguish it from its successor) was filling the

vacuum created by the withdrawal of Israeli forces from the Sinai, the Gaza Strip, and Sharm el

Sheikh.[990] A February 1957 General Assembly resolution had affirmed UNEF I's occupation of

those areas and its monitoring mission along the 1949 Armistice Demarcation Line.[991] UNEF I

was to be an active, living buffer between Egypt and Israel and along the international borders in

the Sinai. It was to observe and report all violations of those borders by whoever and whatever

means to affect the "scrupulous maintenance of the Armistice Agreement."[992] Importantly,

UNEF I, and all subsequent UN peacekeeping forces, could only deploy and perform its duty

with the consent of the host nation, in this case Egypt.[993]

To do this, UNEF I established a multi-method treaty verification regime of the kind we

would recognize today. It complimented observation posts and ground patrols along the

Egyptian-Israeli borders and the Suez Canal with a small squadron of aircraft it received at Port

Said in January 1957.[994] The Canadian 115th Air Transport Unit, attached to UNEF, flew

reconnaissance over the Sinai coast from the Tiran Straits (just north of Sharm el Sheikh) to the

---

[989] See the first half of Chapter Three for a summary of the 1956 Suez Canal crisis.
[990] United Nations, *The Blue Helmets, 3rd ed*, 49.
[991] United Nations, *Resolution 1125 (XI), 2 February 1957,* 1957. A/RES/1125, UN Official Document System, UN.org. www.un.org/en/documents/ods, accessed 18 Dec 2012.
[992] United Nations, *Resolution 1125 (XI), 2 February 1957*, A/RES/1125.
[993] The legal basis for the presence of UNEF I within Egyptian sovereign borders established jurisprudence on the subject and was contained in an aide-mèmoire reflecting a good-faith agreement between the secretary general of the UN and the Government of Egypt. United Nations, *Question Considered by the Security Council at Its 749th and 750th Meetings Held on 30 October 1956,* 1956. A/3302, 6 November 1956, UN Official Document System, UN.org. www.un.org/en/documents/ods, accessed 11 Dec 2012.
[994] Gaffen, *In The Eye of the Storm*, 47. Initially, the squadron comprised one helicopter and four "small aircraft," probably de Havilland DHC-3s.

top of the Gulf of Aqaba.[995] El Arish, at the top of the Sinai and the home of the 115th for most

of its stay, was the only paved airfield on the peninsula at the time.[996] Primarily using de

Havilland DHC-3 Otters and its crew members' eyes, daily reconnaissance sorties flew "along

the international frontier between Egypt and Israel and also along the Armistice Demarcation

Line separating the Gaza Strip from Israel for about thirty-five miles" to verify that neither side

was amassing in these areas.[997] Ground patrols would commonly call on the aerial verification

unit whenever they needed assistance, and this was reciprocated whenever pilots noticed

anomalies requiring further inspection by ground troops.[998] Later, aerial verification along the

Egypt-Israeli border was reduced to three sorties per week unless otherwise needed.[999] UNEF I's

aerial verification missions continued until Egypt withdrew its consent for the force in May

1967, compelling the complete withdrawal of all UNEF I personnel and equipment from the

peninsula by the following month.[1000] On 5 June 1967, Israel began aerial bombardment of

Egyptian, and then Syrian, Jordanian, and Iraqi airfields, sparking the Six Day War and

beginning a new phase of conflict in the Sinai and the Middle East.[1001]

     The presence of a robust treaty verification regime in the Sinai—including one that

incorporated aerial reconnaissance—was conspicuously absent between the end of UNEF I in

1967 and the 1973 Yom Kippur War. UN Security Council Resolution 242 in November 1967

---

[995] E. McVeity, "UNEF's Air Support: A Record of Achievement " *The Roundel* 10 no. 2 (1958): 2, Photocopy gratefully obtained from Canadian Libraries, Library and Archives Canada, Ottawa ON. Also in Gaffen, *In The Eye of the Storm*, 51.

[996] Smithson, "Multilateral Aerial Inspections," 118. Additionally, Fred Gaffen talks about the "hard sand" runways at Gaza being the only close alternate location for the 115th aircraft. Gaffen, *In The Eye of the Storm*, 55.

[997] See Figure 21 in Appendix B. Gaffen, *In The Eye of the Storm*, 55.

[998] Gaffen, *In The Eye of the Storm*, 55. McVeity, "UNEF's Air Support." Gordon Jenkins, *History of 115 Air Transport Unit (ATU) RCAF, March 1957 to 29 May 1967* (undated), Unpublished personal paper. http://www.archive.org/details/HistoryOf115AtuRcaf, accessed 2 Dec 2012. 4. Also in United Nations, *The Blue Helmets, 3rd ed*, 53.

[999] United Nations, *The Blue Helmets, 3rd ed*, 53.

[1000] United Nations, *The Blue Helmets, 3rd ed*, 55.

[1001] Department of State, *1964-1968, Arab-Israeli Crisis and War, 1967*, ed. Harriet Dashiell Schwar and Edward C. Keefer, vol. XIX, Foreign Relations of the United States (Washington D.C.: Government Printing Office, 2004). Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/frus1964-68v19, accessed 18 Dec 2012. Document 150.

had ordered all sides to cease hostilities and Israel to withdrawal from any ground it gained

during its drive west into the Sinai.[1002] This was a considerable amount of land, considering that

Israeli commanders were camping along the Suez Canal and the Red Sea by the 9th of June

1967.[1003] The UN sent observers to the Sinai under its United Nations Truce Supervision

Organization, UNTSO, in the aftermath of the 1967 Six Day War, but UNTSO comprised only

unarmed ground observers who were to "supervise the case-fire."[1004] When hostilities again

erupted around the Suez Canal in October 1967, UN Secretary General U Thant requested that

the UNTSO force be provided four helicopters for a reconnaissance role, but this was cryptically

rejected by both Israel and Egypt.[1005] Meanwhile, beginning in August 1970, the United States

conducted unilateral aerial reconnaissance over the Sinai with CIA U-2s launching from RAF

Akrotiri on Cyprus.[1006] Interestingly, Secretary of State Henry Kissinger had wanted to use

satellites for monitoring the low-grade war on the peninsula, but the clarity of satellite imagery

simply was not as good as U-2 photography at the time. Agency U-2s conducted twenty-nine

Sinai overflights until Air Force SR-71s continued the reconnaissance missions for the United

States in November 1970.[1007]

The January 1974 Egyptian-Israeli Disengagement Agreement, Sinai I, signed to preserve

the cease-fire following the October 1973 Yom Kippur War, generally valued a verification

regime that included bilateral aerial reconnaissance. Sinai I allowed each side to conduct

unlimited aerial reconnaissance up to the buffer zone and codified their mutual promise of

---

[1002] Resolution 242 as reproduced in *The Arab-Israeli Conflict: A Documentary History of the Struggle for Peace in Palestine*, ed. Lenny Flank (St. Petersburg: Red and Black Publishers, 2010). 191.
[1003] "President's Daily Brief, Washington, June 9, 1967," Department of State, *FRUS, 1964-1968 Arab-Israeli Crisis and War*, XIX: Document 230.
[1004] Siilasvuo, *In the Service of Peace*, 90.
[1005] Siilasvuo, *In the Service of Peace*, 84. The secretary general also requested four patrol boats for the same purpose.
[1006] Pedlow and Welzenbach, *The CIA and the U-2*, 256.
[1007] Pedlow and Welzenbach, *The CIA and the U-2*, 256.

noninterference with such missions. Reconnaissance flights by each side ensued unremarkably.[1008] Concerning multinational or UN aerial verification activities, few specific references exist in current UN records about the Sinai I period (January 1974 to September 1975).[1009] Canada's 116th Air Transport Unit arrived by early November 1973 as part of UNEF II, but it is unclear that the aircraft (probably de Havilland DHC-5 Buffalos) were meant for anything other than transport.[1010] Still, it is difficult to imagine the aircrews not taking interest in what was happening on the ground below them.

Probably the most documented presence of aerial observation during the Sinai I period was American reconnaissance using the SR-71. These and subsequent reconnaissance flown over the Sinai by the United States can safely be classified as third-party verification, since the US shared its imagery with all parties involved as part of Kissinger's effort to evolve the Arab-Israeli peace negotiations.[1011] Nine dedicated SR-71 overflights of the Sinai began in October 1973 and ended in April 1974, after which the US normally flew verification missions using the U-2.[1012] CIA U-2s flew six missions over the Sinai between May and July 1974 before passing its entire U-2 program to the Air Force, who continued the Sinai Treaty verification missions under Project Olive Harvest beginning on 1 August of that year.[1013] It is evidence enough of America's strong commitment to peace in the Sinai that Olive Harvest missions continue today.

Sinai I affirmed only general principles of agreement, but the progression of negotiations to Sinai II in late 1975 and to the prized Treaty of Peace between Israel and Egypt, as brokered

_____

[1008] Lederman, *Arab-Israeli Experience*, 7.
[1009] United Nations, *The Blue Helmets, 2nd ed*, 83-86, 422-424. *Open Skies, Arms Control, and Cooperative Security*, 118, 171, 132. United Nations, *The Blue Helmets, 3rd ed*, 33-56. Personal correspondence with Mr. Connaughton, Defense Threat Reduction Agency Public Affairs, 18 December 2012.
[1010] United Nations, *The Blue Helmets, 3rd ed*, 61. Gaffen, *In The Eye of the Storm*, 116.
[1011] Kissinger, *Years of Upheaval*, 1254.
[1012] Crickmore, *SR-71 Operations in Europe*, 7-13. U-2 missions commonly originated from Cyprus.
[1013] Pedlow and Welzenbach, *The CIA and the U-2*, 257.

by President Jimmy Carter in 1979, brought more clarity to aerial verification activities. Sinai II greatly expanded UNEF II's observation jurisdiction as Israeli forces withdrew from the peninsula, prompting Secretary General Kurt Waldheim to request "four helicopters, one Buffalo aircraft and two STOL (short take-off and landing) aircraft and their crews" to reinforce the air unit.[1014] In May 1976, Australia supplied four more helicopters and crews for use in UNEF II's multinational aerial verification regime.[1015] UNEF II flew aircraft and helicopters for aerial verification along the boundaries of the buffer zone and international borders throughout its mandate, which expired in July 1979.[1016] UNEF II's verification missions complemented those of the United States, the imagery from which, according to the Sinai II agreement, was to be provided "expeditiously" to all parties.[1017]

The US Sinai Field Mission (USSFM) began to use aircraft extensively when it was called upon to monitor larger areas of the Sinai during UNEF II's pullout in July 1979. Then alone as a third-party verification authority on the peninsula, it augmented inspections and observation missions with Bell 212 helicopters and a Fairchild Pilatus Porter for reconnaissance.[1018] Equipped as such, aerial verification was an every day presence in the immediate years after conclusion of the 1979 Treaty of Peace. Flying between 800 and 1000 feet, two days were required to reconnoiter a treaty zone from the air.[1019] The aircraft and its crew were in constant radio contact with ground team leaders and any anomalies were

[1014] United Nations, *Report of the Secretary-General on the United Nations Emergency Force (for the period 15 July 1975 to 16 October 1975),* 1975. S/11849, UN Official Document System, UN.org. www.un.org/en/documents/ods, accessed 19 Dec 2012. Para 22d. This request is referred to generally in the official history of UN peacekeeping at United Nations, *The Blue Helmets, 3rd ed*, 62.
[1015] United Nations, *Note from The President of the Security Council, 21 May 1976,* 1976. S/12089, UN Official Document System, UN.org. http://www.un.org/en/documents/, accessed 15 Dec 2012. Para 1.
[1016] United Nations, *The Blue Helmets, 3rd ed*, 68.
[1017] Comptroller General of the United States, *Report to the Congress: An Evaluation of the U.S. Early Warning System in the Sinai*, 46, Annex to the Agreement, Article Four.
[1018] Department of State, *Peace in the Sinai*, 4, 7.
[1019] Department of State, *Peace in the Sinai*, 8-9. Also in Mandell, *The Sinai Experience*, 22.

immediately reported by the aircrew and included in post-mission reports, which were shared with ground inspectors and all parties to the treaty.[1020] USSFM produced regular reconnaissance schedules and provided one-week notice of aerial verification flights to all parties.[1021] USSFM carried on in this way until supplanted by the US-led Multinational Force and Observers (MFO) in April 1982.[1022]

The governments of Australia, New Zealand, and France provided the MFO with its multi-role helicopters and fixed-wing aircraft from 1982 to 1986.[1023] MFO's Civilian Observation Unit, or COU, employed the aircraft daily to conduct aerial verification in all zones.[1024] When Australia ended its participation in the MFO in 1986, Canadian Bell UH-1 Huey helicopters replaced Australian ones and began flying almost exclusively in the verification role.[1025] Since then, many nations have supported the aerial verification responsibility of MFO. This mix of fixed-wing and rotary-wing multinational aerial verification continues in the Sinai today.[1026] As of this writing, the United States contributes eight UH-60A Black Hawk helicopters and two C-23B Sherpas to the MFO, all of them flying the exact verification missions of their 1982 predecessors.[1027] MFO's longevity is exceeded only by American third-party aerial verification over the Sinai, primarily employing the U-2 in twice-monthly Olive Harvest missions.

[1020] Smithson, "Multilateral Aerial Inspections," 119.
[1021] Lederman, *Arab-Israeli Experience*, 13.
[1022] MFO was established by an addendum to the 1979 treaty. It was signed on 3 August 1981. The MFO stood up as the last Israeli troops left the Sinai. See Department of State, *Peace in the Sinai*, 21.
[1023] *The Multinational Force and Observers: Servants of Peace*, (Rome: Multinational Force and Observers, 1993). 14.
[1024] *Servants of Peace*, 15. For a depiction of the treaty zones, see Figure 36 in Appendix B.
[1025] Gaffen, *In The Eye of the Storm*, 160.
[1026] *MFO 2012 Director General's Report*, 11-12.
[1027] *MFO 2012 Director General's Report*, 12-14.

Penetration—Air Monitoring in the Sinai

The permissive context normally accompanying aerial verification existed, and must have

existed, in the Sinai during the pursuit of Egyptian-Israeli peace in the 1970s. However, the fact

that Egypt and Israel could eventually agree over the 1979 Treaty of Peace has not always

assured safe overflights of the peninsula by third-party or multinational peacekeepers. On 11

April 1980, one of the first US Sinai Field Mission (USSFM) helicopter verification flights was

threatened by an Egyptian antiaircraft battery in the Egyptian limited force zone.[1028] Upon

seeing the battery prepare their guns and track the aircraft, the helicopter crew took evasive

action and was never engaged. The incident prompted an immediate American protest followed

by a quick and sincere Egyptian apology that explained the battery was surprised by the nascent

aerial verification procedures.[1029] Years earlier, a UNEF transport aircraft had been harassed by

Israeli fighters who tried to force it to land in Israeli territory.[1030] These examples suggests a

political landscape that is somewhat different from the Open Skies construct. Unlike the skies

over Europe, there was significant risk in the provision of diplomatic consent for overflight from

authorities who possess limited or no ability to control military forces capable of violently

intercepting observation missions.[1031] Also, Open Skies aircraft penetrate sovereign nations only

after clear acknowledgement from host nations and leave within a specified period following an

observation flight, but Sinai verification aircraft and crews are permanently based and live within

---

[1028] Egyptian limited force zone is the far-west zone of the Sinai. Department of State, *Peace in the Sinai*, 7.
[1029] Department of State, *Peace in the Sinai*, 7.
[1030] Gaffen, *In The Eye of the Storm*, 67.
[1031] Peter Constable also makes this point when discussing a different incident in 1974. Syrian antiaircraft fire downed a UN aircraft that was flying within agreed-upon air corridors over Syrian-Israeli cease-fire zones, killing all nine Canadians aboard. As Constable puts it: "The consent of national leaders will be of little solace to pilots and inspectors if such leaders cannot guarantee the safety and security of the overflights." Krepon and Constable, "Confidence-Building, Peacemaking, and Aerial Inspections in the Middle East," 248. The 1974 Syrian incident is also recorded at United Nations, *The Blue Helmets, 2nd ed*, 109.

the sovereign territory of another country indefinitely.[1032] Such an arrangement can be perceived

by the host population as occupation instead of peacekeeping.[1033] Given these challenging

circumstances for conducting overflights, third-party and multinational aerial verification has

progressed relatively uneventfully in the Sinai.

Successive Sinai aerial verification regimes balanced Egyptian and Israeli national

sovereignty with the need for treaty verification by incorporating different controls outlined in

the documents. In the spirit of walking-before-running, the earliest of these measures simply

separated each party's reconnaissance activities. Controls applied by the 1974 Sinai I agreement

permitted bilateral aerial reconnaissance up to each nation's respective side of the UN buffer

zone with an assurance of noninterference.[1034] There was no mention or any elaboration in Sinai

I on sensor restrictions, presumably because the missions would remain over their own territory

and forces.[1035] Sinai II, however, introduced many procedural controls for bilateral verification

flights when it was signed in late 1975.[1036] Sinai II permitted only reconnaissance aircraft from

either side to fly up to the midpoint of the UN buffer zone on an agreed upon schedule, the

assumption being that reconnaissance aircraft were unarmed. All other aircraft had to remain

further back, on their respective side of their limited force zone.[1037] The same section from Sinai

II strictly prescribed the routes, formation size, altitudes, schedules, and pre-notification

requirements for reconnaissance overflights that penetrated the peninsula, as previously

---

[1032] Open Skies verification missions must depart the inspected nation no later than 24 hours after the completion of an observation flight. Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Article 6, para 20.
[1033] Ensio Siilasvuo met the occupation mentality head-on during his time as UNEF II commander in Israel and Egypt. See his memoirs: Siilasvuo, *In the Service of Peace*, 24-62, 69.
[1034] Kissinger, *Years of Upheaval*, 1251, para B, sub para 1256.
[1035] See the entire Sinai I agreement at Kissinger, *Years of Upheaval*, 1250-1251.
[1036] Again, I use the term "bilateral" here to denote Egyptian and Israeli missions flown on their respective sides of treaty lines. The missions were bilateral in the sense that each side provided to the other a promise of noninterference.
[1037] Comptroller General of the United States, *Report to the Congress: An Evaluation of the U.S. Early Warning System in the Sinai*, 45. See Article 2(b) of the agreement.

discussed.[1038] This regulation of reconnaissance brought predictability and with it an element of

safety, but it also developed confidence and transparency on both sides since each one saw the

other adhering to the agreement.[1039]

To this budding verification regime was added a request to the United States to continue

its reconnaissance overflights, but no specific controls for these third-party overflights were

outlined in Sinai II other than the words "following the same procedures already in place," and

the requirement for the US to make its mission results "expeditiously" available to all parties.[1040]

Here, the US gained diplomatic clout specifically because of its available peacetime aerial

reconnaissance arsenal. Egypt and Israel knew of, but probably not too much about, the SR-71

and U-2 aircraft.[1041] These particular aircraft were readily distinguishable from everything else

in the air due to their unique operating altitudes, speeds, and en-route profiles. Additionally, the

United States pre-notified all parties 24 hours before a verification flight and adhered to two-

hour flight windows for penetrating Egypt or Israel's sovereign airspace.[1042] All of these

overflight stipulations, coupled with the benevolent and easily recognizable characteristics of the

U-2 and SR-71, regularly reaffirmed America's signature on successive Middle East peace

agreements in its treaty verification role.

[1038] The Sinai II reconnaissance constraints were in Article 5 of the agreement: minimum altitude of 15,000 feet; no maneuvers to cross the lines of the other party; no more than two aircraft in each flight; each party was allotted seven flights per week; parties could only fly on certain days and times designated by the agreement or mutual consent; each party was to give the other six hours notice; flights should take place within a specified four hour window. Comptroller General of the United States, *Report to the Congress: An Evaluation of the U.S. Early Warning System in the Sinai*, 59.

[1039] *Open Skies, Arms Control, and Cooperative Security*, 114.

[1040] Comptroller General of the United States, *Report to the Congress: An Evaluation of the U.S. Early Warning System in the Sinai*, 46. See Article 4 of the Annex to the agreement.

[1041] "Memorandum of Conversation, Washington, January 21, 1974," Department of State, *1969-1976, Arab-Israeli Dispute, 1974-1976*, ed. Adam M. Howard and Edward C. Keefer, vol. XXVI, Foreign Relations of the United States (Washington D.C.: United States Government Printing Office, 2012). Foreign Relations of the United States, Office of the Historian, Department of State. http://www.history.state.gov/historicaldocuments/frus1969-76v26, accessed 21 Nov 2012. Document 17. President Nixon and Secretary of State Kissinger initially wanted to keep the use of US aerial reconnaissance a secret except to the highest members of the Israeli, Egyptian, and Syrian governments.

[1042] Information in this section is from Smithson, "Multilateral Aerial Inspections," 116. According to recent commanders of the Air Force U-2 unit that fly Olive Harvest, many of these controls remain in place today. Personal communication with former 1st ERS Squadron Commander, RAF Akrotiri, Cyprus, 3 Dec 2012.

From Sinai II onwards, one of the beneficial properties of third-party SR-71 and U-2 penetration over the Sinai was the aircraft's invisibility to most on the ground. Only those closely involved in air traffic control, air defense, and diplomatic clearance were routinely aware of the verification overflights. Such low-signature aerial verification limited public awareness of third-party penetrating reconnaissance, and thus provided domestic maneuver room for political authorities who otherwise would have to justify the intrusion.[1043] This stood in stark contrast to the low-altitude, visual passes made by USSFM's and then the MFO's "pumpkin air force," whose aircraft were painted bright orange and white specifically to highlight and protect them as unarmed, international verification aircraft not to be attacked.[1044] The UN and MFO Sinai overflights permitted in the period between 1974 and 1979 generally did not carry imaging sensors since they were to be followed by ground inspections.[1045] Observation instead relied on the crews' eyesight with low and repetitive passes to satisfy the inspectors' interests.[1046] Thus, one of the most important factors concerning aerial penetration for treaty verification in the Middle East is, at times, discretion. Writes Michael Krepon: "aerial inspections are by definition intrusive and always raise the specter of espionage. To the extent they can be negotiated and implemented quietly in the always suspicious and sometimes paranoid Middle East, the chances for success are enhanced."[1047]

_____

[1043] Krepon and Constable, "Confidence-Building, Peacemaking, and Aerial Inspections in the Middle East," 244.
[1044] Even today, MFO's aircraft are painted with illuminating colors to identify them as unarmed treaty verification aircraft. See *MFO 2012 Director General's Report*, 11-12. Smithson, "Multilateral Aerial Inspections," 119. Department of State, *Peace in the Sinai*, 7. USSFM and MFO aircraft did not fly at night due to the risk of being misidentified by ground air defenses.
[1045] Krepon and Constable, "Confidence-Building, Peacemaking, and Aerial Inspections in the Middle East," 246.
[1046] Department of State, *Peace in the Sinai*, 5-7. Krepon and Constable, "Confidence-Building, Peacemaking, and Aerial Inspections in the Middle East," 253. The 1979 Treaty of Peace allows for UN Inspectors' "complete freedom of movement" to carry out their verification responsibilities. This clause presumably included aerial activities. United Nations, *Treaty of Peace Between Egypt and Israel, March 1979*, Annex 1, Article 6.
[1047] Krepon and Constable, "Confidence-Building, Peacemaking, and Aerial Inspections in the Middle East," 247.

Justification—Aerial Verification in the Sinai

Aerial verification in the Middle East has existed to serve diplomatic ends by informing parties on the means and instruments of war. Reconnaissance for verification is flown bilaterally, multinationally, and by third parties to confirm the absence of attack preparations. However, the driver behind its use in this case also stems from the many border and territorial disputes in the region as much as from the dangers of overabundant and mutually threatening military forces. Both Israel and Egypt have at times viewed the Sinai Peninsula as a natural buffer providing each nation sufficient time and distance to defend itself should the other launch a surprise attack, which explains in part why the area has been at the geographic center of fighting between the two.[1048] The existential and mutual suspicion suggests a first point in explaining the practical justification of third-party aerial verification over the Sinai—the two sides simply did not trust each other enough to consider extending the verification regime to reciprocal overflights of the kind that exists in Open Skies.

During peace negotiations spanning the end of the 1973 war to the 1979 Treaty of Peace, Secretary of State Kissinger offered third-party verification as an antiseptic to discussions rife with acrimony. Egyptian President Sadat and Israeli Deputy Prime Minister Yigal Allon repeatedly appreciated Kissinger's offers of US aerial reconnaissance to verify the status of combatants in the Sinai during the crucial First and Second Egyptian-Israeli Disengagement talks

---

[1048] Ahmed Hashim and Ariel Levite make this point well in their essays. Hashim describes a permanent Arab suspicion of Israel as "the traditional and well-known Arab view of Israel as an expansionist Zionist 'settler-state,' lacking permanent and defined boundaries. It is a state which seeks to establish a great Israel, extending from the Nile to the Euphrates." Ahmed Hashim, "Arms Control and the Arabs' Strategic Environment," in *Confidence Building and Verification: Prospects in the Middle East*, ed. Shai Feldman(Jerusalem: The Jerusalem Post, 1994)169. As for Israel, Ariel Levite makes the point that the Sinai was one of the only land concessions Israel could grant within the peace process that was not dangerously close to its population centers, unlike concessions Israel granted to Lebanon, Syria, and the Palestinians over the years. Ariel Levite, "Israel's Security Concerns: Characteristics and Implications," in *Confidence Building and Verification: Prospects in the Middle East*, ed. Shai Feldman(Jerusalem: The Jerusalem Post, 1994)190.

(Sinai I and II).[1049] All sides conveyed no countenance for allowing reciprocal overflight. For Israel, Kissinger wrote in his memoirs that the US was the only possible choice for aerial verification, besides their own, because Israeli leadership was extremely wary of the UN's ability to act as a neutral agency. Israel would not allow any unarmed Egyptian or Syrian reconnaissance patrols over their territory or troops.[1050] Of specific concern for Israel and Egypt was the concentration of military equipment and troops on either side of the UN buffer zone and the Israeli presence in key strong points along the Suez Canal.[1051] UN ground patrols could not cover such a broad area quickly enough. The result was obvious in the 1979 Treaty of Peace (the Appendix to Annex 1) in which both sides kept US aerial reconnaissance "on call" in addition to a written American commitment to bimonthly verification missions and impartial imagery sharing.[1052]

Another prominent justification for an aerial verification regime in the Sinai was that the area of concern was simply too large to inspect solely on foot. UNEF II's inspection regime was oriented towards ground inspections, using infantry patrols and observations posts, but its "observe and report" mission would have failed without the use of complimentary airpower for reconnaissance and transport when Sinai II diminished its authorized strength by 42 percent.[1053] This was probably the reason Secretary General Kurt Waldheim requested in October 1975

[1049] Department of State, *FRUS, 1969-1976, XXVI*, XXVI: Documents 7, 9, 14, 17, 29, 83, & 91. Reviewing these documents introduces the reader to Kissinger's conversations among Israel, Egypt, and Syria in 1974. Document 7 begins with Secretary Kissinger's conversation with Israeli leadership in Jerusalem in January 1974 and Document 83 is Kissinger's summary of American commitments vis-a-vis Sinai I and II to President Nixon in May 1974.

[1050] Kissinger, *Years of Upheaval*, 652. Kissinger attributed Israeli leadership's endless request for Memorandums of Understanding between Israel and the US to Israel's "consciousness of having only one friend among the nations of the world." Also see Israeli General Elazar's comments on page 81 in "Memorandum of Conversation, Jerusalem, January 17, 1974," Department of State, *FRUS, 1969-1976, XXVI*, XXVI: Document 9.

[1051] United Nations, *Treaty of Peace Between Egypt and Israel, March 1979*, Article 2, Annex 1.

[1052] United Nations, *Treaty of Peace Between Egypt and Israel, March 1979*, Article 7, Appendix to Annex 1.

[1053] United Nations, *The Blue Helmets, 2nd ed*, 88-95. Krepon and Constable, "Confidence-Building, Peacemaking, and Aerial Inspections in the Middle East," 251. UNEF II's authorized strength diminished from 7,000 to 4,000 personnel when Sinai II was signed in September 1975.

additional aircraft and helicopters following the entry into force of Sinai II.[1054] By the time the

USSFM took over verification responsibilities from UNEF II in mid-1979, its inspection area

had grown from just 620 square kilometers to almost 40,000.[1055] The MFO, when it began

operation in mid-1982, continued the aerial tradition by establishing permanent fixed-wing and

helicopter units for conducting preparatory reconnaissance before onsite inspections and for

transporting observers between inspection stations.[1056] In this way, aerial verification reinforced

onsite inspection and made MFO manpower more efficient.

Regarding the legal justification for aerial verification in the Sinai, there is in the

collection of Sinai treaties a conspicuous absence of overly detailed, multiple annexes and

addenda that circumscribe allowable sensors and detailed procedures. The entire Sinai aerial

verification regime, which has been operated since 1974, seems based only on a very few,

general articles. Sinai I, in its laconic style, simply wrapped aerial reconnaissance activities into

wording that constrained each side's entire air arm to its own territory, each side of a UN buffer

zone.[1057] Sinai II retained this general air structure in its Annex, but allowed Egyptian and Israeli

reconnaissance aircraft to fly up to the middle line of the buffer zone while observing altitude,

scheduling, and formation limitations in a supplementary, one-page article.[1058] From Sinai II, the

1979 Treaty of Peace was a regression of sorts, perhaps because the document anticipated UN

multinational and third-party aerial verification over the entire peninsula. The treaty returned

Egyptian and Israeli reconnaissance flights to the airspace over their own territories, which for

[1054] United Nations, *Report of the Secretary-General on the United Nations Emergency Force (for the period 15 July 1975 to 16 October 1975)*, S/11849. Also in United Nations, *The Blue Helmets, 2nd ed*, 86.
[1055] Department of State, *Peace in the Sinai*, 2-3.
[1056] *Annual Report of the Director General*, (Rome: Multinational Force and Observers, 2001). Documents, Multinational Force and Observers. mfo.org, accessed 11 Dec 2012. 15-18.
[1057] Kissinger, *Years of Upheaval*, 1251. Paragraph B (6) reads "Air Forces of the two sides will be permitted to operate up to their respective lines without interference from the other side."
[1058] Comptroller General of the United States, *Report to the Congress: An Evaluation of the U.S. Early Warning System in the Sinai*, 45. Annex to the Sinai II agreement, paragraph 2(b), and Article 5.

Egypt was eventually the entire western half of the Sinai, but allowed for Egyptian "unarmed police helicopters" for policing in Zone C (along the southern border of Israel).[1059] In none of the governing Sinai Treaty documents are sensors or ground certification procedures addressed.

This sparse legal justification is especially true in the case of third-party aerial verification. Though US aerial reconnaissance is not mentioned in Sinai I, the Sinai II Annex allowed for the "continuation of U.S. reconnaissance over the regions covered by the agreement following the same procedures already in practice."[1060] This mention within the agreement is quite interesting, considering that documentation confirming US reconnaissance as a third-party verification over the Sinai before 1975 is nonexistent. The formal authority for the US to conduct such operations presumably comes from its very brief mention in the texts of Sinai II and the 1979 Treaty of Peace, official presidential letters, and a few executive orders.[1061] Ironically, the operation—Olive Harvest—has continued from pre-1975 to the present based only on a loose constellation of diplomatic instruments and correspondence.[1062] There is no mention in any of the aforementioned documents about sensors, flight path limitations, or certification procedures applying to US reconnaissance aircraft penetrating Egypt, Israel, or Syria.

Finally, one justifying element that may be intuitive, but is rarely found in associated studies on aerial verification, is relative cost. Peter Constable, Director General of the MFO from 1984 to 1988, forwarded the idea that a cooperative aerial inspection regime is much

---

[1059] United Nations, *Treaty of Peace Between Egypt and Israel, March 1979*, Article 3 of Annex 1 to the Treaty.
[1060] Comptroller General of the United States, *Report to the Congress: An Evaluation of the U.S. Early Warning System in the Sinai*, 46. Annex to the Sinai II agreement, paragraph 4, "Aerial Surveillance."
[1061] United Nations, *Treaty of Peace Between Egypt and Israel, March 1979*, Annex 1, Appendix, Article 7. "Surveillance Activities." President Carter committed the US to conduct third-party aerial verification as stated in the Treaty of Peace in Carter, *Letter from President Carter to President Sadat, 26 March 1979.* Ambassador Michael Sterner also made this point in United States Senate Committee on Foreign Relations, *Sinai Agreement*, 10, 39.
[1062] The relevant executive orders are: Gerald Ford, *Establishing the United States Sinai Support Mission,* 1976. Executive Order 11896, January 13, 1976, The American Presidency Project Online, University of California Santa Barbara. http://www.presidency.ucsb.edu, accessed 20 Dec 2012.   Jimmy Carter, "United States Sinai Support Mission," Executive Order 12227, July 22, 1980, as reproduced in Department of State, *Peace in the Sinai*, Appendix B, 31. Ronald Reagan, "Sinai Support Mission," Executive Order 12357, April 6, 1982, as reproduced in Department of State, *Peace in the Sinai*, Appendix C, 32.

cheaper than sustained combat operations or maintaining military forces in a protracted state of alert.[1063] Peter Jones, in the final article from a series on the subject in the *Journal of Peacekeeping and International Relations*, also commented on the probable cost savings of an aerial verification regime in many parts of the world, including the Sinai: "…aerial surveillance can represent a financial savings, and as more and more peacekeeping missions are launched in the post-Cold War era, one suspects this will prove attractive."[1064] As a general reference, Ambassador Michael Sterner claimed that the cost to the United States to fly Olive Harvest was estimated in 1981 as $8 million annually.[1065] This baseline cost inflated to 2012 US dollars is just over $20 million per year.[1066] Almost forty years of relative peace in the Sinai diminishes this sum in comparison to the cost of stubbornly persistent wars and hostilities.

Result—Air Monitoring in the Sinai

It is worth restating that treaty verification in the Sinai has comprised several different elements, among which aerial reconnaissance has been only one. As discussed at the beginning of this section, multi-method verification in which national means, vehicle patrols, automated ground sensors, onsite inspections, and aerial reconnaissance cooperate to detect treaty violations has been in place in the Sinai for the majority of years since the introduction of UNEF I in 1956. Perhaps it was no coincidence that only days after UNEF I's mandate expired and the force began its withdrawal, the 1967 Six Day War began. In macabre irony, some of the remaining

---

[1063] Krepon and Constable, "Confidence-Building, Peacemaking, and Aerial Inspections in the Middle East," 252.
[1064] Jones, "Peacekeeping and Aerial Surveillance."
[1065] United States Senate Committee on Foreign Relations, *Sinai Agreement*, 53.
[1066] Consumer Price Index and US Annual Inflation Calculator obtained from "US Inflation Calculator" at www.usinflationcalculator.com, published by CoinNews Media Group (LLC), accessed 22 Dec 2012. Average annual rate of inflation from 1981 to 2012 estimated at 153.3%, estimated 2012 amount is $20,261,474.15.

UNEF I peacekeepers were killed during that war's violent outbreak.[1067] In the six years that

followed, there was only a handful of UNTSO observers in the Sinai and no formal verification

mechanism.[1068] This period, roughly from 1967 to early 1974, contained the only notable

interruption to the peninsula's otherwise robust and mutually reinforcing multi-method

verification regime. By 1976, UNEF II was fully in place with its posts, patrols, and aerial

inspections and the US operated automated sensor systems for tactical early warning.[1069] Aerial

reconnaissance covered the Sinai several times in any given month, as Egypt and Israel

conducted bilateral verification and the US executed Olive Harvest overflights.

Multi-method verification provided the means of detecting treaty violations, but human

interaction dealt with resolving them. All the different verification methods fed troop status and

possible treaty violation data to a consultative group consisting of UN and country officers, the

format and name for which changed over successive peace agreements, but whose function was

to act as the mechanism to resolve violations and disputes.[1070] Sinai II called this body the "Joint

Commission," a title the 1979 Treaty of Peace preserved and augmented with a "Liaison System"

that assigned officers from Egypt and Israel to act as go-betweens among the Joint Commission,

the verification teams, and their respective governments.[1071] Today's MFO continues to use the

---

[1067] Gaffen, *In The Eye of the Storm*, 71. When the Canadian peacekeepers abandoned Rafah Camp between 30 May and 4 June 1967, Fred Gaffen describes looting by civilians beginning immediately while Egyptian T-34 and T-54 tanks headed east to Gaza. Some members of the Indian and Brazilian peacekeeping units were caught in the early hours of the war. There were fourteen Indians killed and twenty wounded; one Brazilian soldier was killed by machine gun fire. For a fascinating account of UNEF I's uneasy withdrawal from the Sinai region at the beginning of the Six Day war in 1967, I highly recommend Anthony Verrier, *International Peacekeeping: United Nations Forces in a Troubled World* (London: Penguin, 1981). Gaffen's experiences at Rafah are corroborated on page 37.
[1068] UNTSO, United Nations Truce Supervision Organization. When the Egyptian government requested the withdrawal of UNEF I in 1967, the UN increased the number of observers in the region from 6 to 20, most of whom served at observation posts along the Suez Canal. These observers were associated with UNTSO's former Egypt-Israel Mixed Armistice Commission (EIMAC). United Nations, *The Blue Helmets, 2nd ed*, 25-26. Siilasvuo, *In the Service of Peace*, 67-70, 84-89.
[1069] Mandell, *The Sinai Experience*, Table 1, 15.
[1070] Mandell, *The Sinai Experience*, 16.
[1071] Comptroller General of the United States, *Report to the Congress: An Evaluation of the U.S. Early Warning System in the Sinai*, 45. Sinai II agreement, Article 6. United Nations, *Treaty of Peace Between Egypt and Israel, March 1979*, Article 4, 7, and Annex 1, Article 7.

Liaison System as its consultative mechanism.[1072] A consultative body to process and reconcile

violations was particularly important in the Sinai because its associated accords relied heavily on

symmetry of information. Sinai II and the Treaty of Peace, for example, required the equal

distribution of inspection mission reports (from all methods) and third party aerial

reconnaissance imagery to all parties.[1073]

When considering the multi-method verification regime in the Sinai, it may be impossible

to determine what portion of its performance was or is attributable only to aerial verification as a

method of interest. A logical presumption is that where the regime succeeded or failed in whole,

aerial reconnaissance contributed its relevant share. With this in mind, some discussion of treaty

violation resolution over the years can serve to demonstrate the respectable effectiveness of

verification in the Sinai.

UN records claim success from the activities of UNEF I between 1956 and 1967.

"Incidents, such as crossings of the ADL/international frontier, firing across the Line and air

violations, naturally continued to occur, but they were relatively infrequent and generally of a

minor nature. Virtually uninterrupted peace prevailed in the area, thanks to the presence and

activities of UNEF [I]."[1074] Much later, there were 90 treaty violations reported to the UN, the

Joint Commission, Egypt, and Israel during the Sinai II period from late 1975 to late 1979.[1075]

Of these, 67 were Israeli violations of the limited force zone and 2 were Egyptian violations of

the same type.[1076] The rest were attributed to unresolved unidentified aircraft overflights and

---

[1072] *MFO 2012 Director General's Report*, 2.
[1073] Comptroller General of the United States, *Report to the Congress: An Evaluation of the U.S. Early Warning System in the Sinai*, 46. Sinai II Annex to the agreement, Article 4. United Nations, *Treaty of Peace Between Egypt and Israel, March 1979*, Appendix to Annex 1, Article 7.
[1074] ADL: [1949] Armistice Demarcation Line. United Nations, *The Blue Helmets, 3rd ed*, 54.
[1075] United States Sinai Support Mission, *Report to Congress* (Washington, D.C.: Department of State, 1977). 7.
[1076] United States Sinai Support Mission, *Report to Congress*, 7.

unauthorized personnel intrusions into the UN buffer zone.[1077] Low-Level aerial reconnaissance was credited with initial detection of the limited force zone equipment and troop violations, but it was usually followed-up by onsite inspections.[1078] Once detected and reported, the Joint Commission worked with Egypt and Israel to resolve the violations. This cycle of detection, reporting, and resolution effectively preserved the "integrity of the Sinai II Agreement," allowing time for the parties to strengthen and further codify the details of peace into the 1979 treaty.[1079]

After the Treaty of Peace was signed, the verification regime was predominantly operated by the United States Sinai Field Mission (USSFM) and then the MFO (by 1982) and aerial verification continued to contribute. USSFM reported a total of 29 violations between 1979 and 1981; 27 against Egypt and two against Israel.[1080] On at least one occasion, USSFM records reflect that observers conducted a special onsite inspection based on a sighting from aerial reconnaissance.[1081] As for resolution, the USSFM report says the following: "None of the reported deviations were deemed by either party to have been serious enough to threaten the integrity of the peace treaty. Most were either corrected by the Party concerned of otherwise resolved between the Parties during meetings of the Joint Commission."[1082] Thus, Sinai Treaty verification was the result of synergy among the verification regime's different parts, a success to which aerial reconnaissance contributed.[1083]

[1077] United States Sinai Support Mission, *Report to Congress*, 30.
[1078] Mandell, *The Sinai Experience*, 19.
[1079] Mandell, *The Sinai Experience*, 19. Quote is from paragraph 3g. Also see United States Sinai Support Mission, *Report to Congress*, 30-32.
[1080] Department of State, *Peace in the Sinai*, 11-12.
[1081] Department of State, *Peace in the Sinai*, 12.
[1082] Department of State, *Peace in the Sinai*, 12. See paragraph entitled "Inspection Results: No Threat to the Peace."
[1083] For further investigation into the "science" of treaty violation and resolution, John Mackinlay separates violations in the Sinai into broad categories. See John Mackinlay, *The Peacekeepers: An Assessment of Peacekeeping Operations at the Arab-Israeli Interface* (London: Unwin Hyman, 1989). 143-146.

The synergy created by multi-method verification has been most visible in the Sinai Peninsula. Sinai I and Sinai II in particular combined a UN and a bilateral aerial reconnaissance format with multinational onsite inspections and ground sensors to confirm troop withdrawals from the peninsula and then verify their absence in the ensuing years.[1084] The results in the Sinai foreshadowed the reappearance of other verification regimes that incorporated aerial reconnaissance as a necessary function, such as Open Skies and proposed plans for nuclear monitoring.[1085] Aerial observation provided a wide view of the territory to orient and cue inspectors on possible trouble spots. It also complemented onsite inspection by offering a different perspective from the air, which was mutually reinforcing to both methods of verification.[1086] The continuing Sinai mandate for the MFO combines onsite inspections with multinational aerial observation (unsophisticated aircraft without sensors). This combination has proved invaluable in preventing a repeat of the Egyptian and Syrian surprise attack from 1973.[1087] Of particular usefulness was the idea that pre-observation from the air, before onsite inspections took place, helped UN inspectors economize their time on the ground. General Ensio Siilasvuo, UNEF II commander between 1973 and 1975, said all that need be said regarding the synergy among all the various treaty verification elements: "The accuracy of the ground inspection reports was greatly improved thanks to the close cooperation between UNEF and the experts of the American air reconnaissance units. We not only received the same written reports, maps, and photographs as the parties, but we could also at our joint meetings point out the areas

---

[1084] See corresponding discussion at Krepon and Constable, "Confidence-Building, Peacemaking, and Aerial Inspections in the Middle East," 251.
[1085] Introduction and conclusion in Eisenstein et al., *Methodologies*.
[1086] Krepon and Constable, "Confidence-Building, Peacemaking, and Aerial Inspections in the Middle East," 251.
[1087] Krepon and Constable, "Confidence-Building, Peacemaking, and Aerial Inspections in the Middle East," 246.

where we lacked information and request for additional data. After that, the ground patrols could confirm the results of the aerial reconnaissance [sic]."[1088]

Conclusion—Air Monitoring in the Sinai

Perhaps the most important lesson from an examination of aerial verification in the Sinai is that the political environment must first be receptive and willing before monitoring can be effective. Aerial verification—or any verification regime for that matter—is no substitute for the political will to ease tensions or establish peace within a region or between states.[1089] Itshak Lederman, a former Director of External Relations at the Israel Atomic Energy Commission in Tel Aviv, labels this dynamic as the "political dependency of verification regimes."[1090] The condition seems intuitive enough, but a prospective peacekeeper or third-party faces a difficult task in measuring exactly when political outlooks are sufficient to be responsive to a verification regime. It is not just about tolerance; there must be acceptance for measures as robust as multi-method verification. Some brief comparative examples may further define the point.

In cases where the political preconditions have not supported aerial verification, the results have been disastrous. The United Nations Iran-Iraq Military Observer Group (UNIIMOG) was established just days before their cease-fire began in August 1988.[1091] UNIIMOG's aerial verification component was supposed to include twelve UN helicopters to inspect no-man's land and the cease-fire lines along the Iran-Iraq border, a necessity considering its mandate covered about 1,400 kilometers, a variety of terrain, and numerous unmarked

---

[1088] Siilasvuo, *In the Service of Peace*, 321.
[1089] This point is made repeatedly in the literature regarding treaty monitoring in general. Carter, *Letter from President Carter to President Sadat, 26 March 1979.* Other examples: Landau, "Confidence Building," 209. Hashim, "Arms Control," 164.
[1090] Lederman, *Arab-Israeli Experience*, 16.
[1091] United Nations Security Council, *Resolution 598 (1987) of 20 July 1987,* 1987. S/RES/598 (1987), UN Official Document System, UN.org. www.un.org/en/documents/ods, accessed 12 Dec 2012. United Nations, *The Blue Helmets, 2nd ed,* 323.

minefields.[1092] This arrangement proved unsatisfactory to Iran, who feared espionage and did

not trust Iraq or the UN and therefore insisted that UN observers use Iranian-provided aircraft

while reconnoitering the Iranian side of the lines.[1093] Consequently, UN observers were

compelled to fly only aircraft provided on short notice by each party, restricting their flight paths

to remain behind respective cease-fire lines.[1094] This setup greatly reduced UNIIMOG's ability

to closely monitor the area, and multiple, dangerous cease-fire violations ensued.[1095]

Another famous, or rather infamous, example was the application by the UN Special

Commission (UNSCOM) of aerial verification to enforce weapons mandates imposed on Iraq

following its defeat in the 1991 Gulf War.[1096] In particular, UNSCOM employed hundreds of

helicopter low-level inspections between 1991 and 1993 to "check suspect installations…,

prepare ground-based inspectors, and to allow for cost-effective wide-area searches."[1097]

UNSCOM also had at its disposal an American U-2 for high-altitude, comparative imagery and

aerial inspection of sites.[1098] Between 1991 and the end of 1998, the U-2 flew over 250 missions

in support of UNSCOM.[1099] But Iraq frustrated and deceived UNSCOM's efforts at every turn.

Iraqi officials constantly moved relevant materials between locations in a true-to-life shell game

to prevent UNSCOM from fulfilling its charge.[1100] It became impossible for inspectors to

---

[1092] United Nations, *Report of the Secretary-General on the Implementation of Operative Paragraph 2 of Security Council Resolution 598 (1987),* 1988. S/20093, 7 August 1988, UN Official Document System, UN.org. www.un.org/en/documents/ods, accessed 29 Dec 2012; United Nations, *The Blue Helmets, 3rd ed*, 673.
[1093] Jones, "Peacekeeping and Aerial Surveillance." United Nations, *The Blue Helmets, 2nd ed*, 331.
[1094] United Nations, *The Blue Helmets, 3rd ed*, 673.
[1095] United Nations, *The Blue Helmets, 3rd ed*, 675. United Nations, *The Blue Helmets, 2nd ed*, 332. Krepon and Constable, "Confidence-Building, Peacemaking, and Aerial Inspections in the Middle East," 249.
[1096] United Nations, *Resolution 687 of (1991) of 3 April 1991,* 1991. S/687 (1991), UN Official Document System, UN.org. www.un.org/en/documents/ods, accessed 28 Dec 2012.
[1097] Jones, "Peacekeeping and Aerial Surveillance."
[1098] Tim Trevan, "The United Nations and Iraq: Verification in the Face of Obstruction," in *Verification 1993: Peacekeeping, Arms Control, and the Environment*, ed. John Poole and Richard Guthrie(London: Brassey's, 1993)174.
[1099] United Nations, *Report of the Executive Chairman on the Activities of the Special Commission Established by the Secretary General Pursuant to paragraph 9 (b) (i) of Resolution 687 (1991),* 1998. S/1998/920 (1998) 6 October 1998, UN Departments, UN.org. www.un.org/Depts/unscom/, accessed 20 Dec 2012.
[1100] Trevan, "The United Nations and Iraq: Verification in the Face of Obstruction," 178.

determine if there were any weapons of interest, much less to "verify" their status because UNSCOM was not allowed consistent, appropriate access to Iraqi facilities and did not trust Iraqi-provided documentation or official interviewees.[1101] Iraq simply did not cooperate, and ignorance about Iraqi weapons of that period lingers even today. The failure of the United States to establish the status of Iraqi weapons of mass destruction following its March 2003 invasion may or may not have been related to UNSCOM's failed verification effort.[1102] However, the UNSCOM experience highlights that the success of verification in Iraq was at best undetermined because there did not exist the necessary political will from the host government.

In contrast with the above accounts, it is readily obvious that treaty verification with its air arm has worked well in the Sinai. This was, and is, because Egypt and Israel were first and foremost *willing* to accept verification and its associated aerial regimes at the end of the 1973 Yom Kippur War. The presence of unmolested multinational aircraft and third-party reconnaissance just after Sinai I was signed in January 1974 was in many ways an acknowledgment from the two sides that each respected the cease-fire and wanted to move forward. Political willingness from Egypt and Israel was fertile and persistent enough for Sinai I and its successors to placate both parties while they walked the slow, deliberate road to the Camp David Accords and the 1979 Treaty of Peace.

[1101] For an engrossing account of the UNSCOM-Iraq relationship, see Trevan, "The United Nations and Iraq: Verification in the Face of Obstruction." Trevan was an UNSCOM weapons inspector and made several trips to Iraq for that purpose. UNSCOM later gave way to UNMOVIC, the UN Monitoring and Verification Commission, who continued the mission over Iraq. See Sharon A. Squassoni, "Iraq: U.N. Inspections for Weapons of Mass Destruction," Congressional Research Service, The Library of Congress, RL31671, 7 Oct 2003.

[1102] As an aside, it may not be exactly right to classify UNSCOM-associated aerial reconnaissance with aerial verification, as the missions were flown because the UN was imposing a weapons mandate under the duress of a military defeat. In other words, aerial reconnaissance in this case was not part of a two-party treaty on which each side placed its signature. As if to make this point, UNSCOM's activities in Iraq in the 1990s do not appear in UN peacekeeping annals, but elsewhere in UN records. See tables of contents: United Nations, *The Blue Helmets, 3rd ed*. United Nations, *The Blue Helmets, 2nd ed*. Also see the archival UNSCOM website at www.un.org/depts/unscom. Published by UN.org and accessed 20 Dec 2012.

Chapter Summary and Conclusion

Aerial monitoring for verification or as a general confidence building measure does not have to be the result of a peace treaty. This can be seen easily in what we now know of the progression of peace on the Sinai Peninsula since 1973. The 1974 and 1975 disengagement agreements between Israel and Egypt (Sinai I and Sinai II) allowed time for the roots of peace to grow deeper. The agreements slowly established and then built on stability, all the while incorporating an aerial verification element that improved over time. In just this way, a reconnaissance regime can be a strengthening element to an agreed "cooling-off" period that serves to prevent further bloodshed while the contentious issues that led to war remain unresolved.[1103] Of paramount importance is a mechanism for dispute and violation resolution and an equitable exchange of information among the parties involved. These requirements are represented by the Sinai's Joint Commission and the Open Skies Consultative Commission, and their impartial stewardship of the imagery and data from aerial observation. Without these mechanisms, neither regime achieves its transparency or security goals.

Sinai I, II, and the Treaty of Peace differed from Open Skies in that they introduced aerial monitoring by a third-party. This was an unusual step which propelled the United States to the role of impartial and honest broker. It was an opportunity that found the US well equipped with a peacetime aerial reconnaissance fleet able to do the job. The SR-71 and the U-2 became, and the U-2 remains, the backbone of third-party aerial reconnaissance in the Sinai. It is anyone's guess if, without the anxious but sustained period of verified disengagement between 1973 and 1979 to which American aerial reconnaissance contributed independent data, the Treaty of Peace

---

[1103] The term "cooling-off" period is from Krepon and Constable, "Confidence-Building, Peacemaking, and Aerial Inspections in the Middle East," 247.

would have been concluded at all. In such circumstances, the role of third-party aerial observation is simply to bide time for diplomacy to secure more permanent concessions.

Ironically, air monitoring in the Sinai was not conceived as a type of permanent regime outlined in the Open Skies Treaty. When the US brokered the Sinai peace agreements and offered reconnaissance as a tool, none of the parties involved thought the verification overflights would be a "permanent necessity."[1104] As of this writing, US reconnaissance over the Sinai can claim a longer run than American participation in Open Skies.[1105]

Air monitoring has the potential to strengthen any accord for which it can be applied, not just treaty verification. Keeping watch over nuclear weapons-free zones or environmental monitoring have both been proposed as different uses for aerial reconnaissance.[1106] In 1980, for example, the JCS ordered Kodak SO-31 film loaded on SR-71s overflying Kampuchea, which had joined the UN in September 1980. The film colored healthy vegetation red and dead or dying vegetation in different shades of grey and white. The imagery was used to gauge the probable yield of rice crops. After processing, the imagery was forwarded to the Defense Intelligence Agency to help authorities plan the amount of US food relief to the region under UN programs.[1107] The inclusion of aerial reconnaissance as part of multi-method verification, coupled with onsite inspections and observation satellites, can make agreements even more robust.

[1104] See Ambassador Michael Sterner's comments during Senate Hearings at: United States Senate Committee on Foreign Relations, *Sinai Agreement*, 37.
[1105] I flew a few of these missions—Olive Harvest—in the U-2 between 2001 and 2004. Peace-monitoring U-2 missions over the Sinai continue on a semimonthly basis as of April 2013.
[1106] See United Nations, *Establishment of a Nuclear-Weapon-Free Zone in the Region of the Middle East* (New York: United Nations, 1990), A/45/435 Report of the Secretary-General. 31.
[1107] This brief example comes from Crickmore, *Lockheed SR-71 Operations in the Far East*, 41-42.

Air monitoring interacts with other verification and technical methods to achieve a better diplomatic result. Reciprocal reconnaissance under Open Skies exists within the crisscrossing framework of other monitoring methods associated with other treaties, particularly the Conventional Forces in Europe agreement.[1108] The open-ended purpose statement in the Open Skies Treaty means that nations may supplement or cross-cue onsite, satellite, or automated verification with reconnaissance overflights, improving their political confidence as they calculate the balance of power. Instead of interacting externally with other treaties, this same multi-method synergy exists entirely within the Sinai verification regime, which combines aerial reconnaissance with observation posts, vehicle patrols, automated sensors, and onsite inspections. The diplomatic result in both cases is improved confidence from all parties in the status of forces and weapons—a kind of countermeasure to strategic surprise—allowing room for closer relationships and other political pursuits. In contrast, some sources note the limited ability for unilateral peripheral reconnaissance flights to mitigate tensions when not accompanied by onsite inspections and other, more intrusive measures to confirm no aggressive forces are being hidden.[1109]

Most importantly, the half century of nearly uninterrupted aerial monitoring over the Sinai and the two decades of Open Skies flights are significant in their affirmation of the laborious precondition necessary for their execution.[1110] In both, there must exist some mutual political will to achieve shared goals *before* the first reconnaissance aircraft takes flight. In Open Skies, the goal is to increase transparency and enhance security and confidence building.[1111] In

---

[1108] For a summary of other relevant agreements, see Gabriele, *The Treaty on Open Skies and Its Practical Applications and Implications for the United States*, 30-33.
[1109] Krepon and Constable, "Confidence-Building, Peacemaking, and Aerial Inspections in the Middle East," 245.
[1110] "Nearly uninterrupted" accounts for the 1967-1973 years during which there was only "observation" in the Sinai. There existed no permanent or semi-permanent verification (including aerial) during that time.
[1111] Organization for Security and Cooperation in Europe, *Treaty on Open Skies*, Preamble.

the case of the Sinai, as the Preamble to the Treaty of Peace says, the goal is "the establishment of a just, comprehensive and lasting peace in the Middle East."[1112] Obviously, a comprehensive and harmonious peace has not occurred between Israel and its Arab neighbors. However, the measure of success in this case need not be so grand. In the Sinai there has not been a repeat of the conflicts of 1967 or 1973, and the belligerent period between those years was a time when a robust monitoring construct did not exist. Here may be revealed an insight to the mechanism of monitoring in general. It may not be that monitoring—especially air monitoring—guarantees the prevention of conflict. Rather, it seems more likely that measures such as air monitoring regimes provide a diplomatic coping mechanism through which each side can extinguish the ember before it ignites. Daily violations of agreements or treaties are detected, reported, negotiated, and reconciled as they occur, as if to relieve the pressures otherwise accumulating as propellant for war. In this way, an air monitoring regime can be both the result of and the basis for diplomacy.

[1112] United Nations, *Treaty of Peace Between Egypt and Israel, March 1979*, Preamble.

Chapter Five: Sensitive Reconnaissance Operations

[T]he incident was not simply one plane colliding with another but
also a plane colliding with one of the foundations of the Chinese
Communist Party's legitimacy.[1113]

Introduction

Peacetime sensitive aerial reconnaissance operations, or SRO, are this chapter's focus and this paper's final set of case studies. The discussion below proposes that peacetime SRO is as much a diplomatic activity as it is an intelligence one. SRO can provide persistent information and intelligence to decision makers, but can also expose governments to crises of the highest order when incidents occur. SRO and diplomacy, then, can shape each other. The term "SRO" in this chapter generally refers to aerial reconnaissance operations planned for and legally executed in international airspace—peripheral reconnaissance. However, some mention of deliberate, penetrating reconnaissance, called overflight, is appropriate at times to show its contextual relevance. Such overflights of the kind conducted under the post-World War II SENSINT program are discussed in Chapter Two, and these activities undoubtedly continue, but their nature is illegal and covert by default. America undertakes reconnaissance overflight presumably because the intelligence benefits outweigh the diplomatic risk of being named on the wrong side of the legal and moral argument. Peacetime aerial SRO is different for its robust legal basis, and therefore provides a persistent accumulation of information for little diplomatic risk. However, when circumstances collude, a little diplomatic risk can ignite into crisis—it is always only one incident away.

[1113] John Keefe, special assistant to US Ambassador to China Joseph Prueher at the US Embassy in Beijing in April 2001, commenting on the diplomatic impact of a 15 April 2001 mid-air collision of a US Navy reconnaissance aircraft with a Chinese F-8 fighter over the South China Sea. John Keefe, *Anatomy of the EP-3 Incident, April 2001*, Project Asia (Alexandria: The CNA Corporation, 2002), Center for Strategic Studies. 15.

Given that thousands of SRO missions take flight over any month and the great majority conclude without incident, it is enlightening to explore the circumstances surrounding the few events that throw the United States into convulsive diplomatic tests. These rare incidents force a measure of how sensitive reconnaissance operations may support political goals while risking unpredictable and potentially damaging crises. What follows is a discussion of two events: the 1969 shoot-down by North Korea of a Navy EC-121 over the Sea of Japan, and the 2001 forced landing of a Navy EP-3 on China's Hainan Island—both aircraft that were flying SRO missions. If you will, the discussion below seeks to delimit and define the white space by examining the black. The intent of this approach is to flush out relevant themes regarding the relationship between aerial SRO and diplomacy by investigating specific events where SRO went wrong.

1969 EC-121 Shoot-Down

President Richard Nixon and his administration were at the end of only their third month in office in mid-April 1969.[1114] Despite being a new president, Nixon was not new to crisis. He had served as vice president under Dwight Eisenhower when Egypt nationalized the Suez Canal in 1956.[1115] Still, when National Security Advisor Henry Kissinger informed him on the morning of 15 April that fighter aircraft from North Korea, formally the Democratic Peoples' Republic of Korea, or DPRK, had shot down an unarmed American reconnaissance airplane over the Sea of Japan, the subsequent events brought forth the first major crisis of the Nixon administration.[1116]

[1114] Nixon was inaugurated president on January 20, 1969.
[1115] Department of State, *FRUS, 1955-1957*, XVI: List of Persons. Also see Chapter Three in this study.
[1116] See Figure 37 in Appendix B for an overview of the geography. Henry Kissinger, *White House Years* (New York: Simon & Schuster, 1979). 313.

The EC-121M Constellation at the center of the incident was assigned to Fleet Air

Reconnaissance Squadron One (VQ-1) based at Atsugi Naval Air Station near Tokyo, Japan.[1117]

The US Navy's EC-121M fleet and its EC-121K variant cousins were four-engine, propeller-

driven signals intelligence (SIGINT) reconnaissance aircraft used to soak up electronic

transmissions in the Southeast Asia theater.[1118] The aircraft departed Atsugi at 0700 local time

on 15 April 1969 and was assigned the call sign "Deep Sea 129."[1119] It carried 31 crew, all men,

from both the Navy and the Marine Corps. Its mission was to proceed to a standard

reconnaissance orbit over the Sea of Japan (about 50 miles from the coast of North Korea), loiter

there for several hours and then land at Osan Air Base south of Seoul, South Korea.[1120]

According to the congressional inquiry report on the subject and the US Navy's Seventh Fleet

records, North Korean Air Force (NKAF) Mig-21 fighters scrambled in response to the aircraft at

1234 on 15 April and the aircraft disappeared from radar at 1350.[1121] While on-station during its

mission, Deep Sea 129 had transmitted two routine messages to mission tracking stations, and

then acknowledged three warnings messages from those same stations informing the crew of two

NKAF fighters within 50 miles of their position.[1122] The aircraft turned away from the North

---

[1117] See Figure 38 in Appendix B. Special Subcommittee on the *USS Pueblo* United States House Armed Services Committee, *Inquiry into the USS Pueblo and EC-121 Plane Incidents* (Washington, D.C.: US Government Printing Office, 1969), HASC Report 91-12. 1675-1676.
[1118] Donald, *Spyplane*, 49, 56.
[1119] COMSEVENTHFLT, "EC-121 Shootdown", 240151Z April 1969, Folder 91 "Korea (BP) EC-121 Shootdown", Box 31, Records of Earle Wheeler, RG 218, NARA.
[1120] Information here is from Richard A. Mobley, "EC-121 Down!," *U.S. Naval Institute Proceedings* 127, no. 8 (2001), Military & Government Collection, Ebscohost. www.ebscohost.com, accessed 3 Jan 2013.
[1121] Times are local Korea and Japan times. US tracking stations in Japan and South Korea were tracking the aircraft as well as many other US military and reconnaissance missions. COMSEVENTHFLT, "EC-121 Shootdown", 240151Z April 1969, RG 218, NARA. Also see United States House Armed Services Committee, *HASC Report on USS Pueblo and EC-121 Incidents*, 1675. It was later determined that the NKAF fighters were probably MiG-21s. In the documents of the time, they simply read "fighters" or "MiG fighters."
[1122] COMSEVENTHFLT, "EC-121 Shootdown", 240151Z April 1969, RG 218, NARA. The (unidentified) tracking station issued a "Condition 5" warning, under the JCS reconnaissance advisory support program, which Deep Sea 129 acknowledged, indicating the station knew the MiGs were approaching within 50 miles of the EC-121.

Korean coast to distance itself from the responding NKAF fighters, but the EC-121's slow speed was probably no match for the NKAF fighters' rate of closure.

At 1350 local time, the aircraft disappeared from friendly radar tracking stations around the Sea of Japan and Pacific region.[1123] Within twenty minutes, two F-106s from Osan Air Base, South Korea scrambled to the EC-121's last known position about 90 to 95 miles southeast of Chongjin, North Korea.[1124] The F-106s were followed within the hour by more fighters to relieve them and an HC-130 search and rescue (SAR) aircraft from Tachikawa, Japan.[1125] Answering a request to the Soviets from Secretary of State William Rogers, Soviet ships also participated in the search for survivors and wreckage, at one point receiving an American radio from a nearby US ship to better communicate between dissimilar fleets.[1126] Wreckage found by SAR aircraft and naval vessels that later arrived on scene indicated that the EC-121 had been shot down by cannon fire from the NKAF fighters.[1127] A very surprised President Nixon expressed his shock during a press conference three days later, saying that he would have taken "protective action" had he or his team felt that such missions were threatened.[1128]

[1123] COMSEVENTHFLT, "EC-121 Shootdown", 240151Z April 1969, RG 218, NARA.

[1124] Some sources report these as F-102s, but the Department of Defense reports call the flights from Osan F-106s. Department of Defense, "Department of Defense Message, April 16, 1969." 1969. Document Number CK3100592096. Declassified Documents Reference System (DDRS), Primary Source Media, The Gale Publishing Inc., accessed 3 Jan 2012. This message was probably issued at 11:00 AM EDT on 16 April 1969, per the handwriting on the last page, but there is no date-time-group in the message head identifier.

[1125] United States House Armed Services Committee, *HASC Report on USS Pueblo and EC-121 Incidents*, 1675-1676. Also in Department of Defense, "Department of Defense Message, April 16, 1969."

[1126] US radio example is from United States House Armed Services Committee, *HASC Report on USS Pueblo and EC-121 Incidents*, 1676. Rogers' request to Soviet Ambassador Dobrynin is referenced in Department of Defense, "Department of Defense Message, April 16, 1969." These were Soviet Kotlin and Kashin-class destroyers number 429, 580, and later 427. I list them here simply because the detail is available from JCS Chairman Wheeler's testimony to the HASC Pueblo committee.

[1127] The *USS Tucker* recovered two bodies from the aircraft and part of the fuselage, all showing injury and damage from cannon and machine guns. This information comes from Mobley, *Flash Point North Korea*, 191, n150. However, at the time of the Congressional inquiry (early March through late April 1969), Joint Chiefs of Staff Chairman Earle Wheeler testified that it was too early to determine exactly how Deep Sea 129 had been brought down. See United States House Armed Services Committee, *HASC Report on USS Pueblo and EC-121 Incidents*, 1676.

[1128] Department of State, "President Nixon's News Conference of April 18," *The Department of State Bulletin* LX, no. 1558 (1969).

What happened next within Nixon's presidential circle was critiqued heavily by Dr. Kissinger in his memoirs, *White House Years*. Kissinger described a president and an administration reluctant to respond to the shoot-down in any substantial way: "It was as if someone had pushed a button labeled 'crisis management' and the answer that came up was 'nonchalance.'"[1129] Almost all sources referenced in the 16 April National Security Council (NSC) meeting confirmed that Deep Sea 129 had been well beyond North Korea's claimed twelve nautical-mile territorial waters, the one exception being claims made by the DPRK. In that meeting, reports were reviewed from the Department of Defense, CIA, and from Soviet sources.[1130] Deep Sea 129's closest point of approach (CPA) to North Korea was probably no closer than 48 nautical miles.[1131] Given this position and the fact that Deep Sea 129 was an unarmed aircraft, Kissinger's implicit message was that such deliberate and deadly provocation required a forceful, punitive response: "It is all very well to make sure of alternatives. But when an unarmed American plane is shot down far from shore, a leisurely process of decision-making creates a presumption in favor of eventual inaction."[1132] The event benchmarks following the shoot-down seem to confirm Kissinger's description of his administration's pace. Nixon did not convene an emergency meeting of the NSC, or meet with any individual NSC members, at all during the initial hours of the crisis, nor did he order at least some immediate military mobilization as messaging.[1133] The first meeting of all the administration principals to address

---

[1129] Kissinger, *White House Years*, 316.
[1130] "Minutes of a National Security Council Meeting, Washington, April 16, 1969," Department of State, *1969-1976, Korea, 1969-1972*, ed. Daniel J. Lawler, et al., vol. XIX, Part I, Foreign Relations of the United States (Washington D.C.: United States Government Printing Office, 2010). Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/frus1969-76v19p1, accessed 22 Dec 2012. Document 13.
[1131] This is the CPA distance provided from many sources. "North Korean Downing of a U.S. Reconnaissance Plane: The EC-121 Incident, April 1969", October 1969, Folder "History Office Research Projects 1969-1974", Office of Executive Secretariat, Box 6, RG 59, NARA. Kissinger, *White House Years*, 313.
[1132] Kissinger, *White House Years*, 316.
[1133] See entries for 15 April 1969, *President Richard Nixon's Daily Diary, April 1-17*, 1969. Virtual Library, Richard Nixon Presidential Library. www.nixonlibrary.gov/virtuallibrary/documents, accessed 6 Jan 2013. Kissinger, *White House Years*, 317.

the crisis was held over a day following the shoot-down on 16 April at ten o'clock in the

morning.[1134] The 18 April press conference was Nixon's first public address on the downed

EC-121, which was folded in with a larger exchange whose subjects included the war in

Vietnam, an Anti-Ballistic Missile issue, and Soviet nuclear capability.[1135]

The EC-121 shoot-down was the second major sensitive reconnaissance crisis with North

Korea in as many years. In January 1968, the USS *Pueblo* (AGER-2), an unarmed signals

intelligence (SIGINT) vessel, was seized by North Korean patrol boats about 16 miles off the

coast.[1136] The *Pueblo* was towed into port at Wonsan extremely fast, within six hours of being

boarded by a DPRK military team.[1137] US Navy and US Air Force elements in the area were not

prepared to respond quickly to the incident, a point of embarrassment and criticism for the JCS

and for then President Lyndon Johnson.[1138] The crew spent almost a year in prison during which

time they were treated horribly and threatened with execution.[1139] The Johnson administration

considered many options to free the *Pueblo's* crew and retrieve the ship, but in the end were met

with North Korean intransigence and pressure to secure the crew's release by Christmas 1968.

The crew was released on 23 December 1968 only after a written apology was formally

presented to North Korea by the Johnson administration at Panmunjom.[1140] The USS *Pueblo*

[1134] See Documents 7 through 13 in Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I. Assuming Secretary of State Rogers or his underlings would have been invited to any White House crisis meetings, there is no record in FRUS of any such gathering between the morning of 15 April (the time of the shoot-down) and the 16 April NSC meeting at which Rogers was present. Also see *President Richard Nixon's Daily Diary, April 1-17*.
[1135] Department of State, "President Nixon's News Conference of April 18."
[1136] United States House Armed Services Committee, *HASC Report on USS Pueblo and EC-121 Incidents*, 1661-1662. Mobley, *Flash Point North Korea*, 42. See these sources for a complete and thorough review of the *Pueblo* crisis.
[1137] Mobley, *Flash Point North Korea*, 40.
[1138] Rearden, *Council of War*, 383. See "Availability and Capability of Forces--Command Response," in United States House Armed Services Committee, *HASC Report on USS Pueblo and EC-121 Incidents*, 1668.
[1139] The crew's imprisonment and behavior during their time in North Korea prompted a broad review by the Joint Chiefs of Code of Conduct training within the US military. See United States House Armed Services Committee, *HASC Report on USS Pueblo and EC-121 Incidents*, 1682-1694.
[1140] "Telegram From the Department of State to the Embassy in Korea, Washington, December 11, 1968," Department of State, *FRUS, 1964-1968, XXIX Part 1*, XXIX, Part 1: Document 325.

remains in North Korea as of this writing, having been towed from Wonsan port to Pyongyang since its 1968 seizure.[1141]

That the April 1969 EC-121 shoot-down was immediately compared to the January 1968 USS *Pueblo* affair could not be helped. The *Pueblo's* crew had just returned less than four months before the EC-121 incident, their ordeal having been covered extensively in the press. The story in the Washington Post the morning after the aircraft was downed (16 April 1969) read, "Lost Plane a Pueblo-Type Spy," as if to resurrect the still-warm aftermath of the *Pueblo* and highlight the fact that an otherwise sophisticated American press somehow did not understand the difference between "spying" and "reconnaissance."[1142] However, in many ways it was a fair comparison. Both crafts were loitering, unarmed SIGINT reconnaissance platforms in international spaces, which provided some portability to the respective congressional and executive deliberations about the justification and parameters for America's broad-reaching SRO program.[1143] Both crafts were the victims of DPRK aggression while American armed forces were engaged in the all-consuming Vietnam war, compelling Presidents Johnson and then Nixon to weigh any possible response options against operations there.[1144] Most importantly, Nixon had criticized Johnson's handling of the *Pueblo* crisis, saying that Johnson had not applied

---

[1141] In the winter of 2012-2013, the USS *Pueblo* was moved to a location near the Liberation War Monument on the Botong River in Pyongyang. Go to www.maps.google.com and type "Liberation War Monument, Pyongyang, North Korea" into the search window. A quick full zoom in and click on "satellite" view will allow the viewer to see the ship on display in the Botong River just east of the monument.

[1142] Richard Homan, "Lost Plane a Pueblo-Type Spy," *The Washington Post*, 16 Apr 1969, ProQuest Historical Newspapers, ProQuest, http://search.proquest.com/docview/147691777?accountid=12084, accessed 2 Jan 2012. Spying is illegal; reconnaissance is not. See Chapter Two in this study and William Burrows' comments at Burrows, *By Any Means Necessary*, 321. These comments are echoed by Larry Tart at Burrows, *By Any Means Necessary*, xvi.

[1143] As if to make this point, the same House subcommittee investigating the USS *Pueblo* incident was handed the EC-121 shoot-down mid-hearings, extending their overall scheduled meeting schedule. See US House of Representatives Special Subcommittee on the U.S.S. Pueblo, *Inquiry into the U.S.S. Pueblo and EC-121 Plane Incidents* (Washington, D.C.: US Government Printing Office, 1969), Hearings Proceedings, 91st Congress, 1st Session. HASC No. 91-10. 882. "Briefing for Director of Central Intelligence Helms for a National Security Council Meeting, Washington, April 16, 1969," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 11.

[1144] Johnson suspected collusion between the DPRK and North Vietnam since the USS *Pueblo* was seized barely a week before the TET offensive on 30 Jan 1968. See "Telegram From the Embassy in Korea to the Department of State, Seoul, March 15, 1968," Department of State, *FRUS, 1964-1968, XXIX Part 1*, XXIX, Part 1: Document 188.

sufficient force to North Korea and that Johnson was too entranced with the White House Situation Room.[1145] When the EC-121 was shot down in April 1969, Nixon finally had his opportunity to improve upon his predecessor's performance.

North Korea's infamy as a crisis exporter to American leadership in the late 1960s was not undeserved. Speaking at the United Nations in December 1968, US Senator Stuart Symington had referred to the DPRK's "policy of stepped-up violence" as "a systematic campaign to export revolution into the South through violence and terrorism."[1146] North Korea had shown eager willingness to surprise and kill Americans and South Koreans on more than one occasion since 1965. In April of that year, two NKAF MiG-17s attacked an RB-47 flying a SIGINT mission about 80 miles off the coast.[1147] The crew fought off the attacking fighters with the RB-47's tail gun, but the aircraft was so damaged upon returning to Tachikawa Air Base in Japan that it was written off as a "constructive loss."[1148] A Special National Intelligence Estimate in September 1967 highlighted increasing DPRK aggressiveness and killing along the Demilitarized Zone (DMZ) since 1964, citing 360 deadly DMZ incidents as of the date of the report.[1149] On 22 January 1968, 31 DPRK commandos infiltrated into the South and attempted to attack the residence of South Korean President Pak Chong-hui, but were fought off by attentive South Korean police.[1150] The *Pueblo* was seized the next day. The Special Committee

---

[1145] This was a critique of Johnson's desire to convey the image that he was planning minute details from the Situation Room, such as individual bombing sorties over North Vietnam. Kissinger, *White House Years*, 315. Mobley, *Flash Point North Korea*, 2. The Situation Room was directly adjacent to the White House Communications center, making communication with the outside world easy for the president and his staff.

[1146] Department of State, "Statement by Senator Symington, Committee 1, December 11 [1968]," *The Department of State Bulletin* LX, no. 1542 (1969): 32.

[1147] Jackson, *High Cold War*, 96. "Briefing for Director of Central Intelligence Helms for a National Security Council Meeting, Washington, April 16, 1969," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 11.

[1148] Jackson, *High Cold War*, 96.

[1149] The DMZ is the area of no-man's land separating North and South Korea. Central Intelligence Agency, *North Korean Intentions and Capabilities With Respect to South Korea,* 1967. SNIE 14.2-67, 21 September 1967, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/DOC_0000661632/DOC_0000661632.pdf, accessed 5 Jan 2013. 2.

[1150] Also known as the "Blue House" raid. "Briefing for Director of Central Intelligence Helms for a National Security Council Meeting, Washington, April 16, 1969,"Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 11.

assigned within Congress to investigate the USS *Pueblo* and the EC-121 incidents would later note in their report that the National Security Agency (NSA) Director had attempted to warn the Commander of US Pacific Forces (CINCPAC) about an increased risk to aerial and naval reconnaissance from North Korea before the *Pueblo* was underway.[1151] From the NSA report dated 27 December 1967: "…the North Korean Air Force has been extremely sensitive to peripheral reconnaissance flights in this area since early 1965."[1152] Nixon and his Cabinet knew that North Korea was signaling increased aggression in general and was especially sensitive to reconnaissance off its eastern coastline, so, in March 1969, he ordered contingency planning should the DPRK attempt more dangerous attacks.[1153] Unfortunately, North Korea's eastern coastline was exactly where much of American SRO was operating.

Presence—1969 EC-121 Shoot-Down

In April 1969, Deep Sea 129 was only one among hundreds of American SRO missions planned for the month in the Sea of Japan. JCS Chairman General Earle Wheeler testified during the *Pueblo* and EC-121 hearings that there had been 190 such missions conducted through March 1969, and that operations specifically in the Sea of Japan had been ongoing since 1950.[1154] As a broader measure of frequency, the United States had flown 976 reconnaissance missions just beyond 60 miles of the eastern North Korean coastline between January 1968 and March

---

[1151] United States House Armed Services Committee, *HASC Report on USS Pueblo and EC-121 Incidents*, 1654.
[1152] Message from Director, NSA to the JCS/JRC referred to CINCPAC, 230239Z December 1967, as reproduced in United States House Armed Services Committee, *HASC Report on USS Pueblo and EC-121 Incidents*, 1654.
[1153] This was also an assessment made by the Director NSA in his 23 December 1967 message to JCS/JRC. See note 1151 above. Also from "North Korean Downing of a U.S. Reconnaissance Plane: The EC-121 Incident, April 1969", October 1969, RG 59, NARA. "National Security Study Memorandum 34, Washington, March 21, 1969," "Memorandum of Conversation, Washington, April 1, 1969," and "Memorandum of Conversation, Washington, April 2, 1969," in Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Documents 4-6.
[1154] US House of Representatives Special Subcommittee on the U.S.S. Pueblo, *Inquiry into the U.S.S. Pueblo and EC-121 Plane Incidents*, 890. These numbers were also in Department of Defense, "Department of Defense Message, April 16, 1969."

1969.[1155] Along with VQ-1's EC-121s at Atsugi, the Air Force's Strategic Air Command (SAC) flew daily RC-135 SIGINT reconnaissance and periodic SR-71 missions into the area from Kadena Air Base on Okinawa.[1156] Other operations included peripheral flights by RB-47s and RC-130 flights along the DMZ.[1157] Following the RB-47 attack in 1965, SAC flew SRO missions over the Sea of Japan only at night and with fighter escort.[1158] SAC resumed daylight reconnaissance missions there in 1967 when there was no further hostility from North Korea and those operations continued uninterrupted until the EC-121 incident in 1969.[1159]

The 1968 *Pueblo* crisis had spurred a frenzy of aerial reconnaissance over the DPRK and in the Sea of Japan. Much of the aerial presence grew from the fact that imagery provided to national leadership from the KH-4 Corona satellites, whose coverage of North Korea had been enhanced by the CIA following the incident, was simply not as clear or detailed as "air-breather imagery."[1160] A 30 April CIA report listed two A-12 Black Shield penetrating missions flown over North Korea on 5 and 26 January 1968.[1161] The second mission was flown only days after the *Pueblo* incident and returned with footage of the ship moored in Wonsan port.[1162] At one point, then Secretary of State Rusk investigated applying more aerial reconnaissance (probably A-12 overflights) as diplomatic pressure against North Korea to underpin the US position at USS *Pueblo* negotiations at Panmunjom, a proposal the CIA found too risky for any supposed

[1155] "North Korean Downing of a U.S. Reconnaissance Plane: The EC-121 Incident, April 1969", October 1969, RG 59, NARA. Mobley, *Flash Point North Korea*, 102.
[1156] Strategic Air Command, *SAC Recon History, 1968-1971*, entries for 1969.
[1157] Mobley, *Flash Point North Korea*, 98-100.
[1158] Chairman Wheeler's testimony in US House of Representatives Special Subcommittee on the U.S.S. Pueblo, *Inquiry into the U.S.S. Pueblo and EC-121 Plane Incidents*, 907.
[1159] US House of Representatives Special Subcommittee on the U.S.S. Pueblo, *Inquiry into the U.S.S. Pueblo and EC-121 Plane Incidents*, 919-920.
[1160] Remarks of DCIA Richard Helms to President Johnson in "Notes of Meeting [with the president], Washington, January 25, 1968," Department of State, *FRUS, 1964-1968, XXIX Part 1*, XXIX, Part 1: Document 225.
[1161] Central Intelligence Agency, *Black Sheild Reconnaissance Missions 1 January - 31 March 1968*, 7-8. Pedlow and Welzenbach, *The CIA and the U-2*, 320.
[1162] Central Intelligence Agency, *Black Sheild Reconnaissance Missions 1 January - 31 March 1968*, 15, Figure 19.

benefits.[1163] The US also continued to fly variants of the Ryan 147-series reconnaissance drones

over the DPRK between the *Pueblo* and EC-121 incidents, some of which either malfunctioned

or were shot down.[1164]

The aerial SRO missions were an ever-present American agent to the North Korean

leadership. They claimed that the US routinely overflew the DPRK with multiple types of

reconnaissance aircraft.[1165] After 1965, NKAF fighters began practicing intercepts against

American reconnaissance aircraft in the Sea of Japan. This was from the testimony of Brigadier

General Ralph Steakley, who was Director of the JCS Joint Reconnaissance Center (JRC) during

the EC-121 Congressional investigation and commented on one occasion where NKAF fighters

had flown close to a mission but were too low to intercept it.[1166] DPRK air defense crews also

began practicing surface-to-air missile attacks at the high-altitudes flown by Black Shield A-12

reconnaissance missions.[1167] However, the DPRK reaction to the presence of SRO missions was

more than aggressive military training.

Most importantly, North Korea was unique in their frequent reference to American SRO

missions for domestic propaganda and international messaging.[1168] DPRK state radio broadcasts

---

[1163] R.J. Smith, *Comments on Draft Contingency Plan for Airborne Reconnaissance of North Korea,* 1968. Memorandum from Deputy Director for Intelligence to William C. Trueheart, Department of State, 19 Feb, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/DOC_0000644096/DOC_0000644096.pdf, accessed 9 Jan 2013. "Action Memorandum From the Director of the Korean Task Force (Berger) to Secretary of State Rusk, Washington, February 15, 1968," Department of State, *FRUS, 1964-1968, XXIX Part 1*, XXIX, Part 1: Document 276.

[1164] See section on "aerial reconnaissance," COMUSFK, *COMUSFK, 281214Z January 1968,* 1968. Folder "091 Korea—Pueblo 23 Jan 1968-7 Feb 1968, vol. 1", Records of Earle Wheeler, Box 29, RG 218, NARA.

[1165] Pyongyang Home Service in Korean 2200 GMT 17 Apr, "Editorial Justifies Downing of U.S. EC-121," *Foreign Broadcast Information Service Daily Report: Asia & Pacific* II, no. 75 (1969), Foreign Broadcast Information Service, 1 March 1969-1 May 1969, Library of Congress Microfilm 05126.

[1166] General Steakley did not offer a date of the incident, only saying that it occurred "since 1965." US House of Representatives Special Subcommittee on the U.S.S. Pueblo, *Inquiry into the U.S.S. Pueblo and EC-121 Plane Incidents*, 923.

[1167] About 80,000 feet. "EC-121 Shootdown", 240151Z April 1969, RG 218, NARA.

[1168] For great examples, search "North Korea" and "reconnaissance," any year, at Foreign Broadcast Information Service Daily Reports available at www.infoweb.newsbank.com ; published by NewsBank's ReadEx Division and available through the Library of Congress database access, or the Air University Library's database page. For an immediate source, see Pyongyang KCNA International Service in English 1035 GMT 23 Apr, "Government Statement on U.S. 'Provocations'," *Foreign Broadcast Information Service Daily Report: Asia & Pacific* II, no. 78 (1969), Foreign Broadcast Information Service, 1 March 1969-1 May 1969, Library of Congress Microfilm 05126.

referenced "American spy planes" just days before the attack on Deep Sea 129.[1169] One of the

evidential cases to be made that the attack on the EC-121 was a deliberate, carefully planned act

was the speed with which the North Korean government transmitted its victory statement

afterwards, within six hours, over the Pyongyang Home Service and the Korean Central News

Agency (KCNA).[1170] To paraphrase the statements, the Korean People's Army had, in a "single

shot," downed a US reconnaissance aircraft flying at high-altitude and "deep" in DPRK airspace

(there would be references to "deep" within the DPRK's territory many times over, as if to drive

home the point for foreign audiences and deliver the appearance of enemy infiltration to

domestic ones.)[1171] KCNA also claimed that the United States had conducted "extensive" aerial

reconnaissance for years against the DPRK, especially after the USS *Pueblo* incident in early

1968, after which the US flew "aerial espionage" hundreds of times over North Korea.[1172]

KCNA broadcasts connected the EC-121 shoot-down with other "war provocation maneuvers…

along the Military Demarcation Line," and warned the United Sates and others that there would

be retaliation if the "U.S. imperialists" continued provocations.[1173] Such official spin exploiting

US SRO missions was common for North Korean state broadcast agencies, and not simply after

an incident or shoot-down. Home Service and KCNA broadcasts used the US reconnaissance

---

[1169] US House of Representatives Special Subcommittee on the U.S.S. Pueblo, *Inquiry into the U.S.S. Pueblo and EC-121 Plane Incidents*, 907. JCS Chairman General Wheeler dismissed the proposal that the broadcasts demanded particular attention because references and threats to American SRO missions were very common over North Korean state radio.
[1170] The Broadcast is labeled as 1000 GMT 15 April 1969, which would have been 1900 local time at Pyongyang (UTC+9hrs), just over five hours after the EC-121 disappeared from friendly radar screens and 1350. Pyongyang KCNA International Service in English 1000 GMT 15 April, "U.S. Reconnaissance Plane Shot Down Over DPRK," *Foreign Broadcast Information Service Daily Report: Asia & Pacific* II, no. 72 (1969), Foreign Broadcast Information Service, 1 March 1969-1 May 1969, Library of Congress Microfilm 05126.
[1171] Pyongyang KCNA International Service in English 1000 GMT 15 April, "U.S. Reconnaissance Plane Shot Down Over DPRK." Pyongyang Home Service in Korean 2200 GMT 17 Apr, "Editorial Justifies Downing of U.S. EC-121." Pyongyang Home Service in Korean 2103 GMT 16 April, "Defense Minister Lauds Unit Which Downed Plane, Order Number 24," *Foreign Broadcast Information Service Daily Report: Asia & Pacific* II, no. 74 (1969), Foreign Broadcast Information Service, 1 March 1969-1 May 1969, Library of Congress Microfilm 05126. Pyongyang KCNA International Service in English 1035 GMT 23 Apr, "Government Statement on U.S. 'Provocations'."
[1172] Pyongyang Home Service in Korean 2200 GMT 17 Apr, "Editorial Justifies Downing of U.S. EC-121."
[1173] Pyongyang Korean Central News Agency, "KCNA Issues Report on Coastal 'Military Provocations'." Pyongyang KCNA International Service in English 1035 GMT 23 Apr, "Government Statement on U.S. 'Provocations'."

presence as fodder for domestic propaganda—to represent an external threat to justify harsh internal policies such as North Korea's "military first" concept for which the regime demanded steep sacrifices from its people.[1174]

North Korea's radio references to reconnaissance activity far off its coast suggests that it defined espionage differently than did the United States and other nations. Although the US defended the EC-121 flight as well within international airspace, the location of the reconnaissance flight seemed to make no difference to North Korea. The frequent radio broadcasts that summed up coastal reconnaissance missions indicated that it was the activity of the plane that was offending to the DPRK, not the location. The USS *Pueblo* and the EC-121 incidents intimate that the DPRK saw *any* unapproved collection of state security information as espionage, and therefore subject to "self-defense" and aggressive response.[1175] North Korea's more recent radio broadcasts, in which it publicly tabulates and summarizes peripheral reconnaissance activity against it, show that this outlook toward SRO probably has not changed.[1176] This is an important attitude for the United States to understand. It means that North Korea holds a fundamentally different view regarding international airspace and the nature of reconnaissance.

Immediately after the 1969 incident, the DoD stopped all aerial reconnaissance missions in the Sea of Japan, but also those planned near the Soviet Union, China, the Mediterranean, and

---

[1174] Lintner applies this line of thought to the USS *Pueblo* incident. Bertil Lintner, *Great Leader, Dear Leader: Demystifying North Korea Under the Kim Clan* (Chiang Mai, Thailand: Silkworm Books, 2005). 94.
[1175] Mobley, *Flash Point North Korea*, 152-153.
[1176] For example, North Korea does a monthly and annual "wrap up" of American aerial reconnaissance activities over its Korean Central News Agency (KCNA). In December 1999, it claimed the US flew 1,760 "cases of aerial espionage on the DPRK this year." It specifically named the U-2, RC-135, RC-12, RF-4C, EH-60, E-3, and "other strategic and tactical reconnaissance planes and electronic warfare helicopters." North Korea claimed these flights as proof that the US is "watching for a chance to invade the DPRK." See Korean Central News Agency (KCNA), "Aerial Espionage Against DPRK." www.KCNA.co.jp: Korean News Service in Tokyo, 30 December 1999. Korean News, Korean News Service, accessed 3 Jan 2013.

Cuba.[1177] It is difficult to say if this sent any particular message to the North Korean leadership,

but they were sure to take notice if they were able to track the EC-121 and other reconnaissance

flights at all. Nixon and Kissinger were both fuming at the Pentagon because the Defense

Department could not—or would not—resume SRO quickly.[1178] Nixon felt the North Koreans

would derive the wrong message from the US backing off reconnaissance flights, but in truth it

was simply the Pentagon dragging their feet. Kissinger in particular was worried about what

message the global stand-down might send to any would-be aggressors, not just the DPRK.

Alluding to the right of any nation to exercise freedom of navigation over the high seas,

Kissinger wrote, "My concern was that halting all reconnaissance in response to a shootdown

would convey an impression of insecurity; it hardly suggested that the Administration was

determined to defend is rights against brutal challenge [sic]."[1179] President Nixon ordered aerial

reconnaissance resumed worldwide on 18 April 1969, but with fighter protection where risk was

highest, such as in the Sea of Japan.[1180] Presumably because of the difficulty in deploying and

then employing fighter escorts, it would be 8 May before normally scheduled flights were

resumed fully worldwide.[1181]

Establishing that aerial SRO provided an unmistakable American presence to North

Korea may be understatement. Some authors correlate the presence of aerial and sea-born

reconnaissance near and over North Korea with Kim Il Sung's demonstrated increased

---

[1177] Kissinger, *White House Years*, 317. US House of Representatives Special Subcommittee on the U.S.S. Pueblo, *Inquiry into the U.S.S. Pueblo and EC-121 Plane Incidents*, 891.
[1178] Richard Nixon, *RN: The Memoirs of Richard Nixon* (New York: Grosset and Dunlap, 1978). 385.
[1179] Kissinger, *White House Years*, 317. Kissinger felt that such a comprehensive reaction was uncalled for because of the precedent that had been set: the shoot-down of a single SRO mission could bring down the entire system, at least temporarily. As he put it, "the temptation this created for other incidents seemed to me overwhelming." Quote is from page 321.
[1180] Department of State, "President Nixon's News Conference of April 18." Also see "North Korean Downing of a U.S. Reconnaissance Plane: The EC-121 Incident, April 1969", October 1969, RG 59, NARA. "Memorandum by the President's Assistant for National Security Affairs (Kissinger), Washington, April 29, 1969," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 20.
[1181] Nixon, *RN: The Memoirs of Richard Nixon*, 385.

aggressiveness in the late 1960s. Richard Mobley suggests that a planned shoot-down of one of

the unprotected and predictable reconnaissance patrols offered high-ranking DPRK military

leadership the opportunity to justify certain policies, equipment choices, and their own careers to

Kim Il Sung and his inner-circle.[1182] Whatever the case, a robust American aerial SRO presence

figured into North Korean domestic and foreign strategy as a means to achieve political ends.

Penetration—1969 EC-121 Shoot-Down

Aerial SRO missions like the one flown by Deep Sea 129 were not planned to penetrate

the sovereign airspace of their target nations. It was the character of such PARPRO missions to

collect raw intelligence, usually SIGNIT, while remaining outside territorial limits and therefore

within international law.[1183] However, in the case of North Korea, PARPRO missions could not

escape being viewed in context with other aerial reconnaissance missions that *were* planned for

penetrative overflight. For example, at the time of Deep Sea 129's shoot-down, the CIA and then

SAC had been flying A-12s and then SR-71s over North Korea often enough to be referenced by

Pyongyang in public radio broadcasts.[1184] The final CIA A-12 overflight occurred on 8 May

1968 with subsequent sorties flown by SAC SR-71s. Both sets of missions originated from

Kadena Air Base on Okinawa.[1185] SAC flew Ryan 147-series drone operations against the North

prior to the Deep Sea 129 shoot-down, but reconnaissance drone operations after April 1969 flew

the high-altitude Ryan 147T SIGINT variant and were planned to fly in international or

---

[1182] Mobley, *Flash Point North Korea*, 103-106.
[1183] Burrows, *By Any Means Necessary*, 69.
[1184] Pyongyang Home Service in Korean 1003 GMT 10 May, "Government Critisizes Reconnaissance Planes," *Foreign Broadcast Information Service Daily Report: Asia & Pacific* I, no. 87 (1968), Foreign Broadcast Information Service, 1 May 1968-1 June 1968, Library of Congress Microfilm 05126.
[1185] Mobley, *Flash Point North Korea*, 54.

permissive airspace.[1186] For the purposes of DPRK government domestic propaganda, all the

aerial reconnaissance missions were packaged together regardless of their location relative to

North Korean territory.[1187] In other words, the physical violation of North Korean airspace only

mattered outside North Korea. For a government who tightly controlled information in and out

of the country and who could easily manipulate domestic news and therefore the truth, a legal,

peripheral SRO mission was as useful as an overflight.

The particular EC-121 mission flying on 15 April 1969 had orders to add an additional

buffer of distance between itself and the North Korean coast, following many changes in policy

guidance for the JCS-coordinated allowable closest-point-of-approach (CPA). JCS Chairman

General Wheeler testified that reconnaissance aircraft were under orders to remain outside 80

miles from North Korea immediately following the *Pueblo* incident, a distance coordinated with

the State Department due to increased tensions and concerns for the incarcerated *Pueblo* crew.

On 25 January 1968, air reconnaissance missions were authorized to fly during daylight only and

with fighter escorts. Two days later on 27 January, fighter escort gave way to combat air patrol

as the protective measure for SRO missions in the Sea of Japan.[1188] On 29 April 1968, the

Commander-in-Chief Pacific Command (CINCPAC) recommended to the JCS the reduction of

the eighty mile CPA to forty miles for missions near the DPRK coast and the assumption of

fighter strip alert at nearby bases for protection. It was not until 2 July 1968 that the JCS

[1186] Ehrhard, *Air Force UAVs*, 12. Ryan 147T operations are also mentioned in COMUSFK, *COMUSFK, 281214Z January 1968*. An example of "permissive airspace" in this instance is over South Korea and appropriately south of the DMZ. In other words, peripheral reconnaissance.

[1187] Re-read Pyongyang Home Service in Korean 2200 GMT 17 Apr, "Editorial Justifies Downing of U.S. EC-121." The editorial contrasts previous reconnaissance missions "around our country," with the EC-121 mission that, "went so far as to infiltrate the plane into the inviolable territorial air space of our country on a spying mission." If the DPRK government was capable of successfully presenting the EC-121 mission—that was so clearly over international waters—to its citizens as an illegal overflight, then it mattered not for domestic purposes whether the plane actually penetrated.

[1188] Combat air patrol, or "CAP," inserts an orbit for fighters between the SRO aircraft and the target landmass, from where enemy fighters are expected to originate. This is in contrast to "fighter escort," which essentially entails a flight of fighters flying in loose formation with the reconnaissance aircraft, a tedious task for the fighter pilots on long escort missions.

approved the 40-mile CPA due to difficulties in obtaining State Department coordination. Thus, at the time the EC-121 was shot down, the standing rules for aerial SRO in the Sea of Japan were to maintain a 40-mile CPA from North Korea with fighter aircraft on strip alert at bases near the mission orbit.[1189] The aircraft commander of Deep Sea 129 had received orders from CINCPAC to buffer the 40-mile CPA by ten miles, making his limit 50 miles or 38 miles from North Korea's claimed territorial limit.[1190] Henry Kissinger noted in his memoirs that NSA and radar tracking data placed Deep Sea 129 no closer than forty-eight miles to North Korea—a two-mile error easily made during a turn with high winds at flight altitude and a small amount of compass precession.[1191] Whatever the case, the facts established that the aircraft was very likely over international waters and therefore in international airspace, even with a liberal error allowance.

The extra-conservative CPA distance prescribed for Deep Sea 129 meant that establishing the attack in international airspace was relatively easy and quick for Nixon and his team. While this may have meant nothing for North Korean internal propaganda, it provided a legitimate basis for American diplomatic action and protest. Soviet tracking of the EC-121 was consistent with the American data placing the aircraft well outside DPRK territory.[1192] Within hours after the incident, State Department officers were able to contact their counterparts in Moscow, Japan, and South Korea to inform them of the attack and to explore options for search-and-rescue

---

[1189] Information in this paragraph is taken directly from JCS Chairman General Wheeler's testimony during the 25 and 28 April 1969 House Special Subcommittee Hearings. See United States House Armed Services Committee, *HASC Report on USS Pueblo and EC-121 Incidents*, 1677.

[1190] Department of Defense, "Department of Defense Message, April 16, 1969." Kissinger, *White House Years*, 313. "North Korean Downing of a U.S. Reconnaissance Plane: The EC-121 Incident, April 1969", October 1969, RG 59, NARA. A 50-mile CPA was also written into the US's official statement at Panmunjom on 18 April 1969.

[1191] This is my own estimate. An aircraft at around 210 knots true airspeed in a 30-degree banked turn has a turn diameter between 1.5 and 2 nautical miles. Forty-eight miles distance is from Kissinger, *White House Years*, 313. Also at "Minutes of a National Security Council Meeting, Washington, April 16, 1969," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 13.

[1192] "Minutes of a National Security Council Meeting, Washington, April 16, 1969," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 13.

assistance from those nations.[1193] Communiqués requesting assistance may not have been sent

so fast if there was substantial doubt about the location of the attack—especially to the Soviet

Union who had entered into a mutual defense agreement with North Korea.[1194]

The United States official protest to North Korea, submitted at Panmunjom on 18 April,

was directly informed by the location of the attack and the unarmed configuration of the EC-121.

Item number one of the protest read, "At no time did our aircraft penetrate or even closely

approach North Korean airspace. Since it was at all times clearly within international airspace,

you had no right to threaten or interfere with it, let alone shoot it down."[1195] Item three in the

protest referenced the fact that Deep Sea 129 was, like most SRO platforms, unarmed: "No one

can believe that a single unarmed propeller-driven aircraft can represent a threat to North

Korea…The shooting down of this U.S. plane was not an act of self-defense. It was a calculated

act of aggression."[1196] President Nixon repeated these points during his 18 April press

conference.[1197] In comparison with President Eisenhower's diplomatic predicament after the

May 1960 U-2 shoot-down over the Soviet Union, Nixon and his administration found

themselves with a relatively large amount of diplomatic breathing room while considering

options.[1198] Nixon and his team may have hotly deliberated response options to the shoot-down,

but they did not have to pursue damage control to explain an illegal overflight.[1199]

[1193] It was 0600 by the time communiques were sent from the State Department's action officers. "EC-121 Shootdown: A Chronology", undated, Folder "History Office Research Projects 1967-79", Office of Executive Secretariat, Box 6, RG RG 59, NARA.

[1194] "Minutes of a National Security Council Meeting, Washington, April 16, 1969," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 13. See Secretary of Defense Laird's comments during the meeting. The DPRK-USSR Mutual Defense Treaty was concluded between the two nations in July 1961.

[1195] Department of State, "U.S. Statement at Panmunjom," *The Department of State Bulletin* LX, no. 1558 (1969).

[1196] USAF Major General Knapp was the US delegate who read the protest. Department of State, "U.S. Statement at Panmunjom."

[1197] Department of State, "President Nixon's News Conference of April 18."

[1198] See Chapter Two for the events of the 1 May 1960 U-2 shoot-down.

[1199] See examples of the initial deliberations at "Minutes of a National Security Council Meeting, Washington, April 16, 1969," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 13. "Memorandum From Secretary of Defense Laird to President Nixon, Washington, April 18, 1969," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 17.

The investigations into the *Pueblo* and EC-121 incidents exposed and scrutinized the logic behind conducting peacetime SRO missions at all. Henry Kissinger later wrote of the EC-121 shoot-down that, "these flights were important to give us information about hostile troop movements and dispositions. They were crucial to warn us of surprise attack—especially in Korea."[1200] The HASC Report from the congressional inquiry echoed Kissinger's comments when it began with an overall description of the air reconnaissance program:

> These reconnaissance missions are designed to collect information that can be evaluated for intelligence purposes related to our national security. An important element of this overall intelligence effort is the evaluation and collection of electronic intelligence. Certain types of electronic emissions and transmissions can be monitored by airborne equipment. Other types can be more effectively received by surface ships that can be on station for more extended periods. General Wheeler… testified that 'if we ever have to operate against hostile defenses, the lives of many of our men and the success of our operations could depend upon our knowledge of such information as to the location of enemy troop dispositions, ship and aircraft movements, and radars. This is a task for both surface ships and aircraft. Aerial surveillance missions are therefore flown by all of the Armed Forces.'[1201]

This description continued an explanation from earlier parts of the report: "As a consequence of the foregoing national security considerations, the United States engages in overt and covert surveillance with aircraft and ships in order to acquire essential technical and operational information."[1202] The logic was presented in a more general way by President Nixon at his 18 April press interview:

> Now a word with regard to why we have such missions in the Sea of Japan. As you ladies and gentlemen are aware, there are some 56,000 American troops stationed in South Korea. Those 56,000 men are the responsibility of the President of the United States as Commander in Chief. In recent weeks and months…North Korea has threatened military action against South Korea and against our forces in South Korea.

[1200] Kissinger, *White House Years*, 313.
[1201] United States House Armed Services Committee, *HASC Report on USS Pueblo and EC-121 Incidents*, 1674-1675.
[1202] United States House Armed Services Committee, *HASC Report on USS Pueblo and EC-121 Incidents*, 1631.

The numbers of incidents has increased. It is the responsibility of the Commander in Chief to protect the security of those men. That is why, going back over 20 years and throughout the period of this administration being continued, we have had a policy of reconnaissance flights in the Sea of Japan similar to this flight. This year we have had already 190 of these flights without incident, without threat, without warning at all.[1203]

It is not clear if Nixon was perhaps misinformed about the North Korean threat and warning. A February 1968 CIA intelligence report conveyed that the North Korean Air Force was recapitalizing its hardware (MiG-21s and MiG-19s).[1204] The report made specific mention that NKAF fighters had been developing "intercept techniques against US reconnaissance aircraft off the coasts."[1205] What was the CIA's purpose of pointing this out if not for warning? In Nixon's defense, he was not the president at the time the report was distributed and there had been, in the intervening years, a changeover of administrations (which seems to beg the question for a different study that would investigate the intelligence loss from the turnover of presidential administrations).

In addition to the general justification that SRO missions in the Sea of Japan were undertaken for national security and to protect American troops—which could rationally be applied to any SRO mission worldwide—there was the specific concern over the increasing might and aggressiveness of the North Korean regime. Richard Mobley in *Flash Point*: "Virtually every contemporary academic source and internal U.S. government document on Korea written in the late 1960s highlights the skyrocketing incidence of DPRK-initiated violence across the DMZ."[1206] The United States simply did not trust the North Koreans and could not

[1203] Department of State, "President Nixon's News Conference of April 18," 377.
[1204] Central Intelligence Agency, *North Korea's Military Forces,* 1968. Intelligence Memorandum 68-4, February 20, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/DOC_0000626835/DOC_0000626835.pdf, accessed 5 Jan 2013. 5. Also from "Memorandum of Conversation, Washington, November 20, 1968," Department of State, *FRUS, 1964-1968, XXIX Part 1*, XXIX, Part 1: Document 209, para 214.
[1205] Central Intelligence Agency, *North Korea's Military Forces*, Intelligence Memorandum 68-4, February 20, 5.
[1206] Mobley, *Flash Point North Korea*, 10.

afford to pass up opportunities to investigate Kim Il-Sung's intent because of its possible effect

on the Vietnam War.[1207] The September 1967 Special National Intelligence Estimate called

attention to "a marked increase in North Korean violence against ROK and U.S. forces in

Korea's Demilitarized Zone (DMZ)," the timing of which was "strongly influenced by the

Vietnamese war."[1208] This situation also comprised the core of South Korean requests for ever-

stronger security agreements with the United States and of South Korea's desire for a long-term

American military presence in the ROK.[1209] Hence, SRO missions against the DPRK supported

America's diplomatic interests in multiple ways by staying abreast of the North Korean threat.

The anticipated intelligence gain from SRO missions, such as Deep Sea 129's, was

supposed to be weighed against both the physical and diplomatic risks through an evaluation

process designed to safeguard normally unarmed reconnaissance missions. The monthly risk

assessment process for SRO missions remained largely unchanged during the late 1960s,

essentially focused around the Joint Chiefs of Staff Joint Reconnaissance Center (JRC) in

Washington.[1210] CINCPAC would have submitted its requested SRO missions for April 1969 to

the JRC in March. The JRC then would have weighed CINCPAC's request against national

intelligence collection requirements and platform capability and availability to produce an initial

April SRO schedule. Following that aggregation, JRC, in its role as the coordinating agent,

would share the preliminary April schedule with counterparts at multiple organizations for their

review and approval, including the Department of State, Department of Defense, Defense

---

[1207] "Special National Intelligence Estimate, SNIE 14.2-69, Washington, January 30, 1969," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 1.
[1208] Central Intelligence Agency, *North Korean Intentions and Capabilities With Respect to South Korea*, SNIE 14.2-67, 21 September 1967, 1-2.
[1209] "Memorandum of Conversation, Washington, April 2, 1969, Call of the Prime Minister of Korea on the Secretary of State," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 6.
[1210] This top-level description of the JCS monthly reconnaissance review process is based on the testimony of JCS Chairmen General Earle Wheeler during the USS *Pueblo* and EC-121 incidents investigation. See US House of Representatives Special Subcommittee on the U.S.S. Pueblo, *Inquiry into the U.S.S. Pueblo and EC-121 Plane Incidents*, 885.

Intelligence Agency, National Security Agency, Central Intelligence Agency, and the military

services. After those agencies provided input, a final schedule with the appropriate risk

assessment assigned to different types of SRO missions was proposed to and approved by senior

officials at the JCS, State Department, Defense Department, and the White House.[1211] Once

approved, the schedule was returned to CINCPAC, who could then modify or cancel missions as

he saw fit. General Wheeler commented during his testimony that, "The Washington level

review of the reconnaissance program is comprehensive and deliberate. For evidence that this

review, which includes risk categorization, is effective, it is useful to look at the number of

serious incidents in the years before and after this system was initiated. The current review

process was started in 1961, and the *Pueblo* and EC-121 notwithstanding, the number of serious

incidents since that time has been sharply reduced."[1212] This interagency risk assessment

process, combined with CINCPAC's final risk assessment based on its understanding of North

Korea's belligerent posture at the time, is how Deep Sea 129 eventually flew on 15 April 1969

with a 50 nautical mile CPA constraint.[1213] Despite the above process and numerous indications

of North Korea's belligerence, the EC-121 mission went relatively unnoticed and was probably

given a risk assessment of "Level 4: hostile intent remote."[1214] The congressional inquiry

---

[1211] This section paraphrases the description made by Chairman Wheeler in US House of Representatives Special Subcommittee on the U.S.S. Pueblo, *Inquiry into the U.S.S. Pueblo and EC-121 Plane Incidents*, 885. The JCS risk assessment process assigned a category of risk to reconnaissance missions from 1 to 4, with 1 being the highest level of risk. Level 1: Hostile intent almost certain; Level 2: hostile intent possible, intercept actions almost certain; Level 3: hostile intent unlikely, intercept actions likely, defensive patrols almost certain; Level 4: hostile intent remote, intercept actions unlikely, defensive patrols possible. As summarized by Mobley, *Flash Point North Korea*, 31.

[1212] US House of Representatives Special Subcommittee on the U.S.S. Pueblo, *Inquiry into the U.S.S. Pueblo and EC-121 Plane Incidents*, 885.

[1213] A modified version of this same process is still in use today, coordinated by the JCS Joint Staff J-39 Reconnaissance Operations Division. Jones, Personal interview conducted by the author, 2 October 2012.

[1214] This is based on testimony provided by General Wheeler and summarized in Mobley, *Flash Point North Korea*, 103. Other EC-121s had flown the same track as Deep Sea 129 eight times prior to the 15 April 1969 shoot-down. Risk assessment probability is based on a draft HASC Report referenced in Mobley, *Flash Point North Korea*, 102-103. Also, the Commander in Chief of United Nations Command in Korea and the Commander of US Forces in Korea (COMUSFK), General Charles Bonesteel, had warned the Department of State about the possible aggressive intentions of the North Koreans in late 1968, just before the release of the Pueblo's crew. See "Memorandum of Conversation, Washington, November 20, 1968," Department of State, *FRUS, 1964-1968, XXIX Part 1*, XXIX, Part 1: Document 209.

committee would later fault the JCS for not assigning the appropriate level of risk to the EC-121

and the USS *Pueblo* missions.[1215]

Another fascinating discussion that was pried open by the congressional inquiry over the

Pueblo and the EC-121 incidents was the question about the unusual format for SRO missions.

Why were sensitive reconnaissance operations—especially air- and sea-based SRO—usually

unarmed and employed alone as a single ship or aircraft? To this, it is worth reproducing here

the section of the inquiry panel's report dealing with the justification for unarmed, lone

collection vessels:

> Prior to [1960], intelligence collection at sea was conducted by combatant ships. The
> Navy advises that there are certain significant disadvantages which accompany the
> use of combatant vessels for intelligence gathering purposes. These disadvantages as
> outlined by the Navy include: (a) The withdrawal of an expensive combatant vessel
> from its normal, on station, duties with the fleet; (b) The fact that combatant vessels,
> due to their special purpose configuration and space restrictions, do not lend
> themselves to an efficient and cost effective method of gathering intelligence data; (c)
> the fact that warships are much more provocative to the world and, therefore, severely
> restricted in the operations; and (d) The fact that warships are bound by various
> maritime treaties and conventions which do not apply to noncombatant ships. These
> considerations apparently influenced the decision to utilize noncombatant vessels as
> surface intelligence collection ships.[1216]

Although the report was addressing the question as to why the *Pueblo* was unarmed, the logic is

insightful about the justification for the configuration and format of aerial SRO missions flown

by aircraft like the EC-121. At its core, the justification centers on the fact that a combat

platform and a reconnaissance platform, whether on the sea or in the sky, are designed around

two different missions. Reconnaissance equipment aboard an aircraft leaves little room and

weight for armament. Further, a single, unarmed aircraft presents a physically impotent posture

to its target, removing all doubt as to the maximum threat it immediately presents to the target

[1215] United States House Armed Services Committee, *HASC Report on USS Pueblo and EC-121 Incidents*, 1622-1624.
[1216] United States House Armed Services Committee, *HASC Report on USS Pueblo and EC-121 Incidents*, 1632.

nation. This is undoubtedly what "the Navy" meant to convey when proposing that, "combatant vessels" were "much more provocative to the world." Flying offensively armed bombers in an SRO role off another nation's coast would obviously convey a radically different message and diminish the combat capability of the bomber's home unit. The resulting unthreatening posture of a dedicated SRO platform is therefore diplomatically desirable, its reconnaissance mission notwithstanding. The US's statement at Panmunjom on 18 April 1969 and numerous public references by senior administration officials noting the "unarmed single" aircraft shot-down by North Korea says much about diplomatic expectations for the format and relatively low provocation of SRO missions.[1217]

Finally, the EC-121 incident raised the point that America's SRO missions are also a tool to exercise its right to freedom of navigation in international airspace around the globe.[1218] To fly peripheral SRO missions in international airspace affirms it as such—and not only for the United States. Conversely, to yield to even one violent challenge for that airspace would compromise its status as universal space and calls into question the right of freedom of navigation for all. This was partially why Kissinger was alarmed that the Department of Defense had stood down aerial reconnaissance worldwide for so long after Deep Sea 129's shoot-down.[1219] Although North Korea was not a member to the 1958 Geneva Convention on the High Seas, the early document which codified freedom of navigation, it would become, ironically, a signatory to the 1982 United Nations Convention on the Law of the Seas, (UNCLOS) the later

---

[1217] Department of State, "U.S. Statement at Panmunjom." Also see Department of State, "President Nixon's News Conference of April 18."
[1218] "Memorandum From Secretary of Defense Laird to President Nixon, Washington, April 18, 1969," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 17. Also see Chief of Naval Operations Moorer's comments and JCS Chariman Wheeler's comments at US House of Representatives Special Subcommittee on the U.S.S. Pueblo, *Inquiry into the U.S.S. Pueblo and EC-121 Plane Incidents*, 636, 811.
[1219] Kissinger, *White House Years*, 317-318.

accord which continued the precedent of a 12-mile limit to territorial claims.[1220] As discussed

earlier, although North Korea may have recognized international airspace for what it was, it did

not agree with the United States that the airspace could be used for what it labeled as espionage.

Result—1969 EC-121 Shoot-Down

There seems broad consensus that SRO missions of the type flown by Deep Sea 129

provide a positive return on investment. Sources attribute the achievement of certain American

diplomatic goals to the decades of systematic intelligence collection through SRO—especially

aerial SIGINT missions.[1221] Robert Jackson, for example, writing in 1998 in *High Cold War*

about the 1991 Gulf War that ejected Iraq from Kuwait, commented that coalition victory in that

conflict "was the result of constant eavesdropping on the Soviet Union by NATO strategic

reconnaissance aircraft during the long years of the Cold War. It was a library of knowledge that

made swift victory possible, with minimum Coalition casualties."[1222] In an intergenerational

way, the performance of American and coalition airpower in the 1991 Gulf War and beyond also

resolved and affirmed General Wheeler's comments from his 1969 testimony: "if we ever have

to operate against hostile defenses,…the success of our operations could depend upon our

knowledge of such information."[1223] In retrospect, his comments seem prescient. Many of the

Iraqi radars and air defenses, such as the SA-2 surface-to-air missile system, against which

---

[1220] United Nations, *Convention on the High Seas*. United Nations, *UNCLOS, 1994*.
[1221] For example: Pocock, *The U-2 Spyplane*, 3, 91. John Taylor and Dave Mondey were writing in the early 1970s but linked aerial SRO missions to a presidential capability to "track the opposition's progress in weapon development" and thus better understand political negotiations, Taylor and Mondey, *Spies*, 92. Lashmar, *Spy Flights*, 57. Pedlow and Welzenbach, *The CIA and the U-2*, 317-318. Burrows, *By Any Means Necessary*, 319-322.
[1222] Jackson, *High Cold War*, 170.
[1223] United States House Armed Services Committee, *HASC Report on USS Pueblo and EC-121 Incidents*, 1675.

Coalition airpower prevailed in 1991 were SRO SIGINT collection targets for decades before the Gulf War.

As for the immediate results of the EC-121 shoot-down in 1969, they were slightly more tangible. The incident caused President Nixon and his administration to question the extent and utility of America's SRO program as a whole and to consider the strategic constraints surrounding response options against North Korea in the larger context. In this regard, the 1969 shoot-down was not special among other crises, even though it compelled reflection and exposed the limitations of America's strategic position. In commenting on the EC-121 incident, Secretary of Defense Laird said that SRO missions worldwide had multiplied over the previous decades without any corresponding analysis of their logic.[1224] National Security Advisor Henry Kissinger agreed with Laird that a program which provided such a long-running and steady American presence was due for a central review for diplomatic reasons.[1225]

Of particular relevance at the time was the event's impact on Sino-American relations.[1226] The *Pueblo* and EC-121 incidents lingered amidst State Department efforts to improve relations with China in the ensuing years. In a 1970 letter to Deputy Secretary of Defense David Packard, Undersecretary of State for Political Affairs, U. Alexis Johnson, wrote that the US was finally making progress in "reestablishing contact with Peking," and that the two had agreed on a meeting in Warsaw for 20 January 1970.[1227] Johnson carried forward concerns raised by the

---

[1224] Kissinger, *White House Years*, 317. "Memorandum From Secretary of Defense Laird to President Nixon, Washington, April 18, 1969," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 17.

[1225] Kissinger, *White House Years*, 317.

[1226] "Memorandum to Members of the 303 Committee, Washington, March 14, 1969," Deparment of State, *1969-1976, China, 1969-1972*, ed. Steven E. Phillips and Edward C. Keefer, vol. XVII, Foreign Relations of the United States (Washington D.C.: United States Government Printing Office, 2006). Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/frus1969-76v17, accessed 2 Jan 2013. Document 10.

[1227] Johnson was in office during the EC-121 shoot-down. Alexis Johnson, *Official Letter,* 1970. Letter from Under Secretary for Political Affairs U. Alexis Johnson to Deputy Secretary of Defense David Packard, 9 January 1970, Secret, Recrod Group 59, Department of State Records, Subject-Numeric Records, 1970-1973, Pol Chicom-US, National Archives. The National Security Archive, George Washington University. http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB41/NSAEBB41-3.pdf, accessed 5 Jul 2012.

Pueblo and EC-121 affairs by writing, "I suggest that during this period special precautions be taken with regard to Naval and Air Force operations that could give rise to incidents and suggest that you may want to raise this matter with CINCPAC. I am not aware of the rules under which Naval vessels and military aircraft engaged in normal operations are now operating; but, if there is any question in this regard, I would think that our JRC rules of 50 miles from all Chinese-claimed territory for aircraft and 25 miles for Naval vessels, except when approaching or departing from Hong Kong would be appropriate for the next few weeks."[1228] The Johnson administration had ceased covert overflights of China in March 1968 due to their political sensitivity, but there had been many inadvertent overflights of China made by bomber aircraft flying over North Vietnam.[1229] Although peripheral SRO missions around China continued uninterrupted, Chinese reconnaissance overflights had not resumed by the time the EC-121 was shot-down, specifically because peripheral SRO was considered by the State Department an alternative while trying to engage the Chinese constructively.[1230] The EC-121 shoot-down called that assumption into question. Thus, Alexis Johnson and the administration were concerned over Chinese peripheral SRO missions while the Americans and Chinese met in Warsaw.

While investigating response options to the EC-121 incident, the Nixon administration learned the strategic limitations of American policy. Primary among them was the fact that the United States was not prepared diplomatically to risk opening a second war with North Korea while still engaged fully in Vietnam, and that it was questionable whether it possessed the

[1228] Johnson, *Official Letter*, Letter from Under Secretary for Political Affairs U. Alexis Johnson to Deputy Secretary of Defense David Packard, 9 January 1970, Secret. This letter was also sent to National Security Advisor Henry Kissinger and Director of Central Intelligence Richard Helms.
[1229] "Memorandum to Members of the 303 Committee, Washington, March 14, 1969," Deparment of State, *FRUS, 1969-1976, China*, XVII: Document 10.
[1230] "Memorandum to Members of the 303 Committee, Washington, March 14, 1969," Deparment of State, *FRUS, 1969-1976, China*, XVII: Document 10.

military resources to do so anyway.[1231] Secretary of Defense Melvin Laird made it clear that the administration's response to the shoot-down carried consequences for the marquee conflict of the time. Military options he considered ranged from a one-time, surgical, retaliatory strike on North Korean airfields to the limited use of nuclear weapons under a plan called Freedom Drop.[1232] Laird's comments during the 16 April NSC meeting conveyed his position that American operations in Vietnam would suffer if America was involved in a prolonged tit-for-tat with North Korea, which he viewed as the likely outcome from any response short of massive strikes on North Korea's military might.[1233] Hence, even fighter escort and strip alert for reconnaissance missions, once resumed in the Sea of Japan, were a maximum effort for the Navy and Air Force and probably not sustainable.[1234] In the days that followed the EC-121 shoot-down, Laird's argument became more entrenched. He wrote to Nixon on 18 April "It is not clear we have the capability now to handle a major confrontation in Korea, if the North Koreans should react with a major assault of any duration against South Korea."[1235] Laird saw any military strike against North Korea in response to the EC-121 shoot-down as risking escalation and therefore much else: American sustainability in and public support for actions in Vietnam, a relatively strong position at the Paris peace talks, the administration's preferred antiballistic missile policies, and a

---

[1231] Robert Wampler, "How Do You Solve a Problem Like Korea." gwu.edu: National Security Archive, 23 Jun 2010. Electronic Briefing Book #322. The National Security Archives, George Washington University, accessed 14 Mar 2012, 3rd introductory paragraph.
[1232] "Memorandum, Secretary of Defense Laird to NSA Kissinger, June 25, 1969, Subject: Review of US Contingency Plans for Washington Special Actions Group," Wampler, "How Do You Solve a Problem Like Korea," Document 12.
[1233] "Memorandum, Secretary of Defense Laird to Assistant to the President for National Security Affairs Kissinger, May 2, 1969, in re attached memorandum CJCS Wheeler to Laird, May 2, 1969, Subject: Contingency Plans for Strikes on North Korea," Wampler, "How Do You Solve a Problem Like Korea," Document 7. "Minutes of a National Security Council Meeting, Washington, April 16, 1969," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 13. Also in "Memorandum From Secretary of Defense Laird to President Nixon, Washington, April 18, 1969," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 17.
[1234] Winthrop G. Brown, *Basing of U.S. Strip Alert Planes at Tainan Airfield on Taiwan,* 1969. Memorandum from Winthrop G. Brown, Bureau of East Asian Affairs to Under Secretary of State for Political Affairs U. Alexis Johnson, 29 May 1969, Top Secret, Record Group 59, Department of State Records, Subject-Numeric Records, 1967-1969, Def 1, Chinat, National Archives. The National Security Archive, George Washington University. http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB41/ NSAEBB41-1.pdf, accessed 5 Jul 2012.
[1235] "Memorandum From Secretary of Defense Laird to President Nixon, Washington, April 18, 1969," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 17.

host of other domestic issues. The Joint Chiefs of Staff agreed.[1236] Laird concluded his 18 April

letter with a simple but discouraging "I wonder if we should take the chance."[1237]

On the diplomatic side, Secretary of State William Rogers saw all his response options as

limited and "marginal."[1238] He concentrated on leveraging the 18 April meeting of the Armistice

Commission at Panmunjom, called for by North Korea, to convey a diplomatic protest of the

shoot-down.[1239] Other diplomatic options considered by Rogers and the NSC called for

engagement at the United Nations and exerting pressure on North Korea through American

allies.[1240] But Rogers made it clear that he saw no virtue in rushing into any aggressive

diplomatic course of action, since the president was ambivalent about applying retaliatory

strikes, a position with which DCI Richard Helms happened to agree.[1241] In other words, Nixon

could not say anything in response to the shoot-down he was not prepared to support with

military action.

As it turned out, Nixon's response on 17 April 1969 was generally viewed as his official

and final public answer to the crisis.[1242] He decided to resume aerial reconnaissance the next

day, accompanied by fighter escort, and to send two aircraft carriers to the Sea of Japan as a

show of force and openly preserve the option for a military strike.[1243] Internally, sources do

---

[1236] "Paper Prepared by the Joint Chiefs of Staff, Washington, April 16, 1969," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 7.

[1237] "Memorandum From Secretary of Defense Laird to President Nixon, Washington, April 18, 1969," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Docuement 17.

[1238] "Minutes of a National Security Council Meeting, Washington, April 16, 1969," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 13.

[1239] Kissinger, *White House Years*, 317. Department of State, "U.S. Statement at Panmunjom." Reference the first paragraph.

[1240] "Minutes of a National Security Council Meeting, Washington, April 16, 1969," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 13.

[1241] "Intelligence Memorandum Prepared in the Central Intelligence Agency, Washington, April 17, 1969," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 14. "Minutes of a National Security Council Meeting, Washington, April 16, 1969," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 13. Also mentioned by Kissinger in Kissinger, *White House Years*, 317.

[1242] This statement conveys the opinion of Henry Kissinger from his memoirs. Kissinger, *White House Years*, 319.

[1243] Wampler, "How Do You Solve a Problem Like Korea," n3. Kissinger, *White House Years*, 318. VQ-1 resumed reconnaissance flights in the Sea of Japan on 5 May 1969, but at a greater distance from North Korea and less frequently. From 5 May 1969 to the end of the year, the squadron flew only twenty-two missions, versus forty-nine before the shoot-down. Mobley, *Flash Point North Korea*, 125-139.

suggest that Nixon conveyed to North Korea through the Soviet Union that the US would

retaliate immediately and without warning if such an attack occurred again.[1244] In retrospect,

both choices comprising the response seem logical in that Nixon was employing restraint to

protect America's options in Vietnam, in which it was already fully engaged.[1245] Additionally,

unlike Johnson's *Pueblo* crisis, there was no incarcerated aircrew in North Korea for whom to

secure release. He also was protecting reconnaissance missions while reasserting freedom of

navigation over the high seas and the carriers would telegraph to North Korea that he had not

ruled out a retaliatory strike. Nonetheless, later in the day on 18 April Nixon heard the majority

vote of his Cabinet against further military action and indeed none was taken.[1246]

Looking back, Nixon and Kissinger judged their response as passive and meek. An

American reconnaissance crew conducting a legal and overt SRO mission in international

airspace had been shot-down in cold blood.[1247] The American response: file a protest, sail some

carriers, and resume SRO with fighter protection.[1248] Nixon himself hated the outcome, but

understood the constraints that produced it.[1249] Secretary of State Rogers had recommended

against making any demands on behalf of the lost crew and plane, and so the American protest at

Panmunjom had been feeble.[1250] US Ambassador to South Korea William Porter also cautioned

against a strong retaliatory response saying that it would play directly "into the hands of North

[1244] *Crisis and Confrontation on the Korean Peninsula: 1968-1969, A Critical Oral History*, Critical Oral History Conference Series (Washington, D.C.: Woodrow Wilson International Center for Scholars, 2011). 96. National Security Advisor Henry Kissinger conveyed this message through Soviet Ambassador Anatoly Dobrynin in April 1969 shortly after the shoot-down. While no transcript of the conversation exists in FRUS, Kissinger references it in other documents. See "Record of a Telephone Conversation Between President Nixon and the President's Assistant for National Security Affairs (Kissinger)," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 8.

[1245] Nixon would later acknowledge this presidential trade-off in his memoirs.

[1246] Kissinger had "polled" Rogers, Laird, and Helms on behalf of the president later that morning. All had conveyed their unwillingness to support strikes against North Korea for a variety of reasons, but all were related to the war in Vietnam. Kissinger, *White House Years*, 319.

[1247] Nixon called it "murder" in his memoirs. Nixon, *RN: The Memoirs of Richard Nixon*, 383.

[1248] The two carriers and their escorts—called Task Force 71—would exit the Sea of Japan by the end of April 1969.

[1249] See Nixon's discussion at Nixon, *RN: The Memoirs of Richard Nixon*, 385.

[1250] Secretary of State Rogers had pressed for a "non-confrontational tone" at Panmunjom while presenting the American protest on 18 April 1969. Kissinger, *White House Years*, 319. Department of State, "U.S. Statement at Panmunjom."

Korea's extremist leadership."[1251] To demand no redress from the North Koreans in response to the shoot-down made it obvious Nixon was simply passing time and, further, provided no demands to which North Korea's refusal could further justify retaliation. In his memoirs, he reported telling Kissinger, "They got away with it this time, but they'll never get away with it again."[1252] Kissinger would later criticize the administration's performance as one that, "was a close call, which probably should have gone the other way…I judge our conduct in the EC-121 crisis as weak, indecisive, and disorganized—though it was much praised then. I believe we paid for it in many intangible ways, in demoralized friends and emboldened enemies."[1253] Despite these criticisms, Kissinger noted that the crisis prompted him to establish the Washington Special Action Group, a body which he later credited with performing admirably during future crises.[1254]

On the other hand, the EC-121 crisis managed to evoke serious soul-searching regarding management of the American SRO program in its entirety. Although regularly scheduled SRO missions of all types resumed in Pacific by early May, Nixon ordered fighter combat air patrols for those reconnaissance aircraft flying against North Korea and a 50 nautical mile CPA for SRO missions off the North Korean, Chinese, and Soviet coastlines.[1255] He also ordered a Department of Defense and NSC review of worldwide reconnaissance operations to assess their utility and

[1251] Nixon, *RN: The Memoirs of Richard Nixon*, 383.
[1252] Nixon was writing about eight years later. Nixon, *RN: The Memoirs of Richard Nixon*, 385.
[1253] Kissinger, *White House Years*, 321. Additionally, Kissinger was extremely unimpressed with the military (it was number one on Kissinger's post-incident report to the president). In particular, he noted that the Air Force and the Navy could not agree on whether to attack North Korea with B-52s or A-6s. Henry Kissinger, Memorandum From the President's Assistant for National Security Affairs (Kissinger) to President Nixon, "After-Action Report on the Korean Shootdown Incident, Washington, April 29, 1969," Department of State, *1969-1976, Organization and Management of U.S. Foreign Policy*, ed. David C. Humphrey and Edward C. Keefer, vol. II, Foreign Relations of the United States (Washington D.C.: United States Government Printing Office, 2006). Document 35.
[1254] Kissinger, *White House Years*, 319, 321. The WSAG consisted of the State Department, Defense Department, CIA, and the White House.
[1255] "Memorandum by the President's Assistant for National Security Affairs (Kissinger), Washington, April 29, 1969," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 20.

operations.[1256] Additionally, Nixon approved the resumption of monthly SR-71 covert

overflights of North Korea in June 1969, a move which was probably additive to the EC-121

response, and one that perhaps served as a bold message to the DPRK.[1257] Air Force SR-71s

flew two missions in August 1969 and then were stood down until resuming monthly overflights

again in October due to another North Korean shoot-down and capture of an Army three-man

helicopter crew.[1258] In order to reduce the diplomatic risk further, the administration asked the

NRO to sponsor a 1969 program to modify the high-altitude version of the Ryan 147T

photoreconnaissance drone (which was being used over China) with an NSA SIGINT package

for peripheral missions in the Western Pacific. Four of the new Ryan 147TE SIGINT drones

deployed to Osan Air Base, South Korea in 1970 to collect radar and other signals in the

contentious international airspace off the coast of North Korea, China, and the Soviet Union.[1259]

The drones flew SRO missions between 1970 and 1975, after which they were nudged from

preference because of new advances in satellite technology and a robust, manned reconnaissance

program with the inertia of decades-long precedent.[1260]

[1256] "Memorandum by the President's Assistant for National Security Affairs (Kissinger), Washington, April 29, 1969," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 20. The NSC's 303 Committee oversaw the review for the White House.

[1257] Some of the response options considered immediately after the EC-121 shoot-down included the resumption of SRO plus the addition of covert overflights. "Memorandum From Secretary of Defense Laird to President Nixon, Washington, April 18, 1969," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 17. "Memorandum From the President's Assistant for National Security Affairs (Kissinger) to President Nixon, Washington, October 6, 1969," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 42.

[1258] These missions were viewed by the NSC as highly valuable for their intelligence and diplomatic impact. See "Memorandum From the President's Assistant for National Security Affairs (Kissinger) to President Nixon, Washington, October 6, 1969," Department of State, *FRUS, 1969-1976, Korea*, XIX, Part I: Document 42. On 17 August 1969, DPRK artillery shot down a small unarmed US helicopter that had unintentionally flown north of the DMZ when its pilot, Warrant Officer Malcolm Loepke, became disoriented. North Korean official released the crew on 2 December only after leveraging the event for maximum domestic propaganda. "In the humanitarian interest of securing the release of the men," United Nations Command (UNC) signed a "solemn" apology that included acknowledgement that the shoot-down was "self-defense" following the "criminal act" of infringing on the sovereignty of North Korea. Such feigned, forced contrition extracted after almost four months of negotiations by the UNC on behalf of the crew revealed that the DPRK was as bold as ever. Department of State, "Crew of U.S. Helicopter Released by North Korea," *The Department of State Bulletin* LXI, no. 1591 (1969). United Nations Command, "Text of Statement by United Nations Command at Panmunjom," *The Department of State Bulletin,* LXI, no. 1591 (1969).

[1259] The information on the 147T and TE in this section if from Ehrhard, *Air Force UAVs*, 12. The 147TE was code named Combat Dawn. This information is also in Mobley, *Flash Point North Korea*, 139.

[1260] Shirley Kan et al., "China-U.S. Aircraft Collision Incident of April 2001: Assessments and Policy Implications," Congressional Research Service, The Library of Congress, RL30946, 10 Oct 2001, 34, see n116.

Conclusion—1969 EC-121 Shoot-Down

The EC-121 shoot-down was, in a very practical way, the Nixon administration's right of presidential passage and highlighted the links between aerial SRO missions and American diplomacy. While any kind of crisis could have prompted a test for the new president, this one happened to center around America's SRO program. While Nixon and Kissinger would later harshly critique their performance during their first crisis and bemoan not retaliating strongly, sources suggest that America's engagement—and priority—in Vietnam, and the uncertainty about North Korean intentions, greatly reduced the response options available. Kissinger was clear in his opinion that the sorely needed "analysis of the nature of the [EC-121] challenge and what it portended for American policy" never happened.[1261] It is not the purpose of this discussion to find truth or fault with Kissinger's critique. Instead, it is important to note that he immediately recognized the connection between sensitive reconnaissance missions like the EC-121 and American diplomacy of the highest and broadest kind. In his mind, the central issue was, "whether our failure to respond to the shootdown of an unarmed reconnaissance plane over international waters might not create an impression of such irresolution that it would encourage our enemies in Hanoi and embolden opponents elsewhere [sic]."[1262] The fact that SRO missions in the Sea of Japan and elsewhere eventually regained normalcy after the shoot-down says much about their perceived utility by all involved and the administration's willingness to risk another incident.

Examining this first crisis of the Nixon administration helps illuminate the nature of SRO and its political implications. SRO: (1) conveys diplomatic presence that may be used

---

[1261] Kissinger, *White House Years*, 316.
[1262] Kissinger, *White House Years*, 318.

malevolently by the target nation both domestically and internationally; (2) despite this, aerial SRO missions are viewed as necessary and their accumulated intelligence return worth the risks; (3) the specialized format of these missions (usually unarmed, single aircraft) is driven by both diplomatic and technical necessity; (4) each SRO mission is a potential diplomatic crisis of the highest order and therefore is subject to risk evaluation by the highest authorities; (5) unmanned vehicles were employed more frequently against North Korea after the incident, suggesting the administration saw less diplomatic risk in using them because a shoot-down would not mean the loss of American lives that may compel a forceful response; and (6) the fact that SRO missions operate in international airspace may be necessary but not sufficient to justify a retaliatory response when a mission is challenged—context matters greatly.[1263] As a corollary to the above list, the EC-121 incident also shows that the quick resumption of SRO following an incident may be decidedly important for diplomatic messaging. Both Nixon and Kissinger mention in their memoirs how frustrated they were at the DoD because it was ill prepared or unwilling to resume SRO operations immediately (meaning a day or two) afterward. Both men felt this sent the wrong message to the North Koreans and to other would-be aggressors.

America continued to fly sensitive reconnaissance operations around the world daily. Although there have been many SRO missions that have fallen prey to aggressive acts in international airspace, an administration's worst nightmare may be an emergency or unplanned landing by an aerial SRO mission in the target nation, which would make the crew potential hostages and the aircraft a compromised intelligence source. The following section continues the SRO discussion by examining a more recent example of just this type of event.

[1263] See the excellent discussion by the National Security Archive's Robert Wampler regarding this final point. *Crisis and Confrontation on the Korean Peninsula*, 111.

2001 EP-3 Incident

In the month before the 1969 EC-121 incident, Fleet Air Reconnaissance Squadron One, VQ-1, began receiving EP-3B SIGINT aircraft that would eventually replace its fleet of EC-121 airborne collectors.[1264] Over three decades later, in April 2001, VQ-1 was flying exclusively later-generation P-3 variants and was based at Whidbey Island, Washington.[1265] In that month, VQ-1's EP-3E Aries II (Airborne Reconnaissance Integrated Electronic System) aircraft were forward deployed for operations in the Western Pacific at Kadena Air Base on the island of Okinawa, Japan.[1266] The superstitious will recognize a familiar pattern of facts from the 1969 EC-121 discussion above: it would, again, be a VQ-1 reconnaissance aircraft on a SIGINT SRO mission in the Western Pacific, in the month of April, to introduce a brand new presidential administration to its first diplomatic crisis.

Even before George W. Bush was sworn in as president in January, he had made decisions that would affect the outcome of the 1 April 2001 EP-3 incident. First, during his election campaign the previous fall, he had telegraphed his view of the People's Republic of China (PRC) as a "strategic competitor" vis-à-vis the US instead of a "strategic partner," and had also proposed deveoping a US strategic missile defense, a program China vehemently opposed.[1267] Second, Bush coupled this view with a change in American policy on Taiwan,

[1264] Department of the Navy, *Fleet Air Reconnaissance Squadron One, 1969 Squadron History,* 1969. 1969 VQ-1 Command History, Folder "1969", Box 210, Fleet Aviation Commands (Active), VQ-1, 1958-1980, Naval History & Heritage Command, Archives Branch, Washington Navy Yard. 2.

[1265] Department of the Navy, *Fleet Air Reconnaissance Squadron One, Naval Air Station, Whidbey Island, Washington,* 2001. 2001 VQ-1 Command History, Folder "2001", Box 211, Fleet Aviation Commands (Active), VQ-1, 1981-present, Naval History & Heritage Command, Archives Branch, Washington Navy Yard. 1. VQ-1 flew the EP-3E SSIP, the EP-3E ARIES II, the UP-3A, and the P-3C.

[1266] The Navy commonly rotated aircraft and crews on a six-month schedule for maintenance and manning. ADM William J. Fallon, *Investigation into the Circumstances Connected with the Aircraft Collision between Fleet Air Reconnaissance Squadron One (VQ-1) EP-3E BUNO 156511 and the PRC F-8, 1 April 2001,* 2003. MFR to Chief of Naval Operations, Digital National Security Archives, ProQuest. www.ProQuest.com, accessed 5 Jul 2012.

[1267] David E. Sanger, "Rivals Differ on U.S. Role In the World," *The New York Times*, 30 October 2000, ProQuest Historical Newspapers, ProQuest, www.ProQuest.com, accessed 13 Jan 2013.

saying that the US would do "whatever it takes" to defend Taiwanese independence should

China attack the island nation.[1268] Wary of even the smallest changes in American foreign policy

towards the Pacific, Bush's remarks did not go unnoticed in Beijing and marked him as more

Taiwan-friendly than his predecessor, Bill Clinton.[1269] It was under Clinton's watch in 2000 that

the US Congress voted to designate China as a Permanent Normal Trade Relations (PNTR)

partner, a milestone in China's aspirations to join the World Trade Organization.[1270] Third, as a

matter of diplomatic continuity, Bush had asked Ambassador Joseph Prueher to stay on as the

American Ambassador to China for an undefined period following the presidential

changeover.[1271] Prueher was a retired Navy Admiral who had commanded all US forces in the

Pacific (CINCPAC), and who was also a former naval test pilot and understood flying the

EP-3.[1272] Both his aviation knowledge and his experience as a diplomat, seasoned in Chinese

politics, would be propitious assets for the newly elected president. Prueher's special assistant at

the American Embassy in Beijing was John Keefe, who would publish a rare firsthand

diplomatic account of the EP-3 incident.[1273]

The relevant strategic context that preceded the EP-3 incident on the Chinese side can be

generously described as an uneasy relationship with the United States. In May 1999, the United

States accidentally bombed the Chinese Embassy in Belgrade, sparking a diplomatic relations

[1268] Ari Fleischer, "Press Briefing by Ari Fleischer, 23 April." 2001. White House press release. George W. Bush White House Archived Website, News & Policies, April 2001, George W. Bush Presidential Library, accessed 16 Jan 2013.
[1269] Tang Jiaxuan was China's Foreign Minister from 1998 to 2003. His memoirs address the 2001 EP-3 incident and are a primary source for this section. Tang discusses Bush's new China policy at the beginning of his summary of the incident. Tang Jiaxuan, *Heavy Storm and Gentle Breeze: A Memoir of China's Diplomacy* (New York: Harper Collins, 2011). 330.
[1270] The House of Representatives voted in favor, 237 to 197, on 24 May 2000. The Senate voted in favor, 83-15, on 19 September 2000. President Bill Clinton signed the legislation on 10 October 2000. http://thomas.loc.gov/home/thomas.php, 106th Congress, H.R. 4444,"U.S.-China Relations Act of 2000," Bill Summary & Status, accessed 15 Jan 2013.
[1271] Keefe, *Anatomy of the EP-3 Incident, April 2001*, 2.
[1272] From Naval Warfare Development Command (NWDC), Biography of Admiral Joseph Prueher, January 2012. Available under biographies of speakers at https://www.nwdc.navy.mil. Accessed 10 Jan 2013.
[1273] John Keefe's diplomatic study of the April 2001 EP-3 incident is an excellent firsthand source. An accessible copy is archived at the United States Navy Library, Navy Yard, Washington D.C. Keefe, *Anatomy of the EP-3 Incident, April 2001*.

challenge which still lingers today, but was especially fresh in the minds of Chinese leadership and citizenry alike in April 2001.[1274] President Bush would address this dynamic in his 2010 memoir, *Decision Points*.[1275] In February 2000, the Chinese government published a public White Paper which forwarded the necessary criteria for China to annex Taiwan by military force.[1276] As a one-sentence summary, the paper conveyed that if the Taiwan government refused to reunite with China via peaceful means after too long, China would have no choice but to use military force to achieve its goal of "One China."[1277] It did not help when, in March 2000, Taiwan had elected a new president in Chen Shui-bian. Chen had been an advocate of Taiwanese independence and the Chinese government simply did not know what to expect from him.[1278] Most importantly, the United States had complained to China in a December 2000 démarche about the increasing aggressiveness of Chinese fighter intercepts of US reconnaissance aircraft. The Chinese did not respond to the protest, but their military was aware of American concerns because the complaint was made during bilateral talks over a Military Maritime Consultative Agreement (MMCA), a body whose establishment would later be useful during negotiations surrounding the EP-3 incident.[1279] The US complained to Chinese leadership again in January 2001, but again received no response.[1280]

[1274] Paul H.B. Godwin, "Decisionmaking Under Stress: The Unintentional Bombing of China's Belgrade Embassy and the EP-3 Collision," in *Chinese National Security Decisionmaking Under Stress*, ed. Andrew Scobell and Larry M. Wortzel(Carlise, PA: Strategic Studies Institute, 2005)161.

[1275] George W. Bush, *Decision Points* (New York: Crown Publishers, 2010). 426.

[1276] *The One China Principle and the Taiwan Issue*, (Beijing: Taiwan Affairs Office and Information Office of the State Council, 2000), Dated 21 February. 4.

[1277] *The One China Principal*, 2.

[1278] Y.Y. Chen et al., "President Chen Shui-bian Comments on Taiwan-US-China Relations," *Taipei Central News Agency, 1406 GMT 14 Aug*, 2000, World News Connection, Dialog LLC, www.wnc.dialog.com, accessed 15 Jan 2013. Also see *Chinese National Security Decisionmaking Under Stress*, ed. Andrew Scobell and Larry M. Wortzel (Carlise, PA: Strategic Studies Institute, 2005). 33.

[1279] Keefe, *Anatomy of the EP-3 Incident, April 2001*, 2.

[1280] Steven Lee Myers and Christopher Drew, "Chinese Pilot Reveled in Risk, Pentagon Says," *The New York Times*, 6 April 2001, ProQuest Historical Newspapers, ProQuest, www.ProQuest.com, accessed 2 Jan 2013.

Thus was the broader picture at 0500 local time on 1 April 2001 when Lieutenant Shane

Osborne and 23 other crew members took off from Kadena Air Base on Okinawa in EP-3

number PR-32.[1281] Five hours later, PR-32 was 70 miles southeast of Hainan Island at 22,500

feet over the South China Sea when the crew spotted a flight of two fighters approaching from

the starboard (right) side. As the fighters drew near, Osborne and his crew recognized them as a

pair of Chinese F-8s, the presence of which was a familiar event to the crews of American SRO

missions in the South China Sea.[1282] Of note, the weather was clear and sunny. This detail was

important later when neither side could blame the collision on poor visibility.[1283] The lead F-8

began a series of passes by the EP-3's port (left) wing, saluting the crew on the first pass and

making pushing motions with his arms on the second. On the third pass the F-8 overshot during

the rejoin and the crew noticed the pilot raising the nose of the fighter in an apparent attempt to

slow down. When he did this, the pilot caused the section of the F-8 just forward of the

empennage to strike PR-32's far left propeller (number one). According to the Navy's

investigation, at that point "the F-8 was immediately ripped in half."[1284] The fighter spiraled

toward the ocean while the EP-3 crew struggled to regain control of the aircraft, which had been

---

[1281] See Figure 39 in Appendix B for a geographic overview. The technical sequence of events from the incident comes from Admiral William Fallon's official investigation. Admiral Fallon was the Vice Chief of Naval Operations at the time and interviewed all of the flight crew. Discussion regarding the timeline of intercept begins on page 10. Fallon, *Investigation into the Circumstances Connected with the Aircraft Collision between Fleet Air Reconnaissance Squadron One (VQ-1) EP-3E BUNO 156511 and the PRC F-8, 1 April 2001*, MFR to Chief of Naval Operations. The EP-3E involved was Bureau Number (BUNO) 156511, side number PR-32.

[1282] The F-8s involved in the incident were from the People's Liberation Army Navy (PLAN) from Lingshui airfield on Hainan Island. I flew missions in this area of the South China Sea in an RC-135 between 1997 and 2000. We were intercepted by Chinese F-8s on many occasions. I cannot say that any of the F-8 interceptions I experienced were alarming or seemed dangerous to me or to any among the crew at the time. In fact, the interceptions were a welcome, exciting break in the monotony of many long, arduous reconnaissance missions. The F-8 pilots usually waved and we waved back. It seemed plain to us that both crews understood and appreciated the other's professional position in the larger political context and each of us carried on with our mission. Again, ostensibly, it seemed each side displayed an overt respect for the other as professional military aviators and crews.

[1283] The EP-3E's aircraft commander, Lt Shane Osborne, recalled this fact in Shane Osborn, *Born to Fly: The Untold Story of the Downed American Reconnaissance Plane*, 1st ed. ed. (New York: Broadway Books, 2001). 79. Fallon's naval investigation also cited the weather as "clear, with visual meteorological conditions," (VMC) based on satellite observations recorded at the same time as the incident.

[1284] Fallon, *Investigation into the Circumstances Connected with the Aircraft Collision between Fleet Air Reconnaissance Squadron One (VQ-1) EP-3E BUNO 156511 and the PRC F-8, 1 April 2001*, MFR to Chief of Naval Operations, 12.

damaged heavily by debris from the fighter and subsequently entered a steep left-banked dive.

The crew managed to regain control around 15,000 feet and decided to land the crippled airplane

at the closest airfield, Lingshui Air Base on Hainan Island, China. After making numerous

distress calls, PR-32 landed at the airfield and were met by Chinese armed guards who took the

crew immediately into custody.[1285] The crew was in Chinese custody for eleven days before

being released on 12 April after tense bilateral negotiations.[1286]

> The Chinese version of events was quite different. China's then Foreign Minister Tang

Jiaxuan recounts in his memoirs, published in English in 2011:

> I asked [Chinese Ambassador to France Jianmin Wu] to sit down and give us the
> details. On the morning of April 1, Beijing time, an American EP-3 military
> reconnaissance plane once again entered the airspace over southeast of Hainan Island.
> The Chinese Navy sent two F-8 fighters to follow and monitor the US plane. At 9:07
> A.M., the two Chinese aircraft were flying normally in an area 104 kilometers
> southeast of Hainan, when the US plane suddenly veered at a wide angle and rammed
> into one of the Chinese planes, which lost control and plunged into the sea. The pilot,
> Wang Wei, was missing. The damaged US plane entered China's airspace without
> approval, landing at Lingshui Military Airfield in Hainan. The Chinese made proper
> arrangements according to international practice for the twenty-four crew members
> on board.[1287]

The Chinese version of the incident was probably based on the testimony of the surviving PLAN

F-8 pilot, Zhao Yu.[1288] According to Yu, he and Wei were flying their F-8s "about 400 meters"

away from the EP-3 when it "suddenly veered" into Wei's F-8, causing it to disintegrate and

crash.[1289] This account initially was judged by Ambassador Prueher to his confidants as

[1285] See Figure 40 in Appendix B. Osborn, *Born to Fly: The Untold Story of the Downed American Reconnaissance Plane*, 202.
Fallon, *Investigation into the Circumstances Connected with the Aircraft Collision between Fleet Air Reconnaissance Squadron
One (VQ-1) EP-3E BUNO 156511 and the PRC F-8, 1 April 2001*, MFR to Chief of Naval Operations, 14.
[1286] This summary is from the Navy investigation into the incident. Fallon, *Investigation into the Circumstances Connected with
the Aircraft Collision between Fleet Air Reconnaissance Squadron One (VQ-1) EP-3E BUNO 156511 and the PRC F-8, 1 April
2001*, MFR to Chief of Naval Operations.
[1287] Jiaxuan, *Heavy Storm and Gentle Breeze*, 328.
[1288] Kan et al., "China-U.S. Aircraft Collision Incident of April 2001: Assessments and Policy Implications," 18. Also in Godwin,
"Decisionmaking Under Stress," 175.
[1289] "Second Pilot Recalls Collision of U.S., Chinese Planes," *Xinhua*, 6 April 2001, Xinhua News Service, Xinhua News Agency,
www.news.xinhuanet.com/english, accessed 11 Jan 2013.

"physically impossible" based on his experience as a naval aviator.[1290] According to Prueher, if

PR-32 had maneuvered as Yu described, it would have passed behind the F-8, especially at 400

meters.

Although supporting either the American or Chinese version of events is certainly beyond

the scope of this discussion, it is almost comical to note some of the Chinese news coverage of

the event. One *Xinhua* photo essay showing the aircraft on the tarmac at Lingshui airfield, for

example, said the EP-3 landed "after it rammed and damaged a Chinese jet fighter…," as if the

airplane was capable of employing tactics more appropriate for an ancient Greek trireme.[1291]

That is not to say the Chinese had no reason to complain. Tang's words quoted above

from his memoirs mention that an American reconnaissance plane had "once again" entered the

airspace near Hainan. His comments probably refer to China's long term experience with

American aerial reconnaissance. Ironically, this was not the first time a US reconnaissance

aircraft had crash-landed on Hainan Island. While American and Chinese diplomats were

resuming talks in Warsaw in February 1970, a US reconnaissance drone, probably a Navy Ryan

147SK, strayed from its mission course en route to North Vietnam and entered the airspace over

Hainan Island.[1292] It was not until the 1980s that some of the Navy operators of the drone were

able to provide the unclassified version of events. Apparently, the drone's radio partially failed

during the mission, rendering it unnavigable. Unable to be flown home, the drone expended all

---

[1290] Ambassador Prueher's judgement here is recorded in Keefe, *Anatomy of the EP-3 Incident, April 2001*, 5. Osborn also makes this observation at Osborn, *Born to Fly: The Untold Story of the Downed American Reconnaissance Plane*, 202. Osborn makes the assertion that the evidence as to what had happened was in the damage to the EP-3. If the collision had happened the way the Chinese claimed, the damage to the EP-3 would have looked very different.
[1291] "Damaged U.S. Military Plane in Hainan," *Xinhua*, 4 April 2001, Xinhua News Service, Xinhua News Agency, www.news.xinhuanet.com/english, accessed 12 Jan 2013.
[1292] "Memorandum from Harry Thayer, Bureau of East Asian and Pacific Affairs, Office of Asian Communist Affairs, to Morton Abramovitz, Office of Under Secretary of State, 'Warsaw Meeting: Shootdown of U.S. Drone,' 19 February 1970," William Burr, "Reconnaissance Flights and Sino-American Relations." gwu.edu: National Security Archives, 4 Apr 2001. Archival Collection. The National Security Archives, George Washington University, accessed 4 Jun 2012, Document 5.

of its fuel. Its pilots, who were flying aboard a Navy E-2, deployed the aircraft's parachute

which lowered it into the hands of the Chinese defense forces on Hainan Island.[1293] The Chinese

publicized the event domestically, claiming they had shot down the invading aircraft, but never

raised the affair at the talks in Warsaw.[1294] This 1970 incident, as one datapoint in the long

history of American reconnaissance operations over and around China, is probably representative

of why Tang introduced the 2001 EP-3 affair as he did in his memoirs. Tang's two words, "…

once again…," imply much about historical Chinese discontent over American aerial

reconnaissance at the time of the 2001 EP-3 incident.

During the crew's detention and subsequent negotiations over return of the EP-3 aircraft

from Lingshui airfield, the incident drew out numerous diplomatic issues. Chief among them

was that early, intense negotiations over release of the crew pitted the two cultures against each

other and almost resulted in an impasse. From the beginning, the Chinese responded with

aggressiveness. The Chinese delayed engaging US officials until twelve hours after the crew had

been detained, after which they finally called Ambassador Prueher for an "urgent meeting" to tell

him their version of the collision and demand that the US accept "full responsibility for the

incident."[1295] This demand evolved fully over the next day into an ultimatum that required the

US to formally apologize if they wanted the crew back.[1296] The US refused because it saw no

wrongdoing.[1297] Tang in his memoirs labeled this American response as "highly arrogant."[1298]

[1293] This account is from Wagner, *Lighting Bug and Other Reconnaissance Drones*, 161-163. The narrative therein does not mention why they did not allow the drone to simply crash given that it would fall into Chinese hands, which in hindsight seems a logical recourse.

[1294] Burr, "Reconnaissance Flights and Sino-American Relations," n6.

[1295] Keefe, *Anatomy of the EP-3 Incident, April 2001*, 5. Keefe called 1 April "the day of phone calls not returned;" Tang makes no reference to the delay. Jiaxuan, *Heavy Storm and Gentle Breeze*, 331. Godwin, "Decisionmaking Under Stress," 176.

[1296] The demand for an apology was made formally by Assistant Foreign Minister Zhou Wenzhong to Ambassador Prueher on 2 April 2001. Jiaxuan, *Heavy Storm and Gentle Breeze*, 332.

[1297] Ambassador Prueher publicly characterized the Chinese version of events as "unlikely." Keefe, *Anatomy of the EP-3 Incident, April 2001*, 6.

[1298] Jiaxuan, *Heavy Storm and Gentle Breeze*, 332.

As more evidence arose about the recent aggressiveness of Chinese aerial intercepts, the US position hardened. Meanwhile, the Chinese government had forced itself into a corner by responding so early and so aggressively before there was any chance for constructive negotiations.[1299]

On 5 April, when it seemed there was no way forward, efforts led by US Secretary of State Colin Powell and Ambassador Prueher began to move the crisis forward by implementing a negotiation roadmap, a draft of which had been agreeable to Assistant Foreign Minister Zhou Wenzhong.[1300] Secretary Powell agreed that the Chinese government could publish the first paragraph of a letter from the secretary of state to Vice Premier Qian Qichen in which Powell expressed regret over the loss of Wang Wei and for the EP-3 entering Chinese airspace. Immediately afterwards, the Chinese would release the crew and agree to meet US officials in Honolulu at the MMCA to discuss preventing further incidents and the return of the EP-3.[1301] As it turned out, the two sides entered a five-and-a-half day intense negotiation period over the wording of the letter, specifically over the term "regret."[1302] The word was not contrite enough for the Chinese, but it was all the US was prepared to provide. The letter went through many versions, the final one using the words "very sorry" as sentiment from the US to the Chinese people for the loss of the Chinese pilot and for entering Chinese airspace without permission.[1303] In effect, for the Chinese, the final letter was American acquiescence to the Chinese demand for an apology. This wording proved conclusive for Tang and Powell, both of whom signaled a

---

[1299] This information comes from Keefe's account of the first few days of negotiations in Beijing. Keefe, *Anatomy of the EP-3 Incident, April 2001*, 6-7.

[1300] Godwin, "Decisionmaking Under Stress," 177.

[1301] Godwin, "Decisionmaking Under Stress," 178.

[1302] Keefe, *Anatomy of the EP-3 Incident, April 2001*, 8.

[1303] Keefe, *Anatomy of the EP-3 Incident, April 2001*, 11. See Appendix A, Document 3 on page 21 for a reproduction of the final letter.

willingness to move beyond the incident during the negotiations.[1304] The crew was freed on 12

April, and the EP-3 was returned to the United States in pieces aboard a chartered Russian cargo

plane on 3 July 2001.[1305]

The EP-3 incident was compared in the press to the 1968 USS *Pueblo* and the 1969

EC-121 incidents. In other words, there was a tendency for the press to see them in the same

category of event—American reconnaissance operations had sparked political contentions that

beckoned larger questions.[1306] Like those affairs, negotiations over the release of the EP-3 crew

and the return of the aircraft revealed much about how the two nations viewed each other and

aerial SRO missions in the Western Pacific.

Presence—2001 EP-3 Incident

The presence and vigor of American aerial SRO off China's coast framed the negotiations

over the EP-3 incident, and therefore affected them. On its side, Chinese leadership knew of and

responded to SRO flights off its coast, a fact easily established by China's diplomatic dialogue

and frequent Chinese interceptions of US reconnaissance aircraft. Former Chinese Minister of

Foreign Affairs Tang Jiaxuan spent much time in his memoirs talking about how he interpreted

American peripheral SRO flights as inherently unfriendly.[1307] On 4 April, the Chinese

Ambassador to the United States, Yang Jiechi, in an effort to sway American public opinion,

---

[1304] Jiaxuan, *Heavy Storm and Gentle Breeze*, 344. Tang spares himself no sanctimony nor indignant anger in his account of how he and China's leadership brought the arrogant and aggressive American's to their knees in 2001. Godwin, "Decisionmaking Under Stress," 179-181.
[1305] Godwin, "Decisionmaking Under Stress," 180-181.
[1306] Craig R. Quigley, "DoD News Briefing—Rear Admiral Craig R. Quigley, DASD PA." 3 April 2001. Transcript of 3 April 2001 DoD News Briefing. News Transcript Archive, Department of Defense, accessed 12 Jan 2013.
[1307] Jiaxuan, *Heavy Storm and Gentle Breeze*, 339.

appeared on CNN in an interview with commentator Frank Cesno.[1308] He likened American

peripheral reconnaissance operations (not just the EP-3 incident) to a reckless drunk driver

outside China's "house." Yang sought to explain why China felt so offended at the presence of

the EP-3 and by larger American efforts to gather intelligence via aerial reconnaissance, adding

that if the drunk driver "killed a family member, you" would have every right to "do some

investigation."[1309] Chinese President Jiang Zemin and Foreign Minister Tang echoed Yang's

argument, and all three called for the cessation of American reconnaissance activities off China's

coast.[1310] In support of these statements, the Chinese Defense Minister gave a press briefing,

also on 4 April, noting that, "US military surveillance planes have made frequent spy flights in

the sea areas close to China for many years" and the two F-8s were conducting "routine

tracking."[1311] It became clear from public statements that Chinese leadership did not view

American peripheral SRO as an act consistent with mutually respectful bilateral relations.

At the tactical level, China had increased its aggressiveness during intercepts of American

SRO flights over the South China Sea in the months before the incident. In his initial press

briefing on 1 April, about 18 hours after the collision, the Commander of US Pacific Command

(CINCPAC), Admiral Dennis Blair, acknowledged such reconnaissance flights and intercepts as

"routine," but mentioned also that the US had protested to China about the "flying

professionalism" of Chinese interceptors "starting several months ago."[1312] Secretary of Defense

---

[1308] Matt Smith, "'China is the Injured Party,' Ambassador Says," *CNN*, CNN.com/World, 4 April 2001, http://edition.cnn.com/ 2001/WORLD/asiapcf/east/04/04/us.china.ambassador/index.html, accessed 19 Jan 2013. Video link to the Ambassador's interview is active as of the date of access. Yang's motivation to sway public opinion comes from Tang Jiaxuan's memoir, 345.
[1309] Smith, "China is the Injured Party."
[1310] "Jiang Urges U.S. to Stop All Spy Flights Against China," *Xinhua*, 4 April 2001, Xinhua News Service, Xinhua News Agency, www.news.xinhuanet.com/english, accessed 15 Jan 2013. Kan et al., "China-U.S. Aircraft Collision Incident of April 2001: Assessments and Policy Implications," 3.
[1311] "Chinese Defense Minister Spokesman on Plane Collision Incident," *Xinhua*, 4 April 2001, Xinhua News Service, Xinhua News Agency, www.news.xinhuanet.com/english, accessed 18 Jan 2013.
[1312] Admiral Dennis Blair, Commander US Pacific Command, Camp Smith, Hawaii, April 1, 2001. Transcript of news conference graciously provided by USPACOM Public Affairs Office, 12 Dec 2012.

Donald Rumsfeld gave a thorough press briefing on 13 April, during which he gave a few more specifics than he had previously on Chinese interceptions.[1313] Rumsfeld noted that there had been 44 PLA interceptions of American SRO flights off the coast of China in "recent months," six of which came within 30 feet of an American reconnaissance plane, and two within ten feet.[1314] The particular Chinese pilot of the F-8 that collided with the EP-3 was known to US intelligence analysts and reconnaissance crews as an aggressive risk-taker.[1315] Rumsfeld even showed a video taken on an earlier aerial SRO mission of Wang Wei's F-8 flying extremely close to the American aircraft and having difficulty maintaining control while flying at the SRO aircraft's slower airspeed.[1316] The secretary confirmed that the US had protested aggressive intercepts on 28 December 2000, which was in a sense predictive of the EP-3 incident. While the US received no response to the protest, it was safe to say the Chinese leadership knew of the complaint. Of particular interest was the fact that the Pentagon noted the increased aggressiveness only from the Chinese interceptors over the South China Sea, and not during aerial SRO mission elsewhere, such as in the East China Sea.[1317] Over at least the five years before the incident, argued the Pentagon, interceptions over the South China Sea were "routine and safe."[1318]

[1313] Donald Rumsfeld, "Secretary Rumsfeld Briefs on EP-3 Collision." 13 April 2001. Transcript of 13 April 2001 Secretary of Defense News Conference. News Transcript Archive, Department of Defense, accessed 12 Jan 2013. Rumsfeld probably chose this date for a thorough, public news conference on the matter because the EP-3 crew had finally been released, removing the possibility of reprisal had he said something the Chinese did not like.

[1314] These numbers were probably visual estimates made by the aircrews and later included in their post-mission reports. Even if the estimates were off by a large error, the interceptors would be well inside the internationally accepted 400 foot intercept distance. Federal Aviation Adminstration, *International Flight Information Manual (IFIM)* (Washington D.C.: US Government Printing Office, 2000). 18.

[1315] Myers and Drew, "Chinese Pilot Revels in Risk."

[1316] Rumsfeld showed the video just before he took questions at the news conference, at about six minutes into the event.

[1317] Rumsfeld, "Secretary Rumsfeld Briefs on EP-3 Collision." Quigley, "DoD News Briefing—Rear Admiral Craig R. Quigley, DASD PA."

[1318] Jim Mann, "Encounters Routine for U.S. Patrol Missions," *The Los Angeles Times*, 2 April 2001, ProQuest Historical Newspapers, ProQuest, www.proquest.com, accessed 15 Jan 2013.

This begs the question: *why* did China begin asserting a more aggressive response towards American reconnaissance presence in the South China Sea, beginning around December 2000? There were two most-likely possibilities. First was that China flew more aggressive intercepts as a response to an increase in the frequency of American reconnaissance missions beginning sometime in 2000. Washington Post columnist Thomas Ricks commented on 7 April 2001 that the US had stepped up SRO flights in the last part of 2000 to four-to-five times per week at locations roughly 50 miles off China's coast. This equates to 200 to approximately 250 flights per year.[1319] In that article, Ricks cited Admiral Blair in explaining that the increased reconnaissance flights had a "deterrent value," that Blair claimed the more the US knew about Chinese capabilities, the less likely China was to consider invading Taiwan. Ricks also quoted Lieutenant General Michael Hagee, who was at the time the ranking military officer at the MMCA talks in Honolulu, as confirming the Chinese had complained about the SRO flights as being "too close to the coast, and it might cause trouble."[1320] The next day, Kurt Campbell, a former Deputy Assistant Secretary of Defense for Asia and the Pacific from 1995 to 2000, wrote in the same newspaper that the US had "stepped up reconnaissance flights along China's coast."[1321] In addition to matching the increased pace of American reconnaissance, the Chinese were probably using the intercepts as a way to assert their sovereignty and their historically contentious claim over many areas of the South China Sea, including the Paracel and Spratly island chains.[1322]

[1319] Thomas Ricks, "Anger Over Flights Grew In Past Year; Proximity Riled China; U.S. Cited Interceptors," *The Washington Post*, 7 April 2001, National Newspapers Expanded, ProQuest, www.proquest.com, accessed 19 Jan 2013. Also see Godwin, "Decisionmaking Under Stress," 174.
[1320] As quoted in Ricks, "Anger of Flights Grew."
[1321] Kurt Campbell, "Old Game, New Risks; In Cold War, the Rules Were Clear. Not So With China," *The Washington Post*, 8 April 2001, National Newspapers Expanded, ProQuest, www.proquest.com, accessed 19 Jan 2013.
[1322] Tart and Keefe, *Price of Vigilance*, lix.

The second possibility was that the Chinese pilots at Lingshui acted individually, a point made by Secretary of Defense Rumsfeld in saying that the aggressive intercepts only occurred in the South China Sea and not in the East China Sea.[1323] This hypothesis also had viability because of the posture taken by the Chinese Ministry of Foreign Affairs during negotiations over the release of the EP-3 crew. The MFA claimed to know little about what the PLAN pilots were doing and suggested to their American counterparts that the units at Lingshui were acting autonomously in their intercept technique.[1324] Nonetheless, the leadership in Beijing would have known of the issue, considering the centralized nature of Chinese decision making and especially after Beijing received the December 2000 protest from Washington. All considered, it is safe to say that at least a portion of the diplomatic tension between China and the US was being played out in the skies over the South China Sea.

For the record, the US was not usually the only nation asserting presence through reconnaissance missions in international airspace. In 2001, China possessed at least one operational Yun-8 SIGINT reconnaissance aircraft and commonly flew it against its neighbors in the East and South China Seas.[1325] Concurrently, at least some media sources knew China was working to upgrade Y-8X transport aircraft to newer aerial SIGINT collectors and coupled its aerial reconnaissance with numerous ground collection stations scattered around its borders.[1326] However, this point was not offered by PRC officials in any of the sources examined for this study, including in the former Foreign Minister's memoirs. The Chinese aerial collection program was, and obviously remains, veiled in secrecy, but there is current evidence that

---

[1323] Rumsfeld, "Secretary Rumsfeld Briefs on EP-3 Collision."
[1324] Godwin, "Decisionmaking Under Stress," 174.
[1325] "China's SIGINT Capabilities Exposed," *Jane's Defense Weekly* (2001), IHS Jane's Defense & Security Intelligence & Analysis, IHS Inc. www.janes-ihs.com, accessed 11 Jan 2013.
[1326] "China's SIGINT." Jane's Defense Weekly. "Aries Incident Reveals Tensions," *Jane's Defense Weekly* (2001), IHS Jane's Defense & Security Intelligence & Analysis, IHS Inc. www.janes-ihs.com, accessed 11 Jan 2013.

supports an uninterrupted and regularly employed Chinese aerial reconnaissance capability since

a time before the year 2001.[1327]

After the EP-3 crew arrived home on 12 April, the US pursued the return of the damaged

EP-3 still sitting on the tarmac on Hainan's Lingshui Airfield. This order reflected the priorities

established by Secretary of State Powell at the incident's beginning: obtain release of the aircrew,

establish a forum in which to hold talks to prevent further incidents, and the return of EP-3

aircraft.[1328] In a press interview, Deputy Secretary of State Richard Armitage put it like this:

"Our point of view is that it is an $80 million aircraft, it's ours, and that the Chinese have a

responsibility to return it to us."[1329] But the presence of American aerial reconnaissance

operations affected the negotiations concerning the EP-3's repatriation. When the US resumed

reconnaissance operations in the South China Sea on 7 May 2001, flying an RC-135 with no

fighter escort or strip alert, the Chinese responded that they would not allow the EP-3 to return

by flying out of Hainan, an option that it was strongly considering just the day before.[1330]

Instead, the Chinese allowed an American assessment team to visit the aircraft at Lingshui and

determine how best to ship the plane back to the US. The EP-3 was disassembled, palleted, and

flown back to the US at a cost of around $5.8 million.[1331]

Of all the diplomatic themes rendered by the 2001 EP-3 incident, the one with the highest

and most persistent volume was the Chinese resentment at the American SRO presence off its

---

[1327] For example, see Ted Parsons, "Images Hint at Chinese Y-8 ELINT Variant," *Jane's Defense Weekly* (2012), IHS Jane's Defense & Security Intelligence & Analysis, IHS Inc. www.janes-ihs.com, accessed 14 Jan 2013. The Chinese also have acquired an operational Airborne Early Warning (AEW) capability according to similar open sources.

[1328] Keefe, *Anatomy of the EP-3 Incident, April 2001*, 7.

[1329] "The U.S. Deputy Secretary of State Details the Diplomatic Story of the U.S.-China Spy Plane Standoff." 13 April 2001. Online transcript of television interview. Online NewsHour Transcripts, PBS.org, accessed 11 Jan 2013.

[1330] Kan et al., "China-U.S. Aircraft Collision Incident of April 2001: Assessments and Policy Implications," 7. "U.S. Resumes Spy Flights Off China," *The Atlanta Constitution*, 8 May 2001, National Newspapers Expanded, ProQuest, www.proquest.com, accessed 19 Jan 2013.

[1331] Kan et al., "China-U.S. Aircraft Collision Incident of April 2001: Assessments and Policy Implications," 7-8.

coast. An increased US SRO presence had spurred Chinese interceptions over the South China

Sea that became a proxy for greater US-Sino diplomatic competition and was the major

contextual factor during negotiations. Although engaged in similar activities, the Chinese

leadership represented American aerial SRO as an unfriendly act and illegal under international

law, and applied it as just cause to detain the crew and delay the return of the EP-3. American

leadership rejected this view, but, given China's detention of its airmen and aircraft, decided to

accommodate it by pausing SRO against China until it secured the release of the crew, after

which American aerial SRO resumed without incident.[1332]

Penetration—2001 EP-3 Incident

Although most sources recording high-level meetings in the Bush administration in the

early 2000s remain classified, two major themes emerge from open sources regarding the topic

of aerial penetration during the 2001 EP-3 incident. The first theme concerned the diplomatic

approach each side utilized in recognizing that the mission and the collision occurred over

international waters. The second illuminated different American and Chinese perceptions of the

penetration and emergency landing of the EP-3 at Lingshui Airfield on Hainan Island.

One item over which both sides could agree was that the collision between the EP-3 and

the F-8 took place over international waters, and therefore in international airspace.[1333] For the

US, that claim was unequivocal. President Bush, Secretary Powell, and Ambassador Prueher all

established in their initial comments that the United States was within its right to operate the

---

[1332] Donald Rumsfeld, "Secretary Rumsfeld Outlines Space Initiatives." 8 May 2001. Transcript of 8 May 2001 Secretary of Defense News Conference. News Transcript Archive, Department of Defense, accessed 12 Jan 2013. Rumsfeld did not mention if SRO flights had resumed under a more conservative CPA.
[1333] As a reminder, the status of airspace is most commonly associated with the surface underneath it. The precedent stems from Article 2 of both the 1958 Convention on the High Seas and the 1994 UN Convention on the Law of the Sea. United Nations, *UNCLOS, 1994*. United Nations, *Convention on the High Seas*. See the last section in Chapter Two, "Legalese."

EP-3 at the location of the collision, about 70 miles off the coast of China.[1334] As was the

practice for missions under the Peacetime Airborne Reconnaissance Program (PARPRO), the

sortie was planned to remain beyond all sovereign boundaries (normally at least 12 miles from

territorial waters).[1335] As far as legal introspection, the location of the mission aircraft was all

that mattered for the United States to assert that it acted properly.[1336] This is why, during his 3

April DoD press conference on the incident, spokesman Admiral Richard Quigley paused to

explain the difference between "spying" and "reconnaissance" to the assembled press.[1337]

However, from China's perspective, the matter of sovereign penetration and aerial SRO

was not straightforward. Like the EC-121 scenario, the past was again present. CIA-sponsored

Taiwanese U-2 overflights between 1968 and 1974, covert drone overflights during and after the

Vietnam conflict, and persistent American peripheral SRO missions for many decades

beforehand colored the Chinese approach in April 2001.[1338] Although Chinese leadership in their

statements affirmed the 70 mile distance, their rhetorical focus remained not on the location but

on the *activity* of the EP-3 and its analogous place in a long-running American SRO presence.[1339]

As Foreign Minister Tang put it, "[The incident] seemed accidental, but it had a certain

inevitability to it. Since the founding of the People's Republic of China in 1949, the United

[1334] George W. Bush, "Statement by the President, 3 April." 2001. White House press release. George W. Bush White House Archived Website, News & Policies, April 2001, George W. Bush Presidential Library, accessed 10 Jan 2013. Keefe, *Anatomy of the EP-3 Incident, April 2001*, 12-13. Kan et al., "China-U.S. Aircraft Collision Incident of April 2001: Assessments and Policy Implications," 5.

[1335] Osborn, *Born to Fly: The Untold Story of the Downed American Reconnaissance Plane*, 37. Fallon, *Investigation into the Circumstances Connected with the Aircraft Collision between Fleet Air Reconnaissance Squadron One (VQ-1) EP-3E BUNO 156511 and the PRC F-8, 1 April 2001*, MFR to Chief of Naval Operations, 10.

[1336] For example, this is the stylistic implication from George Bush's very brief discussion of the EP-3 incident in his memoirs. See Bush, *Decision Points*, 426. The former president writes about the incident matter-of-factly, which probably would not have been the case had he been caught on the wrong side of Chinese territory, as was Eisenhower in 1960.

[1337] Quigley, "DoD News Briefing—Rear Admiral Craig R. Quigley, DASD PA." 3 April 2001. Also see Gerry J. Gilmore, "Navy Aircraft Not A 'Spy Plane,' DoD Says." 4 April 2001. Archived DoD News Releases. DoD News Database, Department of Defense, accessed 12 Jan 2013.

[1338] Foreign Minister Tang refers to all of these examples in painting the picture of an aggressive American spy effort. Jiaxuan, *Heavy Storm and Gentle Breeze*, 328-332.

[1339] "Jiang Urges U.S. to Stop All Spy Flights Against China." "U.S. Plane Grossly Violated International Law," *Xinhua*, 4 April 2001, Xinhua News Service, Xinhua News Agency, www.news.xinhuanet.com, accessed 2 Jan 2013.

States had never stopped reconnaissance flights along the edge of China's waters."[1340]

Underpinning this view was a familiar contention over SRO flights in international airspace: one man's reconnaissance is another man's espionage. The Chinese claimed that collection of inland intelligence, even from beyond China's territorial limits, constituted espionage and was therefore illegal.[1341] Considering that China also flew SRO SIGINT missions in international airspace in 2001, this claim exposed somewhat of a double standard: when China was collecting using its own aircraft, it was reconnaissance; but if China was on the receiving end, it was espionage. This divergence in perspective over SRO became problematic for diplomacy. During the 2001 EP-3 negotiations, these disparate views pitted the American claim of innocent circumstances against the Chinese claim that they had been disrespected for decades and, therefore, were justified in their demands for a contrite apology and the cessation of American SRO. Since the Chinese had decided early on an aggressive stance—and they held all the bargaining currency in the form of the aircrew and the aircraft—there was simply no room to reconcile the different perspectives on whether technical penetration of China's sovereign airspace mattered at all. The United States resumed SRO against China on 7 May 2001, but under no illusions about how the Chinese leadership regarded such flights.

When the crew of the EP-3 actually did penetrate China's sovereign airspace to perform an emergency landing on Hainan Island, the legal and diplomatic issue became whether the crew had asked and received permission to do so. The Navy's investigation and Lieutenant Osborn's memoirs on the incident both say the crew repeatedly requested permission for an emergency

---

[1340] Jiaxuan, *Heavy Storm and Gentle Breeze*, 328.
[1341] "U.S. Plane Grossly Violated International Law." Also at Jiaxuan, *Heavy Storm and Gentle Breeze*, 332-333, 349. Foreign Minister Tang made this point while writing about the first meeting between his Assistant Foreign Minister Zhou and Ambassador Prueher on 1 April. "Jiang Urges U.S. to Stop All Spy Flights Against China." 4 April 2001.

landing at Lingshui using internationally accepted distress frequencies, 121.5 Mhz VHF and 243.0 Mhz UHF.[1342] The Chinese version of events consistently said that no permission was requested from and no notice of the landing was given to any Chinese airspace authority.[1343] In his memoirs, Foreign Minister Tang simply says "the plane landed without permission, and without requesting permission."[1344] Although China claimed "injury" from the plane's violation of sovereign airspace without permission, and the US asserted it was acceptable under emergency circumstances for an aircraft in distress to do so, both sides at least agreed that the aircraft did, in fact, land without permission.[1345]

However, the two governments diverged about what the unapproved landing actually meant for bilateral relations. The Chinese conveyed the episode as evidence of an arrogant and sinister American disregard for Chinese sovereignty.[1346] The United States, on the other hand, telegraphed the matter as the innocuous but unfortunate result of an accident whose circumstances were still uncertain.[1347] In the final letter from Ambassador Prueher to Foreign Minister Tang, Secretary Powell wrote, "Although the full picture of what transpired is still unclear, according to our information, our severely crippled aircraft made an emergency landing after following international emergency procedures. We are very sorry the entering of China's

---

[1342] Fallon, *Investigation into the Circumstances Connected with the Aircraft Collision between Fleet Air Reconnaissance Squadron One (VQ-1) EP-3E BUNO 156511 and the PRC F-8, 1 April 2001*, MFR to Chief of Naval Operations, 14. The Navy's investigation also says the navigator was making mayday calls over HF (High Frequency) radio distress frequency, although it is not clear exactly what frequency he was using. VHF is Very High Frequency radio; UHF is Ultra High Frequency radio. 121.5 and 243.0 remain the respective VHF and UHF international distress frequencies today. Osborn, *Born to Fly: The Untold Story of the Downed American Reconnaissance Plane*, 93. Rumsfeld, "Secretary Rumsfeld Briefs on EP-3 Collision." 13 April 2001.
[1343] "Chinese Defense Minister Spokesman on Plane Collision Incident." "U.S. Plane Grossly Violated International Law." Kan et al., "China-U.S. Aircraft Collision Incident of April 2001: Assessments and Policy Implications," 2. "Chinese FM Spokesman Give Full Account of Air Collision," *Xinhua*, 4 April 2001, Xinhua News Service, Xinhua News Agency, www.news.xinhuanet.com, accessed 19 Jan 2013.
[1344] Jiaxuan, *Heavy Storm and Gentle Breeze*, 334.
[1345] Smith, "China is the Injured Party." Rumsfeld, "Secretary Rumsfeld Briefs on EP-3 Collision." 13 April 2001. Scott Allan, *Interview with Colin Powell, 21 Jun 2004*. Copied Transcript, Department of State Bunche Library, Department of State.
[1346] "U.S. Plane Grossly Violated International Law." Jiaxuan, *Heavy Storm and Gentle Breeze*, 345. "Jiang Urges U.S. to Stop All Spy Flights Against China." 4 April 2001.
[1347] See Godwin, "Decisionmaking Under Stress," 175.

airspace and the landing did not have verbal clearance, but very pleased the crew landed

safely."[1348] There has been speculation about why, if the crew transmitted mayday calls and

repeated requests for landing clearance as they say they did, the transmissions were either not

heard or not responded to by the Chinese.[1349] In the end, it did not matter diplomatically.

Despite Osborn's and Rumsfeld's repeated claims that the penetration and landing was accidental

and innocent, the airplane sat on Lingshui airfield for all to see, and the Chinese to forward

whatever story they wished.

Justification—2001 EP-3 Incident

The EP-3 incident brought forward a larger discussion over SRO operations worldwide,

but the nature of that discussion was different from the 1969 North Korea and EC-121 incident in

at least one important way. Although there were official inquiries into the incident, one made by

the Navy for example, concerning the performance of the EP-3 crew during the mission and

while in captivity, there was a dearth of inquiry and statements concerning the utility of

America's aerial SRO program.[1350] During initial press briefings on the incident, the attending

correspondents neither asked the president, secretary of state officials, or the secretary of defense

about *why* the US conducted such reconnaissance missions daily, nor did the president or

---

[1348] "Letter from Ambassador Prueher to Foreign Minister Tang Jiaxuan, 4/11/01" as reproduced in Keefe, *Anatomy of the EP-3 Incident, April 2001*, 21, Appendix A.
[1349] Godwin, "Decisionmaking Under Stress," 175. Rumsfeld, "Secretary Rumsfeld Briefs on EP-3 Collision." 13 April 2001. Osborn, *Born to Fly: The Untold Story of the Downed American Reconnaissance Plane*, 132.
[1350] The Navy's investigation focused on the training and performance of the crew, the circumstances of the collision, and the possible compromise of classified information from the aircraft. Fallon, *Investigation into the Circumstances Connected with the Aircraft Collision between Fleet Air Reconnaissance Squadron One (VQ-1) EP-3E BUNO 156511 and the PRC F-8, 1 April 2001*, MFR to Chief of Naval Operations, 1-5.

respective officials offer justification.[1351] The reason for this remains unclear. It may have been

because, unlike the EC-121 affair, there was no loss of American life, or perhaps the SRO

program had attained greater domestic public acceptance by 2001. In any case, contemporary

sources from the EP-3 incident do not indicate the kind of deliberate inquiries or messages to

explain America's SRO program as there were in 1969. Instead, interests focused on the

detention of the crew, the circumstances of the incident, and the applicable international norms

and laws.[1352]

Clearly, the SRO missions in the South China Sea were, and are, flown to support a

greater interest in collecting intelligence about China for military and political advantage.

Beginning in 1993, the Navy had designated China as the top priority intelligence target for the

EP-3s in VQ-1.[1353] The squadron's 2001 command history, for example, cites increased tasking

through PACOM and resulting increased mission activity to collect data on Chinese radars from

aircraft and ships, military orders of battle, and other targets.[1354] Interest was not centered only

on China's military capabilities. An early 2000 CIA report to Congress also expressed concerns

about China's covert collection activities outside and within the United States, and implied that

any collection of information regarding the Chinese government's intelligence structure and

operations within China was valuable to American legislators.[1355] A congressional research

[1351] Bush, "Statement by the President, 3 April." George W. Bush, "Statement by the President on American Plane and Crew in China, 2 April." 2001. White House press release. George W. Bush White House Archived Website, News & Policies, April 2001, George W. Bush Presidential Library, accessed 10 Jan 2013.   Rumsfeld, "Secretary Rumsfeld Briefs on EP-3 Collision." DoD Press Briefing, 13 April 2001. Richard Boucher, "Daily Press Briefing, Department of State Spokesman Richard Boucher, 2 April." 2001. Official transcript of Press Briefing, Department of State Archival Website. Department of State Daily Press Briefings, 2001, Department of State, accessed 2 Jan 2013.
[1352] For example, much time was spent by official briefers and the press alike on the appropriateness of the US's claim that the EP-3 was sovereign US territory, and that, therefore, the Chinese were not allowed to inspect or board it. See the exchanges between the briefer and the press at Boucher, "Daily Press Briefing, Department of State Spokesman Richard Boucher, 2 April."
[1353] Richelson, *Intelligence Community*, 225.
[1354] Department of the Navy, *Fleet Air Reconnaissance Squadron One, Naval Air Station, Whidbey Island, Washington*, 2001 VQ-1 Command History.
[1355] Central Intelligence Agency, *Report to Congress on Chinese Espionage Activities Against the United States,* 2000. CIA Intelligence Report, 1 Jan 2000, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/ DOC_0001282625/DOC_0001282625.pdf, accessed 2 Jan 2013.

report published after the EP-3 incident linked such aerial SRO missions to American

policymaking:

> Airborne reconnaissance remains, however, a vital component of intelligence
> collection for military and other national security purposes. U-2s and other
> surveillance aircraft such as the EP-3 *are constantly deployed in areas of concern to
> policymakers*, especially in critical areas such as the Korean peninsula, Iraq, the
> Balkans, the Middle East as well as the South China Sea. These aircraft obtain
> imagery and signals intelligence in areas that are not consistently covered by satellites
> whose orbits are generally fixed and whose time over any given point is limited.
> Observers suggest that the primary mission of EP-3 flights over the South China Sea
> is upgrading order-of-battle data about radars and communications links [emphasis
> added].[1356]

The report went on to further explain the logic behind sustained, peacetime aerial SRO:

> In peacetime, this information is useful in detecting and tracking evolutionary
> changes in the capabilities of foreign military forces. In times of crisis, it can provide
> advanced notice – so-called indication and warning (I&W) – of an impending foreign
> military operation. And in times of conflict, it can be highly valuable in understanding
> how to counter and defeat foreign military systems quickly and effectively. *Indeed,
> the success of U.S. military forces in combat operations can depend significantly on
> information painstakingly collected over preceding years during U.S. electronic
> surveillance operations* [emphasis added].[1357]

State Department officials also said much about the justification for peacetime aerial SRO when

they expressed concern that any increased restrictions (such as further CPAs or frequency limits)

resulting from the EP-3 incident may embolden other nations to respond in kind.[1358] The

resulting decrease in collection could damage the quality of US intelligence.

Besides the intelligence and political justification behind SRO, the EP-3 incident raised

two important legal issues that were, and are, relevant to any peacetime aerial reconnaissance

operation. First was the question over the extent of freedom of navigation in international

---

[1356] Kan et al., "China-U.S. Aircraft Collision Incident of April 2001: Assessments and Policy Implications," 27.
[1357] Kan et al., "China-U.S. Aircraft Collision Incident of April 2001: Assessments and Policy Implications," 30.
[1358] Phillip T. Reeker, "Daily Press Briefing, Department of State Spokesman Phillip Reeker, 13 April." 2001. Official transcript
of Press Briefing, Department of State Archival Website. Department of State Daily Press Briefings, 2001, Department of State,
accessed 2 Jan 2013.

airspace. That the Chinese were entitled to intercept reconnaissance missions in international airspace seemed easily established. A number of studies affirmed that aerial intercepts of state aircraft happened from time to time and the right to intercept had for the most part never been challenged by any nation, including the United States.[1359] There was also little doubt that if the collision occurred the way the US claimed, the Chinese pilots had violated international aviation standards in that they disregarded a well-established precedent regarding the right-of-way and intercepts. It was and remains a longstanding principle of aviation that responsibility for collision avoidance rests with the more maneuverable aircraft, in this case the F-8s.[1360] According to the 2001 *International Flight Information Manual*, intercepting aircraft were supposed to maintain 500 feet separation from their target of interest.[1361] A jet fighter, even one with moderate performance, should easily have been able to avoid a collision with a slower, four-engine transport-type aircraft that was suddenly turning towards it, especially if the fighter was the required distance away. Combined with the history of aggressive Chinese intercepts, US protests against unsafe Chinese practices in 2000 and 2001, and Wang Wei's questionable reputation as an unsafe intercept pilot, it was easy to say that the Chinese could not claim proper intercept procedures had been followed, and they did not. Further, weather was simply not a factor on 1 April 2001 over the South China Sea.[1362]

[1359] Yann-Huei Song, "The EP-3 Collision Incident, International Law and Its Implications on the U.S.-China Relations," *Chinese Yearbook of International Law and Affairs* 19(2001): 11, HeinOnline Law Journal Library, HeinOnline. www.heinonline.org, accessed 15 Jan 2013. For a fascinating history and discussion of this particular topic, also see Nicholas Grief, *Public International Law in the Airspace of the High Seas* (London: Martinus Nijhoff Publishers, 1994). Grief discusses aerial intercepts as standard East-West relations during the Cold War on page 224. At no time during the EP-3 fallout did the US challenge China's right to intercept American reconnaissance aircraft. Rather, it protested that the intercepts were performed in an overly aggressive and clearly unsafe manner.
[1360] Ambassador Prueher asserted this principle in his meetings with Foreign Minister Tang. Keefe, *Anatomy of the EP-3 Incident, April 2001*, 10-11. This exchange is also recorded in Jiaxuan, *Heavy Storm and Gentle Breeze*, 338.
[1361] Federal Aviation Adminstration, *IFIM*, 13, Sec 15. The IFIM in force at the time was published in 2000.
[1362] "Second Pilot." *Xinhua*, 6 April 2001. Osborn, *Born to Fly: The Untold Story of the Downed American Reconnaissance Plane*, 79.

China's primary airspace claim was that, although the collision occurred in international

airspace, the EP-3 was in violation of international law because "the surveillance flight

conducted by the U.S. aircraft overran the scope of 'free over-flight' according to international

law…[because it] violated the United Nations Convention on the Law of the Sea [UNCLOS],

which stipulates that any flight in airspace above another nation's exclusive economic zone

[EEZ] should respect the rights of the country concerned. Thus, the U.S. plane's actions posed a

serious threat to the national security of China."[1363] For reference, article 58 from the 1994

UNCLOS reads:

> In the exclusive economic zone, all States, whether coastal or land-locked, enjoy,
> subject to the relevant provisions of this Convention the freedoms referred to in
> Article 87 of navigation and overflight and of the laying of submarine cables and
> pipelines, and other internationally lawful uses of the sea related to these freedoms,
> such as those associated with the operation of ships, aircraft and submarine cables and
> pipelines, and compatible with the other provisions of this Convention.[1364]

Additionally, article 301 of the UNCLOS reads:

> In exercising their rights and performing their duties under this Convention, State
> Parties shall refrain from any threat or use of force against the territorial integrity or
> political independence of any State, or in any other manner inconsistent with the
> principles of international law embodied in the Charter of the United Nations.[1365]

China's argument, as quoted in this paragraph above, was designed to position itself as the

aggrieved party, but it seems to be a non sequitur to the UNCLOS references. China's claim that

the act of aerial reconnaissance violated its EEZ by threatening its national security was

---

[1363] "Chinese FM Spokesman Give Full Account of Air Collision." *Xinhua*, 4 April 2001. The relevant UNCLOS language is at Article 58. United Nations, *UNCLOS, 1994.* The EEZ is an extension out to 200 nautical miles of states' authority to assert and protect its economic interests.
[1364] United Nations, *UNCLOS, 1994*, Article 58.
[1365] United Nations, *UNCLOS, 1994*, Article 301.

obviously open to debate.[1366] This suggests China's argument was not meant to win a legal

battle, but rather to support its domestic and diplomatic agendas to assert its credibility and

sovereignty. It could do both by demanding a US apology for the incident, detaining the crew,

and delaying return of the EP-3.

For its part, the United States sought to discredit China's affront to the freedom of

navigation, so necessary to aerial SRO, both for itself and others.[1367] The US was not a signatory

to the UNLCOS, as China was, but it was the US diplomatic position that, "the legal regime of a

200-mile EEZ as codified in the [UNCLOS] is a part of customary international law and

therefore should be respected."[1368] Nonetheless, the US resumed aerial reconnaissance in

China's EEZ on 7 May 2001, and that action established what America considered appropriate

operations there. The US had always held that military activities, including reconnaissance,

conducted for peaceful purposes was well within international law and the norms regarding

international waters and airspace.[1369] Moreover, the United States retorted China's argument by

pointing out that many nations—including China—conducted aerial reconnaissance in other

nations' EEZs.[1370] Indeed, by the end of 2001, Chinese aircraft were regularly entering the

Japanese EEZ over international waters to conduct reconnaissance.[1371] It is beyond the scope of

this discussion to choose a side in the EEZ debate; the US and China simply disagreed over the

---

[1366] Competing views of this debate can be found at: Song, "The EP-3 Collision," 11. Stuart Kaye, "Freedom of Navigation, Surveillance and Security: Legal Issues Surrounding the Collection of Intelligence from Beyond the Littoral," *Australian Year Book of International Law* 24(2005), HeinOnline Law Journal Library, HeinOnline. www.heinonline.org, accessed 11 Jan 2013. Ivan Shearer, "Military Activities in the Exclusive Economic Zone: The Case of Aerial Surveillance," *Ocean Yearbook* 17(2003), HeinOnline Foreign & International Law Resources Database, HeinOnline. www.heinonline.org, accessed 15 Jan 2013.
[1367] This was one of Secretary Powell's and Ambassador Prueher's priorities following the release of the crew. Keefe, *Anatomy of the EP-3 Incident, April 2001*, 7-9.
[1368] Song, "The EP-3 Collision," 10.
[1369] This information is derived directly from the US statement at the UNCLOS negotiations in the United Nations. See United Nations, *Third United Nations Conference on the Law of the Sea*, vol. 5 (New York: United Nations, 1986), Official Record of the 67th Plenary Meeting. paragraph 81.
[1370] "The U.S. Deputy Secretary of State Details the Diplomatic Story of the U.S.-China Spy Plane Standoff." *NewsHour*, 13 April 2001. Reeker, "Daily Press Briefing, Department of State Spokesman Phillip Reeker, 13 April."
[1371] Song, "The EP-3 Collision," 9.

legality and appropriateness of conducting aerial reconnaissance in international airspace within the EEZ. It is more important to recognize that the EP-3 incident allowed China to challenge the freedom of navigation required to conduct aerial SRO. It did so with sufficient clout to cause diplomatic difficulty for the United States, and the negotiations threatened to deteriorate into a hostage crisis had the US not acquiesced.[1372]

The second legal question concerned the rights of aircraft in distress, which enjoyed a bit more clarity than the EEZ issue. Just as international law connected the status of airspace with the surface below it, the legal regime surrounding aircraft in distress was, and is, analogous within international law to ships in distress. In the case of the UN Convention on the Law of the Sea, the accord was relatively clear. Article 18 established that all ships are allowed innocent passage through territorial waters and makes specific allowance for the stoppage of "ships and aircraft in danger or distress."[1373] The convention provides similar protection in article 39 entitled "Duties of Ships and Aircraft during Transit Passage."[1374] Since China assigned full culpability to the US for the EP-3 incident and the associated loss of its pilot, it never acknowledged the EP-3's status as a distressed aircraft nor China's duties to assist. As John Keefe wrote: "The Chinese government was not particularly concerned about the facts surrounding the collision nor was it concerned about international procedures that, in emergency situations, allow a plane from one nation to land on the territory of another nation without permission. Of particular concern to the U.S. side was the lack of importance the Chinese side

---

[1372] The threat of the negotiations turning into a hostage crisis was constantly on the mind of Ambassador Prueher and his staff. See Keefe, *Anatomy of the EP-3 Incident, April 2001*, 7. For the record, other nations have challenged the legality of conducting military activities in the EEZ. For example, in December 1982 when signing the UNCLOS, Brazil, Cape Verde and Uruguay declared that the provisions of the convention do not authorize other states to carry out in the EEZ of a coastal state military exercises or maneuvers, in particular those that imply the use of weapons or explosives, without the consent of the coastal state. *Consensus and Confrontation: The United States and the Law of the Sea*, ed. Jon Van Dyke (Honolulu: The Law of the Sea Institute, University of Hawaii, 1985). 303.
[1373] United Nations, *UNCLOS, 1994*, Article 18, para 12.
[1374] United Nations, *UNCLOS, 1994*, Article 39, para 31c.

was attaching to the facts of the collision and international norms for handling incidents such as this one."[1375]

The US, on the other hand, had plenty of legal argument and moral precedent to request the quick return of the crew and aircraft. During his 13 April press conference, Secretary of Defense Rumsfeld outlined several incidents where the US had assisted state and non state aircraft of other nations, including China. Interestingly, two of the examples he gave concerned reconnaissance aircraft presumably conducting missions against the United States:

> On February 27, 1974, a Soviet AN-24 reconnaissance aircraft was low on fuel and made an emergency landing at Gambell Airfield in Alaska. The crew remained on the aircraft overnight. They were provided space heaters and food. They were refueled the next day and they departed. The crew was not detained and the aircraft was not detained.

> On April 6, 1993, a Chinese civilian airliner declared an in-flight emergency and landed in Shemya, Alaska, in the United States. It was apparently a problem of turbulence; very, very severe turbulence to the point that two people died, dozens were seriously injured, and the plane made an emergency landing on the U.S. airfield. The aircraft was repaired and refueled without charge, and it departed.

> On 26 March, 1994, Russian military surveillance aircraft, monitoring a NATO anti-submarine warfare exercise, was low on fuel and made an emergency landing at Thule Air Base in Greenland. It was on the ground about six hours, the crew was fed, the aircraft was refueled and it departed.[1376]

Rumsfeld was hoping to justify the expectation that China not only return the crew and EP-3, but assist them in whatever way possible—just as outlined in international law and just as the US had done in the past. However, to the Chinese this argument was incompatible with its diplomatic goals.

The discussion above is an example of the how the American assessment of its aerial SRO can be unbalanced by political reality. The US understood its employment of the EP-3 as

---

[1375] Keefe, *Anatomy of the EP-3 Incident, April 2001*, 8.
[1376] This section is from Rumsfeld, "Secretary Rumsfeld Briefs on EP-3 Collision." 13 April 2001.

meeting the need for quality intelligence, and it justified the mission internationally by asserting

that SRO fell well within the rights of freedom of navigation and that such missions enjoyed a

50-year precedent. On 1 April 2001, these assertions remained unchallenged in any tangible way

until the collision over the South China Sea. Once the crew and aircraft were in Chinese hands,

the US assertions did not carry the moral and legal weight that President Bush and Secretary

Powell might have hoped. Although the American administration claimed innocent

circumstances, the Chinese viewed aerial reconnaissance against them as an inherently

unfriendly and threatening act. The Chinese leveraged their possession of the crew and aircraft

to their diplomatic advantage and compelled the US to accommodate their view.

Result—2001 EP-3 Incident

The immediate diplomatic impacts of the 1 April 2001 EP-3 incident were more alarming

than its effect on long-term Sino-US relations. American leadership was angered by the 12 hours

of silence from the Chinese government directly after the collision, followed by a fast and

aggressive media campaign to paint the incident in anti-American terms.[1377] The standoff over

the competing version of events resulted in an American pause over engaging China

diplomatically—a point made by Under Secretary of State Richard Armitage.[1378] The situation

contained potential escalation both diplomatically and militarily. It is unclear whether three US

Navy destroyers that sailed to a position one hundred miles off the coast of Hainan Island on 2

[1377] Although Foreign Minister Tang simply says that the MFA called on Ambassador Prueher the same day as the collision, John Keefe's summary of the view from the American Embassy in Beijing paints a different picture. American diplomats in Beijing tried numerous times to reach Chinese authorities as soon as they heard of the incident. Their phone calls were not returned until that evening, almost thirteen hours after the EP-3 had arrived on Hainan. Keefe, *Anatomy of the EP-3 Incident, April 2001*, 4-5. Jiaxuan, *Heavy Storm and Gentle Breeze*, 331.
[1378] "The U.S. Deputy Secretary of State Details the Diplomatic Story of the U.S.-China Spy Plane Standoff." *NewsHour*, 13 April 2001.

April were there to intimidate and begin a US build-up as Foreign Minister Tang claimed, or if they were asked to stop there in case they could be helpful in efforts to search for the Chinese pilot, who at that time was still considered missing, as Admiral Blair claimed.[1379] In Congress, legislators proposed revoking laws supporting China's permanent normal trade partner (PNTR) status based on the PRC's indignant way of handling the crisis.[1380] Other legislators proposed robust improvements in arms sales to Taiwan, an act due to be announced by President Bush on 24 April.[1381] Additionally, six congressional delegations scheduled to visit China in April 2001 cancelled their trips, the Bush administration gave orders to officials to suspend social interaction with Chinese counterparts, and no American officals appeared at a planned reception at the Chinese embassy in Washington on 9 April.[1382]

The Chinese leadership presented the EP-3 collision and landing as an attack on its sovereignty, not simply an isolated incident. They had been complaining of the SRO flights off China's coast for months beforehand, through the MMCA talks, a complaint that may not have escaped the forum into Chinese public knowledge had the collision not occurred.[1383] In his analysis, John Keefe forwarded the following opinion: "the incident was not simply one plane colliding with another but also a plane colliding with one of the foundations of the Chinese Communist Party's legitimacy."[1384] Because its leaders were not elected, Keefe argued, the premise of their authority rested on the government's ability to provide economic development

[1379] Jiaxuan, *Heavy Storm and Gentle Breeze*, 333-334. Quigley, "DoD News Briefing—Rear Admiral Craig R. Quigley, DASD PA." 3 April 2001.
[1380] Kan et al., "China-U.S. Aircraft Collision Incident of April 2001: Assessments and Policy Implications," 24. Wang Wu, "US Trade Threats Would Backfire," *China Daily*, 10 Apr 2001, ChinaDaily.com.cn, China Daily Information Co, www.chinadaily.com.cn/en, accessed 11 Jan 2013.
[1381] Craig R. Quigley, "DoD News Briefing — Rear Adm. Craig R. Quigley, DASD PA." 17 April 2001. Transcript of 17 2001 DoD News Briefing. News Transcript Archive, Department of Defense, accessed 12 Jan 2013.
[1382] Keefe, *Anatomy of the EP-3 Incident, April 2001*, 9.
[1383] Godwin, "Decisionmaking Under Stress," 173-174. Many Chinese had no idea that the US routinely conducted reconnaissance flights off China's coast. See the note from a Chinese writer reproduced in Tart and Keefe, *Price of Vigilance*, xxxii.
[1384] Keefe, *Anatomy of the EP-3 Incident, April 2001*, 15.

and national defense, the latter including making sure "foreign powers [did] not encroach on Chinese territory."[1385] Hence, the Chinese government saw aerial SRO and the EP-3 landing, no matter the facts, as evidence of an America bent on regional domination and influence in China's internal affairs. It did not help that President Bush and Secretary Powell both described China as a strategic competitor.[1386] This perception helps to understand why Foreign Minister Tang considered initial American demands for immediate access to the crew and immunity for the aircraft as an "arrogant" and "unreasonable attitude."[1387] It was an unmistakable clash of cultures. The United States was interested mostly in the pursuit of facts and precedent, but China was interested in the immediate posture and attitude of the American response. For a while, the two talked past each other.

In the long run, the EP-3 incident was not much of an obstacle to bilateral relations. This was demonstrated at subsequent MMCA talks, which had been established years earlier specifically to "prevent military accidents and misunderstandings."[1388] By the middle of September 2001, both sides had met multiple times in that forum, most recently on the island of Guam, and agreed on principles of international law and procedures to prevent further incidents. Importantly, they agreed that the MMCA was the right forum to prevent further mishaps.[1389] In a sense, the agreement was the realization of sentiments expressed by leaders on each side during the early negotiations that transmitted their strategic intent to move forward. President Bush in

---

[1385] Keefe, *Anatomy of the EP-3 Incident, April 2001*, 15.
[1386] Godwin, "Decisionmaking Under Stress," 172. Department of State, *Confirmation Hearing by Colin L. Powell, 17 January 2001* (Washington, D.C.: US Government Printing Office, 2001). 18.
[1387] Jiaxuan, *Heavy Storm and Gentle Breeze*, 332-334.
[1388] Quote is from Godwin, "Decisionmaking Under Stress," 173. See the MMCA document for background. *Agreement Between the Department of Defense of the United States of America and the Ministry of National Defense of the People's Republic of China on Establishing a Consultative Mechanism to Strengthen Military Maritime Safety*, 1998. MMCA, Beijing, 19 January, FAS.org, Federation of American Scientists. http://www.fas.org/nuke/control/sea/text/us-china.pdf, accessed 2 Jan 2013.
[1389] Department of Defense, "U.S. Concludes Military Talks with China." 15 September 2001. DoD News Release No. 432-01. DoD News Release Archive, Department of Defense, accessed 22 Jan 2013.

his press briefing on 3 April had used the words, "…our hope for a fruitful and productive relationship between our two countries," and on 5 April he had mentioned "we should not let this incident destabilize relations. Our relationship with China is very important."[1390] Both phrases were received as important by President Jiang Zamin and Foreign Minister Tang and published in the Chinese news.[1391] On 4 April, during the most intense early moments, President Jiang Zemin left China for a six-country visit to Latin America, a move which telegraphed to American officials that he felt secure enough in US-Sino relations not to cancel the trip. [1392] Also, Jiang had said in his initial address on the incident that he wished to resolve the incident to "be conductive to the development of China-U.S. relationship."[1393] The expressed sentiments by top leadership were matched in kind by each administration's actions. In stark contrast to the Chinese public outrage allowed by the leadership following the 1999 bombing of the Chinese Embassy in Belgrade, the government restricted potential demonstrations and increased security around the American Embassy in Beijing.[1394] On the American side, Secretary Powell publicly de-linked Taiwanese arms sales from the EP-3 incident very early, saying he did not want to exacerbate tensions unnecessarily.[1395]

In short, there was plenty of evidence that, despite initial acrimony, the two nations' leaders decided that they were not going to let the EP-3 derail long-term efforts to improve relations. On 28 July 2001, Secretary of State Powell met with President Jiang, Foreign Minister

[1390] Bush, "Statement by the President, 3 April." George W. Bush, "Remarks by the President at American Society of Newspaper Editors Annual Convention, 5 April." 2001. White House Press Release. George W. Bush White House Archived Website, News & Policies, April 2001, George W. Bush Presidential Library, accessed 10 Jan 2013.
[1391] Jiaxuan, *Heavy Storm and Gentle Breeze*, 341-342. "U.S. President Regrets Missing of Chinese Pilot in Spy Plane Incident," *Xinhua*, 6 April 2001, Xinhua News Service, Xinhua News Agency, www.news.xinhuanet.com/english, accessed 21 Jan 2013.
[1392] Jiaxuan, *Heavy Storm and Gentle Breeze*, 334.
[1393] "Jiang Urges U.S. to Stop All Spy Flights Against China." *Xinhau*, 4 April 2001.
[1394] Keefe, *Anatomy of the EP-3 Incident, April 2001*, 13. Kenneth T. Walsh, "The China Conundrum," *U.S. News & World Report*, 16 April 2001.
[1395] Colin Powell, "Press Conference at Truman Little White House." 3 April 2001. Transcript of Secretary of State Remarks with Press Questions. Department of State Archived Website, Speeches and Remarks, April 2001, Department of State, accessed 13 Jan 2013.

Tang and others in Beijing, and both sides expressed their willingness to build closer ties.[1396]

After the US focus changed to fighting terrorism on 11 September 2001, President Bush named

President Jiang a "close ally."[1397] By December of that year, China had become a formal

member of the World Trade Organization and Bush had signed a proclamation granting

permanent normal trade relations (PNTR) status to China, thus indicating the EP-3 incident to be

a remote memory.[1398] It took a little longer for the two countries to reestablish close military

ties, with US-Sino Defense Consultative Talks reopening in December 2002 between General

Xiong Guangkai and Under Secretary of Defense for Policy Douglas Feith.[1399]

Over the South China Sea and the Pacific periphery, America resumed its aerial SRO.

There are few unclassified sources about whether American reconnaissance assumed a more

conservative posture after the EP-3 incident, as it did in 1969 following the shoot-down of the

EC-121. White House spokesman Ari Fleischer told the press that the decision to forego fighter

escort or other protection for the renewed missions was deliberate, as did DoD officials.[1400] This

suggests that American military and diplomatic leadership viewed the risk of further contention

with China over SRO much less likely than it was with North Korea in 1969. According to

media sources, reconnaissance resumed its "normal" CPA thresholds, presumably 20 miles, but

used the higher and faster flying Air Force RC-135s in the South China Sea for a time, before

---

[1396] Colin Powell, "Press Conference Following Meetings With Chinese Officials, Beijing." 28 July 2001. Transcript of Secretary of State Press Conference. Department of State Archived Website, Speeches and Remarks, July 2001, Department of State, accessed 19 Jan 2013.

[1397] As quoted in Song, "The EP-3 Collision," 15.

[1398] George W. Bush and Jiang Zemin, "U.S., China Stand Against Terrorism." 19 October 2001. Transcript of President's Press Conference at Shanghai. Department of State Archived Website, Remarks, October 2001, Department of State, accessed 23 Jan 2013. China became a member of the WTO on 11 December 2001. Also see "President Grants Permanent Trade Status to China." 27 December 2001. White House Press Release, Statement by the Deputy Press Secretary. George W. Bush White House Archived Website, News & Policies, December 2001, George W. Bush Presidential Library, accessed 23 Jan 2013.

[1399] Godwin, "Decisionmaking Under Stress," 185.

[1400] Rumsfeld, "Secretary Rumsfeld Briefs on EP-3 Collision." 13 April 2001. Rumsfeld, "Secretary Rumsfeld Outlines Space Initiatives." 8 May 2001. Thom Shanker, "U.S. Resumes Its Spy Flights Close to China," *The New York Times*, 8 May 2001 2001, ProQuest Historical Newspapers, ProQuest, http://search.proquest.com/docview/92159473?accountid=12084, accessed 20 Jan 2013.

resending EP-3s to the area of the collision.[1401] The US championed freedom of navigation as

primary for itself and others in its resumption of aerial reconnaissance.[1402] In this respect, the

MMCA talks proved fruitful in that they allowed the two sides a face-to-face forum over the

issue.[1403] Finally, it should be noted that, as in the case of the EC-121 shoot-down, the EP-3

incident spurred investigations into the use of unmanned reconnaissance aircraft to reduce the

diplomatic risk to the US. An October 2001 Congressional Research Service report cited future

UAV programs as a possible way to lessen the impact of future incidents: "In recent years,

considerable attention has been given to the development of unmanned aerial vehicles (UAVs) as

reconnaissance platforms, but existing UAVs have relatively short ranges and limited loitering

times. A more capable UAV, the Global Hawk, is undergoing tests and evaluation."[1404]

Conclusion—2001 EP-3 Incident

The 2001 EP-3 incident highlighted how quickly a routine aerial SRO mission can spur a

crisis of diplomacy. No matter which sequence of events is correct, the American or the Chinese

version, there were inescapable truths that both sides had to acknowledge at the time. A collision

occurred over the South China Sea between an American and Chinese aircraft, the presence of

which were extensions of their respective nations' diplomatic interests. One Chinese aircraft and

pilot were lost; the EP-3 landed at Lingshui Airfield in China and became the center of a larger

---

[1401] David E. Sanger, "Bush to Tackle Delicate Issue of Resuming China Spy Flights," *The New York Times*, 17 April 2001, ProQuest, http://search.proquest.com/docview/92110702?accountid=12084, accessed 24 Jan 2013.
[1402] This information comes from statements made by National Security Advisor Condoleezza Rice, PACOM Commander Admiral Dennis Blair, and President George W. Bush. See Steven Lee Myers, "WIth Crew in U.S., Bush Sharpens Tone Toward China," *The New York Times*, 13 April 2001, ProQuest Historical Newspapers, ProQuest, http://search.proquest.com/docview/91983277?accountid=12084, accessed 24 Jan 2013.
[1403] Sanger, "Bush to Tackle Delicate Issue of Resuming China Spy Flights." Godwin, "Decisionmaking Under Stress," 185.
[1404] Kan et al., "China-U.S. Aircraft Collision Incident of April 2001: Assessments and Policy Implications," 27. For an update on today's RQ-4 Global Hawk system, click on the Air Force RQ-4 Fact Sheet at http://www.af.mil/information/factsheets, accessed 23 Jan 2013.

diplomatic contest over the propriety of America's aerial SRO program and the implications for the detained crew and aircraft. During the ensuing negotiations and the resumption of normal reconnaissance operations not too long after, some profound issues arose. They included the legality and importance of America's aerial SRO missions to strategic intelligence, freedom of navigation, the geographic and political thresholds of China's sovereignty, the sovereignty of other littoral nations, and the effect of the incident on other areas of diplomatic and economic relations (China's WTO membership, face-to-face diplomatic engagement, and military-to-military interaction). The resolution of the standoff fell squarely in diplomatic hands, if not for any other reason than both nations' desire to move beyond it and pursue positive relations. Defense Department spokesman Admiral Quigley, in his 3 April press conference at the Pentagon, said it best: "there is a diplomatic solution to this, and not a military one…I would defer to the diplomats."[1405]

It is most important to highlight from the incident the competing views of aerial SRO in peacetime. The EP-3 collision evoked deep cultural and political differences as many crises do. The Chinese leadership could not see why any nation, if it considered China a friendly counterpart, would engage in "spy" flights off their coast. Regardless of the sincerity of this position, American diplomats were compelled to accommodate it to satisfy the domestic and international goals of the Chinese negotiating strategy. It mattered completely that China held the crew, as indicated by toughened and bolder US statements that were made only after the crew's release.[1406] The episode is a lesson for the United States if it wishes to continue a robust aerial SRO program, despite the inevitable eventuality of another distressed reconnaissance crew

---

[1405] Quigley, "DoD News Briefing—Rear Admiral Craig R. Quigley, DASD PA." 3 April 2001.
[1406] For example, read Myers, "WIth Crew in U.S., Bush Sharpens Tone Toward China." This more confrontational tone can be seen in virtually any of the US media statements after 12 April, the date the EP-3 crew was released.

and/or aircraft arriving on the shores of the very nation against whom they are flying their mission.

Chapter Summary and Conclusion

The two case studies above highlight the interdependence of aerial sensitive reconnaissance operations and American diplomacy. In the 1969 EC-121 shoot-down, the Nixon administration desired to retaliate against a malevolent act, but could not because of their fear of opening a second front to the war in Southeast Asia and a lack of military resources. However, military retaliation provided their only emotionally satisfying recourse, specifically because American diplomatic relations with North Korea were weak and depended entirely on the table straddling the border at Panmunjom—a venue that itself was highly adversarial even before the presentation of grievances. Given the egregious nature of the shoot-down, Nixon's options were overwhelming attack or nothing, and he did not have resources for the former. The lack of diplomatic access became all the more obvious when the administration failed to ask for reparations and redress for the lost EC-121 crew and aircraft. Such demands were either too heavy or too diluted in the only other forum in which the two sides could communicate—official statements and the media. The US resumed its reconnaissance operations in the Sea of Japan, but only after positioning fighter escorts, combat air patrols, and strip alert to protect reconnaissance missions. The administration had no feedback elsewhere indicating North Korea would not challenge continuing SRO missions. Indeed, the North Koreans continued their

pattern, attempting unsuccessfully to shoot down an SR-71 in 1981 and force down an RC-135 in 2003.[1407]

Such was not the case with China in 2001. The United States and China enjoyed preexisting and consistent diplomatic and military exchanges from the 1990s, such as the MMCA, Consultative Talks, direct diplomatic ties through their respective embassies, and it was not a political watershed for each national leader to visit the other. When the EP-3 and F-8 collided, there were initial bellicose overtones, but there also were plenty of venues in which the two sides could engage to pursue resolution. Probably the most important was Ambassador Prueher in Beijing, who not only met face-to-face with Foreign Minister Tang and his deputies, but who also was a longtime veteran of political affairs in China and familiar enough with Chinese leadership to know just how hard to push. Although there were heated exchanges in the media and both sides attempted to gain popular support, the availability of an established diplomatic relationship made it possible to defuse the incident instead of escalate it. Subsequently, diplomatic familiarity allowed the US to resume aerial SRO at normal distances from China—and thus reestablish the intelligence flow—shortly after the return of the EP-3 crew. No fighter escorts or patrols or strip alerts were required because the Bush administration was talking to the Chinese face-to-face in venues like the MMCA. Hence, the US felt confident that the Chinese would try to avoid future incidents. Unlike April 1969, strong diplomatic ties were successful in a supporting role to reestablish the valuable routine of peacetime aerial SRO, the benefits from which the American administration and its intelligence community had grown accustomed. Herein lies an important insight: the contrast between the two case studies suggest

---

[1407] Mobley, *Flash Point North Korea*, 154-163. David W. Irvin, *Reconnaissance is Black* (Paducah, KY: Turner Publishing Co, 2000). 213.

that American diplomacy and peacetime reconnaissance are mutually reenforcing—when one is

weak, the other is less effective. SRO provides valuable information to decision makers for

political ends, and political leadership in turn provides diplomatic protection and legitimacy for

sustained reconnaissance.

This relationship did not go unnoticed during the events of April 1969. Kissinger wrote

that, "diplomatic and military moves must dovetail."[1408] In his department's response to

Kissinger's request for a critique on the administration's performance following the EC-121

incident, Alexis Johnson further underscored the important connection between the State

Department and the Defense Department:

> These comments in no way reflect upon the individual competence of our military
> leadership, but rather are inherent in the present system. Under our present executive
> organization there is no answer to this problem except that there be a civilian staff of
> the Secretary of Defense (ISA is the logical point) and in State a sufficient knowledge
> of military affairs blended with political competence to ask the right questions and
> obtain the answers. It is also only in this way that international political
> considerations can be fed into the process at an early enough stage to assure that
> military planning is blended with international political considerations in such a way
> as to assure the optimum blend of each, and thus assure that the President, the
> Secretary of State and the Secretary of Defense have the best possible and most
> realistic alternative courses of action presented to them.[1409]

American SRO missions now occur so frequently, unlike before World War II, they are

woven into the political status quo. One press report written during the 2001 EP-3 affair went so

far as to describe the constant presence of American SRO missions around the world as

"diplomatically overwhelming."[1410] When there is an anomaly within routine aerial SRO

operations, like a shoot-down or accident of the kind discussed above, such events can reveal

---

[1408] Kissinger, *White House Years*, 321.
[1409] Alexis Johnson, "Paper Prepared by the Under Secretary of State for Political Affairs (Johnson), Washington, April 28, 1969," Department of State, *FRUS, 1969-1976*, II: Document 35, Tab A.
[1410] Kan et al., "China-U.S. Aircraft Collision Incident of April 2001: Assessments and Policy Implications," 29, n107.

insights and forward-looking indicators about the changing politics of the nations involved. China and the United States both professed constructive sentiments during the hardest part of negotiations over release of the EP-3 crew. No such positive exchange took place in April 1969, which was evidence enough that the two nations would remain adversaries, politically and otherwise. This diplomatic messaging informs but also constrains policymakers and diplomats, depending on the circumstances. For example, this was the case concerning competing perspectives of international airspace and reconnaissance in 1969 and 2001. The US's claim that it can pursue almost any endeavor from the air, so long as it remains beyond territorial waters, is bound to be challenged repeatedly by those who are deeply offended by the act of aerial reconnaissance.[1411] In this way, SRO is not different from other bilateral transactions in that it exposes cultural differences. Aerial SRO can provide invaluable intelligence, but at the same time can be a contentious presence that can affect otherwise unrelated events.

Henry Kissinger wrote that, for an American president, the essence of crises of the sort discussed in this chapter "is the need to make high-risk decisions quickly and under pressure."[1412] There can be thousands of aerial SRO missions flown during any given month around the globe, each one carrying the possibility of crisis. The small chance of just one of them becoming a target of aggression for diplomatic messaging is multiplied by their large numbers and frequency. If such an inevitable incident were to find an administration unprepared, permanent and far-reaching consequences could result.

[1411] During the early Cold War, the Soviets also claimed offense at the activity of reconnaissance missions, despite their location in international airspace. They commonly used peripheral reconnaissance as evidence to the Proletariat and to the world of capitalist "encirclement" and inevitable attack on communist countries. See Farquhar, "Cold War in Flames," 199-200.
[1412] Kissinger, *White House Years*, 313.

Chapter Six: Conclusions

Strategic air reconnaissance continues to be one of the greatest
assets to world stability.[1413]

The discussions to this point have approached diplomacy and aerial reconnaissance in three peacetime environments: in crises, air monitoring, and SRO. By pursuing the discussion in this way and focusing on the diplomatic events surrounding the case studies we can extract some themes relevant to all of them. There have been a few surprises. For example, the extent to which the Open Skies Treaty was designed around the esoteric characteristics of modern reconnaissance aircraft, such as America's OC-135 fleet, is interesting. The same can be said of the psychological affect of low-level, fast, penetrative reconnaissance in the 1962 Cuban missile crisis. The purpose herein has been to discover unique samples that are relevant to the original hypothesis: that aerial reconnaissance can support and shape diplomacy in peacetime and is not limited in utility to only collecting information or finding targets in war. To be sure, the ability to do so is central to an ISR fleet and is a necessary capability to animate America's military deterrent, but it has been the purpose of this work to focus on the peacetime relevance of aerial reconnaissance. This final chapter draws general conclusions about aerial reconnaissance in its peacetime role, specifically to further our understanding of the tool beyond military utility and purpose. The organization of the chapter below reflects the analytical structure of its predecessors by synthesizing information under the analytical framework—presence, penetration, justification, and result. By extracting ideas from these topics common to most or all the case studies presented in Chapters Three through Five, and consistent with the survey in

---

[1413] From the concluding paragraph in Jackson, *High Cold War*, 171.

Chapter Two, it is not difficult to regard aerial reconnaissance in a different way—one in which

it has existed in a symbiotic partnership with American diplomacy and has itself, at times, been a

diplomatic agent.

Peacetime Aerial Reconnaissance and American Diplomacy

What aerial reconnaissance was present, and what diplomatic elements did its presence

introduce into the domestic, bilateral, or multilateral relations of the states involved? The

presence of aerial reconnaissance provided situational confidence to diplomatic principals, cued

face-to-face diplomacy, and signaled American political equities to other states. These

contributions were enabled by the direct political control over aerial reconnaissance created in

the years following World War II.

First and most obvious were the elements of confidence and cueing provided by aerial

reconnaissance to diplomatic primaries. That is, aerial reconnaissance delivered to decision

makers an observable increase in the degree of certainty about a situation with which leadership

could then engage in meaningful diplomacy. This was particularly true before the early 1960s

when satellite reconnaissance technology began to improve rapidly. The fact that aerial

reconnaissance returned valuable information that enabled decisive diplomacy seems obvious

enough, but the point is to establish that aerial reconnaissance successfully shaped diplomacy

outside of combat. The best examples probably come from the 1956 Suez Crisis, the 1962

Cuban missile crisis, and the role of aerial reconnaissance in air monitoring as described in

Chapter Four.

In the peacetime crisis scenarios in the Suez and Cuba, it was the presence of aerial reconnaissance that gave two presidents the confidence for key decision making. In those instances, there was simply not enough reliable information to develop courses of action, as indicated by the extent to which American leaders were willing to go to obtain it. President Eisenhower saw opportunity in the CIA's U-2 in 1956 to establish a reliable intelligence source when he sensed others were disingenuous, a course of action which was devoid of any intent to use American military force. Instead, Eisenhower's goal with the U-2 was to learn the truth so that he could engage his allies and successfully resolve the Suez situation to America's advantage. The aerial reconnaissance around and over Cuba in 1962 returned decisive information that dissolved the debate within Kennedy's inner circle about interpretations of other intelligence on Cuba. Peripheral ELINT missions, U-2, and low-level overflights promted Kennedy's diplomatic engagement with the Soviets that began the iconic standoff, paced the headline events, and then verified the Kennedy-Khrushchev accord was being implemented

At a time when satellites could not sufficiently reconnoiter the island, aerial reconnaissance filled the information gap and prevented a Soviet *fait accompli*. It is particularly easy to see the resulting confidence and cueing elements develop in the scenarios in Chapter Three as the imagery itself played a staring role alongside leadership. To wit, it was over a large photographic mosaic of U-2 imagery that Eisenhower knelt on his knees with a magnifying glass during the 1956 Suez crisis, before he decided to withhold money from his allies to compel them to end their invasion of Egypt. Similarly, F-8 low-level aerial imagery on an easel behind Ambassador Stevenson was used to "stick" his Soviet counterpart at the UN on 25 October 1962.

Providing confidence and enabling diplomatic action was the primary mechanism of air monitoring discussed in Chapter Four. The Treaty on Open Skies, without its provisions mandating equal access by parties to reconnaissance missions, reports, and imagery, would simply be an instrument allowing tit-for-tat overflight between two states. Open Skies supports diplomacy by guaranteeing a degree of *equal* transparency—or leveling—which is the primary motivation for prospective members to ascend to the treaty and for the interstate cooperation required to execute it. Further, by allowing signatories to the treaty access to more active quotas during crises, Open Skies acknowledges and then satisfies the condition during which heads of state need information the most. Similarly, the air monitoring regime in the Sinai has provided the legal mechanism and organization necessary for American and third-party aerial reconnaissance, which in turn uncovers and then resolves disputes between Israel and its neighbors. The fact that both sides know that neither is preparing for war is the primary product of the aerial verification regime, hence its designation as a confidence and security building measure. Information from aerial reconnaissance has also enabled Open Skies and Sinai air monitoring to support broader, multi-method verification regimes, arms control, and other international agreements. In such discrete ways, aerial reconnaissance can claim to have encouraged a degree of confidence and international cooperation that has been diplomatically significant.

The presence of peacetime aerial reconnaissance provided an element of diplomatic signaling or messaging. What is slightly surprising is the high degree to which the physical characteristics of the reconnaissance aircraft supported and were, in return, shaped by American diplomatic goals. First, the physical characteristics of specialized reconnaissance aircraft

mattered greatly to leadership in peacetime. It was as if the design of dedicated reconnaissance aircraft like the U-2 was to transmit "just looking, we mean you no harm." As Edwin Land wrote to DCI Allen Dulles in 1954 about the new design which was to become the U-2, "The plane is so light, so obviously unarmed and devoid of military usefulness, that it would minimize affront to the Russians even if through some remote mischance it were detected and identified."[1414] For aircraft like the U-2, A-12, SR-71, RC-135, and others designed predominantly for the peacetime reconnaissance mission, their unarmed configurations meant that they presented minimal or no threat to their target nations. This further meant that American presidents and secretaries of state alike could posture themselves successfully when confronted with peacetime reconnaissance overflights or other missions that went wrong. Eisenhower was disappointed and embarrassed that the U-2 was detected and eventually downed over the USSR in 1960, but he did not have to convince the Soviet's of the aircraft's mission, as he would have had to do if the aircraft had been a modified bomber (a popular design for reconnaissance aircraft at the time). Kennedy had the U-2 and low-level unarmed reconnaissance aircraft available to him in 1962, which meant he did not have to risk sparking the Cuban powder keg if Cuban air defenses downed a reconnaissance overflight. Nixon repeatedly made references to the "unarmed" EC-121 when publicly protesting North Korea's action against that aircraft in 1969. The HASC report on the EC-121 incident spared no space in explaining why an unarmed, dedicated reconnaissance asset was much more viable diplomatically—because it was not a threat and was not beholden to the anxieties and international laws that applied to combat vessels.

_____

[1414] "Letter, Edwin Land to Allen Dulles, November 5, 1954," Document 3 in Richelson, "Science, Technology and the CIA."

The physical characteristics of reconnaissance aircraft were also important in air monitoring. The starting point for the Open Skies Treaty and the Sinai accords was to specify that participating reconnaissance platforms must be, first among other requirements, unarmed. The Open Skies regime specifically relied on the physical characteristics of the reconnaissance aircraft because the aircraft itself represented diplomatic compromise and was, therefore, a diplomatic agent. Only an aircraft validated and certified as treaty-compliant by both sides was allowed to embark on an observation sortie. Modern SRO reconnaissance aircraft continue the tradition of being configured for diplomatic effect. The Air Force's RC-135 and the Navy's EP-3, for example, are intentionally unarmed, modified platforms originally designed for other missions. The air monitoring case studies implied that a standing peacetime aerial reconnaissance fleet can be something of a diplomatic currency. Egypt and Israel asked the US to reconnoiter on their mutual behalf in the Sinai in 1975 in part because the US had the fleet that could do it. Today, many nations ride along as third-party escorts to US Open Skies missions simply because of the accommodating size of America's OC-135 aircraft. Thus, a standing unarmed reconnaissance fleet can deliver unexpected diplomatic benefits.

The importance of the physical presentation of aerial reconnaissance reached down to the pilots. In 1956, Eisenhower initially insisted on civilian pilots over the USSR to avoid escalation in the event one was shot down. In the 1962 Cuban missile crisis, Kennedy decided on the same matter but the other way—that it would be less escalatory if it was a military pilot in the cockpit of overflying reconnaissance aircraft. The use of UAVs promised to remove the sticky and confining politics associated with a captured pilot altogether, especially after the uneventful Chinese shoot-down of a Ryan 147-series overflight in November 1964. It did not go unnoticed

that the 147 shoot-down produced almost no diplomatic backlash. A number of similar UAV

non-incidents over the years, including the 1970 descent of an out-of-fuel 147-series drone onto

Hainan Island, seemed to confirm the idea that UAVs provided diplomatic breathing room by

removing the pilot from the equation. The Nixon and Bush administrations both pursued the

increased use of UAVs following their respective EC-121 and EP-3 incidents.[1415] It has only

been recently that UAVs, like the RQ-4 Global Hawk, have been pursued for their technological

contributions as much as for their diplomatic flexibility. Until about the mid-1990s, it was

expensive, dangerous, and cumbersome to employ UAVs as reconnaissance aircraft, which says

much about the value of their diplomatic advantages sought by American leadership. There is

little doubt that UAVs were indeed favored for de-complicating the diplomatic risks associated

with aerial reconnaissance, even as they further complicated other technical aspects of the

mission itself.

The location and frequency of peacetime aerial reconnaissance provided one of the

strongest mechanisms for diplomatic signaling. The presence of reconnaissance can be

characterized in peacetime as an extension of diplomatic interests. Truman's reorganization

allowed for political control of aerial reconnaissance assets by the same national principals that

conducted diplomacy. Decision making institutions such as the NSC and the JCS were—and

still are—the nexus of legitimate reconnaissance tasking authority and diplomatic responsibility.

These organizations empowered American leadership to deploy aerial reconnaissance along

purely diplomatic lines, to apply reconnaissance where their anxieties were highest. When

---

[1415] In December 2012, Iran claimed to have shot down a US Navy Scan Eagle reconnaissance UAV that wandered into its airspace. The incident, while prominent in the press, did not significantly alter already strained US-Iranian relations. See Thomas Erdbrink, "Iran's Claim of Drone Capture is Denied by U.S.," *The New York Times*, 4 Dec 2012, www.nytimes.com, accessed 4 Dec 2012.

Eisenhower needed information on the Suez in 1956, that is where he sent the U-2. The United States had increased aerial reconnaissance in the South China Sea in 2000 because it saw China as a "strategic competitor." In the same way, the treaty on Open Skies, aerial monitoring in the Sinai, and SRO in the Pacific region against North Korea and China were all missions placed strategically to meet specific diplomatic needs. It is not hard to see that, within the cases discussed, the physical location and frequency of aerial reconnaissance reflected American diplomatic concern and anxiety. As an outstanding example, this was especially the case on 28 October 1962 when Kennedy cancelled all overflights of Cuba because he had attained his desired concession from Khrushchev. Just days earlier, Kennedy had *increased* the frequency of low-level overflights to keep the pressure on Castro and Khrushchev because he questioned the progress of the standoff. Thus, more anxiety on Kennedy's part meant more reconnaissance, and the opposite was true as well. Although the sorties in question undoubtedly returned needed photo intelligence of Cuba, they delivered as much value as diplomatic messaging from Kennedy and his counselors, as shown by Castro's repeated requests to the UN for the termination of the missions.

Interestingly, one of the most common themes among the case studies that connects the presence of aerial reconnaissance with international signaling is the frequent order to stand down, resume, or adjust missions to satisfy diplomatic concerns. The examples abound. Once Eisenhower learned that the U-2 was detectable over the USSR in 1956, he ordered overflights to stop until he reconsider them fully. Secretary of Defense McNamara ordered all U-2 flights worldwide to cease upon hearing of a U-2 wandering over Soviet airspace in the middle of the 1962 missile crisis. Also during the missile crisis, Secretary of State Rusk made it clear on 17

November that the US should resume flying low-level missions in part to let the Cubans know the US was not intimidated by Cuban threats to destroy the aircraft. In 1969, Kissinger and Nixon were in a hurry to resume aerial SRO around the globe to lessen the chance that adversaries would be emboldened by the US reconnaissance stand down following the April EC-121 incident. Under Secretary of State U. Alexis Johnson requested a further closest-point-of-approach, fifty miles, from China's coast for SRO during the 1970 Sino-US summit in Warsaw so as not to send the wrong message to the Chinese. No small part of the adjustment to SRO sorties in these cases was US leadership's desire to convey their right to international freedom of navigation, which remains a major premise behind SRO today.

Frequent reconnaissance missions consistently flown in the same geographic areas clearly signaled American interest and commitment to other nations. American air monitoring in the Sinai has represented one of the longest, single-focus peacetime reconnaissance missions in history, reflecting the US's enduring concern for peace in that area. Aside from daily SRO sorties around the world, it would be difficult to find another reconnaissance regime with greater diplomatic longevity. That the presence of sustained SRO missions has been used against the United States also seems supported by the case studies. The decades-long reconnaissance in the Sea of Japan was painted as malevolent to the populace of North Korea by their government in 1969; the Chinese said the same of SRO in the South China Sea during the 2001 EP-3 incident. What was unexpected during the research for this dissertation was that such presence can play very prominently within the domestic politics of the target nations. Nowhere is this notion more supported than in North Korea. Kim Il Sung and his successors have constructed a pretense of American belligerence by frequently broadcasting data to citizens about aerial reconnaissance

missions through their state news agency. North Korea uses these missions as pretext for policies that extract widespread hardship, such as the "military first" program in the 1990s, and other dictatorial policing programs. We can only imagine the validating effect to North Korean domestic propaganda if a US reconnaissance pilot ended up in the hands of Kim Jong Un and his state news industry.

The establishment of high-level political control enabled aerial reconnaissance and diplomacy to shape each other. When Truman reorganized the intelligence and defense communities at the end of World War II the result was a cleaner and shorter pathway for information from aerial reconnaissance to reach diplomatic principals. At the same time, the reorganization provided the president, the NSC, and the cabinet with direct visibility on aerial reconnaissance and awareness that they could direct its focus. At times, political control became so complete over more sensitive missions that Truman and Eisenhower, for example, insisted on case-by-case approval. Over time, the proficiency with which leadership employed aerial reconnaissance improved. The legendary survivability of the A-12 and SR-71 was probably due in no small part to the careful discretion with which they were deployed and then employed by leadership, especially after learning the lessons from the 1960 U-2 shoot-down. The SRO "book process," as another example, was the result of leadership's desire to control reconnaissance operations centrally while allowing decentralized execution on a global scale. In turn, those reconnaissance operations could inform foreign policy in three ways: through the information they collected, through their interaction with other nations' air defenses, and by prompting diplomatic responses from other nations' political leadership. High level control, motivated by the high-level consequences associated with undesirable reconnaissance events, meant that aerial

reconnaissance could, almost automatically, rectify and refine leadership's world views. For example, the 1969 EC-121 and 2001 EP-3 events, as undesirable as they were, exposed the fact that American leadership perceived SRO differently than did North Korea or China. The incidents pitted North Korean and Chinese accusations of malevolent espionage against American claims that SRO was a lawful and peaceable activity. In both cases, the reconnaissance missions were adjusted afterward for their respective diplomatic environments, and American leadership emerged with a better understanding of North Korean and Chinese perspectives. In a more positive way, this cycle-of-awareness has been recognizable in air monitoring. Regular reconnaissance missions uncovered treaty violations that required diplomatic engagement that, in turn, informed the format and the targets for future reconnaissance missions.

Overall, the presence of aerial reconnaissance in peacetime has provided American diplomacy with an irreplaceable source of confidence, diplomatic cueing, and a unique way to communicate with other states. By providing key information to diplomats or presenting itself as an aircraft with an American flag on the tail, aerial reconnaissance has both informed and participated in American diplomacy.

What factors were introduced into the domestic, bilateral, or multilateral relations between states specifically due to the penetration of aerial reconnaissance? Reconnaissance overflights usually introduced the issues of national sovereignty and dignity into diplomatic exchanges. However, overflights promised better intelligence and sometimes even helped

leadership apply diplomatic pressure. When part of air monitoring agreements, reconnaissance overflights had the potential to reinforce and shape diplomatic relationships for the better.

Penetration, among all the reconnaissance characteristics examined in this study, was the one to which diplomacy was most sensitive. This is no surprise, since at the heart of the overflight issue is the affront penetrative reconnaissance presents to a nation's sovereignty. As the last section of Chapter Two discussed, deliberately penetrating any nation's territorial airspace without permission is contrary to long-established agreements and precedents that constitute the international legal system. This is probably why Truman, Eisenhower, and Kennedy all insisted on personal approval of certain overflights on a case-by-case basis: the enormous diplomatic risk required that the president could be the only appropriate approval authority. It also makes sense that, since penetrating the target nation promised the best information, the United States has chosen overflight reconnaissance when it has faced the largest perceived risk to its security. The U-2 overflights of the USSR in the late 1950s and the 1962 Cuban missile crisis are the most ready examples. They allowed the intelligence community to solve the Soviet bomber and missile gaps and Kennedy to avert a nuclear ultimatum. In both cases, bold and successful overflight efforts returned paramount information that was otherwise unobtainable.

Some overflight missions exacted a diplomatic price. Cold War CIA and SAC overflights left indelible diplomatic scars that became obvious later on. American negotiators at the late-1980s Conventional Forces in Europe (CFE) forums and the early 1990s Open Skies talks were met with constant Soviet paranoia about aerial reconnaissance even for treaty enforcement and verification. Looking back, the Soviet reluctance was understandable since their cynicism

was born and nurtured in the early Cold War. The U-2 Soviet overflights and persistent Cold War American reconnaissance had conditioned the Soviets to regard the activity solely as a tool for espionage and war planning. A quick scan through RAND's Alexander George reports makes it clear why the Russians demanded certain controls written into the Open Skies Treaty, including a ban on ELINT collection devices and a limitation on the allowable types of imagery sensors. Such long-term diplomatic impacts from overflights can also be seen in the EP-3 case study. Chinese foreign minister Tang Jiaxuan made it clear to Ambassador Prueher that, in addressing the EP-3 issue, he was informed by years of prior American reconnaissance operations—including earlier overflights by Taiwanese U-2s and American drone missions. These two examples suggest a Catch-22 calculus for any leader considering sovereign penetration with reconnaissance aircraft: overflights may help achieve goals in the short term, but endanger diplomacy in the longer term.

Despite the risks, conducting penetrating reconnaissance could shape diplomacy because overflights simply got results. Eisenhower's U-2s penetrated Egypt, Greece, and much of the Eastern Mediterranean with impunity during the 1956 Suez crisis, one of the only times it was ostensibly able to do so. The unfettered access helped Eisenhower concentrate on the Suez situation because he could dismiss other items as distractions, like Soviet jets in Syria or Iraqi troops on the Jordanian border. Eisenhower may not have known exactly what the tripartite alliance intended, but he could track exactly what was going on thanks to the new high-altitude U-2. In 1962, Kennedy first turned to hundreds of dangerous overflights of Cuba because he had no choice—satellites were not yet capable and he needed solid information to expose Soviet

activities on the island. But later, Kennedy employed overflights because he learned the missions could also apply diplomatic pressure on Castro.

As a primary mechanism in the Open Skies Treaty and in the Sinai monitoring regime, reconnaissance penetration provided the traction for the agreements to work. It did this in two ways. First, accessing a nation's sovereign territory affirmed the goals of the accords and the diplomacy required to construct them. Reconnaissance overflight said as much about a nation's former and prospective adversaries as about its attitude towards compliance and cooperation. Second, penetration was flat out necessary in air monitoring to observe the items of interest—especially if imagery was the primary sensor. Hence, aerial penetration of the type conducted in Open Skies or in the Sinai served diplomatic goals by confirming political will and then animating further exchange when anomalies were inevitably discovered by overflights. Open Skies and the Sinai overflight regimes enabled face-to-face diplomacy because each side knew the other was at least interested in peace and security.

Interestingly, proximity had the potential to inject the same issues into diplomacy as penetration. Aerial reconnaissance simply did not have to physically penetrate a nation's borders to affront its sovereignty. Some nations, such as China and North Korea, and to a lesser extent the Soviet Union, regarded even *peripheral* reconnaissance—missions conducted just outside recognized sovereign territorial limits—as reason enough to claim some kind of aggrieved legal or moral status. This was certainly the case made by China in the April 2001 Hainan Island incident, and North Korea justified its downing of the EC-121 in part by referencing "hundreds" of previous peripheral flights. Hence, it was not just sovereignty, but also national privacy and government credibility at stake while a reconnaissance aircraft was underway near a nation's

border. Here again, the physical characteristics of the reconnaissance aircraft helped protect

SRO from nations who viewed such operations as hostile. An unarmed, lone reconnaissance

aircraft presented no threat to the target nation and provided the moral and legal basis for protest

when incidents occurred. It was not only President Nixon who referenced the fact that the

EC-121 was "unarmed" in 1969. President Bush and Secretary Powell also made this point

regarding the EP-3 in 2001. In short, a peaceable physical posture supported both soft and hard

power to counter claims of antagonism—even when reconnaissance was conducted beyond

territorial airspace.

What was the justification for aerial reconnaissance? Diplomatic principals usually

justified aerial reconnaissance by establishing a need, either routine or urgent, for information

and understanding. Sometimes, diplomatic preparation, as in air monitoring, allowed nations to

vary the justification for each mission from flight to flight, while satisfying a larger strategic

motivation to participate in international transparency. Aerial reconnaissance was also

dispatched to assert freedom of navigation, convey diplomatic interest, or apply diplomatic

pressure. Finally, justification for SRO has not been accepted by other nations in the past.

Despite American historical and legal precedent for SRO, other nations have exploited American

aerial reconnaissance to serve their domestic agendas and diplomatic interests.

The justifications for peacetime aerial reconnaissance discussed in the case studies show

that the activity itself is rooted in the diplomatic realm. This is because the motivation for

reconnaissance has to do with calculating the balance of power. In general, the motivation for

aerial reconnaissance in peacetime usually has been leadership's need for transparency about

certain situations or threats. What has caused variation in the justifications is the urgency of the need. Leaders referenced the legal international structure and precedent when their information needs were routine, as was the case for most SRO missions. However, such justifications gave way to the urgency of the situation itself when events became immediately threatening.

The shift between presenting a legal basis for aerial reconnaissance and then disregarding it because of an urgent threat to national security can be seen by contrasting SRO with crisis reconnaissance. As the 1969 HASC Report concluded and President Nixon announced, systematic and persistent SRO missions were appropriate and necessary to prevail in both peaceful diplomacy and violent crises. This is because regular monitoring of specific areas can produce an intimate, intergenerational knowledge of an adversary that allows for accurate policy making and successful military action. To this end, SRO missions flew to support their contemporary national security priorities established by diplomatic principals. The 1969 EC-121 was looking at North Korea because of the administration's anxiety over Kim Il Sung's intent. The 2001 EP-3 was watching China because of a renewed interest in Chinese power as a "strategic competitor." The diplomatic risk of each of these missions were supposedly reviewed by national leadership during the SRO "book process," which, if nothing else, was a procedural acknowledgment that the missions should remain within their legal mandates. By contrast, no such basis existed for aerial reconnaissance missions during the 1956 Suez crisis or the 1962 Cuban missile affair. Eisenhower applied the U-2 to spy on his allies because they were moving against their promises and forcing America to make a false choice between the Arabs and European allies. Importantly, the president had the freedom to do so because the U-2 remained undetected in the Eastern Mediterranean. His justification for the U-2 missions had nothing to

do with the international legal regime or territorial airspace; his need for good information was simply too great. The same was true with Kennedy's U-2s and other reconnaissance overflights in 1962. The threat of Soviet missiles in Cuba outweighed any concern for the sovereignty of Cuba or any legal regime. This was most obvious in the changing posture of Secretary of State Rusk, who initially protested excessive overflights but then encouraged them further once he learned of the missiles and the fact that low-level missions could help apply diplomatic pressure. Thus, the justification behind aerial reconnaissance shifted with the needs of each administration.

The justification underpinning air monitoring deserves special differentiation here because its reasons are codified within the appropriate accord. The Treaty on Open Skies specifically cites transparency as its basis. That the parties to Open Skies left the target list of its reciprocal aerial reconnaissance regime completely open-ended says much about their justifications for participation. If states must allow others to enter and overfly their sovereign territory, then they want their own observation flights to serve whatever needs prevail at the time, be it arms control, general security, or commercial. Although Open Skies explicitly cites openness as its basis for existence, the justification for the Sinai aerial verification regime is somewhat darker but just as effective. There, third party reconnaissance was especially useful in preventing treaty violations and warring because the two sides did not trust each other enough to allow for reciprocal overflight. To this end, Olive Harvest and the MFO are the proof that such a regime works where bellicose parties are persistent.

Other motivations—usually subordinate to routine or urgent security needs—also support that peacetime aerial reconnaissance has diplomatic utility. Asserting and preserving international freedom of navigation, for example, was very much part of the reason Secretary of

State Kissinger wanted to resume SRO quickly following the 1969 EC-121 incident. Freedom of navigation played into the calculus of early peripheral reconnaissance around the Soviet Union and continues to be a fundamental element in the justification for SRO around the world today. Beyond that, leadership has acknowledged that aerial reconnaissance has the capacity to project diplomatic pressure, as did low-level overflights in the Cuban missile crisis and SR-71 overflights of North Korea. The frequency and density of SRO, as discussed above, also has agency as international signaling.

One of the more fascinating conclusions of this paper is that the justification for SRO missions—that they are legal, overt, and non-threatening—does not enjoy predictable acceptance among all states. This means that inevitable SRO incidents may result in diplomatic impasses. During the EC-121 and EP-3 affairs, "classic" arguments for conducting SRO did not hold water. Both showed that, at least to the North Koreans and to the Chinese, it was the activity of the reconnaissance aircraft that was offensive, and not only its consistent proximity to their borders. Their arguments in those case studies did not provide for the act of "friendly" reconnaissance between nations that were otherwise engaged in normal diplomatic activity. This created a cultural confrontation of sorts. To the US, aerial SRO in international airspace was allowable under the international airspace regime, and was therefore understandable and even morally responsible. To the North Koreans and Chinese, it was anything but. Regardless of whether the North Koreans or Chinese leadership understood "the game," they argued successfully that American SRO was an unfriendly act amidst an otherwise acceptable diplomatic relationship. Both had the bargaining pieces to do so: the North Koreans gambled that the US was too overstretched in Vietnam to risk escalating the incident and the Chinese held the aircraft and

crew. Hence, it made no difference how the American authorities justified the EC-121 and EP-3 missions. Such ideas were not useful in their respective contexts.

Further, the early Cold War, EC-121, and EP-3 discussions implied that target nations can build a pretext for aggression by referencing sustained American aerial reconnaissance missions. They do this by intentionally perverting America's logic for conducting SRO. The US defends SRO as an activity conducted "for peaceful purposes" and does not feel the need to justify the activity beyond this explanation. The justification is that there is an intelligence need, and that flying in international airspace to satisfy it is allowable. Yet the SRO missions are there to be interpreted at will by the target nation. Other states can invert this posture when they have the means to do so. If nothing else, the EP-3 case study showed that inadvertent landing or entry into the target nation's territory immediately provided a diplomatic advantage to China. Hence, every SRO mission against China and North Korea and Russia, or anyone else, can be another entry in a weak but plausible case for eventual attack against a reconnaissance aircraft or for other diplomatic concessions.

What were the results of the interaction between aerial reconnaissance and the political contexts involved? Peacetime aerial reconnaissance shaped diplomacy by decisively informing strategic decisions. The availability of aerial reconnaissance diversified diplomatic courses of action available to leadership in crises and other negotiations. However, aerial reconnaissance also has existed in a symbiotic relationship with diplomacy. When one has been weak, the other is affected.

In the case studies discussed, peacetime aerial reconnaissance was able to contribute superior information that made a significant impact on decision makers. Knowing that certain claims were false made the Suez situation easier for Eisenhower in that it allowed him to focus his efforts on the Anglo-French-Israeli axis. Aerial reconnaissance over Cuba allowed Kennedy to verify the missiles were there and, later, to confirm they were absent—especially considering there were limitations to satellites of the time. Aerial monitoring provided the information basis for verification in the Open Skies Treaty and in the Sinai. In an abstract sense in all of these instances, reconnaissance "merged" with and supported grand strategy to become an extension of diplomacy itself.

Aerial reconnaissance offered leadership a way to participate in events that was neither escalatory nor inadequate. Reconnaissance as an alternative course of action was a middle ground between America being uninvolved or being reckless. Third party reconnaissance was the embodiment of America's diplomatic contract with Egypt and Israel in the 1979 Treaty of Peace that respected sovereignty on all sides. American participation in that treaty continues today, without ground troops and in concert with other measures. The same balance was struck for the US and other nations via the Open Skies Treaty. But perhaps "reconnaissance as an alternative" can best be seen in the Cuban missile crisis discussion. In McNamara's words, "open surveillance-reconnaissance" was the stated American policy to track the situation in Cuba and then to apply the "additional" pressure sought by Kennedy on 26 October 1962 when he suspected the quarantine alone was not working. Curiously, the evidence implies that reconnaissance over Cuba developed respect from both sides as a stabilizing force. Kennedy ordered low-level reconnaissance resumed on 1 November 1962 to take the temperature of the

situation on the island and affirm American overwatch while Khrushchev ordered his troops in Cuba not to fire on reconnaissance aircraft. Ironically, Kennedy's previous decision for a reconnaissance stand down on 28 October may have rendered the low-level overflights as conspicuous in their absence; just the day before they were flying at near supersonic speeds just over the Cuban treetops. It is important to note here that, in crisis reconnaissance especially, there exists a need for fast feedback that can keep up with the desired pace of diplomacy. This is why, for example, the CIA created the OPIC offices in Germany and Turkey in 1956, and the same quick feedback was achieved in 1962 through the JRCs and early review of the mission film.

Reconnaissance as air monitoring is confirmatory of diplomatic success, but is also the basis for further diplomatic engagement. The sustained support from state parties to the Open Skies Treaty—and the fact the regime has grown in membership—indicates the perceived diplomatic benefit from reciprocal aerial reconnaissance. It produces enduring relationships based on mutual access even if it does, as some claim, simultaneously formalize mistrust among nations.[1416] Air monitoring also makes other methods of verification more efficient, as seen in the Sinai multi-method verification regime. An important element in understanding why air monitoring furthers diplomacy is the "what then" question. That is, once aerial reconnaissance detects something in violation of the treaty or something that is simply offensive to an interested party, what then? The answer is that detection is not enough. The lesson from aerial verification over the Sinai since 1973 is that there must be a corresponding forum—a diplomatic one—in which to resolve disputes, akin to the Joint Commission and Liaisons from Sinai II and the 1979

[1416] Mark Gabriele makes this claim repeatedly in Gabriele, *The Treaty on Open Skies and Its Practical Applications and Implications for the United States*.

Treaty of Peace. It is the dispute resolution mechanism that capitalizes on the benefits of verification because it compels parties to address issues before they accumulate as kindling and ignite a larger conflagration. In Open Skies, this mechanism is the Consultative Commission and the interpersonal procedural requirements of aircraft and sensor certification. If anything, Chapter Four puts forward the idea that if aerial monitoring is not possible as a robust, permanent verification regime, then it is at least useful to bide time until something else can be done diplomatically. To achieve such a goal, it takes the political will of the parties to allow aerial monitoring *for the time being* while other issues are addressed. Once it becomes the status quo, it may be hard to change.

Peacetime reconnaissance, especially SRO, required diplomatic support. In a symbiotic way, reconnaissance offered diplomatic principals information and alternatives, but they in turn engaged other states and international forums to preserve a global landscape conducive to SRO. Both the EC-121 and the EP-3 incident prompted demands from the target nation, the public, and from other nations that required a response by American leadership. To this end, Admiral Dennis Blair's 2001 comment that the increased reconnaissance flights against China had a "deterrent value" was not helpful—it painted the reconnaissance in the South China Sea as sinister and played to the Chinese complaint. Also, defense and foreign policy context mattered entirely in both incidents. Nixon did not have the luxury to respond to the North Korean EC-121 shoot-down because he was already knee-deep in Vietnam. In 2001, Bush had just labeled China a "strategic competitor" and professed US support to defending Taiwan. Against whom, exactly, was obvious to China. Thus, when the EP-3 landed on Hainan, this greater diplomatic uncertainty was only the starting point for negotiations regarding the status of the crew and

aircraft. The lesson was that every SRO mission is a diplomatic crisis waiting to happen.

Leadership must be ready to engage and support if they are not to cede the ability to conduct

reconnaissance in international airspace off a nation's coast, which will surely be on the list of

demands when incidents occur. To this end, preserving a default diplomatic relationship with

target nations can help resolve incidents relatively successfully. The US and China already

attended mutual forums which they used to resolve the EP-3 incident in 2001. Such was not the

case with North Korea and the EC-121 in 1969 and that condition left Nixon with no other

recourse but to complain at Panmunjom. These contrasting cases imply that it is preferable to

conduct aerial reconnaissance *and* engage face-to-face regularly with target nations.

Finally, it is reasonable to view peacetime aerial reconnaissance as a bellwether of

diplomacy. This is because there is at least a correlation between aerial reconnaissance events

and the diplomatic relationship between states. Violent attacks and hundreds of interceptions by

the Soviets against persistent American reconnaissance aircraft between 1950 and 1970 were

consistent with the uncertainty, anxiety, and contest between the two superpowers at the time.

When the Soviets were confident in their military parity with the United States, the violent

incidents ceased. That the US was willing to risk overflight of the USSR in the late 1950s and of

Cuba in the early 1960s was to a large degree a statement about its security worries vis-à-vis

those respective nations. China and North Korea's posture towards coastal American SRO

missions has reflected the competitiveness and resentment present in Sino-DPRK-American

relations. China uneventfully intercepted peripheral reconnaissance aircraft until the US

proclaimed it a "strategic competitor," at which point American reconnaissance became more

frequent and Chinese interceptions became more aggressive. Subtle diplomatic preferences were

also embedded in exchanges having to do with overseas basing of reconnaissance aircraft or restrictions on their use, as was the issue with the UK and France regarding the U-2 and SR-71 in many cases. Overall, observing how nations interact with American peacetime reconnaissance aircraft can say much about their posture towards the United States and their view of the world.

By taking a diplomatic approach to peacetime aerial reconnaissance, we can recognize its utility beyond war. Aerial reconnaissance can affect diplomatic goals by cueing and informing leadership in a crisis, participating as an American agent in overflight, freedom of navigation, peacekeeping, and verification regimes, and maintaining a global vigilance that supports both military victory and diplomatic success. Although it can further diplomacy through its information-finding and physical presence, it requires reciprocal support and engagement from political leadership to be employed freely and remain relevant. Peacetime aerial reconnaissance is about placing an aircraft at the location of diplomatic interest as a way of *seeking understanding*—in the strategic sense—so that further diplomatic choices can defuse conflict. Employing aerial reconnaissance can even provide an alternative to violent force or political impasse, especially in peacetime crises when there may be few other options.

In general, aerial reconnaissance has been a stabilizing force for the United States in times of peace. It has achieved this by providing transparency to diplomatic leadership—unilaterally, bilaterally, or multilaterally. Its logic has been to inform and probe constantly to take the measure of others and therefore to avoid strategic surprise. While doing this, aerial reconnaissance conveys America's interests and signals our commitment to the international

order. In this way, even when it provokes an aggressive response, reconnaissance reveals much about those who protest and engage its presence, and about the international context.

The most encouraging point is that the US has all it needs to continue employing aerial reconnaissance to diplomatic effect. A worldwide network of allied support and airbases, versatile and well-established intelligence and diplomatic expertise, improving synergy with the impressive capabilities in space, and improving knowledge about the versatility of aerial reconnaissance can deliver economies of scale for future additions to the strategic reconnaissance fleet. Overall, aerial reconnaissance has served as a viewfinder for American diplomatic leadership in peacetime—a lens of power—through which American leadership can understand the world, and then decide how to navigate and perpetuate peace.

Appendix A: Survey of Peacetime Reconnaissance 1945-2001

Dates	Events (Includes organization and mission type where necessary)
Jan-46	Truman creates Defense Intelligence Group, headed by the Director of Central Intelligence, and the National Intelligence Authority (composed of the secretary of state, secretary of war, secretary of the navy, and the president or his representative).
Feb-46	USN VP-26. A PBM-5 fleet patrol aircraft stationed at Tsingtao, China, embarked on a training flight. The aircraft made an unauthorized flight over Dairen (Port Arthur), Manchuria and was fired upon as a result by Soviet fighters. There was no damage to the aircraft or crew.
Feb-46	The Army Air Force's Air Technical Service Photo Section, led by Colonel Elliot Roosevelt, attempted to design and test a dedicated strategic reconnaissance aircraft, the Republic X-12 Rainbow (XF-12, XR-12). The prototype crashed in November 1948 and the program was not pursued further. The Air Force continued to modify bombers and fighters for the reconnaissance mission.
Mar-46	Date is approximate. All surviving US strategic bomber units combined into Strategic Air Command (SAC). Early peripheral photo and electronic reconnaissance of Eastern and Western Soviet Union begin en masse, mainly using modified B-29s flown from bases in Alaska, Japan, and Western Europe.
Apr-46	One of the earliest post-World War II Soviet protests of US overflights. The Soviets charged that on 5 April 1946 two US airplanes crossed the border into the USSR near Astara, Iran and flew 6 kilometers into the USSR. US Ambassador to the USSR, Bedell Smith, promised to investigate but neither side made the incident public. (Lashmar, 41)
Jun-46	Date is approximate. The Army Air Force's 311th Reconnaissance Wing (RW), East Reconnaissance Group (SAC) began flying strategic reconnaissance ELINT and photo-mapping missions in modified B-17s (F-9s). The Group later received RB-29s (also dubbed F-13As) and flew from Thule, Greenland to reconnoiter the Northeastern USSR looking for coastal radars. None were found. These missions ended in August 1946 (assumed peripheral reconnaissance, Lashmar, 30; Jackson 36-37) Note: The first ELINT, or "ferret" mission was March 1943 with an RB-24D against a Japanese radar site on Kiska Island on the Aleutian chain.
Jun-46	Army Air Force 46th Squadron (Very Long Range) started Operation Nanook (first of the Peacetime Aerial Reconnaissance Program—PARPRO) flying modified B-29s from Ladd Air Force Base (AFB), Alaska. See Figure 3 in Appendix B; Ladd AFB is in Fairbanks, Alaska. The crews flew arctic exploration in competition with Soviet bombers to find land to claim on behalf of the US. Missions ended in mid-1949. Note: PARPRO began in 1946. This designation in most sources generally describes reconnaissance operations in international airspace for which no overflight permission was given by Service or national authorities. However, some authors do identify PARPRO with classified, highly sensitive overflight missions (e.g. Brugioni, 67-68).
Feb-47	The Soviets protested "multiple violations" of their airspace over Big Diomede Island. Another complaint was filed by the Soviet embassy in Washington in January 194.
Jun-47	Army Air Force 46th Squadron flew peripheral ELINT missions in modified B-29s from Ladd Air Force Base, AK until Aug 1947. The unit then operated in Germany until the end of September 1947. Their target areas were the Far East and Far West USSR respectively. Some missions were intercepted by Yak fighters in September 1947 (no incident).
Jul-47	Truman signed the National Security Act which created the CIA, DCI, and National Security Council (NSC). The CIA had no photo interpretation office until 1950.
Sep-47	Truman created the Air Force with Executive Order 9877. General Carl Spaatz was its first Chief of Staff, Stuart Simmington was the first Air Force Secretary.
Sep-47	Air Force 7499th Squadron began flying ELINT missions in modified B-17s from Germany. Their target was the Western USSR. The unit covertly participated in the Berlin Airlift (June 1948), during which they discovered new Soviet radar sites, but no new radar types.

Dates	Events (Includes organization and mission type where necessary)
Sep-47	US Navy launched weather reconnaissance tests under Project Skyhook, a balloon concept proof. The high-altitude polyethylene balloon carried new, multilayer film capable of withstanding the rigorous upper atmosphere. (Brugioni, *Eyes*, 138)
Aug-48	The Air Force's 72nd Reconnaissance Squadron (RS, formerly the 46th RS) flew peripheral photoreconnaissance of the Eastern and Northern Soviet Union from Alaska in modified B-29s using oblique cameras. It remains uncertain if the Soviets could detect every mission, but they expressed their frustration diplomatically that nothing could be done to stop the flights. The missions found no long-range bomber bases but did note an increase in general Soviet military activities. The 72nd RS flew some of the first air sampling missions. In 1950, the 72nd RS transferred to Europe. Note: PARPRO Closest Point of Approach (CPA) for these missions was usually limited to 40 miles (decided by Department of State and the Joint Chiefs of Staff in August 1948). (Tart & Keefe, 131)
Oct-48	Date is approximate. As General LeMay became the commander of SAC, he ordered overflights of the Northern Soviet Union. The 72nd RS flew the missions in modified B-29s from Alaska. Some crews reported MiG fighters present, but the fighters were unable to reach the reconnaissance aircraft. The crews exploited large holes in the Soviet northern air defense radar coverage.
Apr-49	The Air Force's Office of Atomic Testing and the 375th Weather Reconnaissance Squadron began strategic reconnaissance air sampling by WB-29s at the far Eastern Soviet Union periphery. In September, a modified B-29 off Kamchatka collected conclusive evidence of first Soviet atomic bomb. Truman announced the Soviet bomb on 23 September 1949.
Jun-49	Date is approximate. The Air Force's 324th RS flew ELINT missions in modified B-29s from Ladd AFB, Alaska. Beginning in July 1950, the squadron flew long-range sorties against the Far Eastern USSR all the way from Wrangel Island to the Kamchatka Peninsula. The crews collected intelligence against Soviet ships. The Soviets responded numerous times by recording diplomatic protests.
Jul-49	Date is approximate. The NSC recognized the political impact of peacetime reconnaissance by obtaining procedural concessions from SAC and the Air Force. Both agreed to coordinate schedules (type and frequency of reconnaissance missions) with the Department of State. (Lashmar, 33)
Jul-49	The Air Force and the Navy conduct coordinated ELINT and IMINT, flying modified B-29s and P-2Vs together from bases in Alaska against the Eastern USSR and the surrounding waters. Their missions are an examination of Soviet ships and air defenses.
Apr-50	The NSC publishes its NSC-68 order, which called for increased military spending and specifically ordered more reconnaissance against the Soviet Union and its orbiting bloc to determine Soviet military capabilities.
Apr-50	A Navy PB4Y-2 Privateer reconnaissance aircraft from VP-26's Detachment A was shot down over the Baltic Sea by two Soviet La-11s. Ten crew were missing in action. The Soviets claimed that it was a B-29 in their protest note of 11 April 1950. Soviet Foreign Minister Andrei Vishininsky protested to US Ambassador Alan Kirk that a "B-29 Flying Fortress" had violated Soviet airspace and "not only did not submit to this demand [to land] but opened fire on the Soviet planes." Note: This incident was seen as a major turning point in Soviet policy towards air defense. See the Alexander George 1955 RAND report "Overflights." The incident led to extremely strained Soviet-US relations. House Democratic leader Rep. John McCormick suggested the US should end diplomatic relations with the Soviets altogether. (Tart & Keefe, 15; Lashmar, 43)
May-50	The JCS encoded, and President Truman approved, the operating procedures for "ferret" ELINT missions. Dubbed the Special Electronic Airborne Search Project, or SESP, the JCS outlined special rules for operations in a Memo to the SECDEF and to the president: the CPA for the missions was set to 20 miles; flights must not deviate from or alter planned course for any reason other than safety; planes will continue to operate armed or unarmed in the Berlin and Vienna corridors. The Air Force and the US Navy split Europe into north-south areas of responsibility for reconnaissance. (See Lashmar, 45; Welzenbach & Pedlow)
Jun-50	President Truman approved the resumption of Air Force ELINT peripheral flights over the Baltic after the US Navy Privateer shoot-down in April.

Dates	Events (Includes organization and mission type where necessary)
Jan-51	Date is approximate. SAC RB-36s flew strategic reconnaissance from Sculthorpe, England over Novaya Zemlya. The Soviets file multiple diplomatic protests. (George; Lashmar, 30; Jackson, 56)
Feb-51	Though May 1969. The CIA flew strategic reconnaissance missions including SIGINT, IMINT, and leaflet drop from bases in Taiwan (Formosa) over the Chinese coastline, deep over the Chinese interior, Tibet, and North Vietnam. The aircraft involved included: C-46, C-47, B-17, C-54, B-25, B-24, B-26, P2V, U-2, C-123, and C-130s. The United States and the government of Taiwan received valuable intelligence about the operations, capabilities, limitations, and intent of the PRC, much of which informed President Nixon's 1972 visit. (Pocock, *Black Bats*; Schiffer 2010).
Apr-51	Truman approved overflight of China and parts of the USSR under the United Nations Forces in Korea Charter, which allowed him to consider both China and the USSR as "co-belligerents" in the fight. This began the Sensitive Intelligence, or SENSINT, missions. Some aircraft used for the missions were the RF-80, RF-86, and the RB-45C. (Temple, 28)
May-51	The Air Force's 91st Strategic Reconnaissance Squadron (SRS) and the Navy's VP-47 Squadron coordinated SENSINT missions over China and the USSR flying RB-45Cs, RB-29s, PBM-5s, PB4Y-2s, and P2Vs. Their target areas were the North Korea-China border the USSR eastern coastline and interior.
Nov-51	A Navy P2V assigned to VP-6 Squadron (under United Nations Command) on a weather reconnaissance mission from Atsugi Air Base, Japan, was shot down over the Sea of Japan. There were ten missing in action.
Apr-52	Date is approximate. President Truman and British Prime Minister Clement Atlee agreed on the formation of a "special duty flight" of the Royal Air Force (RAF). The US would provide RB-45C Tornados to the British, who would paint them in RAF colors and provide their crews. The two nations' intent was plausible deniability from both sides. The first missions flew in April 1952 from RAF Sculthorpe, were refueled in the air, and entered the Eastern USSR. The crews returned radar images for SAC's target folders. The unit was disbanded in June 1952, and reconstituted in April through May 1954.
Apr-52	Through June 1952. The Air Force and Navy flew coordinated missions from Shemya Island, Alaska using RB-50s, B-17s, and P2V-3W. The missions combine IMINT and ELINT to reconnoiter the eastern Soviet coast. Some missions were intercepted by Soviet MiG-15s.
Jun-52	Through December 1952. Date is approximate. The US Air Force and RAF flew cooperative overflight reconnaissance ELINT and IMINT missions using modified PR7 Canberras (a twin jet bomber) and RB-50s from Giebelstadt, Germany (RAF) and Thule, Greenland (USAF). Their targets are the Western USSR, the west side of the Ural Mountain chain, including Kapustin Yar. On one mission, a PR7 landed in Iran after being damaged by Soviet interceptors. RB-50 crews found no indications of Soviet airfields or threatening facilities during the overflights.
Jun-52	An Air Force RB-29 from the 91st SRS at Yakota Air Base, Japan, was shot down by MiG-15s over the Sea of Japan. There were twelve missing in action. (Tart & Keefe, 15)
Jul-52	A Navy PBM-5S2 on a patrol mission from VP-731 at Iwakuni, Japan was attacked by two Chinese MiG-15s over the Yellow Sea. Two crew members were killed. The aircraft made its way to land at Paengyong-do, Korea.
Oct-52	An Air Force RB-29 from the 91st SRS at Yakota Air Base, Japan, was shot down by LA-11s north of Hokkaido Island, Japan. There were seven missing in action and one confirmed dead. (Tart & Keefe, 15)
Oct-52	The Air Force began early use of the RB-47 from Eielson AFB, Alaska on overflights of the Eastern Soviet Union. The Soviets tried to intercept the reconnaissance jets, but failed. The Soviets fired their regional commander and strengthened their interceptor forces in the Far East. (Temple, 31)
Jan-53	A Navy P2V on a reconnaissance mission from VP-22 Squadron was shot down off Swatow Island in the Taiwan (Formosa) Straits by Chinese anti-aircraft fire. Rescue operations also met with hostilities from Chinese coastal guns. (Jackson, 46)

Dates	Events (Includes organization and mission type where necessary)
Jul-53	An Air Force RF-86F of the 15th Tactical Reconnaissance Squadron (TRS) in South Korea flew the last reconnaissance overflight tied to the UN Forces in Korea Charter. Its mission was to photograph fighter forces in the Eastern Soviet Union. Sporadic overflights were continued by the 15th TRS into the following year.
Jul-53	8 and 21 July. Two Navy P2V-5 reconnaissance aircraft from VP-1 Squadron were fired upon by Chinese air defenses in the Formosa (Taiwan) Strait. No damage to the aircraft or crews.
Jul-53	An Air Force 343rd SRS RB-50 on an ELINT mission was shot down over the Sea of Japan by two Soviet MiG-15s. One crew member survived, thirteen were missing in action, and three were killed. The State Department presented the Soviets with a bill for $2,785,492.94, presumed to be for the replacement of the aircraft and compensation for the families of those lost. The Soviets countered with a bill for $1,861,450.00 for a Soviet Il-12 transport shot down by an American F-86 on the last day of the Korean War while jutting across North Korea on its way to Vladivostok. The Department of Defense decided to protect future ELINT RB-50 missions with F-86 escort, but two aircraft were lost in 1954 during similar operations, a Navy P2V on 4 September 1954 and an Air Force RB-29 on 7 September 1954. (Jackson, 88-89; Tart & Keefe, 16)
Oct-53	A Navy PBM-5 on a training mission was damaged during attacks by two Chinese MiGs over the Yellow Sea.
May-54	A SAC 91st SRW RB-47 from Fairford, England was attacked by MiG-17s on its way over the Northern USSR. A gun battle ensued between the interceptors and the B-47's tail gunner, so the crew and aircraft survived.
Jun-54	Kelly Johnson received word from US Air Force Headquarters that his CL-282 (U-2) design was rejected after presented to Air Research and Development Command and SAC leadership. Instead, the Air Force decided to modify the Martin B-57 for dedicated reconnaissance missions, designating them RB-57s under Project "Lightweight" and later "Heartthrob." RB-57s were initially based at the 6007th Reconnaissance Group at Yakota AFB, Japan, and at the 7499th Support Group at Wiesbaden Germany, which was home to SAC's 4080th Strategic Reconnaissance Wing. SAC's RB-57s flew SENSINT missions over China and the Soviet Union in late 1956 followed quickly by Soviet protests. (Kelly Johnson Papers, 7 June 1954; also see Pocock, *Unknown*, 14)
Sep-54	A Navy P2V-5 reconnaissance aircraft from VP-19 Squadron at Atsugi, Japan, ditched in the Sea of Japan 40 miles off the Siberian coast after being attacked by two Soviet MiG-15s. One crewman died. The others were rescued by Air Force aircraft.
Sep-54	Through May 1955 in an operation dubbed Project Seashore. US Air Force and RAF RB-45Cs, RF-100 "Slick Chicks," and RB-47 E/H aircraft flew tactical and strategic reconnaissance missions against the Northern Soviet Union along the Bering Strait, and over Czechoslovakia, Poland, and the Baltic states from bases in England, Alaska, and Germany. The Soviets sent multiple diplomatic protests to the American Embassy in Moscow.
Nov-54	Date is approximate. The Air Force's 10th and 66th Tactical Reconnaissance Wings flew night photoreconnaissance missions from Spangdahlem, Germany and Laon, France using RB-57As. Their targets were NATO fronts along Eastern Bloc border areas. By 1958, both units had relinquished the aircraft in favor of the RB-66D and RF-101A Voodoos due in part to the RB-57A's high accident rate. RB-57As were transferred to the Air National Guard where they remained until the mid 1970s.
Nov-54	Eisenhower approved the initial Cl-282 (U-2) development for clandestine overflights of the USSR controlled by the CIA. CIA Director Alan Dulles, Secretary of State John F. Dulles, and Secretary of Defense Charles Wilson are in the room when Eisenhower gives the go-ahead. Absolute secrecy was emphasized as the president understood the craft would be used for overflight while the opportunity existed (before Soviet air defenses were able to intercept it). The CIA designated the project "Aquatone," and later "Chalice." (Pocock, 18; Kelly Johnson Papers, 19 November 1954)
Apr-55	A SAC 55the Strategic Reconnaissance Wing (Detachment Japan) RB-47 on a strategic reconnaissance mission was shot down off the coast of the Kamchatka Peninsula by MiG-17s. Three missing in action. (Tart & Keefe, 16)

Dates	Events (Includes organization and mission type where necessary)
Feb-55	A Navy P2V on a reconnaissance mission sustained damage after being fired upon by Chinese coastal defenses while over the Formosa (Taiwan) Strait.
Jun-55	Date is approximate. The Air Force flew Project Heart Throb, a series of strategic reconnaissance missions flown by RB-57As from Japan and South Korea over the interior of China and the Eastern Soviet Union. The Soviets file multiple protests. SAC replaced the airplane with RB-57Ds and trained Taiwanese pilots to fly the A model. Pilots wore a full pressure suit.
Jun-55	Date is approximate. The Air Force's 7406 Support Squadron, Detachment 1, of the 6911th Radio Group Mobile, of the Air Force Security Service (USAFSS) began flying C-130s and RB-50s from Rhein Mein Air Base in Germany. The ELINT missions covered an area from the Baltic Sea to Soviet Armenia using a variety of aircraft and lasted throughout the early Cold War.
Jun-55	A navy P2V-5 from VP-9 Squadron at Kodiak, Alaska on a reconnaissance mission was attacked by two Soviet MiG-15s and crash landed on St. Lawrence Island in the Bering Sea. Ten of eleven crew members were injured but survived.
Jul-55	Eisenhower proposed Open Skies at the Geneva Four Power Summit. Soviet Premier Khrushchev rejected the proposal as simply America "trying to look into our bedrooms." (Brugioni, *Eyes*, 133; Goodpaster Papers, Memo of 24 Jul 1955)
Nov-55	Ecuador invoked the 1947 Rio Treaty to request third-party air monitoring of the Peru-Ecuador border. A multilateral force from the United States, Argentina, Brazil, and Chile, flew missions along the border and confirmed that there was no buildup on the border of Peruvian troops.
Jan-56	Through November 1956. SAC's RF-100 "Slick Chicks" flew from bases in Europe and the Pacific on overflights of the Western Soviet bloc nations and far Eastern Soviet Union. Crews discovered high densities of air defense radars in the Eastern Bloc nations. The Soviets flew multiple intercepts and filed diplomatic protests.
Jan-56	Date is approximate. The Air Force and CIA cooperated to begin Operation Gentrix, a high-altitude balloon reconnaissance overflight project aimed at the interior of the Soviet Union, China, and the Eastern Bloc nations. Gentrix's cover story was meteorological research. Balloons were released from England, Europe, Turkey, Scotland, Germany, Norway, and multiple aircraft carriers. Only 47 of 516 were recovered. On 5 February 1956, the Soviets made protests to balloon incursions claiming they violated Soviet sovereignty and accused the US of seeking the brink of war. When the Soviets put the balloons on display to the press, the matter threatened the credibility of the US government. Albania, Czechoslovakia, Hungary, and Rumania also protested balloon overflights. The Chinese protested and placed balloons and their equipment and photos on display for the international press in Beijing. Eisenhower decided to terminate the project in March 1956, saying the intelligence gain was not worth the diplomatic heartache and risk, nor the credibility of the US government. The balloons produced information on only two Soviet installations and no long-range bombers were imaged. (Brugioni, 137-45, says 47 balloons were recovered; Tart & Keefe, 135, says only 44 were recovered) Note: Project Moby Dick also was a balloon program for overflight in July 1958. The project was a failure after Polish and Soviet authorities put the balloons on display and protested their intrusion to President Eisenhower. (Pocock, *Unknown*, 131)
Mar-56	Through May 1956. SAC executed Project Home Run, which flew RB-47s from Thule, Greenland, on 156 overflights of the Northern USSR from the Kola Peninsula to the Bering Strait. The Soviets protested by demarche—possibly embarrassed that their air defenses could not keep the planes out. Eisenhower used the protest to attempt to move the Soviets in a peaceful direction, writing to their foreign office, "Navigational difficulties in the Arctic region may have caused unintentional violations of Soviet airspace, which, if they in fact had occurred, the U.S. State Department regretted." (Tart & Keefe, 136-37)
Mar-56	Through 1964. SAC's 4080th Strategic Reconnaissance Wing and 7407th Combat Support Wing flew ELINT, IMINT, and air sampling missions in RB-57Ds (and two RB-57F special ELINT aircraft from Rhein Main in 1963) from Yakota Air Base, Japan, Eielson AFB, Alaska, and Rhein Main Air Base, Germany. Their target areas were the far Eastern Soviet Union, the German border, the Baltic states, and some overflew China. (Jackson, 100)

Dates	Events (Includes organization and mission type where necessary)
May-56	British Prime Minister Sir Anthony Eden withdrew permission for UK-based U-2 overflights of the USSR. In response, the CIA moved its U-2 Detachment A from Lakenheath, England to Wiesbaden, Germany. German Chancellor Konrad Adenauer was supportive of U-2 overflights of the USSR from German soil. Turkish Prime Minister Adnan Menderes also approved U-2 Soviet overflights from an airbase in Incirlik, Turkey. (Pocock, *Unknown*, 54-55; Pedlow & Welzenback, 97)
Jun-56	Thru May 1960. The CIA, supported by Air Force film development and other support, began flying the U-2 on peripheral and overflight missions to collect IMINT, SIGINT, and air samples. RAF pilots also flew in the program. U-2s flew from bases in Turkey, Germany, Pakistan, Alaska, Philippines, Japan, Argentina, and Norway against targets in the interior of the Soviet Union, Eastern Bloc nations, China, and others as demanded by national authorities. There were multiple diplomatic protests, which initially indicated air defense capabilities and the lack of stealth by the U-2. The Soviets at first protested in secret until they were able to shoot down a U-2 overflight on 1 May 1960. Eisenhower was embarrassed and the USSR used the incident for domestic and international propaganda.
Aug-56	Suez Crisis, through December 1956. CIA U-2s, tasked by President Eisenhower, flew from Wiesbaden, Germany and Incirlik, Turkey. Their target areas were the Suez Canal, Egypt, Israel, Syria, Jordan, Lebanon, Malta, and Cyprus. The missions reported on British, French, and Israeli troop buildups and their eventual attack on Egypt. The CIA initially shared imagery with the British and German governments. The war began on 29 October and lasted until Britain, France, and Israel withdrew during late November when their forces were gradually replaced by UN Peacekeepers. Despite British, French, and Israeli attempts to keep their plans to topple Nasser a secret, Eisenhower knew most of their movements—and hence could speculate on the greater truth—through the U-2 missions. He was able to navigate the crisis successfully due in large part to this awareness, including emerging on good grounds with Britain and France, keep America out of the crisis, and prevent Soviet exploitation of the events.
Aug-56	A Navy P4M-1Q on a reconnaissance missions from VQ-1 Squadron at Iwakuni, Japan disappeared after reporting an attack by hostile aircraft 32 miles off the Chinese coast. Wreckage and one body were recovered by the USS Dennis J. Buckley (DDR 808).
Sep-56	An Air Force RB-50 from the 6924th Radio Squadron Mobile, Detachment 1 on a reconnaissance mission from Shiroi Air Base, Japan disappeared over Sea of Japan (possible typhoon crash, but some sources say the craft was shot down). There were sixteen missing in action. (Tart & Keefe, 16)
Nov-56	United Nations Emergency Force (UNEF I) flew helicopters and light aircraft over the international boundaries of the Sinai Peninsula to monitor the peace following the 1956 invasion of Egypt and the Suez Canal by Israeli, French, and British forces. Aerial inspections were coordinated with ground checkpoints and patrols.
Oct-57	Sputnik 1 orbited the Earth as the first artificial satellite.
May-58	Through today. SAC's (later Air Combat Command) 55th Strategic Reconnaissance Wing (combined with the 26 SRW in 1958) flew—and flies—reconnaissance around the globe. Aircraft types include overflight in different models of the RB-47 and peripheral SIGINT in the RC-135. By December 1966, the unit flew only the RC-135 aircraft, primarily from Alaska, and also deployed them around the world including England, Greece, the Middle East, Japan and others. Target areas were initially Soviet Kamchatka and Petropavlovsk areas, and then multiple nations and target areas worldwide depending on the political situation. There have been multiple diplomatic and air defense responses over the years and negotiations for basing have always been sensitive and sometimes contentious.
Sep-58	An Air Force C-130 from 7406 Support Squadron's Detachment 1, 6911 Radio Group Mobile of the Air Force Security Service (USAFSS) flew an ELINT mission from Rhein Mein Air Base, Germany. Its mission was to fly from the Baltic Sea to Soviet Armenia, but it was shot down over Armenia during an inadvertent overflight. Six were killed in action, eleven were missing. (Tart & Keefe, 16)
Sep-60	Date is approximate. The CIA began U-2 overflight of Cuba following Fidel Castro's consolidation of power as Prime Minister in February 1959.

Dates	Events (Includes organization and mission type where necessary)
Jun-59	A Navy P4M-1Q from VQ-1 on a reconnaissance mission was attacked over the Sea of Japan 50 miles east of the Korean demilitarized zone (DMZ) by two North Korean MiGs. The aircraft made it safely to Miho Air Force Base, Japan.
Feb-60	The CIA contracted with Kelly Johnson's Skunkworks to produce twelve A-12 Oxcarts. (Pocock, 162)
May-60	A CIA U-2 on an overflight mission of the USSR from Peshawar, Pakistan, was shot down by Soviet SA-2 surface-to-air missiles. Its target area was the interior of the Soviet Union followed by a landing in Norway. The incident ended U-2 overflights of the Soviet Union now that it was obvious the Soviets had missiles that could reach the jet. The event had widespread diplomatic consequences including the collapse of an East-West Paris summit that was to be held two weeks later, an embarrassment for President Eisenhower who was caught in a cover up by the American people, and the emboldening of Soviet leadership after they revealed pictures of the wreckage and the pilot, Francis Gary Powers. Powers and others were dragged through a propagandistic trial in front of the international press that challenged American foreign policy and credibility. Powers was later traded for the Soviet spy Rudolph Abel (Colonel Vilyam Fisher) on 10 February 1962 in Berlin, Germany.
Jun-60	Through October 1960. The Navy and the National Security Agency collect signals from space using a space reconnaissance satellite named Galactic Radiation and Background (GRAB—the name obviously was meant to support its cover story). The satellite collected ELINT of Soviet radars and emissions to inform SAC bomber target dossiers.
Jul-60	An Air Force RB-47 was shot down over the Barents Sea in international waters. Two crew members survived, Lieutenants John McKone and Freeman Olmstead, one crew member was killed in action, and three were missing. The Soviets, in a note to President Eisenhower, called the mission an overflight and attacked his credibility since Eisenhower had promised that no further overflights would be ordered after the May 1960 U-2 incident. The Soviets also threatened the other nations who allowed American reconnaissance planes to operate from their soil. In a heated confrontation at the United Nation over the incident, US Ambassador Henry Cabot Lodge argued the aircraft was probably never closer than 30 miles to the Soviet coast, and that the Soviets were hypocrites since they also conducted close aerial reconnaissance off the coast of Alaska. The US never shot down a Soviet reconnaissance aircraft.
Aug-60	Through 1972. The CIA and the Air Force executed the Corona reconnaissance satellite program. In August 1960, Discoverer XIII was successfully launched and its payload recovered unharmed. The program photographed Soviet ballistic and defensive missile capability and multiple other nations' military and security infrastructures. The Corona program imaged more area on its first mission than all the U-2 flights combined to date. Corona intelligence was be used for multiple diplomatic purposes throughout its operational life including arms monitoring, radar and missile location and evaluation, determination for Soviet and Chinese force structure, and to monitor wars in the Middle East, Far East, and Southeast Asia. In total 121 satellites were launched. (Brugioni, *Eyes*, 393)
Sep-61	The Kennedy administration created the National Reconnaissance Office and charged it with managing the ever-increasing number of national reconnaissance systems, namely budding satellite reconnaissance systems. During its years in the aerial reconnaissance business (until 1974), it integrated with the CIA and Air Force for the development and execution of multiple programs, including part of the U-2, SR-71, and many UAV programs. (See Ehrhard, *UAVs*, 5)
Jun-62	Date is approximate. The CIA flew U-2s from bases in India over targets in China, Tibet, and the China-Tibet border. The imagery was used to brief Indian Prime Minister Nehru on the status of Chinese border incursions. Unfortunately, the pictures showed that Nehru's border outposts had been decimated. Other missions were flown in December 1964.
Aug-62	CIA U-2 overflights of Cuba returned with photographic evidence of SA-2 missiles being built on the island. President Kennedy ordered the overflights stepped up, but by SAC pilots rather than CIA pilots.
Oct-62	Air Force RF-101s from the 363 Tactical Reconnaissance Wing and Navy and Marine RF-8As flew low-level reconnaissance sorties over Cuba from bases in Florida and the Southern US. Their targets were Cuban SAM sites and M/IRBM sites under construction. RF-101 sorties informed SAC's target folders for Cuba, which were airborne with crews aboard 24/7 during the crisis. Crews also pulled ground alert in B-47s and B-52s. SAC also deployed RB-47s from the 55th SRW to search for Soviet shipping entering the Caribbean Sea.

Dates	Events (Includes organization and mission type where necessary)
Oct-62	SAC's 4080th SRW U-2s overflew Cuba from Texas and Florida. One of the jets overflew San Cristobal, Cuba revealing that the Soviets were placing SS-4 and SS-5 medium- and intermediate-range ballistic missiles at the site. President Kennedy ordered more reconnaissance flights and on 22 October revealed the intelligence to the American public. He described the details of a naval blockade combined with air reconnaissance and diplomatic engagement of the Soviets and Cubans. On 28 October, Premier Khrushchev agreed to withdrawal all the offensive missiles, subject to UN verification. SAC RB-47s, U-2s, and other reconnaissance aircraft maintained continuing watch over the Island.
Oct-62	A SAC 4080th SRW U-2 launched from Alaska on a scientific reconnaissance mission to the North Pole to measure upper atmosphere radiation. The airplane strayed into Soviet airspace during thick undercast conditions and US radar sites in Alaska alerted the pilot that Soviet fighters were scrambling to intercept him. The pilot turned around, and a flight of Convair F-102s assisted the U-2 and escorted him back to Alaska. The entire incident took place during the tensest moments of the Cold War, in the middle of the Cuban Missile Crisis with US forces at DEFCON 2.
Jun-63	The United Nations Security Council established the UN Yemen Observation Mission (UNYOM) based in the demilitarized zone on the Saudi-Yemeni border. UNYOM's purpose was to observe and report on a fragile peace in that region between Yemeni forces and opposing factions supported by the Egyptians and Saudis. UNYOM flew light aircraft daily in coordination with ground checkpoints and patrols. The operation was highly dependent on aerial reconnaissance due to the mountainous terrain there.
Jun-64	Through today. The Navy's VQ-1 and VQ-2 Squadrons flew—and fly—reconnaissance missions around the globe in the EP-3-series aircraft. The missions initially flew from Guam and Spain, but currently fly from multiple bases in Japan, Europe, Middle East, and North America. Their target areas included contingency hot spots as diplomatic situations required, and standard patrolling in the Pacific rim, Mediterranean, and Arabian Gulf.
Aug-64	Through mid-1966. SAC (usually with presidential oversight) conducted overflights with the Ryan 147B Lightening Bug UAV under Operation Blue Springs from Kadena Air Base, Japan. Its target area was mainland China to determine various orders of battle including China's nascent nuclear weapons program. China detonated its first nuclear device in October 1964. China was able to shoot down some sorties, but little became of the incidents in diplomatic exchange or in the press. e.g. When a 147B was shot down in November 1964, the incident appeared in the New York Times and the article conveyed Chinese statements, but the US responded that it was "baffled" by the accusation. (Ehrhard, *UAVs*, 9)
Oct-64	Through December 1976. Dates are approximate. SAC's 350th Special Reconnaissance Squadron flew Ryan 147-series UAVs from Bein Hoa Air Base in South Vietnam, and then from U-Tapao, Thailand. The UAVs target areas were initially China, but later included North Vietnam, Laos, and Cambodia (after 1967). The missions conducted IMINT, SIGINT, and also dropped pamphlets. Note: The Ryan 147-series numbered 22 different mission configurations.
Dec-65	An Air Force RB-57 disappeared over the Black Sea. Two crew members were missing. (Tart & Keefe, 16)
May-67	The CIA first deployed the A-12 Oxcart to Kadena Air Base, Japan. Their targets were ballistic missile sites in Hanoi. The A-12 flew many more missions over North Vietnam and, in spring 1968, North Korea. (Crickmore, *Far East*, 19-20)
Jun-67	The CIA's Corona satellites image the events of the 1967 Arab-Israeli war. There was some difficulty in orienting the satellite on orbit to overfly the target area and some challenges in retrieving the film canisters. The imagery played its diplomatic part, however, by confirming Israeli claims of extensive damage from their air attacks against Syria, Jordan, and Egypt. (Ruffner, *Corona*, 37)
Jan-68	On orders from President Johnson, The CIA's A-12 at Kadena Air Base, Japan, overflew North Korea in response to the 23 January seizure of the USS *Pueblo* and the internment of her crew. Three sorties were flown to gather intelligence on the status of North Korean military might and political intent had negotiations to secure the release of the ship and the crew failed. The final flight, on 6 May, would be the last flight of the CIA's A-12 program. (Crickmore, *Far East*, 21-22)

Dates	Events (Includes organization and mission type where necessary)
Mar-68	Through 1990. The Air Force 1st and 99th Strategic Reconnaissance Squadrons flew the SR-71 around the globe. The aircraft and crews first arrived in Kadena Air Base, Japan, in March 1968 to succeed the A-12 mission in the Far East. The crews were rotated from the 1st and 99th at Beale Air Force Base, California, to detachments worldwide. In March 1971, the 99th SRS was deactivated and its aircraft and pilots transferred to the 1st SRS. The SR-71's target areas included North Vietnam and the Korean DMZ, Laos, and Thailand during the Vietnam war until 1975, then included multiple contingencies in the Pacific, North Korea, as well as the far eastern coastline of the Soviet Union.
May-68	Through December 1974. SAC U-2s flew from U-Tapao, Thailand, over target areas in Vietnam to support the Vietnam war. Missions included SIGINT coverage of Chinese inland facilities.
Nov-68	Through 1974. Dates are approximate. The CIA, cooperatively with the Air Force support, overflew China using U-2s from Taiwan with Nationalist pilots aboard. The missions ended after President Nixon's 1972 goodwill visit to China. Five missions were shot down by the Chinese and many Taiwanese pilots were captured, tortured, and killed.
Apr-69	A Navy EC-121 from VQ-1 at Atsugi Air Base, Japan, on a SIGINT mission over the Sea of Japan was shot down 90 miles off the North Korean coast by North Korean fighters. Its target area was the Korean Peninsula south of Chongjin. 31 crew members were killed.
Nov-69	Through March 1971. SAC, with NSC oversight, attempted to fly D-21B UAVs over mainland China to investigate China's nuclear program sites. Four missions were flown with none being operationally effective. Preparations for President Nixon's visit to China and generational improvements in satellite reconnaissance systems precluded further need for D-21 overflights by mid 1971. During Nixon's 1972 visit, he gave assurances to China that the US would discontinue overflights.
Feb-70	A Navy Ryan 147SK UAV inadvertently landed in China after straying from a planned mission over North Vietnam. Operators of the UAV were aboard an E-2 Hawkeye and lost the drone's beacon. The aircraft ran out of fuel and landed under its parachute on Hainan Island. (NARA, SN 70-73, Pol Chicom-US)
Aug-70	Through today. The CIA, and then the Air Force as a State Department mission, flew U-2s from Cyprus to monitor the cease-fire (treaty) zones between the Egyptians and Israelis—the Sinai Peninsula, Golan Heights, the Gaza strip, and other areas of Eastern Egypt, Syria, and Jordan. The operation is named Olive Harvest.
Jun-70	Through June 1975. Date is approximate. SAC flew SIGINT mission using a Ryan 147(B)TE Combat Dawn UAV from Osan Air Base, South Korea. The aircraft flew in international airspace against radars in China, North Korea, and the Soviet Union. By 1975, the Combat Dawn-type UAVs met their demise largely due to competition from satellite reconnaissance. By then, satellites had data links to download imagery and SIGINT data in near-real-time. (See Ehrhard, *UAVs*, 12)
Sep-71	A SAC SR-71 launched from Kadena Air Base, Japan. Its target was North Vietnam but the crew continued northeast over an ongoing Soviet naval exercise in the Sea of Japan (near Vladivostok). The mission collected the first ever signals of the SA-5 Gammon surface-to-air missile system.
May-72	SAC SR-71s from Kadena Air Base, Japan, were tasked with three special missions. Their target was the Hanoi Hilton, a prison in North Vietnam. Each flight created a double sonic-boom at a specific time over the prison so the American prisoners and their captors heard it clearly. It remains unknown exactly what the sonic-booms were signaling. (Crickmore, *Far East*, 51-52).
Oct-73	SAC SR-71s launched from Griffiss AFB, New York, and flew half way around the world to target areas over the Middle East crisis. The missions determined the position and status of opposing Arab-Israeli forces (and Soviet equipment). Intelligence from the missions was shared with Israel to their military benefit. The sorties also complemented satellite reconnaissance. In January 1974, SR-71 imagery shown at the peace negotiations confirmed that opposing sides were, in fact, pulling back their troops. A total of nine missions were flown from October 1973 to April 1974, refueling up to ten times between New York, the Eastern Mediterranean, and back again.

Note: Following this conflict, Secretary of State Kissinger arranged for U-2 air monitoring over the area to confirm that neither side was preparing for further surprise attack. The missions continue today as part of the Olive Harvest program. |

Dates	Events (Includes organization and mission type where necessary)
Jun-74	The CIA ceased its U-2 program. All U-2 operations were flown by the Air Force after this date and continues to be the case today.
Oct-74	The National Reconnaissance Office divested itself of all aerial reconnaissance aircraft, including the SR-71, U-2, and drone operations under "Program D". It transfered all remaining aerial assets to the Air Force. Informing this decision was the rising cost of satellite reconnaissance, the end of the Vietnam War, and the end of China aerial overflights between 1971 and 1972. (Ehrhard, *UAVs*, 31)
May-75	SAC SR-71s from Kadena Air Base, Japan, image targets at Koah Tang, near Cambodia, where a battle had raged between a US rescue party and Khmer Rouge troops after the later had seized the USS *Mayaguez* on 12 May. Fifteen US soldiers were killed and the photographs of the battle area were provided to President Nixon.
Jun-76	Through today. The Air Force consolidated all U-2s under SAC's 9th Strategic Reconnaissance Wing, later Air Combat Command's 9th Reconnaissance Wing. U-2s flew (and continue to fly) multi-INT missions around the world, primarily from bases in the UK, Greece, Alaska, the Middle East, Japan, and Korea. They have also been heavily tasked for contingencies such as Operations Southern Watch, Enduring Freedom, and Iraqi Freedom.
May-77	Through March 1979. The Air Force, with oversight by the Joint Chiefs of Staff, seasonally deployed SAC SR-71s to Europe (usually in the Spring and Autumn), at Mildenhall Air Base, England. Their reconnaissance targets were Soviet submarine bases near Murmansk on the Kola Peninsula, Barents Sea coastal facilities, and the Baltic states. Note: Many of these missions were flown in coordination with RC-135 SIGINT aircraft also stationed at Mildenhall Air Base in England. It was not uncommon for the RC-135 aircraft to experience intercepts until the SR-71 entered the area.
Feb-78	Through July 1980. The Joint Chiefs of Staff decided to prepare for SAC SR-71 operations from the atoll island of Diego Garcia in the Indian Ocean. Spurred by a Somali-Ethiopia dispute in 1977, the capability to fly from the island was exercised on 1 July 1980. Possible targets included the coastal areas of the Indian Ocean, Iran, Africa and Southwest Asia, but operational sorties from the atoll were never flown.
Mar-79	The Joint Chiefs of Staff and the Department of State authorized SR-71 missions from Mildenhall Air Base, England over the North-South Yemen border following a South Yemeni attack into North Yemen on 24 February 1979. One aircraft was deployed and one sortie flown. France denied overflight for the missions, but Spain allowed air refueling support to be launched from Terrajon Air Base near Madrid. Note: The government of Saudi Arabia requested one SR-71 reconnaissance flight through the Defense Intelligence Agency during the crisis and results from the mission were shared with the Saudi government, but specifics on the flight could not be found. North and South Yemen more-or-less honored a cease-fire signed on 3 March 1979.
Mar-79	Through January 1990. SAC operated SR-71s from Mildenhall Air Base in England as a semi-permanent unit named Detachment 4. Their target areas were usually the Western and Northern Soviet Union, Eastern Bloc nations, the Baltic states, the Barents Sea, and numerous contingency operations such as Libya in 1986.
Feb-80	SAC flew SR-71s from Kadena Air Base, Japan over Kampuchea (Cambodia) at the request of the Thai government following Vietnam's invasion of Kampuchea in January 1979. Five sorties flew over the area and the results shared with the government of Thailand through the US Embassy in Bangkok. The images showed no significant build-up along the Vietnam-Thailand border.
Nov-80	SAC flew SR-71s from Kadena Air Base, Japan over Cambodia looking for evidence of missing American service members from the Vietnam war—a continued concern for the US leadership after the war. Numerous sorties were flown, but no evidence was discovered in the photographs that produced missing US personnel.

Dates	Events (Includes organization and mission type where necessary)
Aug-81	SAC's SR-71s at Kadena Air Base, Japan, flew peripheral reconnaissance missions along the Korean DMZ searching for suspected missile sites and acquiring ELINT cuts from North Korean defenses. On one mission, SR-71 number 976 was fired upon by a North Korean SA-2. The missile missed, but the incident enraged President Ronald Reagan, Secretary of Defense Casper Weinberger, and the rest of the National Security Council. The Reagan administration denounced the act, but Kim Il Sung's government denied the action. Later tracks over the DMZ were moved "further south." In October, President Reagan approved precisely timed SR-71 DMZ missions, on their normal track, with F-4G Wild Weasel air support should North Korea try another missile attack. The North Koreans never attacked another SR-71. (Crickmore, *Far East*, 78)
Apr-82	Royal Air Force Number 57, 120, 201, and 206 Squadrons flew Victor K-2 and Nimrod R-1P reconnaissance aircraft from Wideawake Air Base on Ascension Island over target areas in the Falkland Islands off the Argentine coast. The missions were in response to Argentina's invasion of the Falklands. The crews flew over fourteen hours daily to provide Prime Minister Margaret Thatcher with regular imagery and SIGNIT reports of Argentine troop locations and intent.
Sep-83	After a SAC RC-135, launched from Alaska, departed its orbit area just off the USSR's Sakhalin Island over the Sea of Okhotsk, Korean Airlines Flight 007 (a Boeing 747) entered the same airspace and wandered near Petropavlovsk Naval Base on its way to Soul, South Korea. Soviet Su-15s responded and destroyed the airplane. The Soviets argued that the civilian airliner was on a spy mission, but the likelihood is that the radar controllers confused the airliner with the RC-135 Cobra Ball that had just left the same airspace.
Jul-84	SAC SR-71s from Mildenhall Air Base, England, overflew Syrian and Israeli armies in Lebanon as well as Islamic Jihad warriors there. The imagery was shown to the National Security Council. President Ronald Reagan had approved the overflights after terrorists bombed the US Marine barracks in Beirut, Lebanon, and other targets between April and November 1983.
Apr-86	SAC SR-71s from Mildenhall, England, overflew the northern coast of Libya for battle damage assessment after a combined attack on Libyan airfields, command and control stations, and leadership during Operation Eldorado Canyon. France and Spain denied overflight for the missions. Due to poor weather and mechanical failure, three total missions were flown over the Libyan coast on 15 April and 16 April. On 27, 28, and 30 August 1987, SR-71s from Mildenhall overflew Libya to confirm that Libya did not, in fact, receive MiG-29 Fulcrums from the Soviets as Ghadaffi had claimed.
Jul-87	Through April 1988. SAC SR-71s from Kadena Air Base, Japan, overflew targets in the Arabian Gulf region following an Iraqi attack on the USS *Stark*. The missions were requested specifically by President Reagan and discovered the presence of Chinese "Silkworm" missiles in Iran.
Dec-88	Pan Am Flight 103 was destroyed over Scotland by a terrorist bomb hidden in luggage in the cargo bay.
Aug-90	SAC U-2s based in Taif, Saudi Arabia, overflew Iraqi military positions and activities in occupied Kuwait and Southern Iraq. Although coverage was not perfect, the U-2s provided President Bush, the NSC and the military services with the only available and responsive aerial reconnaissance. By this time, the SR-71s had been retired and the only available RF-4s belonged to the Air National Guard. Satellite reconnaissance also was employed extensively during the conflict, named Operations Desert Shield and Desert Storm.
Nov-93	Through mid-1998. The Defense Airborne Reconnaissance Office (DARO) operated under the secretary of defense. Its charge was to centrally develop, acquire, and manage all the services' aerial reconnaissance assets to (1) bypass services' parochial interests and (2) centralize aerial (mostly UAV) development and acquisition under a single organization with congressional oversight. The office closed in 1998 after it failed to produce very few new weapon systems.

Note: One of DARO's programs, the RQ-1A Predator, continued to operational deployment with the US Army until the Air Force took it over in 1994 and continues its employment today for medium-altitude, mostly battlefield reconnaissance. The Predator has seen service in the Balkans, Arabian Gulf region, Iraq, Afghanistan and numerous other smaller operations. Its next-generation sibling, the MQ-9 Reaper, also continues service today. (See Ehrhard, *UAVs*) |

Dates	Events (Includes organization and mission type where necessary)
Oct-98	Through today. The Air Force took control of the RQ-4 Global Hawk program after DARO's demise. The high-altitude autonomous UAV was first deployed for reconnaissance over Afghanistan following terrorist attacks in the United States on September 11, 2001. Since then, the RQ-4B model has seen program growth into the Block 30 and 40 aircraft (different combinations of SIGINT and IMINT) and the Navy's Broad Area Maritime Surveillance (BAMS) modification. The program's first foray into peacetime reconnaissance came in 2009 when ACC's 9th RW Detachment at Anderson Air Force Base, Guam, began flying RQ-4s over international waters against multiple targets in the Pacific Ocean, Indian Ocean, and Middle East.
Apr-01	A Navy EP-3 on a SIGINT mission from VQ-1's detachment on Kadena Air Base, Japan, made an emergency landing onto Hainan Island, China, after colliding with a Chinese F-8 interceptor. The crew returned after eleven days, intense negotiations, and an American apology. The aircraft was returned in pieces. The incident compelled the US and China to negotiate amidst strong domestic passions on both sides

Appendix B: Maps and Illustrations

Figure 1: The USSR during the Cold War. Many of the regions discussed in this study are labeled. (Source: Lashmar, *Spy Flights*, preface.)

Figure 2: A view of the Northern Hemisphere from the North Pole. Many early reconnaissance missions were flown in and around the Arctic. (Source: Lashmar, *Spy Flights*, 24.)
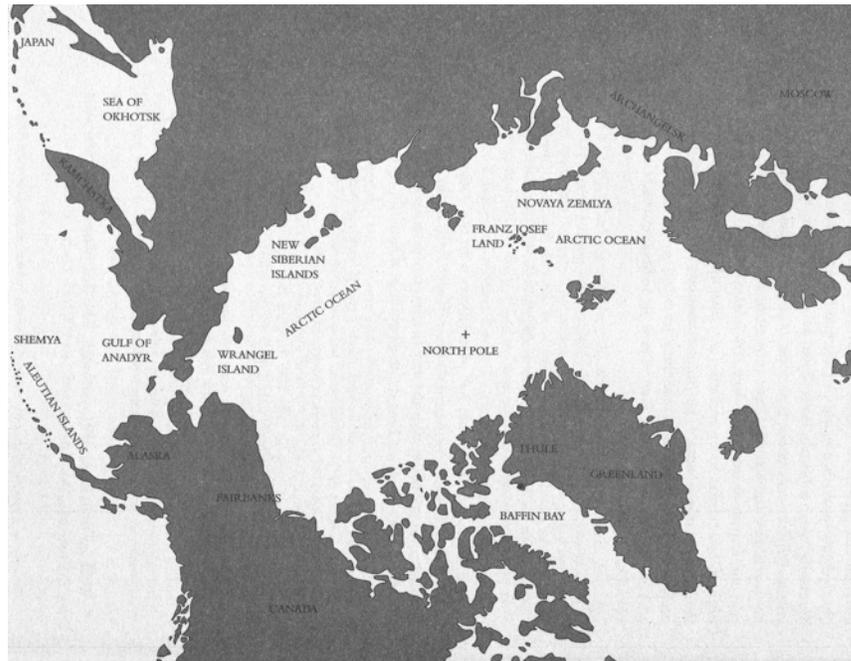
Figure 3: An example of air bases in North America circa 1963. Bases commonly used by aerial reconnaissance are underlined in blue. Ladd airfield is near Eielson AFB, AK. (Source: courtesy of STRATCOM History Office.)
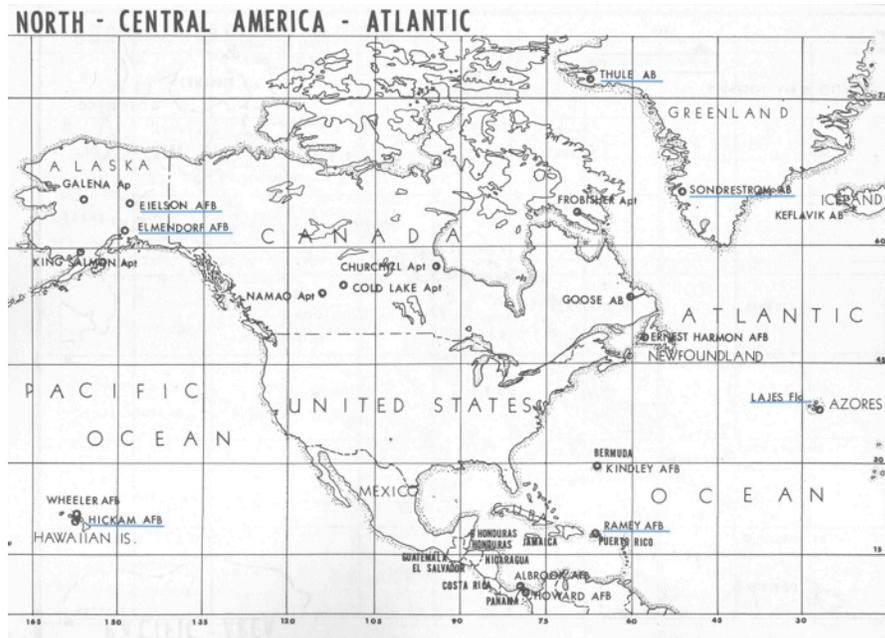
Figure 4: An example of air bases in the Pacific circa 1963. (Source: courtesy of STRATCOM History Office.)
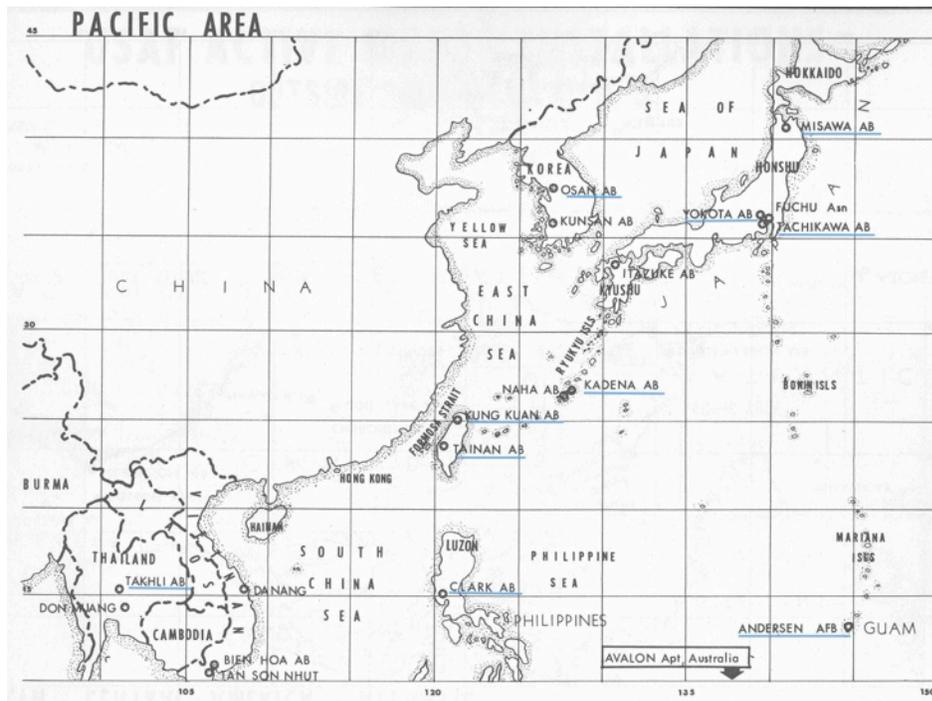
Figure 5: Air bases in Europe and the Middle East circa 1963. (Source: courtesy of STRATCOM History Office.)
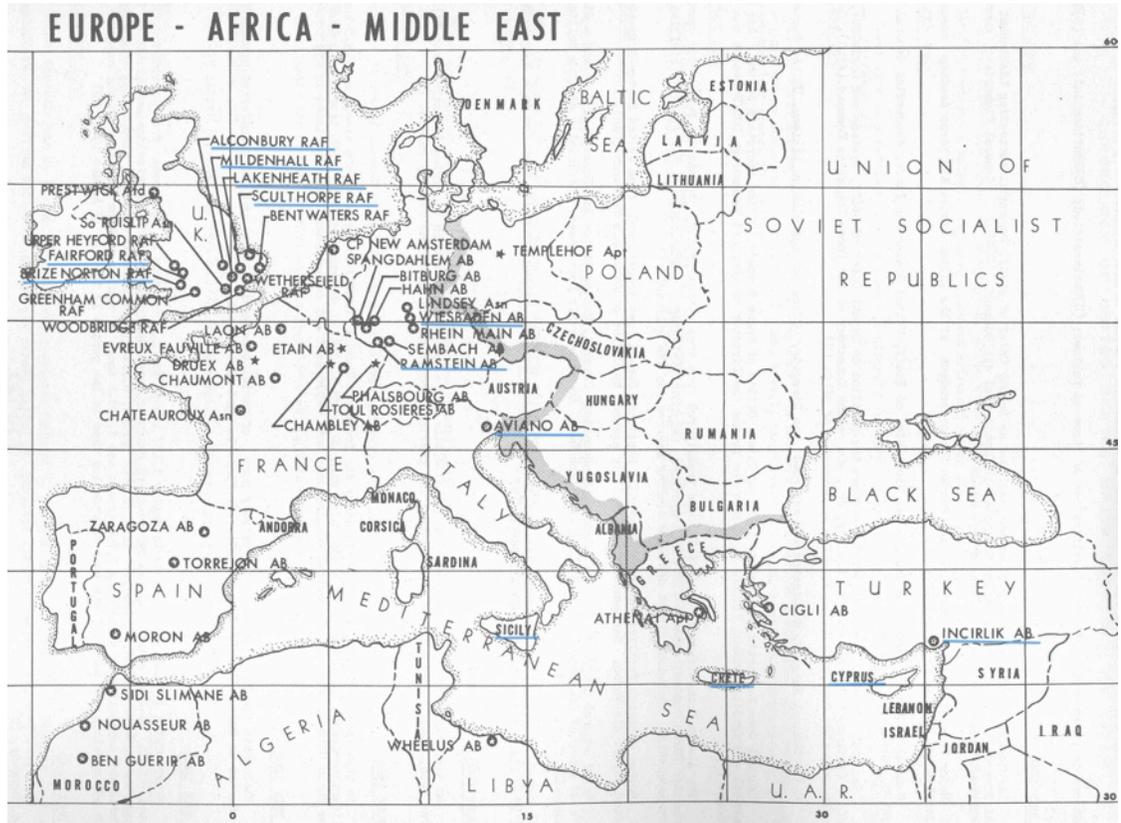
Figure 6: The route of the RB-47 shot down on 1 July 1960. Two survivors, Lieutenant's John McKone and Bruce Olmstead, were prisoners for seven months in Lubyanka but not charged with espionage. (Source: Lashmar, *Spy Flights*, 167.)
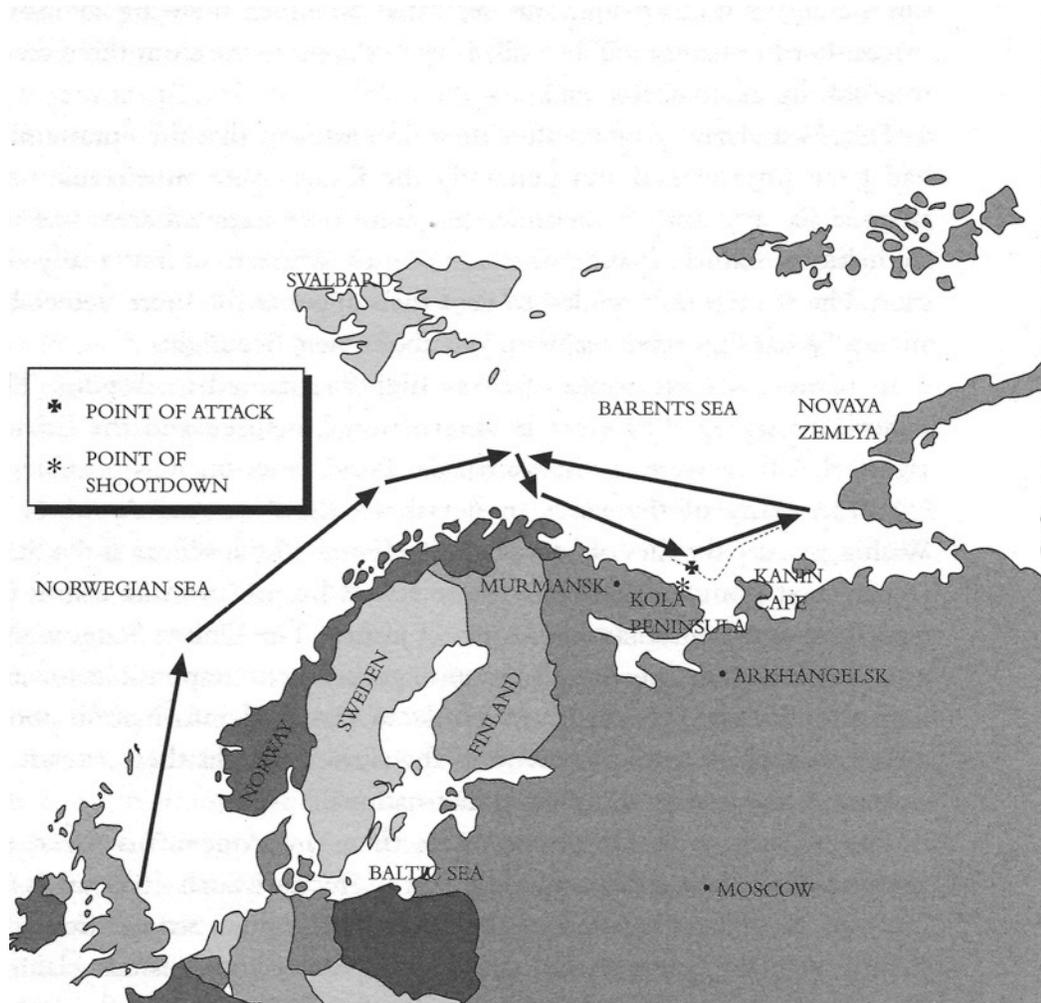
Figure 7: Location of 8 April 1950 Navy Privateer shoot-down. RAND's Alexander George concluded that the incident marked a major turning point in Soviet policy toward encroachment around the Soviet perimeter." (Source: created by the author at Stepmap.com and used with permission; geolocation provided by Stepmap.com.)

Figure 8: An example of the early Eastern European and Soviet overflight routes. (Source: Datafreeway.com, *Military Reconnaissance Missions Over the Soviet Union*, http://data-freeway.com/plesetsk/overflights.htm, accessed 16 Apr 2013.)
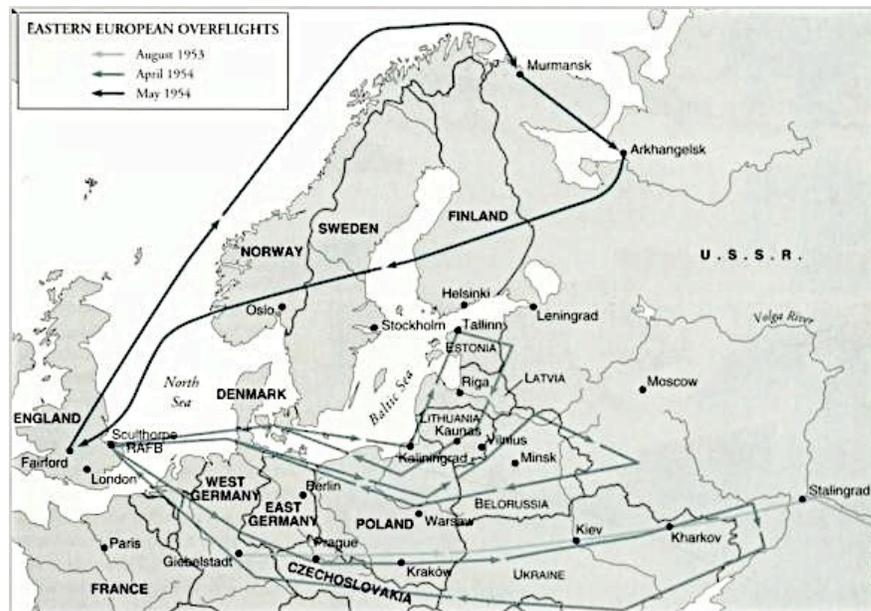
Figure 9: An example of early Far Eastern Soviet Union overflight routes. (Source: Datafreeway.com, *Military Reconnaissance Missions Over the Soviet Unio*n, http://data-freeway.com/plesetsk/overflights.htm, accessed 16 Apr 2013.)

Figure 10: Soviet R-7 missile test site photographed by a U-2 overflight in August 1957. This site was in the desert just east of the Aral Sea. (Source: image from CIA.gov, Electronic FOIA Reading Room, accessed 18 Apr 2013. Information from Chris Pocock, *U-2 Spyplane*, page 88.)

Figure 11: Example of early CIA U-2 overflights from Wiesbaden, Germany. (Source: Google images, probably from a declassified CIA report, accessed 17 Apr 2013.)

Figure 12: U-2 imagery from Mission 8005 on 6 Dec 1959 captured a line of Bison bombers on a snowy airfield near Saratov, USSR. This mission was the first flown by an RAF pilot. (Source: Image from Paul R. Baumann, *History of Remote Sensing and Satellite Imagery, Part II*, State University of New York, http://www.oneonta.edu/faculty/ baumanpr/geosat2/RS%20History%20II/RS-History-Part-2.html, accessed 18 Apr 2013. Information from Chris Pocock, *U-2 Spyplane*, 207.)
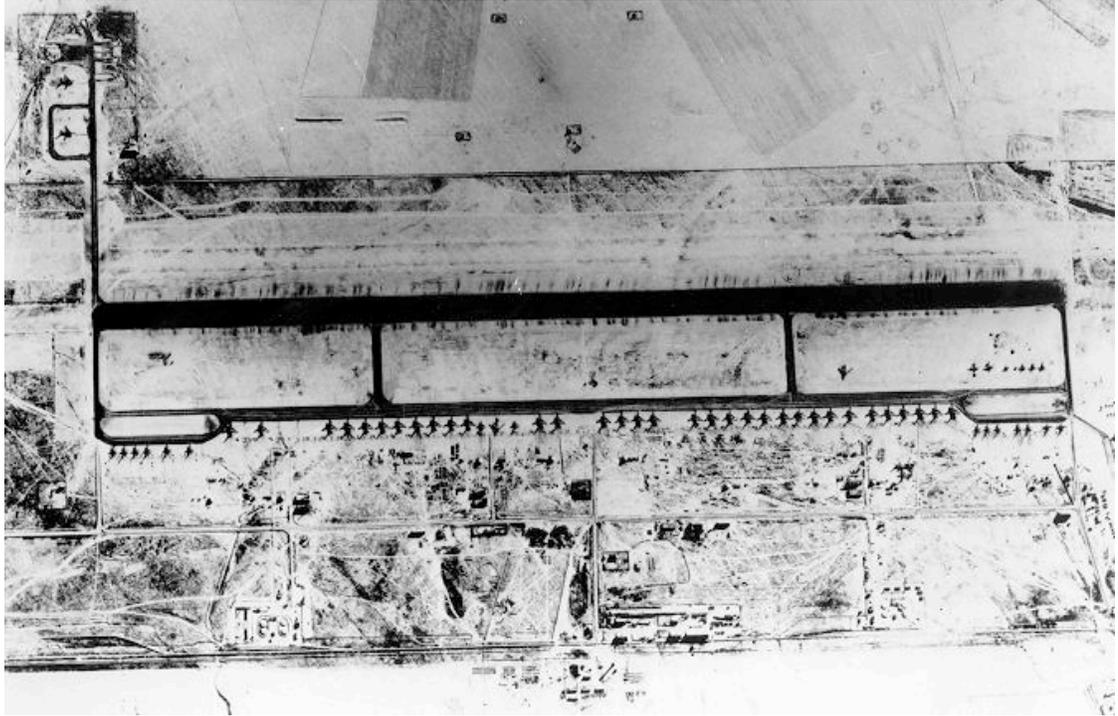
Figure 13: Map depicting the 24th and final CIA U-2 Soviet overflight flown by Gary Powers on 1 May 1960. (Source: Lasmar, *Spy Flights*, 155.)
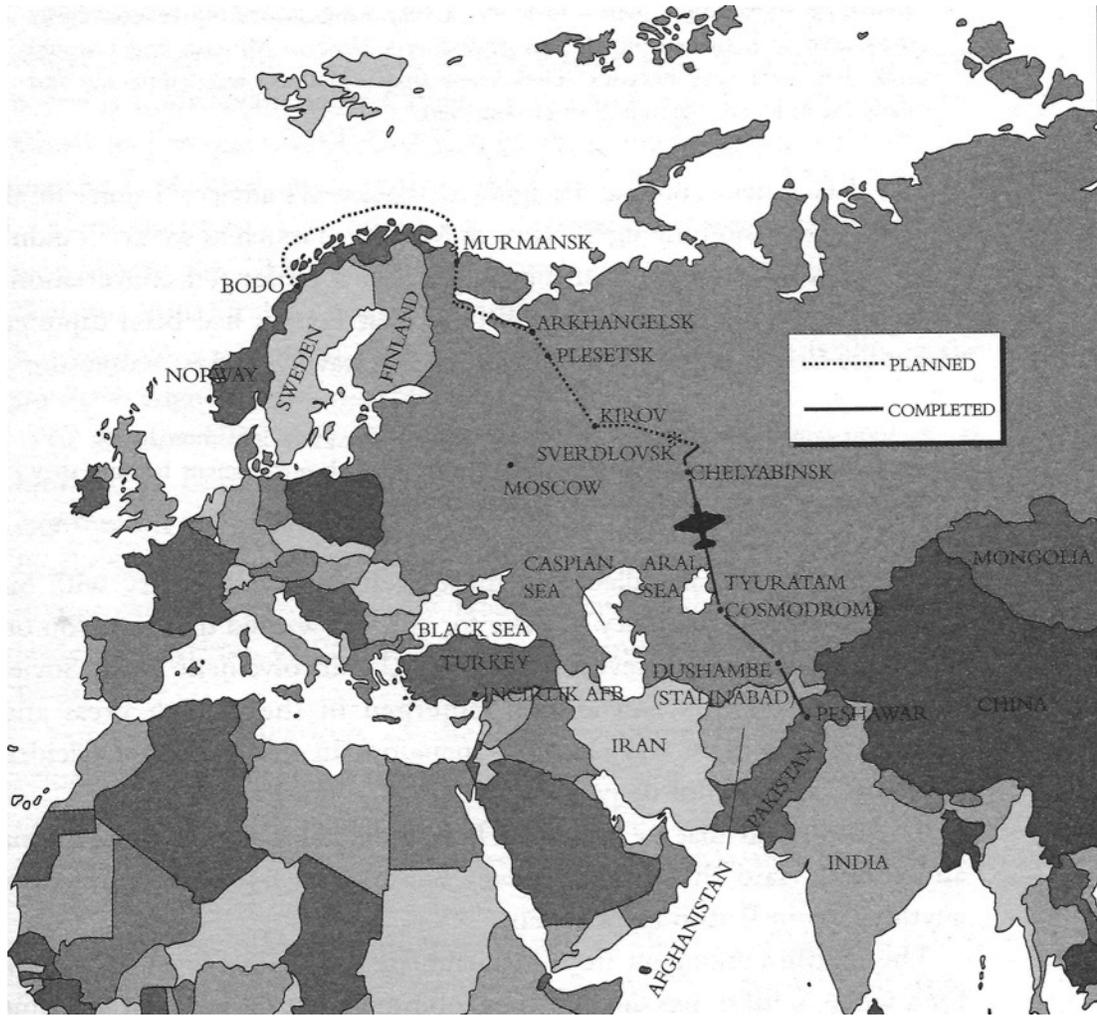
Figure 14: A-12 Black Shield reconnaissance mission over North Vietnam and Laos on 5 Jan 1968. Note the extreme speed caused overflight of China during a turn on the first pass. (Source: CIA, "Black Shield Reconnaissance Missions 1 January - 31 March 1968, 7.)

CHINA

Chiang-cheng

Pu-kao

CHINA

0425 56

0420

BURMA

Chan-chiang

0429 13

0524 00

Hanoi

Haiphong

0535 03

0522

Hai-kou

Luang Prabang

HAINAN

NORTH VIETNAM

0435

0412 56

Vientiane

0550
(1758N/11217E

THAILAND

0550 08
(1711N/1122

MISSION BX 6843
5 January 1968

Hue

1st Pass

2nd Pass

SOUTH VIETNAM

All times are GMT (Zulu).

0351 50

0   100
NAUTICAL MILES

422
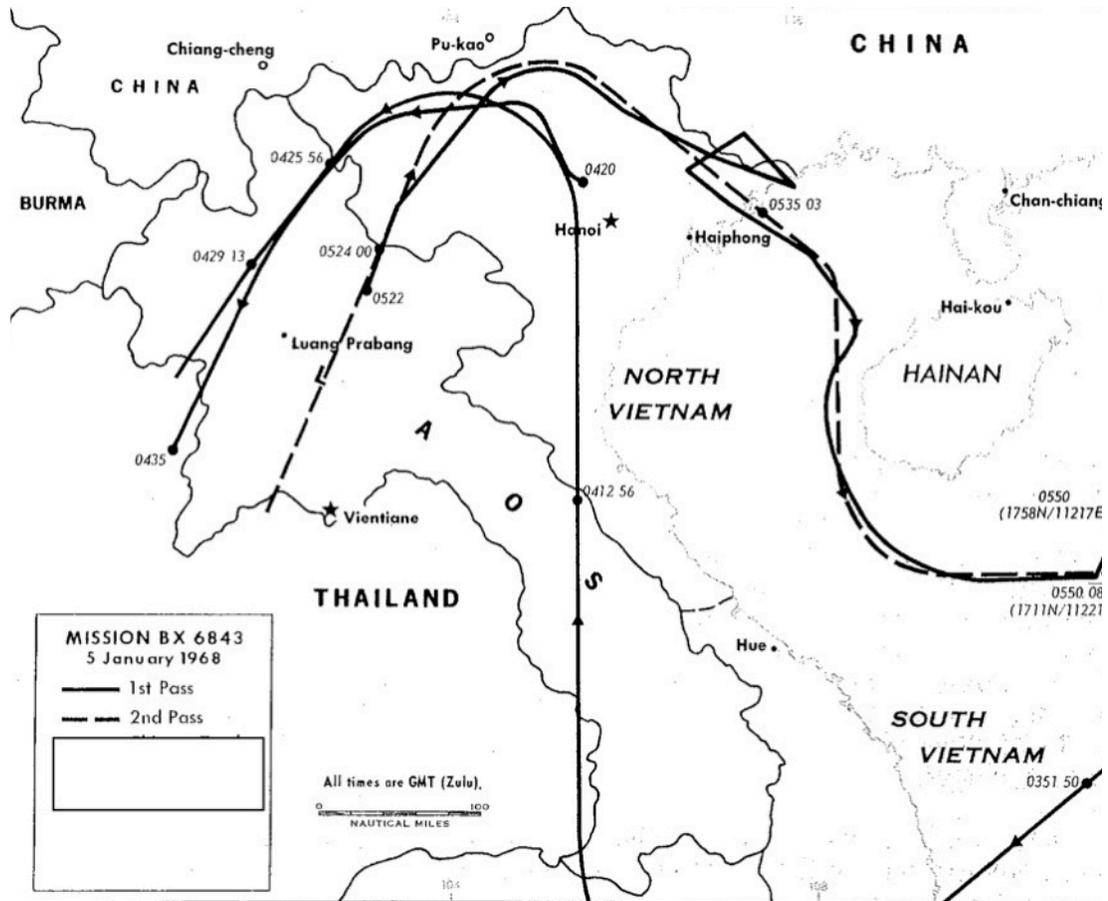
Figure 15: A-12 Black Shield reconnaissance mission over North Korea on 26 Jan 1968.
(Source: CIA, "Black Shield Reconnaissance Missions 1 January - 31 March 1968,"
9.)
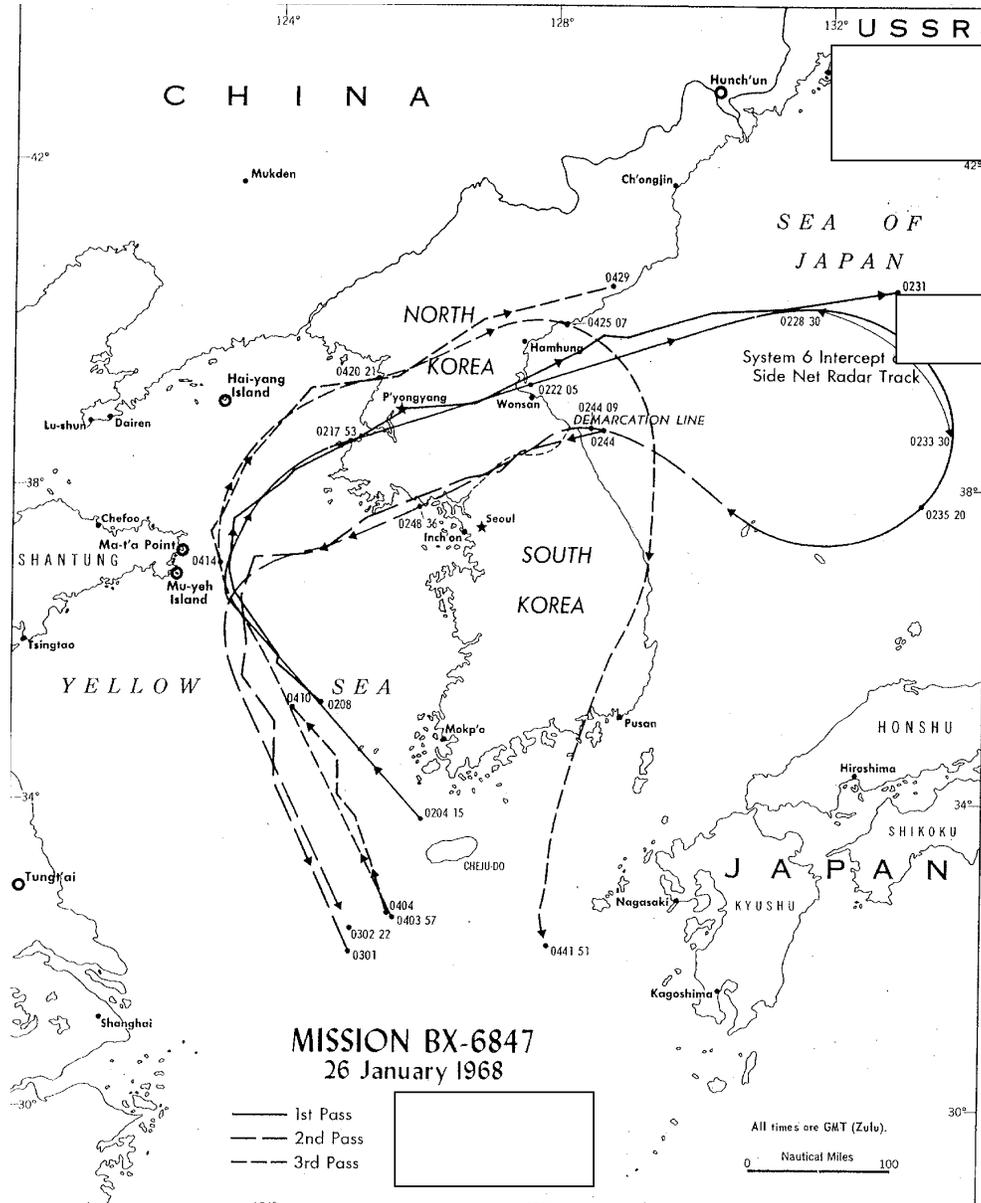
Figure 16: Example A-12 imagery of USS *Pueblo* in Wonsan port from the 26 Jan 1968 mission above. (Source: CIA, "Black Shield Reconnaissance Missions 1 January - 31 March 1968," 15.)

Figure 9.

NAVAL BASE

WONSAN

Prob. YAG

USS Pueblo

P-6 PT
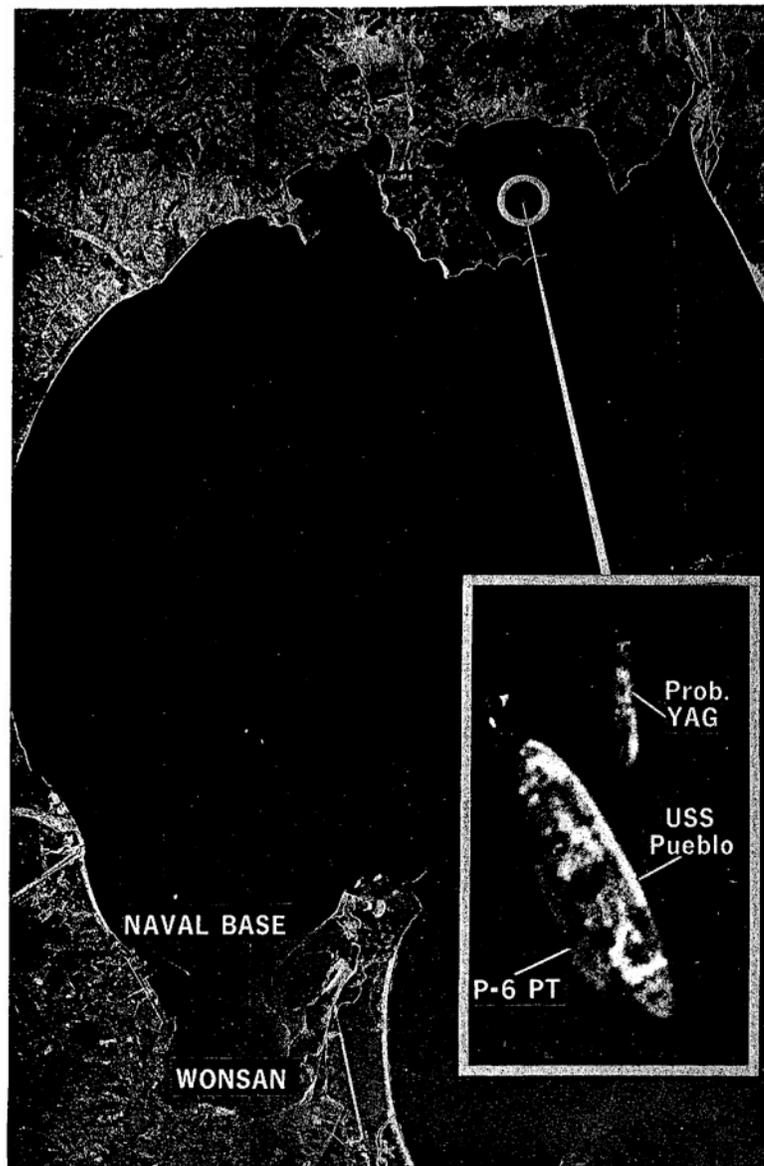
Figure 17: The Aegean Sea is an example of a geographic area that challenges the international legal structure in which aerial reconnaissance operates. Note the overlap of Greek and Turkish territorial lines and the extremely thin international corridor. Diplomats may address such sticky issues to protect the flow of intelligence and the exercise of freedom of navigation by peacetime aerial reconnaissance. Map references multiple Greek-Turkish disputes in mid-2012. (Source: defensegreece.com, http://www.defencegreece.com/index.php/2012/03/proposals-by-a-french-expert-regarding-the-delineation-of-territorial-waters-continental-shelf-and-eez-in-the-aegean-sea/, accessed 16 Apr 2013.)

Figure 18: Eastern Mediterranean in the 1956 Suez crisis. (Source: created by the author at Stepmap.com and used with permission; geolocation provided by Stepmap.com.)

Figure 19: Overview of the 1956 Suez crisis. (Source: created by the author at Stepmap.com and used with permission; geolocation provided by Stepmap.com.)

Figure 20: U-2 before and after images of Al Maza Airfield near Cairo on 1 November 1956. President Eisenhower thought highly of the quick battle damage assessment. (Source: CIA, "A Look Back U-2 Monitors Suez Crisis." Information from Chris Pocock, *U-2 Spyplane*, 56.)

Figure 21: Canadian 115th Air Transport Squadron aircraft over Gaza in 1964. The lower airplane, a de Havilland DHC-3 Otter, was the type used for monitoring by UNEF I in 1956 after the Suez crisis. (Source: Gord Jenkins, *History of the 115th ATU RCAF*, draft paper, 16 Feb 2009, http://archive.org/details/ 115AirTransportUnitatuRcafHistory, accessed 20 Apr 2013, 1.)

Figure 22: An aerial image of the Suez Canal looking south on 1 Jan 1957, just when salvage operations were starting. The El Ballah by-pass is visible near the top right, where ships turned around while the canal was blocked between November 1956 and May 1957. (Source: UN Archives, *UN Photo* database.)

Figure 23: Overview of the 1962 Cuban missile crisis. (Source: created by the author at Stepmap.com and used with permission; geolocation provided by Stepmap.com.)

Figure 24: August 1962 U-2 tracks over Cuba. Note their relative alignment to the Island's orientation. (Source: CIA, *The Secret Cuban Missile Crisis Documents*, maps at Document 1.)
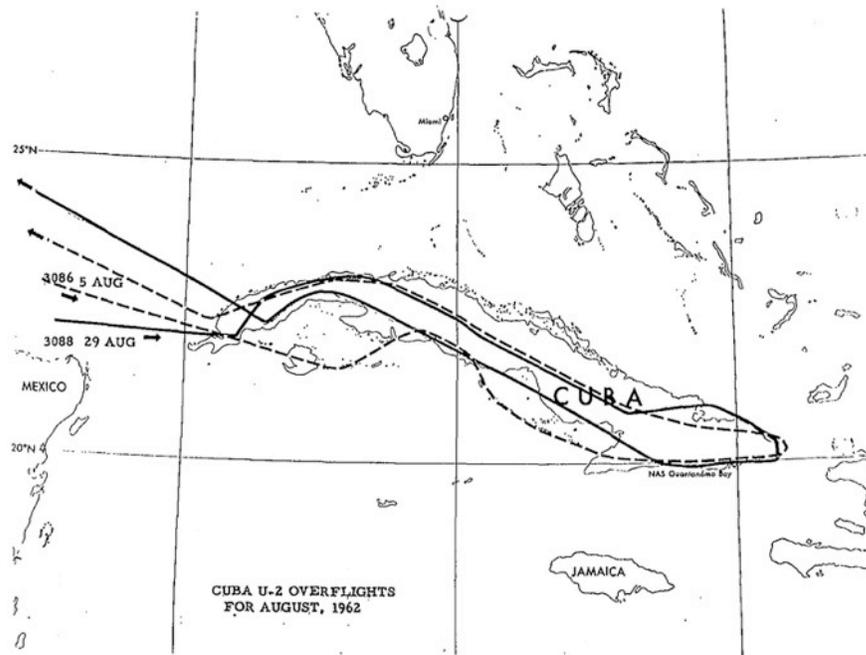
Figure 25: September 1962 U-2 tracks over Cuba. Note how routes after 5 September have been modified for quick north-south passes to avoid SAMs. (Source: CIA, *The Secret Cuban Missile Crisis Documents*, maps at Document 1.)
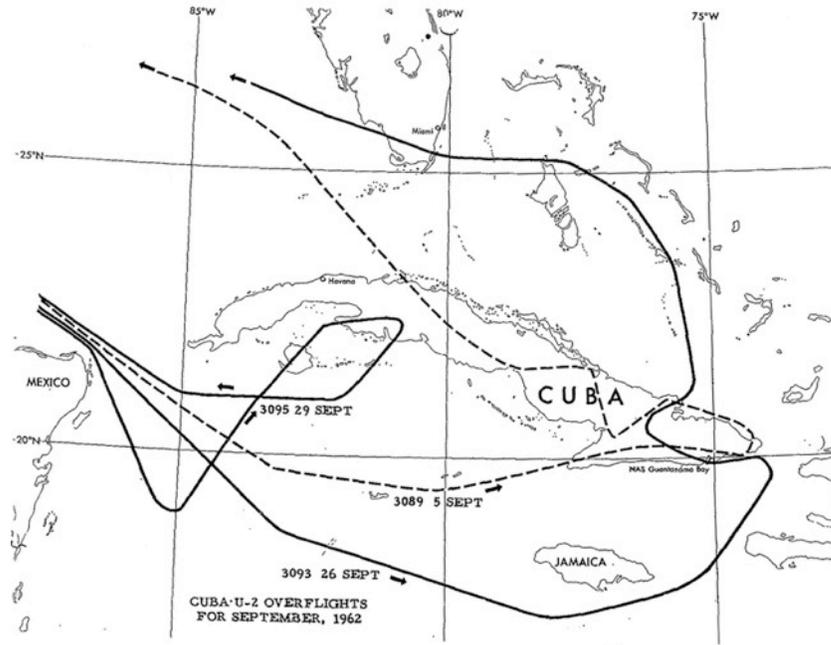
Figure 26: Early October 1962 U-2 tracks over Cuba. (Source: CIA, *The Secret Cuban Missile Crisis Documents*, maps at Document 1.)
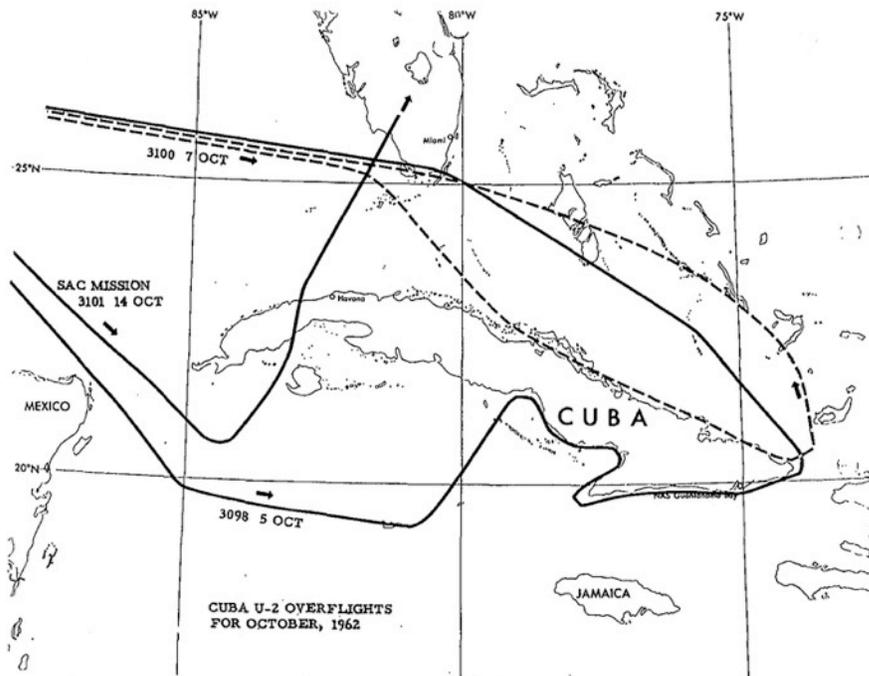
Figure 27: The U-2 image that started the Cuban missile crisis, taken on 14 October 1962. This SS-4 site was being constructed near San Cristobal, Cuba. (Source: John F. Kennedy Presidential Library.)
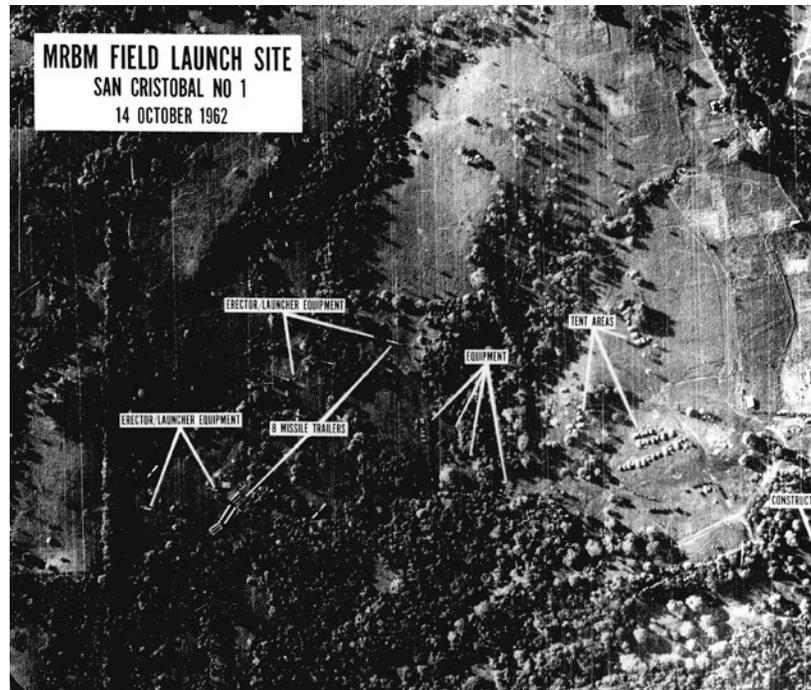
Figure 28: Low-level imagery of the same SS-4 site near San Cristobal on 23 October 1962. Note how much easier it is to interpret. This is why low-level imagery was more useful in diplomatic settings during the crisis. (Source: John F. Kennedy Presidential Library.)

Figure 29: Low-level imagery of Frog (Luna) missile transport trucks, 9 November 1962. Analysts first recognized images of the missiles on 25 October 1962. Tactical nuclear warheads for the missiles were already on the island to thwart an invasion, but this fact remained unknown until 1992. (Source: The National Security Archive, *The Cuban Missile Crisis, 1962: The Photographs*, image 46, http://www.gwu.edu/%7Ensarchiv/nsa/cuba_mis_cri/photos.htm, accessed 20 Apr 2013.)

Figure 30: Treaty on Open Skies participation as of March 2012. Kyrgyzstan is shown in yellow, having signed but not ratified as of this writing. (Source: created by the author at Stepmap.com and used with permission)

Figure 31: Russian observers and Hungarian escorts check an AN-26 Open Skies aircraft to ensure it is treaty compliant, July 2004. (Source: Organization for Security and Cooperation in Europe, OSCC, http://www.osce.org/fsc/66205, accessed 2 Mar 2013.)

Figure 32: The two images below are examples of Open Skies imagery used for humanitarian and environmental purposes. The top image was the result of a 1998 agreement between the US Defense Threat Reduction Agency, the US Geological Survey, and the government of El Salvador. It shows the extent of flooding in that nation after Hurricane Mitch arrived in December. The next image is from an Open Skies mission over Haiti after an earthquake struck the island on 12 January 2010. *Next page*: image shows Open Skies infrared photography from a Canadian Open Skies mission used for military inspections. Note the hotspots showing recent activity. (Source: top, USGS; middle, DTRA; bottom, Dunay, et al., 111)

Haiti Earthquake Open Skies Aircraft Mission
Port au Prince, Haiti

16 Jan 10

National Cathedral
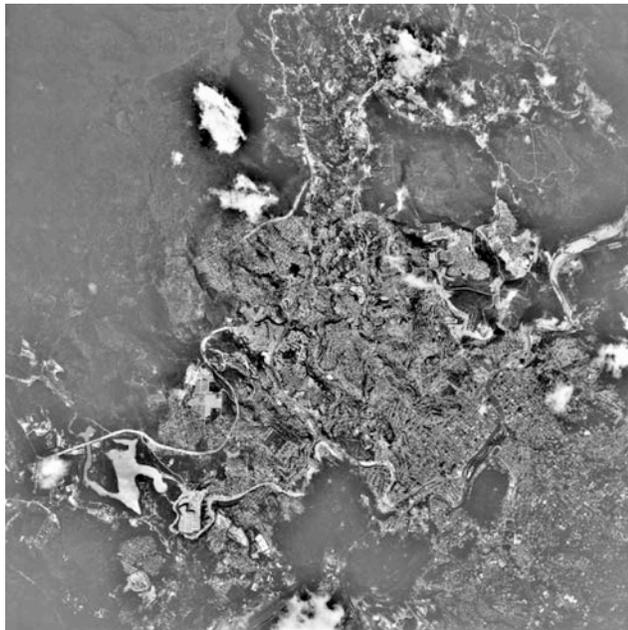
Figure 32 (continued):

Figure 33: The Sinai I accord. (Source: Department of State, *FRUS*, 1969-1976, XXVI, XXVI: 1071.)
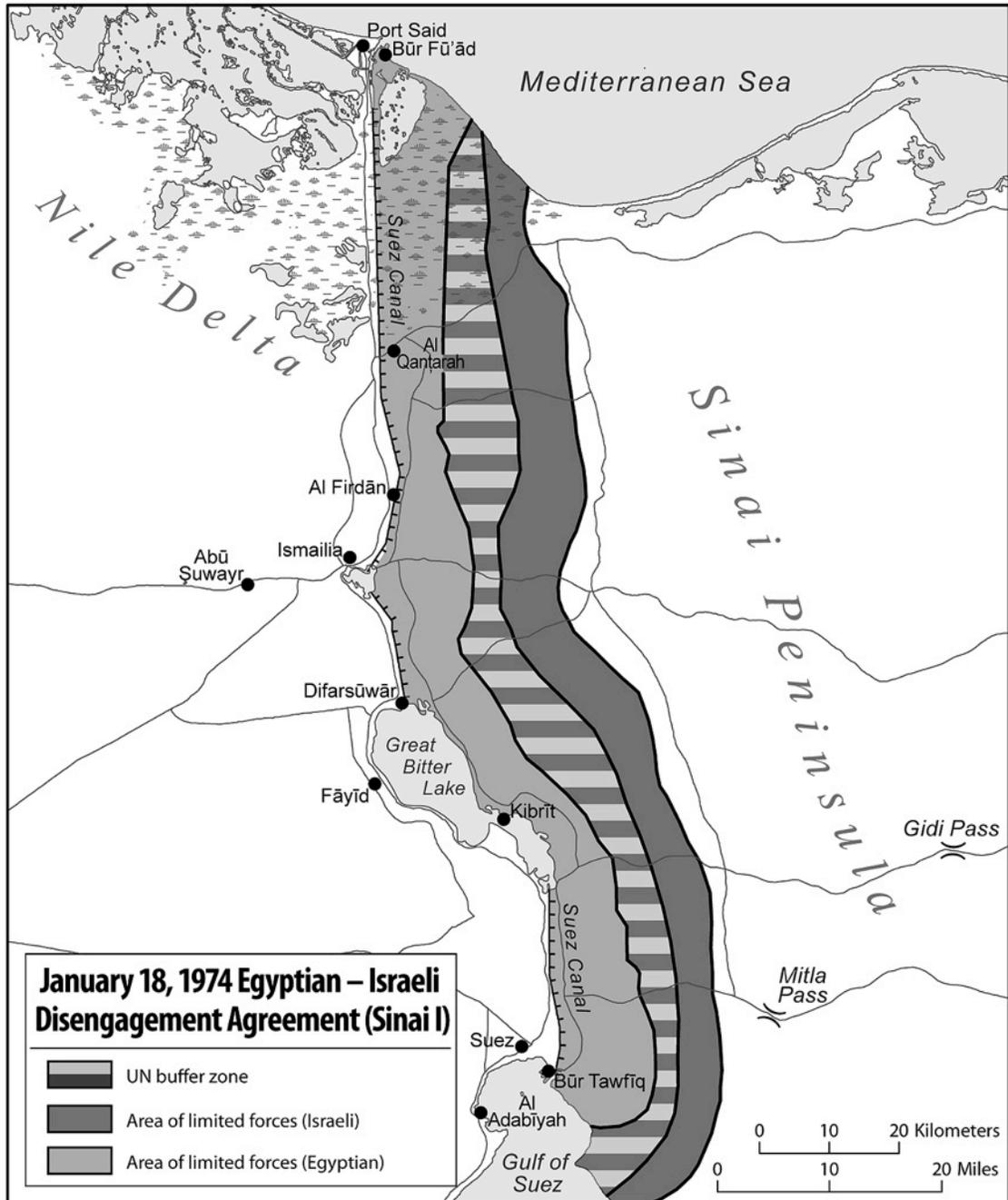
Figure 34: The Sinai II accord. (Source: Department of State, *FRUS*, 1969-1976, XXVI, XXVI: 1074.)

Figure 35: 1979 Treaty of Peace phased Israeli withdrawal. (Source: www.howstuffworks.com, http://history.howstuffworks.com/asian-history/history-of-israel1.htm, accessed 28 Dec 2012.

Figure 36: Final 1979 Treaty of Peace Zones on the Sinai Peninsula. (Source: *MFO 2012 Director General's Report*, 39.)

Figure 37: Overview of the 1969 EC-121 incident. (Source: created by the author at
Stepmap.com and used with permission; geolocation provided by Stepmap.com.)

Figure 38: EC-121 side number PR-21. Its call sign was Deep Sea 129 on 15 April 1969.
(Source: courtesy of VQ-1's *Wall of Valor* site at http://www.wherndon.com/
vq2sandeman/VQ-1.htm, accessed on 15 Apr 2013.)

Figure 39: Overview of the 2001 EP-3 incident. (Source: created by the author at Stepmap.com and used with permission; geolocation provided by Stepmap.com.)

Figure 40: Damaged EP-3 PR-32 on Lingshui airfield on Hainan Island, China, in April 2001. Its pilot, Lieutenant Shane Osborn, thought the damage to the aircraft was telling about what had happened in the air over the South China Sea. (Source: Xinhua.com.)

Bibliography

"Agreement between the Department of Defense of the United States of America and the
Ministry of National Defense of the People's Republic of China on Establishing a
Consultative Mechanism to Strengthen Military Maritime Safety." 1998. MMCA,
Beijing, 19 January, FAS.org, Federation of American Scientists. http://www.fas.org/
nuke/control/sea/text/us-china.pdf. Accessed 2 Jan 2013.

Air Force Intelligence Memo for Record, 3 Oct. 1950. Entry 214. Chronological Series 1950.
Record Group 341. NARA, Washington D.C.

"Air Routes across the Pacific and Air Facilities for International Police Force". 10 Apr 1943.
JCS 183/6. CCS 360 (2-9-42). Record Group 218. NARA, Washington D.C.

Albright, Joseph, and Marcia Kunstel. *Bombshell: The Secret Story of America's Unknown
Atomic Spy Conspiracy*. New York: Times Books, 1997.

Alexander, Martin. "Introduction: Knowing Your Friends, Assessing Your Allies--Perspectives on
Intra-Alliance Intelligence." *Intelligence and National Security* 13, no. 1 (Spring 1998):
1-17.

Allan, Scott. "Interview with Colin Powell, 21 Jun 2004." Copied Transcript, Department of
State Bunche Library, Department of State.

Allison Jr., Graham T., and Philip Zelikow. *Essence of Decision: Explaining the Cuban Missile
Crisis*. New York: Longman, 1999.

Ambrose, Stephen. *Ike's Spies: Eisenhower and the Espionage Establishment*. Jackson,
Mississippi: University Press of Mississippi, 1981.

Andrew, Christopher. *For the President's Eyes Only: Secret Intelligence and the American
Presidency from Washington to Bush*. New York: Harper Collins Publishers, 1995.

Annual Report of the Director General. Rome: Multinational Force and Observers, 2001.
Documents, Multinational Force and Observers. mfo.org, accessed 11 Dec 2012.

The Arab-Israeli Conflict: A Documentary History of the Struggle for Peace in Palestine. Edited
by Lenny Flank. St. Petersburg: Red and Black Publishers, 2010.

"Aries Incident Reveals Tensions." *Jane's Defense Weekly* (6 April 2001). IHS Jane's Defense &
Security Intelligence & Analysis, IHS Inc. www.janes-ihs.com, accessed 11 Jan 2013.

Armstrong, David. "Technical Challenges under Open Skies." In *Proceedings of the Second
International Airborne Remote Sensing Conference and Exhibition, Strasbourg*. 49-60.
Ann Arbor: Environmental Research Institute of Michigan, 1994.

Arnhold, Klaus. "Der Vertrag Über Den Offenen Himmel: Ein Konzept Zur Aktualisierung Des Vertrages." [In German]. *SWP-Studie* (June 2002).

Associated Press. "Russ' Fire on U.S. Planes Protested by Capitol." *Milwaukee Sentinel*, 2 Mar 1946, 1, Google News Archives, Google.com/Newspapers, http://news.google.com/newspapers?id=GbwdAAAAIBAJ&sjid=BQ0EAAAAIBAJ&dq=mariner%20aircraft%20soviet&pg=5997%2C8153, accessed 25 Aug 2012.

Baldwin, Hanson W. "The Balloon Incident." *The New York Times*, 19 February 1956, 1.

Banner, Allen V*., et al. Aerial Reconnaissance for Verification of Arms Limitation Agreements*. New York: United Nations, 1990. United Nations Law Collection, HeinOnline. http://heinonline.org, accessed 9 Sep 2012.

Bateson, Gregory. *Naven*. Cambridge: The University Press, 1936.

Beaufre, André. *The Suez Expedition*. London: Faber and Faber, 1969.

Bergen, Peter, and Jennifer Rowland. "Civilian Casualties Plummet in Drone Strikes." *CNN.com* (2012). Published electronically 16 Jul. http://www.cnn.com/2012/07/13/opinion/bergen-civilian-casualties/index.html, accessed 16 Jul 2012.

Berkowitz, Dr. Bruce, "The National Reconnaissance Office at 50 Years: A Brief History." The National Reconnaissance Office (NRO), Center for the Study of National Reconnaissance, September 2011, http://www.nro.gov/history/csnr/programs/NRO_Brief_History.pdf, accessed 12 Jun 2012.

Bissell, Richard. "High Level Meeting on Project Aquatone, 3 May 1957." 1957. Document #DSR-27361, National Intelligence Council (NIC) Collection, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/DOC_0000743237/DOC_0000743237.pdf. Accessed 25 Sep 2012.

Borawski, John. *From the Atlantic to the Urals: Negotiating Arms Control at the Stockholm Conference*. Washington, D.C.: Pergamon-Brassey's, 1988.

Boucher, Richard. "Daily Press Briefing, Department of State Spokesman Richard Boucher, 2 April." 2001. Official transcript of Press Briefing, Department of State Archival Website. Department of State Daily Press Briefings, 2001, Department of State. http://2001-2009.state.gov/r/pa/prs/dpb/2001/1889.htm, accessed 2 Jan 2013.

Broad, William J. "Flexing Muscle, China Destroys Satellite in Test." *New York Times*, www.nytimes.com, 2007, http://www.nytimes.com/2007/01/19/world/asia/19china.html?pagewanted=all, accessed 20 Sep 2012.

Brown, Winthrop G. "Basing of U.S. Strip Alert Planes at Tainan Airfield on Taiwan." 1969. Memorandum from Winthrop G. Brown, Bureau of East Asian Affairs to Under Secretary of State for Political Affairs U. Alexis Johnson, 29 May 1969, Top Secret, Record Group 59, Department of State Records, Subject-Numeric Records, 1967-1969, Def 1, Chinat, National Archives. The National Security Archive, George Washington University. http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB41/NSAEBB41-1.pdf. Accessed 5 Jul 2012.

Brugioni, Dino A., Personal interview conducted by the author, 22 August 2012. Fredricksburg, VA.

———. *Eyeball to Eyeball: The inside Story of the Cuban Missile Crisis*. New York: Random House, 1990.

———. *Eyes in the Sky: Eisenhower, the CIA, and Cold War Aerial Espionage*. Edited by Doris G. Taylor. Annapolis, MD: Naval Institute Press, 2010.

———, Personal interview conducted by the author. Fredricksburg, Virginia, 20 Aug 2012.

———, Telephone interview conducted by the author. Fredricksburg, Virginia, 8 June 2012.

Bryson, Thomas A. *Tars, Turks, and Tankers: The Role of the United States Navy in the Middle East, 1800-1979*. Metuchen, NJ: The Scarecrow Press, 1980.

Burr, William. "Reconnaissance Flights and Sino-American Relations." gwu.edu: National Security Archives, 4 Apr 2001. Archival Collection. The National Security Archives, George Washington University. http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB41/, accessed 4 Jun 2012.

———. "U.S. Intelligence and the Detection of the First Soviet Nuclear Test, September 1949." gwu.edu: National Security Archive, 22 September 2009. Subject Archival Collection "The Nuclear Vault". The National Security Archives, George Washington University. http://www.gwu.edu/~nsarchiv/nukevault/ebb286/index.htm, accessed 21 Sep 2012.

Burrows, William E. *By Any Means Necessary: America's Secret Air War in the Cold War*. 1st ed. New York: Farrar, 2001.

———. *Deep Black: Space Espionage and National Security*. New York: Random House, 1986.

Bush, George H.W. "National Security Directive 15, 22 Jun." 1989. NSD 15, National Security Directives Collection, George Bush Presidential Library.

———. "Texas a&M Commencement Address, College Station, Texas, 5/12/89." 1989. SP557, Box 101, Case Number 035645SS, Speeches Collection (SP), George H.W. Bush Presidential Library.

Bush, George W. *Decision Points*. New York: Crown Publishers, 2010.

———. "Remarks by the President at American Society of Newspaper Editors Annual Convention, 5 April." 2001. White House Press Release. George W. Bush White House Archived Website, News & Policies, April 2001, George W. Bush Presidential Library. http://georgewbush-whitehouse.archives.gov/news/releases/2001/04/20010405-5.html, accessed 10 Jan 2013.

———. "Statement by the President on American Plane and Crew in China, 2 April." 2001. White House press release. George W. Bush White House Archived Website, News & Policies, April 2001, George W. Bush Presidential Library. http://georgewbush-whitehouse.archives.gov/news/releases/2001/04/20010402-2.html, accessed 10 Jan 2013.

———. "Statement by the President, 3 April." 2001. White House press release. George W. Bush White House Archived Website, News & Policies, April 2001, George W. Bush Presidential Library. http://georgewbush-whitehouse.archives.gov/news/releases/2001/04/20010403-3.html, accessed 10 Jan 2013.

Bush, George W., and Jiang Zemin. "U.S., China Stand against Terrorism." 19 October 2001. Transcript of President's Press Conference at Shanghai. Department of State Archived Website, Remarks, October 2001, Department of State. http://2001-2009.state.gov/s/ct/rls/rm/2001/5461.htm, accessed 23 Jan 2013.

Calhoun, Ricky-Dale. "The Musketeer's Cloak: Strategic Intelligence During the Suez Crisis of 1956." *Studies in Intelligence* 51, no. 2 (12 Jun 2007). Center for the Study of Intelligence, Central Intelligence Agency. https://www.cia.gov/library/center-for-the-study-of-intelligence/csi-publications/csi-studies/studies/vol51no2/index.html, accessed 5 Oct 2012.

Campbell, Kurt. "Old Game, New Risks; in Cold War, the Rules Were Clear. Not So with China." *The Washington Post*, 8 April 2001, B1, National Newspapers Expanded, ProQuest, www.proquest.com, accessed 19 Jan 2013.

Carter, Jimmy. *Letter Agreement on the Implementation of the Treaty of Peace of 26 March 1979 between the Arab Republic of Egypt and the State of Israel*. New York: United Nations, 1979. 1252 UNTS I-20414. United Nations Treaty Series, United Nations. www.treaties.un.org, accessed 11 Dec 2012.

Carter, Marshall S. "Memorandum for the Record, 12 October 1962, Reconnaissance Overflights of Cuba." 1962. Document 0001274180, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/DOC_0001274180/DOC_0001274180.pdf. Accessed 1 Oct 2012.

Caruthers, Osgood. "Premier Is Bitter: Assails 'Provocation Aimed at Wrecking' May 16 Parley Moscow Downs American Plane." New York, New York: 6 May 1960. Newspaper

Article. ProQuest Historical Newspapers: The New York Times (1851-2008), New York Times Company. http://search.proquest.com.aufric.idm.oclc.org/docview/114986908? accountid=4332, accessed 20 Jun 2012.

Central Intelligence Agency. "Black Sheild Reconnaissance Missions 1 January - 31 March 1968." 1968. National Intelligence Council (NIC) Collection, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/ DOC_0001472531/DOC_0001472531.pdf. Accessed 14 Sep 2012.

———. "Memorandum for Record, Meeting with USAF Representatives Regarding USAF Photo Reconnaissance Requirements, 15 February." 1952. CIA-RDP83-00036R001100150033-7, Folder 1, Jeff Richelson Collection, The National Security Archive, George Washington University.

———. "Memorandum for Record, Subject Addendum to 5-10-15 Year Projection for Airborn Reconnaissance Systems." 1966. Folder 2, Reconnaissance Subject Series, Jeff Richelson Collection, The National Security Archive, George Washington University.

———. "Memorandum for the United States Intelligence Board, Reconnaissance Coverage of North Korea, 27 Sep 1967." 1967. National Intelligence Council (NIC) Collection, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/ docs/DOC_0001471954/DOC_0001471954.pdf. Accessed 20 May 2012.

———. "Memorandum to Holders of Nie 11-5-58." 1958. NARA #: NNS-263-95-001, National Intelligence Council (NIC) Collection, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/DOC_0000267653/ DOC_0000267653.pdf. Accessed 24 Sep 2012.

———. "National Intelligence Estimate 3: Soviet Capabilities and Intentions." 1950. NARA #: NN3-263-93-007; 09/22/93, National Intelligence Council (NIC) Collection, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/ DOC_0000269240/DOC_0000269240.pdf. Accessed 11 May 2012.

———. "National Intelligence Estimate 48: Likelihood of the Deliberate Initiation of Full-Scale War by the Ussr against the US and Its Western Allies Prior to the End of 1952." 1952. NARA # : NN3-263-93-007; 22-SEP-93, National Intelligence Council (NIC) Collection, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http:// www.foia.cia.gov/docs/DOC_0000269268/DOC_0000269268.pdf. Accessed 9 Jun 2012.

———. "National Intelligence Estimate (Nie 11-4-56): Soviet Capabilities and Probable Courses of Action through 1961." 1956. NARA#: NN3-263-95-001; 31-Jan-95, National Intelligence Council (NIC) Collection, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/DOC_0000267690/ DOC_0000267690.pdf. Accessed 20 Sep 2012.

———. "National Intelligence Estimate: The Situation and Prospects in Cuba." 1962. 85-62, 21 March, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/DOC_0000262093/DOC_0000262093.pdf. Accessed 18 Oct 2012.

———. "North Korea's Military Forces." 1968. Intelligence Memorandum 68-4, February 20, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/DOC_0000626835/DOC_0000626835.pdf. Accessed 5 Jan 2013.

———. "North Korean Intentions and Capabilities with Respect to South Korea." 1967. SNIE 14.2-67, 21 September 1967, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/DOC_0000661632/DOC_0000661632.pdf. Accessed 5 Jan 2013.

———. "Report to Congress on Chinese Espionage Activities against the United States." 2000. CIA Intelligence Report, 1 Jan 2000, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/DOC_0001282625/DOC_0001282625.pdf. Accessed 2 Jan 2013.

———. *The Secret Cuban Missile Crisis Documents*. Edited by Graham T. Allison Jr. McLean, VA: Brassey's, 1994. Published compilation of documents related to the 1962 Cuban missile crisis, declassified and archived by the CIA History Staff.

Central Intelligence Group. "Soviet Foreign and Military Policy." 1946. NARA #NN3-263-92-005; 24-AUG-92, National Intelligence Council (NIC) Collection, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/DOC_0000256601/DOC_0000256601.pdf. Accessed 12 Aug 2012.

Chen, Y.Y.*, et al.* "President Chen Shui-Bian Comments on Taiwan-US-China Relations." *Taipei Central News Agency, 1406 GMT 14 Aug*, 2000, World News Connection, Dialog LLC, www.wnc.dialog.com, accessed 15 Jan 2013.

Child, John. "Peacekeeping and the Inter-American System." *Military Review* 60, no. 10 (October 1980): 40-54. Combined Arms Research Library Digital Library, US Army Command and General Staff College. http://cgsc.contentdm.oclc.org/cdm/singleitem/collection/p124201coll1/id/354/rec/11, accessed 13 Apr 2013.

"China's SIGINT Capabilities Exposed." *Jane's Defense Weekly* (6 April 2001). IHS Jane's Defense & Security Intelligence & Analysis, IHS Inc. www.janes-ihs.com, accessed 11 Jan 2013.

"Chinese Defense Minister Spokesman on Plane Collision Incident." *Xinhua*, 4 April 2001, Xinhua News Service, Xinhua News Agency, www.news.xinhuanet.com/english, accessed 18 Jan 2013.

"Chinese Fm Spokesman Give Full Account of Air Collision." *Xinhua*, 4 April 2001, Xinhua News Service, Xinhua News Agency, www.news.xinhuanet.com, accessed 19 Jan 2013.

Chinese National Security Decisionmaking under Stress. Edited by Andrew Scobell and Larry M. Wortzel. Carlise, PA: Strategic Studies Institute, 2005.

Cogan, Charles G. "From the Politics of Lying to the Farce at Suez: What the US Knew." *Intelligence and National Security* 13, no. 2 (Summer 1998): 100-122. Journals Database, Taylor and Francis Online. http://www.tandfonline.com.aufric.idm.oclc.org/doi/pdf/10.1080/02684529808432479, accessed 23 Mar 2013.

Cole, Ronald H*., et al. The History of the Unified Command Plan 1946-1993*. Washington, D.C.: Joint History Office, 1995.

Coles, Michael H. "Suez, 1956: A Successful Naval Operation Compromised by Inept Political Leadership." *Naval War College Review* 59, no. 4 (Autumn 2006): 100-118.

Comptroller General of the United States. *Report to the Congress: An Evaluation of the U.S. Early Warning System in the Sinai*. Washington, D.C.: United States General Accounting Office, 1977.

"EC-121 Shootdown". 240151Z April 1969. Folder 91 "Korea (BP) EC-121 Shootdown". Box 31. Records of Earle Wheeler. Record Group 218. NARA.

COMUSFK. "Comusfk, 281214z January 1968." 1968. Folder "091 Korea—Pueblo 23 Jan 1968-7 Feb 1968, vol. 1", Records of Earle Wheeler, Box 29, RG 218, NARA.

Conference on Security and Cooperation in Europe. "Docment of the Stockholm Conference." 1986. Final Document, 19 Sep, Documents Library, Organization for Security and Cooperation in Europe. http://www.osce.org/library/. Accessed 20 Nov 2012.

Consensus and Confrontation: The United States and the Law of the Sea. Edited by Jon Van Dyke. Honolulu: The Law of the Sea Institute, University of Hawaii, 1985.

Crickmore, Paul F. *Lockheed Sr-71 Operations in Europe and the Middle East*. Osprey Combat Aircraft. Edited by Tony Holmes Oxford: Osprey Publishing, 2009.

———. *Lockheed Sr-71 Operations in the Far East*. Osprey Combat Aircraft. Edited by Tony Holmes Oxford: Osprey, 2008.

Crisis and Confrontation on the Korean Peninsula: 1968-1969, a Critical Oral History. Critical Oral History Conference Series. Edited by Christian F. Ostermann and James F. Person Washington, D.C.: Woodrow Wilson International Center for Scholars, 2011.

Crook, John R. "U.S. Open Skies Agreements Number More Than One Hundred." *The American Journal of International Law* 105, no. 3 (Jul 2011): 586-588. ProQuest Research Library, Proquest.com. http://search.proquest.com.aufric.idm.oclc.org/docview/883590374?accountid=4332, accessed 24 Apr 2012.

The Cuban Crisis of 1962: Selected Documents and Chronology. Edited by David L. Larson. Boston: Houghton Mifflin Company, 1963.

"Damaged U.S. Military Plane in Hainan." *Xinhua*, 4 April 2001, Xinhua News Service, Xinhua News Agency, www.news.xinhuanet.com/english, accessed 12 Jan 2013.

Darilek, Richard. "Political Aspects of Verification: Arms Control in Europe." In *A Proxy for Trust: Views on the Verification Issue in Arms Control and Disarmament Negotiations*, edited by John O'Manique. 65-74. Ottawa: Carleton International Proceedings, 1984.

Deac, Wilfred P. "Operation Musketeer: Duel for the Suez Canal." *Military History* 18, no. 1 (Apr 2001): 58-64. ProQuest Research Library, ProQuest. http://www.proquest.com, accessed 12 Oct 2012.

Deane, John R. *The Strange Alliance: The Story of Our Efforts at Wartime Cooperation with Russia*. New York: The Viking Press, 1947.

Denaro, J.M. "States' Jurisdication in Aerospace under International Law." *Journal of Air Law and Commerce* 36, no. 2 (1970): 688. Harvard Research in International Law Collection, HeinOnline. https://heinonline.org.

Deparment of State. *1969-1976, China, 1969-1972*. Edited by Steven E. Phillips and Edward C. Keefer. Foreign Relations of the United States. Vol. XVII, Washington D.C.: United States Government Printing Office, 2006. Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/frus1969-76v17, accessed 2 Jan 2013.

Department of Defense. "Department of Defense Message, April 16, 1969." 1969. Document Number CK3100592096. Declassified Documents Reference System (DDRS), Primary Source Media, The Gale Publishing Inc. http://galenet.galegroup.com.aufric.idm.oclc.org/servlet/DDRS, accessed 3 Jan 2012.

———. *Soviet Military Power*. Washington, D.C.: United States Government Printing Office, 1986.

———. "U.S. Concludes Military Talks with China." 15 September 2001. DoD News Release No. 432-01. DoD News Release Archive, Department of Defense. http://www.defense.gov/releases/release.aspx?releaseid=3045, accessed 22 Jan 2013.

Joint Publication (JP) 1--02. *Department of Defense Dictionary of Military and Associated Terms*, 8 Nov 2010 (as amended through 15 Apr 2012).

Department of State. *1946, Eastern Europe; the Soviet Union*. Edited by S. Everett Gleason and Rogers P. Chruchill. Foreign Relations of the United States. Vol. VI, Washington D.C.: Government Printing Office, 1969. University of Wisconsin Digital Collections Center, University of Wisconsin Madison Libraries. http://digicoll.library.wisc.edu/cgi-bin/FRUS/FRUS-idx?type=article&did=FRUS.FRUS1946v06.i0001&id=FRUS.FRUS1946v06&isize=M&q1=Lend-lease, accessed 10 Aug 2012.

———. *1949, Eastern Europe; the Soviet Union*. Foreign Relations of the United States. Vol. V, Washington D.C.: Government Printing Office, 1976. University of Wisconsin Digital Collections Center, University of Wisconsin Madison Libraries. http://digital.library.wisc.edu/1711.dl/FRUS.FRUS1949v05, accessed 11 Sep 2012.

———. *1950-1955, the Intelligence Community*. Edited by Douglas Keane*, et al.* Foreign Relations of the United States. Washington D.C.: Government Printing Office. Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/frus1950-55Intel, accessed 11 May 2012.

———. *1952-1954, National Security Affairs*. Edited by Lisle A. Rose and Neal H. Petersen. Foreign Relations of the United States. Vol. II Part 1, Washington D.C.: Government Printing Office. Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/frus1952-54v02p1, accessed 11 Sep 2012.

———. *1955-1957, Arab-Israeli Dispute, January 1-July 26, 1956*. Edited by Carl N. Raether and John P Glennon. Foreign Relations of the United States. Vol. XV, Washington, D.C.: Government Printing Office, 1989. Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/frus1955-57v15, accessed 4 Oct 2012.

———. *1955-1957, Austrian State Treaty; Summit and Foreign Ministers Meetings, 1955*. Edited by William Slany and Charles S. Sampson. Foreign Relations of the United States. Vol. V, Washington, D.C.: United States Government Printing Office, 1987. Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/frus1955-57v05, accessed 20 Nov 2012.

———. *1955-1957, Soviet Union, Eastern Mediterranean*. Edited by Ronald D. Landa*, et al.* Foreign Relations of the United States. Vol. XXIV, Washington D.C.: United States Government Printing Office. Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/frus1955-57v24, accessed 2 May 2012.

———. *1955-1957, Suez Crisis, July 26-December 31, 1956*. Edited by Nina J. Noring and John P Glennon. Foreign Relations of the United States. Vol. XVI, Washington, D.C.: Government Printing Office, 1990. Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/ frus1955-57v16, accessed 2 Oct 2012.

———. *1958-1960, Part I, Easter Europe Region, Soviet Union, Cyprus*. Edited by Ronald D. Landa*, et al.* Foreign Relations of the United States. Vol. X, Washington D.C.: United States Government Printing Office. Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/ frus1958-60v10p1, accessed 24 Sep 2012.

———. *1958-1960, Part I, Eastern Europe Region, Soviet Union, Cyprus*. Edited by Ronald D. Landa*, et al.* Foreign Relations of the United States. Vol. X, Washington D.C.: United States Government Printing Office. Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/ frus1958-60v10p1, accessed 24 Sep 2012.

———. *1958-1960, United Nations and General International Matters*. Edited by John P Glennon*, et al.* Foreign Relations of the United States. Vol. II, Washington, D.C.: United States Government Printing Office. Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/ frus1958-60v02, accessed 24 Sep 2012.

———. *1961-1963, Cuba, January 1961-September 1962*. Edited by Louis J. Smith and David S. Patterson. Foreign Relations of the United States. Vol. X, Washington D.C.: United States Government Printing Office, 1997. Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/ frus1961-63v10, accessed 5 Sep 2012.

———. *1961-1963, Cuban Missile Crisis and Aftermath*. Edited by Edward C. Keefer*, et al.* Vol. XI, Washington D.C.: United States Government Printing Office, 1996. Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/ historicaldocuments/frus1961-63v11, accessed 4 Jul 2012.

———. *1964-1968, Arab-Israeli Crisis and War, 1967*. Edited by Harriet Dashiell Schwar and Edward C. Keefer. Foreign Relations of the United States. Vol. XIX, Washington D.C.: Government Printing Office, 2004. Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/ frus1964-68v19, accessed 18 Dec 2012.

———. *1964-1968, Korea*. Edited by Karen L. Gatz and David S. Patterson. Foreign Relations of the United States. Vol. XXIX, Part 1, Washington D.C.: United States Government Printing Office. Foreign Relations of the United States, Office of the Historian,

Department of State. http://history.state.gov/historicaldocuments/frus1964-68v29p1, accessed 30 Jun 2012.

———. *1969-1976, Arab-Israeli Dispute, 1974-1976*. Edited by Adam M. Howard and Edward C. Keefer. Foreign Relations of the United States. Vol. XXVI, Washington D.C.: United States Government Printing Office, 2012. Foreign Relations of the United States, Office of the Historian, Department of State. http://www.history.state.gov/historicaldocuments/frus1969-76v26, accessed 21 Nov 2012.

———. *1969-1976, Korea, 1969-1972*. Edited by Daniel J. Lawler*, et al.* Foreign Relations of the United States. Vol. XIX, Part I, Washington D.C.: United States Government Printing Office, 2010. Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/frus1969-76v19p1, accessed 22 Dec 2012.

———. *1969-1976, Organization and Management of U.S. Foreign Policy*. Edited by David C. Humphrey and Edward C. Keefer. Foreign Relations of the United States. Vol. II, Washington D.C.: United States Government Printing Office, 2006.

———. *1969-1976: Arab-Israeli Crisis and War, 1973*. Edited by Nina Howland*, et al.* Foreign Relations of the United States. Vol. XXV, Washington D.C.: United States Government Printing Office, 2011. Foreign Relations of the United States, Office of the Historian, Department of State. http://history.state.gov/historicaldocuments/frus1969-76v25, accessed 16 Jul 2012.

———. "Brief Address by President Kennedy on Cuba, November 2, 1962." *The Department of State Bulletin* XLVII, no. 1221 (19 Nov 1962): 762.

———. "Conclusion of London Conference on Suez Canal." *The Department of State Bulletin* XXXV, no. 897 (3 Sep 1956): 371-374.

———. *Confirmation Hearing by Colin L. Powell, 17 January 2001*. Washington, D.C.: US Government Printing Office, 2001.

———. "Crew of U.S. Helicopter Released by North Korea." *The Department of State Bulletin* LXI, no. 1591 (22 Dec 1969): 583.

———. "General Assembly Action on the Middle East Question." *The Department of State Bulletin* XXXV, no. 911 (10 Dec 1956): 914-918.

———. "General Assembly Resolution on Middle East, U.N. Doc a/3256." *The Department of State Bulletin* XXXV, no. 907 (12 Nov 1956): 754.

———. *Open Skies Treaty Fact Sheet*. www.state.gov: Office of the Spokesperson, Department of State, 2012. Web Page, posted on 23 March 2012. http://www.state.gov/r/pa/prs/ps/2012/03/186738.htm, accessed 20 Nov 2012.

———. *Peace in the Sinai*. Washington, D.C.: Department of State, 1982.

———. "President Nixon's News Conference of April 18." *The Department of State Bulletin* LX, no. 1558 (5 May 1969): 377-381.

———. "Reprisals to Interference with US Aerial Surveillance." 1962. Memorandum from Deputy Undersecretary of State, November 5, 1962, Item Number CC01989, Cuban Missile Crisis Collection, Digital National Security Archive, ProQuest. http://nsarchive.chadwyck.com/home.do. Accessed 20 Oct 2012.

———. "Second London Conference on Suez Canal." *The Department of State Bulletin* XXXV, no. 901 (1 Oct 1956): 503-508.

———. "Secretary Dulles' New Conference of October 16." *The Department of State Bulletin* XXXV, no. 905 (29 Oct 1956): 655-661.

———. "Statement by Ambassador Stevenson to U.N. Security Council, October 25, 1962." *The Department of State Bulletin* XLVII, no. 1220 (12 Nov 1962): 737-740.

———. "Statement by Secretary Dulles in the General Assembly, November 1." *The Department of State Bulletin* XXXV, no. 907 (12 Nov 1956): 751-755.

———. "Statement by Senator Symington, Committee 1, December 11 [1968]." *The Department of State Bulletin* LX, no. 1542 (13 Jan 1969): 32-36.

———. "Suez Canal Discussion at Cairo." *The Department of State Bulletin* XXXV, no. 900 (24 Sep 1956): 467-475.

———. *The Suez Canal Problem, July 26-September 22 1956*. Washington, D.C.: Government Printing Office, 1956.

———. "The Suez Question in the Security Council." *The Department of State Bulletin* XXXV, no. 904 (22 Oct 1956): 611-617.

———. "Transcript of Secretary Dulles' News Conference." *The Department of State Bulletin* XXXV, no. 898 (10 Sep 1956): 406-411.

———. "U.S. Proposal in the Security Council, U.N. Doc S/3710." *The Department of State Bulletin* XXXV, no. 907 (12 Nov 1956): 750.

———. "U.S. Request for Convening U.N. Security Council, 22 October 1962." *The Department of State Bulletin* XLVII, no. 1220 (12 Nov 1962): 724.

———. "U.S. Statement at Panmunjom." *The Department of State Bulletin* LX, no. 1558 (5 May 1969): 383.

———. "White House Statement Concerning Aggression in the Middle East." *The Department of State Bulletin* XXXV, no. 907 (12 Nov 1956): 749.

Department of the Navy. "Fleet Air Reconnaissance Squadron One, 1969 Squadron History." 1969. 1969 VQ-1 Command History, Folder "1969", Box 210, Fleet Aviation Commands (Active), VQ-1, 1958-1980, Naval History & Heritage Command, Archives Branch, Washington Navy Yard.

———. "Fleet Air Reconnaissance Squadron One, Naval Air Station, Whidbey Island, Washington." 2001. 2001 VQ-1 Command History, Folder "2001", Box 211, Fleet Aviation Commands (Active), VQ-1, 1981-present, Naval History & Heritage Command, Archives Branch, Washington Navy Yard.

Donald, David. *Spyplane*. London: Aerospace Publishing Ltd., 1987.

Dornheim, Michael A. "Mission of Tier 3 - Reflected in Design." *Aviation Week & Space Technology*, 19 June 1995, 55-64.

Dudziak, Mary. *War Time: An Idea, Its History, Its Consequences*. Cambridge: Oxford University Press, 2012.

Dulles, John Foster. "Memorandum from Secretary of State, Washington D.C. To the President, Gettysburg, Pennsylvania, 2 February 1956." 1956. Document Number CK3100374600. Declassified Documents Reference System (DDRS), Primary Source Media, The Gale Publishing Inc. http://galenet.galegroup.com.aufric.idm.oclc.org/servlet/DDRS, accessed 20 Sep 2012.

Dunay, Pál*, et al.* "Open Skies: A Cooperative Approach to Military Transparency and Confidence Building." New York: United Nations, 2004.

Early Cold War Overflights 1950-1956, Symposium Proceedings. Edited by R. Cargill Hall and C.D. Laurie. Vol. I, Washington D.C.: Office of the Historian, National Reconnaissance Office, 2003.

Early Cold War Overflights 1950-1956, Symposium Proceedings. Edited by R. Cargill Hall and C.D. Laurie. Vol. II, Washington D.C.: Office of the Historian, National Reconnaissance Office, 2003.

Ecker, William B., and Kenneth Jack. *Blue Moon over Cuba: Aerial Reconnaissance During the Cuban Missile Crisis*. Oxford: Osprey Publishing, 2012.

Ehrhard, Thomas P. *Air Force Uavs: The Secret History*. Mitchell Institute Study. Mitchell
    Institute Press, Air Force Association, 2010.

Eisenhower, Dwight D. *Mandate for Change*. New York: Doubleday, 1963.

———. "National Security Council Intelligence Directive No. 8, Photographic Interpretation
    (Effective 18 January 1961)." 1961. Document Number CK3100360065. Declassified
    Documents Reference System (DDRS), Primary Source Media, The Gale Publishing Inc.
    http://galenet.galegroup.com.aufric.idm.oclc.org/servlet/DDRS?, accessed.

———. "President Eisenhower to Prime Minister Ben-Gurion, November 7." *The Department of
    State Bulletin* XXXV, no. 908 (19 Nov 1956): 797-798.

———. "Statement by President Eisenhower." *The Department of State Bulletin* XXXV, no. 906
    (5 Nov 1956): 699-700.

Eisenhower, John D. "Memorandum for Record, February 12, 1959." 1959. Document Number
    CK3100230922. Declassified Documents Reference System (DDRS), Primary Source
    Media, The Gale Publishing Inc. http://galenet.galegroup.com.aufric.idm.oclc.org/servlet/
    DDRS, accessed 20 Sep 2012.

———. "Memorandum of Conference with the President, December 16, 1958 — 9:00 Am."
    1958. Document Number CK3100455929. Declassified Documents Reference System
    (DDRS), Primary Source Media, The Gale Publishing Inc. http://
    galenet.galegroup.com.aufric.idm.oclc.org/servlet/DDRS?, accessed 19 Sep 2012.

Eisenstein, Maurice*, et al. Methodologies for Planning on-Site and Aerial Inspections for Use in
    Treaty Negotiations*. Santa Monica: RAND, 1994.

Erdbrink, Thomas. "Iran's Claim of Drone Capture Is Denied by U.S." *The New York Times*, 4
    Dec 2012, www.nytimes.com, accessed 4 Dec 2012.

"Excerpts from Debate on Cuba in Security Council." *New York Times*, 26 October 1962,
    ProQuest Historical Newspapers, The New York Times (1851-2009), ProQuest, http://
    search.proquest.com.aufric.idm.oclc.org/docview/116201416?accountid=4332, accessed
    15 Nov 2012.

Fallon, ADM William J. "Investigation into the Circumstances Connected with the Aircraft
    Collision between Fleet Air Reconnaissance Squadron One (Vq-1) Ep-3e Buno 156511
    and the Prc F-8, 1 April 2001." 2003. MFR to Chief of Naval Operations, Digital
    National Security Archives, ProQuest. www.ProQuest.com. Accessed 5 Jul 2012.

Farquhar, John Thomas. "A Cold War in Flames: The Impact of Aerial Reconnaissance on U.S.-
    Soviet Relations, 1948-1960." Masters Thesis, Creighton University, 1986.

———. *A Need to Know: The Role of Air Force Reconnaissance in War Planning, 1945-1953*. Maxwell Air Force Base, Alabama: Air University Press, 2004. http://aupress.maxwell.af.mil/bookinfo.asp?bid=147, accessed 13 Dec 2011.

Fedele, Frank. "Overflight by Military Aircraft in Time of Peace." *United States Air Force JAG Law Review* 9, no. 5 (1967): 8-25. Law Journal Library, HeinOnline. https://heinonline.org, accessed 4 Oct 2012.

Federal Aviation Adminstration. *International Flight Information Manual (IFIM)*. Washington D.C.: US Government Printing Office, 2000.

Feinstein, Lee. "Cfe Treaty Hits Potholes in Road to Ratification." *Arms Control Today* 21, no. 2 (March 1991): 24-27. Newspaper and Current Periodical Reading Room, Library of Congress.

Fleischer, Ari. "Press Briefing by Ari Fleischer, 23 April." 2001. White House press release. George W. Bush White House Archived Website, News & Policies, April 2001, George W. Bush Presidential Library. http://georgewbush-whitehouse.archives.gov/news/briefings/20010423-14.html, accessed 16 Jan 2013.

Ford, Gerald. "Establishing the United States Sinai Support Mission." 1976. Executive Order 11896, January 13, 1976, The American Presidency Project Online, University of California Santa Barbara. http://www.presidency.ucsb.edu. Accessed 20 Dec 2012.

Fursenko, Aleksander, and Timothy Naftali. *One Hell of a Gamble: Khrushchev, Castro, and Kennedy, 1958-1964*. New York: W.W. Norton, 1997.

Gabriele, Mark. *The Treaty on Open Skies and Its Practical Applications and Implications for the United States*. Santa Monica: RAND Corporation, 1998. RAND Graduate School Dissertation. Law Library, Library of Congress.

Gaddis, John L. *Strategies of Containment: A Critical Reappraisal of Postwar American National Security Policy*. New York: Oxford University Press, 1982.

Gaffen, Fred. *In the Eye of the Storm: A History of Canadian Peacekeeping*. Toronto: Deneau & Wayne, 1987.

The Geneva Conference of Heads of Government, July 18-23, 1955. Washington, D.C.: US Government Printing Office, 1955. Department of State Report, Library of Congress.

George, Alexander L. *Case Studies of Actual and Alleged Overflights, 1930-1953 — Supplement*. Santa Monica, CA: RAND Corp., 1955. RAND Report RM-1349(s).

———. *Overflights 1935-1953*. Washington D.C.: RAND Corporation, 1955. RAND Report.

———. *Soviet Reactions to Border Flights and Overflights in Peacetime*. Santa Monica, CA: RAND Corporation, 1954. RAND Report RM-1346 (TS-1106), declassified 3 Jul 1996.

Gilbert, Ron, and Tucker Malishenko. *Early Flight*. Dayton, Ohio: Landfall Press, 1984.

Gilmore, Gerry J. "Navy Aircraft Not a 'Spy Plane,' DoD Says." 4 April 2001. Archived DoD News Releases. DoD News Database, Department of Defense. http://www.defense.gov/News/NewsArticle.aspx?ID=45042, accessed 12 Jan 2013.

Goddard, George. *Overview: A Lifelong Adventure in Aerial Photography*. Garden City, New York: Doubleday, 1961.

Godwin, Paul H.B. "Decisionmaking under Stress: The Unintentional Bombing of China's Belgrade Embassy and the EP-3 Collision." Chap. 6 In *Chinese National Security Decisionmaking under Stress*, edited by Andrew Scobell and Larry M. Wortzel. 161-190. Carlise, PA: Strategic Studies Institute, 2005.

Goodpaster, Andrew J. "Memorandum for Record, December 18, 1956." 1956. Document Number CK3100244014. Declassified Documents Reference System (DDRS), Primary Source Media, The Gale Publishing Inc. http://galenet.galegroup.com.aufric.idm.oclc.org/servlet/DDRS, accessed 20 Sep 2012.

Gordon, Doug. *Tactical Reconnaissance in the Cold War*. South Yorkshire, England: Pen & Sword Books Limited, 2006.

Graham, Thomas, and Damien LaVera. *Cornerstones of Security: Arms Control Agreements in the Nuclear Era*. Seattle: University of Wisconsin Press, 2003.

Grief, Nicholas. *Public International Law in the Airspace of the High Seas*. London: Martinus Nijhoff Publishers, 1994.

Gromyko, A. "Telegram from Soviet Foreign Minister A.A. Gromyko to A.I. Mikoyan (in Havana), November 18." 1962. Ciphered telegram, Cold War International History Project Digital Archive, Cuban Missile Crisis Collection, Wilson Center (online). http://www.wilsoncenter.org/digital-archive. Accessed 14 Nov 2012.

———. "Telegram from Soviet Foreign Minister A.A. Gromyko to the Cc Cpsu." 1962. Cold War International History Project Digital Archive, Cuban Missile Crisis Collection, Wilson Center. http://www.wilsoncenter.org/digital-archive. Accessed 15 Nov 2012.

Grossnick, Roy*, et al. United States Naval Aviation 1910-1995*. Washington, D.C.: Naval Historical Center, 1997.

Hall, R. Cargill. "Denied Territory: Eisenhower's Policy of Peacetime Aerial Overflight." *Airpower History*, Winter 2009, 4-10.

———, "Samos to the Moon: The Clandestine Transfer of Reconnaissance Technology between Government Agencies." National Reconnaissance Office, Center for the Study of National Reconnaissance, 2001, http://www.nro.gov/history/csnr/programs/docs/prog-hist-01.pdf, accessed 27 Jun 2012.

———. "The Truth About Overflights." *The Quarterly Journal of Military History* 9, no. 3 (Spring 1997): 25-41.

A Handbook of Confidence-Building Measures for Regional Security. Edited by M. Krepon. 2 ed. Washington, D.C.: Henry L. Stimson Center, 1995.

Hartmann, Rüdiger, and Wolfgang Heydrich. *Der Vertrag Über Den Offenen Himmel* [in German] [The Treaty on Open Skies]. Translated by John Trager. Baden-Baden: Nomos Verlagsgesellschaft, 2000.

Hashim, Ahmed. "Arms Control and the Arabs' Strategic Environment." Chap. 14 In *Confidence Building and Verification: Prospects in the Middle East*, edited by Shai Feldman. 163-176. Jerusalem: The Jerusalem Post, 1994.

Hawes, John. *Open Skies: Beyond "Vancouver to Vladivostok"*. Washington, D.C.: The Henry L. Stimson Center, 1992. Occasional Paper No. 10.

Hayton, Raymond. "Jurisdiction of the Littoral State in the Air Frontier." *The Philippine International Law Journal* 3, no. 1 (1964): 369. Harvard Research in International Law Collection, HeinOnline. https://heinonline.org.

Hilsman, Roger. *To Move a Nation*. New York: Doubleday, 1967.

Hiltzik, Michael. *The New Deal: A Modern History*. New York: Free Press, 2011.

Hinsley, F.H., and E.E. Thomas. *British Intelligence in the Second World War*. 3 vols. Vol. 1, New York: Cambridge University Press, 1979.

Hoffman, David E. *The Dead Hand : The Untold Story of the Cold War Arms Race and Its Dangerous Legacy*. 1st Anchor Books ed. New York: Anchor Books, 2010.

Homan, Richard. "Lost Plane a Pueblo-Type Spy." *The Washington Post*, 16 Apr 1969, A6, ProQuest Historical Newspapers, ProQuest, http://search.proquest.com/docview/147691777?accountid=12084, accessed 2 Jan 2012.

Hopkins, J.C., and Sheldon A. Goldberg. *The Development of Strategic Air Command 1946-1986: The Fortieth Anniversary History*. Offutt Air Force Base, Nebraska: Office of the Historian, Headquarters Strategic Air Command, 1986.

Howard, Ross. "Talks on Open Skies Adjourne Amid Impasses." *Globe and Mail*, 26 February 1990, A2, Newpaper and Current Periodical Reading Room, Library of Congress.

Hurst, James W. *Pancho Villa and Black Jack Pershing: The Punitive Expedition in Mexico*. Westport, Connecticut: Praeger, 2008.

International Council on the Rules of Aeroplanes and Use. *Convention Relating to the Regulation of Aerial Navigation (the Paris Convention)*. New York (originally published in Paris, 1919): United Nations, 1947. International Agreement No Longer in Force. 1919. International Treaties and Agreements Collection, Volume 19, Department of State Bunche Library.

Irvin, David W. *History of Strategic Drone Operations*. Paducah: Turner Publishing, 2003.

———. *The History of Strategic Drone Operations*. Paducah: Turner Publishing, 2003.

———. *Reconnaissance Is Black*. Paducah, KY: Turner Publishing Co, 2000.

Jackson, Robert. *High Cold War: Strategic Reconnaissance and the Electronic Intelligence War*. Sparkford, UK: Patrick Stephens Limited, 1998.

Jenkins, Gordon. *History of 115 Air Transport Unit (Atu) Rcaf, March 1957 to 29 May 1967*. undated. Unpublished personal paper. http://www.archive.org/details/HistoryOf115AtuRcaf, accessed 2 Dec 2012.

"Jiang Urges U.S. To Stop All Spy Flights against China." *Xinhua*, 4 April 2001, Xinhua News Service, Xinhua News Agency, www.news.xinhuanet.com/english, accessed 15 Jan 2013.

Jiaxuan, Tang. *Heavy Storm and Gentle Breeze: A Memoir of China's Diplomacy*. New York: Harper Collins, 2011.

Jodice, Lt Gen Jodice Ralph. "Presentation Regarding Operations Unified Protector." Discussion with the author, Pentagon Conference Center, Room B-1, 25 Jun 2012.

John R. Deane, "Revision of Policy with Relation to Russia". 16 Apr 1945. JCS 1313. Records of the Combined Chiefs of Staff (CCS). 092 USSR (3-27-1945) sec 1. Record Group 218. NARA, Washington D.C.

Johnson, Alexis. "Official Letter." 1970. Letter from Under Secretary for Political Affairs U. Alexis Johnson to Deputy Secretary of Defense David Packard, 9 January 1970, Secret, Recrod Group 59, Department of State Records, Subject-Numeric Records, 1970-1973, Pol Chicom-US, National Archives. The National Security Archive, George Washington University. http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB41/NSAEBB41-3.pdf. Accessed 5 Jul 2012.

Johnson, Clarence L. "History of the Oxcart Program." 1968. Report Number SP-1362, Lockheed Aircraft Corporation, Advanced Development Projects, Burbank, California. Clarence Kelly Johnson Papers, Lockheed Corporation.

Johnson, Kelly. *Log for Project X*. Clarence Kelly Johnson Papers. Burbank, CA: Lockheed Corporation, Advanced Development Projects Division, 1954.

Johnston, Eric. "Meeting between Eric Johnston and N. Khrushchev on October 6, 1958." 1958. Document Number CK3100164501. Declassified Documents Reference System (DDRS), Primary Source Media, The Gale Publishing Inc. http://galenet.galegroup.com.aufric.idm.oclc.org/servlet/DDRS, accessed 9 May 2012.

Jones, Peter. "Peacekeeping and Aerial Surveillance III: The Post Cold War Era." *Peacekeeping & International Relations* 23, no. 4 (Jul 1994 1994): 5. ProQuest Research Library, ProQuest. http://search.proquest.com/docview/234504871?accountid=12084, accessed 12 Dec 2012.

Jones, Soren Col, Personal interview conducted by the author. Pentagon, Virginia, 2 October 2012.

Kahn, David. *Hitler's Spies: German Military Intelligence in World War Ii*. New York: Collier Books, 1985.

Kan, Shirley*, et al.*, "China-U.S. Aircraft Collision Incident of April 2001: Assessments and Policy Implications." Congressional Research Service, The Library of Congress, RL30946, 10 Oct 2001.

Kanter, Arnold. "Memorandum for Record, May 18." 1989. OA/ID CF00778, National Security Council, Arnold Kanter Files, Staff and Office Files. Open Skies Collection, George H.W. Bush Presidential Library.

Kaye, Stuart. "Freedom of Navigation, Surveillance and Security: Legal Issues Surrounding the Collection of Intelligence from Beyond the Littoral." *Australian Year Book of International Law* 24 (2005): 93-106. HeinOnline Law Journal Library, HeinOnline. www.heinonline.org, accessed 11 Jan 2013.

Keefe, John. *Anatomy of the EP-3 Incident, April 2001*. Project Asia. Alexandria: The CNA Corporation, 2002. Center for Strategic Studies.

Kelly, Ian. "Opening Remarks by Ambassador Ian Kelly to the Open Skies Review Conference, Vienna, June 7, 2010." 2012. OSCC.RC/34/10, Documents Library, Organization for Security and Cooperation in Europe. www.osce.org/library. Accessed 1 Dec 2012.

Kennan, George F. "The Sources of Soviet Conduct." *Foreign Affairs* 25, no. 4 (1947). http://www.foreignaffairs.com/articles/23331/x/the-sources-of-soviet-conduct?page=show, accessed 21 Jul 2012.

Kennedy, John F. "Address by President Kennedy, October 22, 1962." *The Department of State Bulletin* XLVII, no. 1220 (12 Nov 1962 1962): 715-720.

Kennedy, Robert F. *Thirteen Days: A Memoir of the Cuban Missile Crisis*. New York: W.W. Norton & Company, 1968.

Kent, Sherman. "A Crucial Estimate Relived." *Studies in Intelligence, Archive Indexes* 8, no. 2 (Spring 1964). Studies Archive Indexes, Center for the Study of Intelligence, Central Intelligence Agency. https://www.cia.gov/library/center-for-the-study-of-intelligence/kent-csi/vol8no2/html/v08i2a01p.htm, accessed 31 Oct 2012.

Kesaris, Paul, Ed. "Minutes of Meetings of the National Security Council." 1980. Third Supp, Microfilm 21,683, reel 3 of 7, Manuscript Reading Room, Library of Congress.

———. "Minutes of Meetings of the National Security Council with Special Advisory Reports." 1980. Microfilm 21,735, reel 1 of 3, Manuscript Reading Room, Library of Congress.

Khrushchev, N. "Letter from Chairman Khrushchev to Acting Secretary General U Thant, October 25, 1962." 1962. Press Release SG/1357, pp. 2-3, UN Official Document System, UN.org. http://www.un.org/en/documents/. Accessed 2 Oct 2012.

Killian, James R. *Meeting the Threat of Surprise Attack, Report of the Technologial Capabilities Panel of the Scientific Advisory Committee*. Washington, D.C.1955. President's Scientific Advisory Committee, 14 February 1955.

———. *Sputnik, Scientists, and Eisenhower: A Memoir of the First Special Assistant to the President for Science and Technology*. Cambridge, MA: MIT Press, 1977.

Kissinger, Henry. *Diplomacy*. New York: Simon & Schuster, 1994.

———. *White House Years*. New York: Simon & Schuster, 1979.

———. *Years of Upheaval*. New York: Simon & Schuster, 1982.

Korean Central News Agency (KCNA). "Aerial Espionage against Dprk." www.KCNA.co.jp: Korean News Service in Tokyo, 30 December 1999. Korean News, Korean News Service. http://www.kcna.co.jp/index-e.htm, accessed 3 Jan 2013.

Krass, Allan. *Verification: How Much Is Enough?* London: Taylor and Francis, 1985.

Krasznai, Marton. "Cooperative Bilateral Aerial Inspections: The Hungarian-Romanian Experience." Chap. 6 In *Open Skies, Arms Control, and Cooperative Security*, edited by Michael Krepon and Amy Smithson. 135-146. New York: St. Martin's Press, 1992.

Krepon, Michael, and Peter Constable. "Confidence-Building, Peacemaking, and Aerial Inspections in the Middle East." Chap. 12 In *Open Skies, Arms Control, and Cooperative Security*, edited by Michael Krepon and Amy Smithson. 243-261. New York: St. Martin's Press, 1992.

Kunz, Diane B. *The Economic Diplomacy of the Suez Crisis*. Chapel Hill, NC: University of North Carolina Press, 1991.

Landau, Emily. "Cbms in the Middle East: A Conceptual Framework." Chap. 18 In *Confidence Building and Verification: Prospects in the Middle East*, edited by Shai Feldman. 209-221. Jerusalem: The Jerusalem Post, 1994.

Lashmar, Paul. *Spy Flights of the Cold War*. Gloucestershire: Sutton Publishing Limited, 1996.

Latini, Paolo Col. "Sharing Observation Flights: Lessons Learned for Joint Planning and Execution." 2010. OSCC.RC/31/10, Documents Library, Organization for Security and Cooperation in Europe. http://www.osce.org/secretariat/68392. Accessed 18 Nov 2012.

Lederman, Itshak. *The Arab-Israeli Experience in Verification and Its Relevance to Conventional Arms Control in Europe*. College Park: University of Maryland, 1989. Center for International Security Studies at Maryland, Occasional Paper 2.

Leffler, Melvyn P. *A Preponderance of Power: National Secuirty, the Truman Administration, and the Cold War*. Stanford: Stanford University Press, 1992.

Levite, Ariel. "Israel's Security Concerns: Characteristics and Implications." Chap. 16 In *Confidence Building and Verification: Prospects in the Middle East*, edited by Shai Feldman. 184-194. Jerusalem: The Jerusalem Post, 1994.

Lintner, Bertil. *Great Leader, Dear Leader: Demystifying North Korea under the Kim Clan*. Chiang Mai, Thailand: Silkworm Books, 2005.

Lloyd, Alwyn T. *A Cold War Legacy: A Tribute to Strategic Air Command 1946-1992*. Missoula: Pictorial Histories Publishing Company, 1999.

Lucas, Scott, and Alistair Morey. "The Hidden 'Alliance': The CIA and Mi6 before and after Suez." *Intelligence and National Security* 15, no. 2 (2000): 95-120. Taylor and Francis Online, Library of Congress. http://dx.doi.org/10.1080/02684520008432605, accessed 11 Apr 2013.

Lucas, W. Scott. *Divided We Stand: Britain, the US and the Suez Crisis*. London: Hodder & Stoughton, 1991.

Lysyshyn, Ralph. "Open Skies Ahead." *NATO Review* 40, no. 1 (April 1992): 23-26. NATO Online Library, NATO. http://www.nato.int/docu/review/1992/9201-5.htm, accessed 3 Dec 2012.

Mackinlay, John. *The Peacekeepers: An Assessment of Peacekeeping Operations at the Arab-Israeli Interface*. London: Unwin Hyman, 1989.

Mandell, Brian. *The Sinai Experience: Lessons in Multimethod Arms Control Verification and Risk Management*. Ottawa: Canada Department of External Affairs, 1987.

Mann, Jim. "Encounters Routine for U.S. Patrol Missions." *The Los Angeles Times*, 2 April 2001, A2, ProQuest Historical Newspapers, ProQuest, www.proquest.com, accessed 15 Jan 2013.

McVeity, E. "Unef's Air Support: A Record of Achievement ". *The Roundel* 10 no. 2 (March 1958): 2-6. Photocopy gratefully obtained from Canadian Libraries, Library and Archives Canada, Ottawa ON.

"Memorandum of Conversation." 1973. Kissinger, Schlesinger, Colby, Moorer, Series 031400080, Folder: October 31, 1973—Kissinger, Schlesinger, Colby, Moorer, Box 2, National Security Advisor, Memoranda of Conversations, Gerald R. Ford Presidential Library.

Mezerik, A.G. "The Suez Canal 1956 Crisis - 1967 War." *International Review Service* XIV, no. 103 (1969).

Mobley, Richard A. "EC-121 Down!". *U.S. Naval Institute Proceedings* 127, no. 8 (Aug 2001): 62-67. Military & Government Collection, Ebscohost. www.ebscohost.com, accessed 3 Jan 2013.

———. *Flash Point North Korea: The Pueblo and EC-121 Crises*. Annapolis: Naval Institute Press, 2003.

Mosley, Leonard. *Dulles: A Biography of Eleanor, Allen, and John Foster Dulles and Their Family Network*. London: Hodder and Stoughton, 1978.

"Mq-1b Predator Fact Sheet." United States Air Force, http://www.af.mil/information/factsheets/ factsheet.asp?fsID=122.

"Mq-9 Reaper Fact Sheet." United States Air Force, http://www.af.mil/information/factsheets/ factsheet.asp?fsID=6405.

Multinational Force and Observers Director General's Report to the 2012 Trilateral Meeting. Rome: Multinational Force and Observers, 2012. Documents, Multinational Force and Observers. mfo.org, accessed 12 Dec 2012.

The Multinational Force and Observers: Servants of Peace. Rome: Multinational Force and Observers, 1993.

Murphy, Charles L. "Memorandum for Mr. Plummer, Summary of U-2 and Sr-71 1973 Overflights." 1974. Folder #2, Reconnaissance Subject Series, Jeff Richelson Collection, The National Security Archive, George Washington University.

Myers, Harold P., and Gabriel G. Marshall. *Usafss to Af ISR Agency 1948-2009*. San Antonio, TX: AF ISR Agency History Office, 2009.

Myers, Steven Lee. "With Crew in U.S., Bush Sharpens Tone toward China." *The New York Times*, 13 April 2001, A1, ProQuest Historical Newspapers, ProQuest, http://search.proquest.com/docview/91983277?accountid=12084, accessed 24 Jan 2013.

Myers, Steven Lee, and Christopher Drew. "Chinese Pilot Reveled in Risk, Pentagon Says." *The New York Times*, 6 April 2001, A1, ProQuest Historical Newspapers, ProQuest, www.ProQuest.com, accessed 2 Jan 2013.

Nash, Philip. *The Other Missiles of October: Eisenhower, Kennedy, and the Jupiters 1957-1963*. Chapel Hill: University of North Carolina Press, 1997.

Nasser, Gamal Abdel. "The Egyptian Revolution." *Foreign Affairs* 33, no. 2 (January 1955). 90 Years of Foreign Affairs Archive, Council on Foreign Relations. http://www.foreignaffairs.com/articles/71159/gamal-abdel-nasser/the-egyptian-revolution#, accessed 1 Oct 2012.

National Defense University Library. "Goldwater Nichols Department of Defense Reorganization Act of 1986." National Defense University, http://www.ndu.edu/library/goldnich/goldnich.html.

National Geospatial-Intelligence Agency. *The Advent of the National Geospatial-Intelligence Agency*. Washington D.C.: Office of the NGA Historian, 2011.

National Imagery and Mapping Agency. *America's Eyes: What We Were Seeing*. Bethesda, Maryland: NIMA Publishing, 2002.

National Reconnaissance Office (NRO), "The Corona Story." NRO Declassified Records, Dec 1988 (released 30 Jun 2010), http://www.nro.gov/foia/docs/foia-corona-story.pdf, accessed 2 Jun 2012.

Nations, United. "Letter from Acting Secretary General U Thant to Chairman Khrushchev, October 25, 1962." 1962. Press Release SG/1357, UN Official Document System, UN.org. http://www.un.org/en/documents/. Accessed 2 Oct 2012.

Negrine, Ralph. "The Press and the Suez Crisis: A Myth Re-Examined." *The Historic Journal* 25, no. 4 (December 1982): 975-983.

The New Oxford American Dictionary. Edited by Angus Stevenson and Christine Lindberg. 3rd ed. Oxford: Oxford University Press, 2010.

Nichols, David A. *Eisenhower 1956*. New York: Simon & Schuster, 2011.

Nixon, Richard. *Rn: The Memoirs of Richard Nixon*. New York: Grosset and Dunlap, 1978.

Offner, Arnold A. "From Reims to Potsdam: Victory, Atomic Diplomacy, and the Origins of the Cold War." Chap. 10 In *Victory in Europe, 1945: From World War to Cold War*. 233-256. Lawrence, Kansas: University Press of Kansas, 2000.

The One China Principle and the Taiwan Issue. Beijing: Taiwan Affairs Office and Information Office of the State Council, 2000. Dated 21 February.

Open Skies Consultative Commission. *20 Years of Open Skies*. www.osce.org: Organization for Security and Cooperation in Europe, 2012. Web Page, updated March 2012. http://www.osce.org/oscc/89033, accessed 20 Nov 2012.

———. "Decision Number Fifteen, 12 October 1994." 1992. OSCC/VI/Dec.15, Treaty on Open Skies Collection, OSCC Decisions, United States Department of State. http://www.state.gov/documents/organization/106733.pdf. Accessed 1 Dec 2012.

———. "Decision Number Seven to the Treaty on Open Skies, 10 December 1992." 1992. OSCC/II/Dec.7, Treaty on Open Skies Collection, OSCC Decisions, United States Department of State. http://www.state.gov/documents/organization/106723.pdf. Accessed 1 Dec 2012.

———. "Decision Number Thirteen to the Treaty on Open Skies, 18 April 1994." 1994. OSCC/V/Dec.13, Treaty on Open Skies Collection, OSCC Decisions, United States Department of State. http://www.state.gov/documents/organization/106731.pdf. Accessed 5 Dec 2012.

———. "Decision Number Three to the Treaty on Open Skies, 29 June 1992." 1992. OSCC/I/Dec.3, Treaty on Open Skies Collection, OSCC Decisions, United States Department of State. http://www.state.gov/documents/organization/106719.pdf. Accessed 1 Dec 2012.

———. "Draft Agenda of the Second Open Skies Review Conference (Osrc) 2010." 2010. OSCC.RC/2/10/Rev.2, Documents Library, Organization for Security and Cooperation in Europe. www.osce.org/library. Accessed 2 Dec 2012.

———. "Final Document of the 2nd Open Skies Review Conference." 2010. OSCC.RC/39/10, Documents--Second Review Conference for the Open Skies Treaty, Vienna, 7-9 June 2010, Organization for Security and Cooperation in Europe. http://www.osce.org/secretariat/68703. Accessed 26 Nov 2012.

———. "Open Skies Treaty Observation Flights." 2012. OSCC.DEL/5/12/Corr.1, Documents Library, Organization for Security and Cooperation in Europe. www.osce.org/library. Accessed 20 Nov 2012.

———. "Second Review Conference for the Open Skies Treaty, Vienna, 7-9 June 2012." OSCE, Vienna, http://www.osce.org/secretariat/69797.

Open Skies for Peace. Edited by William Lambers. Washington: Lambers Publications, 2006. History News Service Collection.

Open Skies, Arms Control, and Cooperative Security. Edited by Michael Krepon and Amy Smithson. New York: St. Martin's Press, 1992.

Organization for Security and Cooperation in Europe. *Treaty on Open Skies*. Washington D.C.: Library of Congress, 2010. Updated Treaty on Open Skies as of September 2010 by the Open Skies Consultative Committee.

Osborn, Shane. *Born to Fly: The Untold Story of the Downed American Reconnaissance Plane*. 1st ed. ed. New York: Broadway Books, 2001.

Joint Publication (JP) 2-0. *Joint Intelligence*, 22 Jun 2007.

Parsons, Ted. "Images Hint at Chinese Y-8 Elint Variant." *Jane's Defense Weekly* (5 Jan 2012 2012). IHS Jane's Defense & Security Intelligence & Analysis, IHS Inc. www.janes-ihs.com, accessed 14 Jan 2013.

Pasztor, Andy, and John Emshwiller. "Drone Use Takes Off on the Home Front." *The Wall Street Journal*, 20 Apr 2012, http://online.wsj.com/article/SB10001424052702304331204577354331959335276.html?mod=WSJ_hp_MIDDLENexttoWhatsNewsTop, accessed 22 Apr.

Pedlow, Gregory W., and Donald E. Welzenbach. *The CIA and the U-2 Program, 1954-1974*. Washington DC: Central Intelligence Agency, 1998. Report, Center for the Study of Intelligence.

Peebles, Curtis. *Dark Eagles: A History of Top Secret U.S. Aircraft Programs*. Novato: Presidio Press, 1995.

Peking National Chinese News Agency. "Prg Statements Protest U.S., Saigon Violations " Daily Report. People's Republic of China, FBIS-CHI-74-005: 8 Jan 1974. Foreign Broadcast

Information Service, NewsBank, Inc. Accessed at the Library of Congress. http://infoweb.newsbank.com/iw-search/we/HistArchive/?p_product=FBISX&p_theme=fbis&p_nbid=L73P61RXMTM0ODc1NTMxNS43MjUxNjk6MToxNDoxNDAuMTQ3LjI3LjIwNg&d_db=FBIS&p_action=doc&s_lastnonissuequeryname=NaN&p_queryname=NaN&p_docref=v2:11C33B0D5F860D98@FBISX-12997BEF416D1108@2442056-12997BF339B97F10@14-12997BF365D46708@Foreign+Ministry+Spokesman+3+Jan&p_docnum=2, accessed 26 Sep 2012.

"Pilotless US Plan Downed, China Says." *New York Times*, 17 Nov 1964, A1, A14.

Pocock, Chris. *50 Years of the U-2: The Complete Illustrated History of the Legendary Dragon Lady*. Atglen: Schiffer Publishing, 2005.

———. *The Black Bats: CIA Spy Flights over China from Taiwan 1951-1969*. Atglen, Pensilvania: Schiffer Publishing, 2010.

———. *Dragonlady: The History of the U-2 Spyplane*. Osceola, Wis., USA: Motorbooks International, 1989.

———. *The U-2 Spyplane: Toward the Unknown*. Atglen, PA: Schiffer Publishing Ltd., 2000.

Polmar, Norman. *Spyplane: The U-2 History Declassified*. Osceola, WI: MBI Publishing, 2001.

Powell, Colin. "Press Conference at Truman Little White House." 3 April 2001. Transcript of Secretary of State Remarks with Press Questions. Department of State Archived Website, Speeches and Remarks, April 2001, Department of State. http://2001-2009.state.gov/secretary/former/powell/remarks/2001/1910.htm, accessed 13 Jan 2013.

———. "Press Conference Following Meetings with Chinese Officials, Beijing." 28 July 2001. Transcript of Secretary of State Press Conference. Department of State Archived Website, Speeches and Remarks, July 2001, Department of State. http://2001-2009.state.gov/secretary/former/powell/remarks/2001/4327.htm, accessed 19 Jan 2013.

"President Grants Permanent Trade Status to China." 27 December 2001. White House Press Release, Statement by the Deputy Press Secretary. George W. Bush White House Archived Website, News & Policies, December 2001, George W. Bush Presidential Library. http://georgewbush-whitehouse.archives.gov/news/releases/2001/12/20011227-2.html, accessed 23 Jan 2013.

"President Richard Nixon's Daily Diary, April 1-17." 1969. Virtual Library, Richard Nixon Presidential Library. www.nixonlibrary.gov/virtuallibrary/documents. Accessed 6 Jan 2013.

"Protocol to the Egyptian-Israeli Treaty of Peace Dated March 26, 1979." 1981. Documents, Multinational Force and Observers. mfo.org. Accessed 12 Dec 2012.

Pyongyang Home Service in Korean 1003 GMT 10 May. "Government Critisizes Reconnaissance Planes." *Foreign Broadcast Information Service Daily Report: Asia & Pacific* I, no. 87 (10 May 1968): D1. Foreign Broadcast Information Service, 1 May 1968-1 June 1968, Library of Congress Microfilm 05126.

Pyongyang Home Service in Korean 2103 GMT 16 April. "Defense Minister Lauds Unit Which Downed Plane, Order Number 24." *Foreign Broadcast Information Service Daily Report: Asia & Pacific* II, no. 74 (17 Apr 1969): D1. Foreign Broadcast Information Service, 1 March 1969-1 May 1969, Library of Congress Microfilm 05126.

Pyongyang Home Service in Korean 2200 GMT 17 Apr. "Editorial Justifies Downing of U.S. EC-121." *Foreign Broadcast Information Service Daily Report: Asia & Pacific* II, no. 75 (18 Apr 1969): D1. Foreign Broadcast Information Service, 1 March 1969-1 May 1969, Library of Congress Microfilm 05126.

Pyongyang KCNA International Service in English 1000 GMT 15 April. "U.S. Reconnaissance Plane Shot Down over Dprk." *Foreign Broadcast Information Service Daily Report: Asia & Pacific* II, no. 72 (15 Apr 1969): D1. Foreign Broadcast Information Service, 1 March 1969-1 May 1969, Library of Congress Microfilm 05126.

Pyongyang KCNA International Service in English 1035 GMT 23 Apr. "Government Statement on U.S. 'Provocations'." *Foreign Broadcast Information Service Daily Report: Asia & Pacific* II, no. 78 (23 Apr 1969): D1. Foreign Broadcast Information Service, 1 March 1969-1 May 1969, Library of Congress Microfilm 05126.

Pyongyang Korean Central News Agency. "Kcna Issues Report on Coastal 'Military Provocations'." Daily Report. Asia & Pacific, FBIS-APA-74-013: 18 Jan 1974. Foreign Broadcast Information Service, NewsBank, Inc. Accessed at the Library of Congress. http://infoweb.newsbank.com/iw-search/we/HistArchive/? p_product=FBISX&p_theme=fbis&p_nbid=L73P61RXMTM0ODc1NTMxNS43MjUxN jk6MToxNDoxNDAuMTQ3LjI3LjIwNg&d_db=FBIS&p_action=doc&s_lastnonissuequ eryname=7&p_queryname=7&p_docref=v2:12895BC6AA32DB40@FBISX-12ACEB08 2604D578@2442066-12ACEB0A88053CE8@11-12ACEB0AA48895B8@KCNA +ISSUES+REPORT+ON+COASTAL+%27MILITARY+PROVOCATIONS %27&p_docnum=1, accessed 25 Sep 2012.

Quigley, Craig R. "DoD News Briefing — Rear Adm. Craig R. Quigley, Dasd Pa." 17 April 2001. Transcript of 17 2001 DoD News Briefing. News Transcript Archive, Department of Defense. www.defense.gov/transcripts, accessed 12 Jan 2013.

———. "DoD News Briefing—Rear Admiral Craig R. Quigley, Dasd Pa." 3 April 2001. Transcript of 3 April 2001 DoD News Briefing. News Transcript Archive, Department of Defense. www.defense.gov/transcripts, accessed 12 Jan 2013.

Rearden, Steven L. *Council of War: A History of the Joint Chiefs of Staff 1942-1991*. Washington D.C.: NDU Press, 2012.

Reeker, Phillip T. "Daily Press Briefing, Department of State Spokesman Phillip Reeker, 13 April." 2001. Official transcript of Press Briefing, Department of State Archival Website. Department of State Daily Press Briefings, 2001, Department of State. http://2001-2009.state.gov/r/pa/prs/dpb/2001/2168.htm, accessed 2 Jan 2013.

Rhodes, Richard. *Dark Sun: The Making of the Hydrogen Bomb*. New York: Simon & Schuster, 1995.

Richelson, Jeffrey. "Eyes on the Bomb: U-2, Corona, and Kh-7 Imagery of Foreign Nuclear Installations." gwu.edu: National Security Archives, 28 Mar 2006. Electronic Briefing Book #186. The National Security Archives, George Washington University. http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB186/index.htm, accessed 16 Jun 2012.

———. "The National Securty Agency Declassified." gwu.edu: National Security Archives, 13 Jan 2000 (Updated 11 Mar 2005). Electronic Briefing Book #24. The National Security Archives, George Washington University. http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB24/index.htm, accessed 25 Jul 2012.

———. "Out of the Black: The Declassification of the Nro." National Security Archives: gwu.edu, 18 Sept 2008. Electronic Briefing Book #257. The National Security Archives, George Washington University. http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB257/index.htm, accessed 6 Jul 2012.

———. "Science, Technology and the CIA." gwu.edu: National Security Archives, 10 Sept 2001. Electronic Briefing Book (no number). The National Security Archives, George Washington University. http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB54/index2.html, accessed 12 May 2012.

———. "Secrecy and U.S. Satellite Reconnaissance, 1958-1976." gwu.edu: National Security Archives, 13 Jul 2007. Electronic Briefing Book #225. The National Security Archives, George Washington University. http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB225/index.htm, accessed 13 Jul 2012.

———. *Spying on the Bomb: American Nuclear Intelligence from Nazi Germany to Iran and North Korea*. New York: Norton, 2006.

———. "The U-2, Oxcart, and the Sr-71: U.S. Aerial Espionage in the Cold War and Beyond." gwu.edu: National Security Archives, 16 Oct 2002. Electronic Briefing Book #74. The National Security Archives, George Washington University. http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB74/, accessed 20 Jun 2012.

———. *The Wizards of Langley: Inside the CIA's Directorate of Science and Technology*. Boulder: Westview Press, 2001.

Richelson, Jeffrey T. *A Century of Spies: Intelligence in the Twentieth Century*. New York: Oxford University Press, 1997.

———. *The US Intelligence Community*. Boulder, CO: Westview Press, 2008.

Ricks, Thomas. "Anger over Flights Grew in Past Year; Proximity Riled China; U.S. Cited Interceptors." *The Washington Post*, 7 April 2001, A1, National Newspapers Expanded, ProQuest, www.proquest.com, accessed 19 Jan 2013.

"RQ-4 Global Hawk Fact Sheet." United States Air Force, http://www.af.mil/information/factsheets/factsheet.asp?fsID=13225.

Rumsfeld, Donald. "Secretary Rumsfeld Briefs on EP-3 Collision." 13 April 2001. Transcript of 13 April 2001 Secretary of Defense News Conference. News Transcript Archive, Department of Defense. www.defense.gov/transcripts, accessed 12 Jan 2013.

———. "Secretary Rumsfeld Outlines Space Initiatives." 8 May 2001. Transcript of 8 May 2001 Secretary of Defense News Conference. News Transcript Archive, Department of Defense. www.defense.gov/transcripts, accessed 12 Jan 2013.

Safran, Nadar. *Israel: The Embattled Ally*. Cambridge: Harvard University Press, 1978.

Saletan, William. "Drones Are the Worst Form of War, except for All Others." *San Jose Mercury News*, 21 Feb 2013, http://www.mercurynews.com/ci_22628998/drones-save-civilians-bombs-more-deadly?IADID=Search-www.mercurynews.com-www.mercurynews.com, accessed 12 Jan 2013.

Sanger, David E. "Bush to Tackle Delicate Issue of Resuming China Spy Flights." *The New York Times*, 17 April 2001, A6, ProQuest, http://search.proquest.com/docview/92110702?accountid=12084, accessed 24 Jan 2013.

———. "Rivals Differ on U.S. Role in the World." *The New York Times*, 30 October 2000, A1, ProQuest Historical Newspapers, ProQuest, www.ProQuest.com, accessed 13 Jan 2013.

"Second Pilot Recalls Collision of U.S., Chinese Planes." *Xinhua*, 6 April 2001, Xinhua News Service, Xinhua News Agency, www.news.xinhuanet.com/english, accessed 11 Jan 2013.

Shanker, Thom. "U.S. Resumes Its Spy Flights Close to China." *The New York Times*, 8 May 2001 2001, A1, ProQuest Historical Newspapers, ProQuest, http://search.proquest.com/docview/92159473?accountid=12084, accessed 20 Jan 2013.

Shearer, Ivan. "Military Activities in the Exclusive Economic Zone: The Case of Aerial Surveillance." *Ocean Yearbook* 17 (2003): 548-562. HeinOnline Foreign & International Law Resources Database, HeinOnline. www.heinonline.org, accessed 15 Jan 2013.

Shengnan, Zhao, and Cheng Guangjin. "Military to Strengthen Ties with US." *China Daily*, 27 Jun 2012, http://usa.chinadaily.com.cn/china/2012-06/27/content_15524489.htm, accessed 27 Jun 2012.

Shenon, Philip. "U.S. Doubles Offshore Zone under Its Law." *The New York Times*, New York, 3 Sep 1999, A16, ProQuest Historical Newspapers, ProQuest, http://search.proquest.com/docview/109956576?accountid=12084, accessed 2 Oct 2012.

Shepilov, D. "Cablegram Dated 5 November 1956 from the Minister for Foreign Affairs of the Union of Soviet Socialist Republics, Addressed to the President of the Security Council." 1956. UN doc S/3736, UN Official Document System, UN.org. www.un.org/en/documents/ods. Accessed 28 Oct 2012.

Siilasvuo, Ensio. *In the Service of Peace in the Middle East 1967-1979*. New York: St. Martin's Press, 1992.

"Silent on Peking Report." *New York Times*, 19 Nov 1964, A2.

Simmons, Scott. "Report to the 2010 Review Conference on the Work of the Sensor Working Group." 2012. OSCC.RC/29/10, Documents Library, Organization for Security and Cooperation in Europe. www.osce.org/library. Accessed 7 Dec 2012.

Smith, Gerard. *Doubletalk: The Story of the First Strategic Arms Limitation Talks*. Garden City, N.Y.: Doubleday, 1980.

Smith, Matt. "'China Is the Injured Party,' Ambassador Says." *CNN*, CNN.com/World, 4 April 2001, http://edition.cnn.com/2001/WORLD/asiapcf/east/04/04/us.china.ambassador/index.html, accessed 19 Jan 2013.

Smith, R.J. "Comments on Draft Contingency Plan for Airborne Reconnaissance of North Korea." 1968. Memorandum from Deputy Director for Intelligence to William C. Trueheart, Department of State, 19 Feb, CIA FOIA Electronic Reading Room, Central Intelligence Agency. http://www.foia.cia.gov/docs/DOC_0000644096/DOC_0000644096.pdf. Accessed 9 Jan 2013.

Smithson, Amy. "Multilateral Aerial Inspections: An Abbreviated History." Chap. 5 In *Open Skies, Arms Control, and Cooperative Security*, edited by Michael Krepon and Amy Smithson. 111-133. New York: St. Martin's Press, 1992.

Song, Yann-Huei. "The EP-3 Collision Incident, International Law and Its Implications on the U.S.-China Relations." *Chinese Yearbook of International Law and Affairs* 19 (2001):

1-15. HeinOnline Law Journal Library, HeinOnline. www.heinonline.org, accessed 15 Jan 2013.

Sorensen, Theodore. *Kennedy*. New York: Harper and Row, 1965.

Special Subcommittee on the U.S.S. Pueblo. "Inquiry into the U.S.S. Pueblo and EC-121 Plane Incidents, Report of the Special Subcommittee on the U.S.S Pueblo." Washington, D.C.: U.S. Government Printing Office, 1969.

"Specific Actions to Be Undertaken under Revised Policy with Russia". 16 Apr 1945. JCS 1313/1. CCS. 092 USSR (3-27-45), sec 1. Record Group 218. NARA, Washington D.C.

Squassoni, Sharon A., "Iraq: U.N. Inspections for Weapons of Mass Destruction." Congressional Research Service, The Library of Congress, RL31671, 7 Oct 2003.

"EC-121 Shootdown: A Chronology". undated. Folder "History Office Research Projects 1967-79". Office of Executive Secretariat. Box 6. Record Group RG 59. NARA.

"North Korean Downing of a U.S. Reconnaissance Plane: The EC-121 Incident, April 1969". October 1969. Folder "History Office Research Projects 1969-1974". Office of Executive Secretariat. Box 6. Record Group 59. NARA.

"Statement by the Delegation of the Republic of Belarus at the Second Review Conference on the Implementation of the Treaty on Open Skies." 2010. OSCC.RC/33/10, Documents Library, Organization for Security and Cooperations in Europe. www.osce.org/library. Accessed 1 Dec 2012.

"Statement by the Head of the Delegation of the Russian Federation at the Opening Session of the Second Review Conference on the Implementation of the Treaty on Open Skies." 2010. OSCC.RC/23/10, Documents Library, Organization for Security and Cooperation in Europe. www.osce.org/library. Accessed 3 Dec 2012.

Stettinius, Edward R. *The Diaries of Edward R. Stettinius Jr., 1943-1946*. Edited by Thomas M. Campbell and George C. Herring. New York: New Viewpoints, 1975.

Stoler, Mark A. "Allies or Adversaries? The Joint Chiefs of Staff and Soviet-American Relations, Spring 1945." Chap. 6 In *Victory in Europe 1945: From World War to Cold War*, edited by Arnold A. Offner and Theodore A. Wilson. 145-165. Lawrence, Kansas: University Press of Kansas, 2000.

Strategic Air Command. *Sac Reconnaissance History, January 1968-June 1971*. Edited by Headquarters SAC History Division. Offutt Air Force Base, Omaha, NE: Strategic Air Command, 1973. Command History Project.

Strauss, Lewis L. *Men and Decisions*. New York: Doubleday, 1962.

Stuart, Douglas T. *Creating the National Security State: A History of the Law That Transformed America*. Princeton, New Jersey: Princeton University Press, 2008.

Stump, Felix Admiral. "Message from Cincpac to Hedusaf // Cno, Subject Is Chinat Recon Prgogram, 24 July 1958." 1958. Document Number CK3100444062. Declassified Documents Reference System (DDRS), Primary Source Media, The Gale Publishing Inc. http://galenet.galegroup.com.aufric.idm.oclc.org/servlet/DDRS, accessed 20 Sep 2012.

Tart, Larry, and Robert Keefe. *The Price of Vigilance: Attacks on American Surveillance Flights*. New York: Balantine Books, 2001.

TASS, Moscow. "Drv Protests U.S. Reconnaissance Overflight." Daily Report. Soviet Union, FBIS-SOV-75-013: 20 Jan 1975. Foreign Broadcast Information Service, NewsBank, Inc. Accessed at the Library of Congress. http://infoweb.newsbank.com/iw-search/we/HistArchive/?p_product=FBISX&p_theme=fbis&p_nbid=L73P61RXMTM0ODc1NTMxNS43MjUxNjk6MToxNDoxNDAuMTQ3LjI3LjIwNg&d_db=FBIS&p_action=doc&s_lastnonissuequeryname=8&p_queryname=8&p_docref=v2:11C33B0D5F860D98@FBISX-12B0A5855CB46768@2442433-12B0A591A0049438@41-12B0A591EB9E4668@DRV+PROTESTS+U.S.+RECONNAISSANCE+OVERFLIGHT&p_docnum=2, accessed 25 Sep 2012.

Taylor, John W.R., and David Mondey. *Spies in the Sky*. New York: Charles Scribner's Sons, 1972.

Temple, L. Parker III. *Shades of Gray: National Security and the Evolution of Space Reconnaissance*. Reston, Virginia: American Institute of Aeronautics and Astronautics, Inc., 2005.

"Text of U.S.-Soviet Agreement on Prevention of Incidents Involving Warships." *The New York Times*, New York, 26 May 1972, A4, ProQuest Historical Newspapers, ProQuest, http://search.proquest.com/docview/119564916?accountid=12084, accessed 3 Oct 2012.

The National Security Archive. *The Cuban Missile Crisis, 1962*. Edited by Laurence Chang and Peter Kornbluh. New York: The New Press, 1992. National Security Archive Documents Reader.

Trevan, Tim. "The United Nations and Iraq: Verification in the Face of Obstruction." In *Verification 1993: Peacekeeping, Arms Control, and the Environment*, edited by John Poole and Richard Guthrie. 171-180. London: Brassey's, 1993.

Truman, Harry S. "Address of the President of the United States." 1947. Delivered Before a Joint Sessission of the Senate and the House of Representatives, Recommending Assistance to Greece and Turkey, 12 Mar, Congressional Record of 1947, Document #171, Harry S. Truman Library. Online Documents, Truman Doctrine Collection, Harry S. Truman

Presidential Library & Museum, Independence, Missouri. http://www.trumanlibrary.org/
whistlestop/study_collections/doctrine/large/index.php. Accessed 4 Aug 2012.

———. "Directive on Coordination of Foreign Intelligence." 1946. Letter to the Secretary of
State, the Secretary of War, and the Secretary of the Navy, Presidential Directives, Public
Papers of the President 1945-1953, Harry S. Truman Library. Public Papers of the
President, Harry S. Truman Presidential Library & Museum, Independence, Missouri.
http://www.trumanlibrary.org/publicpapers/index.php?pid=1461&st=&st1=. Accessed 20
Aug 2012.

———. "Functions of the Armed Services." 1947. Executive Order 9877, Executive Orders,
Official Documents, Harry S. Truman Library. Official Documents (online), Harry S.
Truman Presidential Library & Museum, Independence, Missouri. http://
trumanlibrary.org/executiveorders/index.php?pid=847. Accessed 16 Aug 2012.

———. "A Report to the National Security Council on United States Objectives and Programs
for National Security." 1950. NSC 68, Study Collections Series, Cold War Documents,
Harry S. Truman Library. Official Documents (Online), Harry S. Truman Presidential
Library & Museum, Independence, Missouri. http://www.trumanlibrary.org/whistlestop/
study_collections/coldwar/documents/sectioned.php?
pagenumber=1&documentdate=1950-04-12&documentid=10-1. Accessed 1 Sep 2012.

———. "Termination of the Office of Strategic Services and Disposition of Its Functions." 1945.
Executive Order 9621, Executive Orders, Official Documents, Harry S. Truman Library.
Official Documents (online), Harry S. Truman Presidential Library & Museum,
Independence, Missouri. http://www.trumanlibrary.org/executiveorders/index.php?
pid=787&st=9621&st1=. Accessed 20 Aug 2012.

Tucker, Jonathan B. "Negotiating Open Skies: A Diplomatic History." Chap. 1 In *Open Skies,
Arms Control, and Cooperative Security*, edited by Michael Krepon and Amy Smithson.
5-50. New York: St. Martin's Press, 1992.

"The U.S. Deputy Secretary of State Details the Diplomatic Story of the U.S.-China Spy Plane
Standoff." 13 April 2001. Online transcript of television interview. Online NewsHour
Transcripts, PBS.org. http://www.pbs.org/newshour/bb/asia/jan-june01/
armitage_4-13.html, accessed 11 Jan 2013.

"U.S. Plane Grossly Violated International Law." *Xinhua*, 4 April 2001, Xinhua News Service,
Xinhua News Agency, www.news.xinhuanet.com, accessed 2 Jan 2013.

"U.S. President Regrets Missing of Chinese Pilot in Spy Plane Incident." *Xinhua*, 6 April 2001,
Xinhua News Service, Xinhua News Agency, www.news.xinhuanet.com/english,
accessed 21 Jan 2013.

"U.S. Resumes Spy Flights Off China." *The Atlanta Constitution*, 8 May 2001, A8, National Newspapers Expanded, ProQuest, www.proquest.com, accessed 19 Jan 2013.

United Nations. *The Antarctic Treaty*. New York: United Nations, 1959. 402 UNTS 71. United Nations Treaty Collection, United Nations. http://treaties.un.org/Pages/showDetails.aspx? objid=0800000280136dbc, accessed 2 Oct 2012.

———. *The Blue Helmets: A Review of United Nations Peace-Keeping*. 3 ed. New York: United Nations Department of Public Information, 1996.

———. *The Blue Helmets: A Review of United Nations Peace-Keeping*. 2 ed. New York: United Nations Department of Public Information, 1990.

———. *Charter of the United Nations*. www.UN.org: United Nations, 1945. Accessible online and updated by the UN. http://www.un.org/en/documents/charter/index.shtml, accessed 5 Apr 2012.

———. *Convention on the High Seas*. New York: United Nations, 1958. 450 UNTS 11. www.treaties.un.org, accessed 1 Oct 2012.

———. *Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction*. New York: United Naitons, 1992. 1974 UNTS I-33757. United Nations Treaty Series, United Nations. www.treaties.un.org, accessed 5 Dec 2012.

———. *Establishment of a Nuclear-Weapon-Free Zone in the Region of the Middle East*. New York: United Nations, 1990. A/45/435 Report of the Secretary-General.

———. *International Convention on Civil Aviation*. Chiacgo: United Nations, 1944. 15 UNTS 295 (1947). http://www.mcgill.ca/files/iasl/chicago1944a.pdf, accessed 2 Jun 2012.

———. "Island of Palmas Case." In *Reports of International Arbitral Awards*. 829-872. New York: United Nations, 1949. United Nations Law Collection, HeinOnline. https:// heinonline.org,

———. "Note from the President of the Security Council, 21 May 1976." 1976. S/12089, UN Official Document System, UN.org. http://www.un.org/en/documents/. Accessed 15 Dec 2012.

———. "Question Considered by the Security Council at Its 749th and 750th Meetings Held on 30 October 1956." 1956. A/3302, 6 November 1956, UN Official Document System, UN.org. www.un.org/en/documents/ods. Accessed 11 Dec 2012.

———. "Report of the Executive Chairman on the Activities of the Special Commission Established by the Secretary General Pursuant to Paragraph 9 (B) (I) of Resolution 687

(1991)." 1998. S/1998/920 (1998) 6 October 1998, UN Departments, UN.org. www.un.org/Depts/unscom/. Accessed 20 Dec 2012.

———. "Report of the Secretary-General on the Implementation of Operative Paragraph 2 of Security Council Resolution 598 (1987)." 1988. S/20093, 7 August 1988, UN Official Document System, UN.org. www.un.org/en/documents/ods. Accessed 29 Dec 2012.

———. "Report of the Secretary-General on the United Nations Emergency Force (for the Period 15 July 1975 to 16 October 1975)." 1975. S/11849, UN Official Document System, UN.org. www.un.org/en/documents/ods. Accessed 19 Dec 2012.

———. "Resolution 687 of (1991) of 3 April 1991." 1991. S/687 (1991), UN Official Document System, UN.org. www.un.org/en/documents/ods. Accessed 28 Dec 2012.

———. "Resolution 1125 (Xi), 2 February 1957." 1957. A/RES/1125, UN Official Document System, UN.org. www.un.org/en/documents/ods. Accessed 18 Dec 2012.

———. "Resolution Adopted by the Council of the Organization of American States Acting Provisionally as Organ of Consultation." 1962. UN Doc S/5193, UN Official Document System, UN.org. www.un.org/en/documents/ods. Accessed 15 Nov 2012.

———. *Third United Nations Conference on the Law of the Sea*. Vol. 5, New York: United Nations, 1986. Official Record of the 67th Plenary Meeting.

———. *Treaty of Peace between the Arab Republic of Egypt and the State of Israel (with Annexes, Maps and Agreed Minutes, Letter Agreement)*. New York: United Nations, 1979. 1136 UNTS A-17813. United Nations Treaty Series, United Nations. www.treaties.un.org, accessed 3 Dec 2012.

———. *Treaty on Conventional Armed Forces in Europe*. New York: United Nations, 1990. 2441 UNTS I-44001. United Nations Treaty Series, United Nations. http://treaties.un.org/doc/Publication/UNTS/Volume%202443/v2443.pdf, accessed 24 Nov 2012.

———. *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies*. New York: United Nations, 1967. 610 UNTS I-8843. United Nations Treaty Collection, United Nations. http://treaties.un.org/doc/Publication/UNTS/Volume%20610/volume-610-I-8843-English.pdf, accessed 25 Nov 2012.

———. *Treaty on the Limitation of Anti-Ballistic Missile Systems*. New York: United Nations, 1972. 944 UNTS I-13446. United Nations Treaty Series, United Nations. www.treaties.un.org, accessed 4 Dec 2012.

———. *United Nations Convention on the Law of the Sea*. New York: United Nations, 1994. 1833 UNTS 397. United Nations Treaty Collection, United Nations. www.treaties.un.org, accessed 4 Oct 2012.

———. *United Nations Treaties and Principles on Outer Space*. New York: United Nations Publishing, 2002. http://www.unoosa.org/pdf/publications/STSPACE11E.pdf, accessed 1 Oct 2012.

United Nations Command. "Text of Statement by United Nations Command at Panmunjom." *The Department of State Bulletin,* LXI, no. 1591 (22 Dec 1969): 583-584.

United Nations Security Council. "Resolution 338 (1973) of 22 October 1973." 1973. S/RES/338 (1973), UN Official Document System, UN.org. www.un.org/en/documents/ods. Accessed 11 Dec 2012.

———. "Resolution 598 (1987) of 20 July 1987." 1987. S/RES/598 (1987), UN Official Document System, UN.org. www.un.org/en/documents/ods. Accessed 12 Dec 2012.

United States Air Force, and Air Force Research Institute, "Enduring Lessons Learned from Oef/Oif: Adapting to Evolving Combat Realities." Headquarters United States Air Force, Air Force Lessons Learned AF/A9, Report, 31 March 2012.

The United States and China. Edited by John K. Fairbank. Cambridge: Harvard University Press, 1983.

United States Congress. "National Security Act of 1947." Washington, D.C.: Government Printing Office, 1947.

United States House Armed Services Committee, Special Subcommittee on the *USS Pueblo. Inquiry into the Uss Pueblo and EC-121 Plane Incidents*. Washington, D.C.: US Government Printing Office, 1969. HASC Report 91-12.

United States Senate, Committee on Commerce, Science, and Transportation. *Nasa Authorization for Fiscal Year 1978, Hearings before the Subcommittee on Science, Technology, and Space*. Washington, D.C.: United States Government Printing Office, 1977. Part 3, S. 365. HathiTrust Digital Library, Library of Congress. http://catalog.hathitrust.org/Record/002941414, accessed 2 Dec 2012.

United States Senate, Committee on Foreign Relations. "Treaty on Open Skies: Article by Article Analysis." 1993. Exec. Rept.103-5, 103d Congress, 1st Session, www.state.gov. http://www.state.gov/t/avc/cca/os/106812.htm. Accessed 20 Nov 2012.

United States Senate Committee on Foreign Relations. *Sinai Agreement: Hearing before the Committee on Foreign Relations, United States Senate, Ninety-Seventh Congress, First Session, on S.J. Res. 100 July 20, 1981*. Washington, D.C.: United States Government

Printing Office, 1981. HathiTrust, Library of Congress. http://hdl.handle.net/2027/
pur1.32754076920754, accessed 11 Dec 2012.

United States Sinai Support Mission. *Report to Congress*. Washington, D.C.: Department of
State, 1977.

———. *Report to Congress*. Washington, D.C.: Department of State, 1982.

US House of Representatives Special Subcommittee on the U.S.S. Pueblo. *Inquiry into the U.S.S.
Pueblo and EC-121 Plane Incidents*. Washington, D.C.: US Government Printing Office,
1969. Hearings Proceedings, 91st Congress, 1st Session. HASC No. 91-10.

van Deurs, Rear Admiral (ret) George. *Wings for the Fleet*. Annapolis: United States Naval
Institute, 1966.

*The Verification Challenge: The Problems and Promise of Strategic Nuclear Arms Control
Verification*. Edited by Richard Scribner*, et al.* Boston: Birkhauser, 1985.

Verrier, Anthony. *International Peacekeeping: United Nations Forces in a Troubled World*.
London: Penguin, 1981.

Victory in Europe, 1945: From World War to Cold War. Modern War Studies. Edited by Arnold
A. Offner and Theodore A. Wilson Lawrence, Kansas: University Press of Kansas, 2000.

Wack, Fred J. *The Secret Explorers: The Saga of the 46th/72nd Reconnaissance Squadrons*.
Turlock, California: Seeger's Print, 1992.

Wagner, William. *Lighting Bug and Other Reconnaissance Drones*. Fallbrook, CA: Aero
Publishers, 1982.

Walsh, Kenneth T. "The China Conundrum." *U.S. News & World Report*, 16 April 2001, 6.

Wampler, Robert. "How Do You Solve a Problem Like Korea." gwu.edu: National Security
Archive, 23 Jun 2010. Electronic Briefing Book #322. The National Security Archives,
George Washington University. http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB322/
index.htm, accessed 14 Mar 2012.

West, Nigel. *Historical Dictionary of British Intelligence*. Oxford: The Scarecrow Press, 2005.

Whitten, H. Wayne. *Countdown to 13 Days and Beyond*. Washington, D.C.: Colonel H. Wayne
Whitten and Associates, 2012.

Whitten, H. Wayne*, et al.* "Aerial Reconnaissance in the Cuban Missile Crisis." Panel
presentation and discussion at the Naval Heritage Center, Washington D.C., 26 Oct 2012.

Wilson, Charles P. *Strategic Reconnaissance in the near East*. Washington: Washington Institute for Near East Policy, 1999.

Windrow, Martin. *The Last Valley: Dien Bien Phu and the French Defeat in Vietnam*. Cambridge, MA: Da Capo Press, 2004.

Wu, Wang. "US Trade Threats Would Backfire." *China Daily*, 10 Apr 2001, ChinaDaily.com.cn, China Daily Information Co, www.chinadaily.com.cn/en, accessed 11 Jan 2013.

Wyden, Peter. *Bay of Pigs*. New York: Simon and Schuster, 1979.

Zubok, Vladislav, and Constantine Pleshakov. *Inside the Kremlin's Cold War: From Stalin to Khrushchev*. Cambridge: Harvard University Press, 1996.