INTRODUCTION

Intelligence Analysis—The Emergence of a Discipline

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SLIGHTLY MORE than half a century ago, the American scholar and pioneering intelligence analyst Sherman Kent lamented that the U.S. intelligence community lacked a professional literature.[1] Serving as the head of the Central Intelligence Agency's (CIA's) Office of National Estimates, Kent hoped to define and develop a professional intelligence analysis discipline, noting that academic professions could not operate without an understanding of the field or a comparable body of knowledge. Today, though there is surely a large body of general writing on intelligence, most professional intelligence analysts still share Kent's complaint. Indeed, many writers have instead concentrated on the past and current failings of intelligence and policy officials, putting the record "straight" as they see it, or exposing sensational intelligence operations to excite or infuriate the public. However, they have largely neglected defining the discipline of "intelligence analysis" or adding to the collective knowledge on what constitutes good analytic principles and practices.

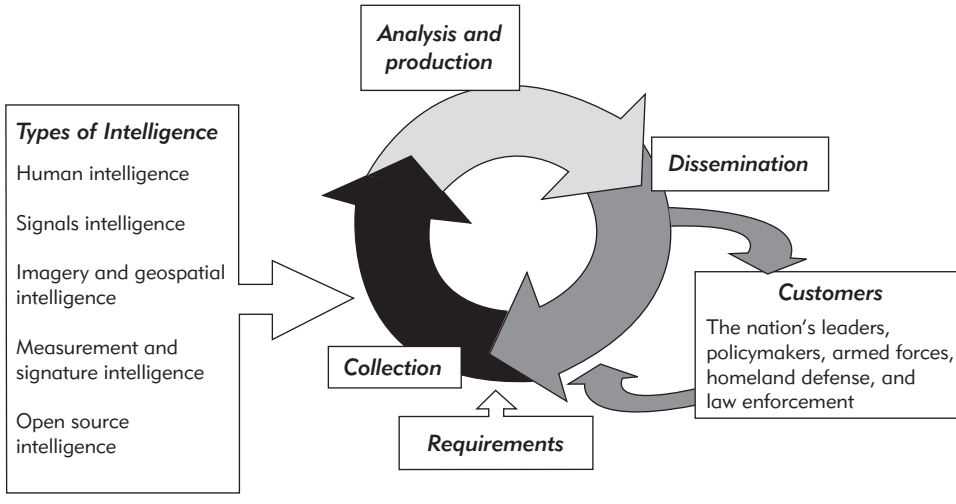
Defining the Analytic Discipline

Is there a professional discipline known as "intelligence analysis?" Considerable effort has been devoted to defining what is meant by the general term "intelligence," which surely encompasses analysis as one part of a multifaceted process of gaining specific, often secret, information for government use.[2] Analysis is the thinking part of the intelligence process, or as the former career analyst and senior official Douglas MacEachin has phrased it, "Intelligence is a profession of cognition."[3] It is all about monitoring important countries, trends, people, events, and other phenomena and in identifying patterns or anomalies in behavior and cause–effect relationships among key factors that explain past outcomes and might point to future developments with policy implications for the United States. Another key founder of CIA analytic practices and principles has phrased it more succinctly: "The mission of intelligence analysts is to apply in-depth substantive expertise, all-source information, and tough-minded tradecraft to produce assessments that provide distinctive value-added to policy clients' efforts to protect and advance U.S. security interests."[4]

Analysis is but one part, but ultimately in our view the decisive part, of the intelligence process that produces insight for policymaking. The typical diagram of the intelligence cycle found in figure 1 exemplifies how many see the intelligence process. It starts with identifying what the customer needs (requirements) and ends with delivering the intelligence (dissemination) to satisfy those needs.[5] Despite its simplification of what is a very complex process, this conceptualization does underline the analyst's pivotal role in transforming information provided by various collection systems into judgment and insight for the policy customer. Whether that information is good, bad, or somewhere in between, the analyst must put it into a context that is relevant and useful for the policymaker.

This analysis comes in a variety of forms. Traditionally, one thinks of products—so-called finished intelligence analysis—which is printed and distributed to select government users. This definition of analysis conveys, however, a mechanistic and also somewhat linear process, which figure 1 represents. The "production-line" metaphor conjures up an image of analysts writing, reviewing, editing, and publishing an assessment, and then moving onto the next question or task. In reality the cognitive part of analysis is more akin to a computer model that has been collecting and interpreting incoming data and constantly reassessing how new data might change not only the findings but also the computer model being used to organize and interpret the data. The forms that analysis can take, then, are not limited to the printed or even the electronic word or graphic. As often, "analysis" occurs when analysts interact with policymakers over the telephone, via the Internet, during a videoconference, or at a meeting. This form of intelligence support has been referred to as "analytical transactions." Though impossible to quantify, perhaps tens of thousands of such transactions occur yearly.[6] Moreover, the sharing of data, hypotheses, interpretations, and questions among analysts, and other nongovernment experts is possibly

FIGURE 1
The Intelligence Cycle



Source: Adapted from a briefing, *The Intelligence Community*, available at the Director of National Intelligence website (www.dni.gov).

where the most insightful cognition is occurring, rather than on the page of a finished assessment or a PowerPoint slide.

The Complete Analyst

The analytic process, then, must be understood as demanding more than just a well-educated individual who can write concisely. The complete intelligence analyst must combine the skills of historian, journalist, research methodologist, collection manager, and professional skeptic. That is, at a minimum, he or she must demonstrate a very unique skill set:

- mastery of the subject matter as well as related U.S. policies,
- understanding of research methods to organize and evaluate data,
- imagination and scientific rigor to generate as well as test hypotheses,
- understanding of unique intelligence collection methods,
- self-awareness of cognitive biases and other cognitive influences on analysis,
- open-mindedness to contrary views or alternative models that fit the data, and
- self-confidence to admit and learn from analytic errors.

What distinguishes an intelligence analyst from an expert outside the intelligence community, then, are not the first three characteristics, which are shared with many international affairs specialists, although these attributes are especially important in intelligence. Many so-called subject matter experts are well versed in the history, politics, culture, and language of many countries or are technical experts in a wide variety of areas; they may also be very attuned to U.S. policy deliberations and indeed be involved in advising a number of government officials on the correct policies to adopt. And many foreign affairs specialists may have methodological expertise. Where the intelligence analyst distinguishes himself or herself is in having the other four characteristics. The complete analyst must be an expert on how to use intelligence collection capabilities; be both imaginative and rigorous in considering explanations for missing, confusing, and often contradictory data while at the same time being able to be a self-critic of one's own biases and expectations of what the data show; and, most important, be open to changing one's mind and consciously trying to ask the question, "If I'm wrong, how might I need to modify the way I am analyzing the problem?"

Searching for a Literature

As of 2007, the body of scholarly writing on intelligence analysis remains—nearly fifty years after Kent's lament—surprisingly thin. It is true that academics and intelligence professionals have seen a growing literature on intelligence in recent years. Yet with some qualified exceptions, not a single book has exclusively addressed intelligence *analysis* and nothing recent has treated it comprehensively.[7] This is surprising given the importance of the subject and the

thousands of professionals who practice the craft daily throughout the sixteen agencies in the U.S. intelligence community. Moreover, the two most recent U.S. intelligence failures—the September 11, 2001, terrorist attacks (failure to "connect the dots") and Iraq's weapons of mass destruction (WMD) (failure to accurately estimate their amount or their complete absence)—are frequently cited, correctly, as failures in analysis. A thorough survey over the past two decades of the literature on U.S. intelligence analysis yields meager results. This book aims to begin to fill that puzzling void.

In the past five years, the intelligence literature has been expanded by multiple investigations into the U.S. intelligence community's performance in the September 11 attacks and the Iraq war. Unfortunately, these reviews have provided us with a rather incomplete picture on how to improve intelligence analysis. The 9/11 Commission Report provides a brilliant recounting of the hijackers' plot and copious recommendations on how to improve intragovernmental information sharing and defensive measures against global terrorism. However, there is scant attention at all devoted to understanding how analysis might have been better and to laying out any game plan for improving intelligence analysis on terrorism. The sound-bites that the U.S. intelligence community "lacked imagination" or "failed to connect the dots" are hardly sufficient insight on why U.S. experts were unable to grasp the audacious nature of the threat.[8] Sadly, professionals learn little from this well-written report other than to acknowledge that agencies should have done better at information sharing, should have been writing more national estimates, and should have been thinking more imaginatively.

The record is better in the reviews conducted on U.S. analysis covering Iraq's WMD programs. In addition to faulting collection efforts, fragmented intelligence community operations, management, and other aspects of the intelligence system, the Silberman-Robb WMD Commission was explicit in critiquing the analytic record as well as the analytic process. The commission's critique was based on an in-depth examination of the analytical process involved in producing both current reporting as well as estimative intelligence on Iraq's suspected WMD programs, and on other cases including Libya, Afghanistan, Iran, North Korea, and terrorism. Overall, from these cases the report found a "lack of rigorous analysis." In particular, it found "finished intelligence that was loosely reasoned, ill-supported, and poorly communicated," and "too many analytical products that obscured how little the intelligence community actually *knew* about an issue and how much their conclusions rested on inferences and assumptions."[9]

Although the WMD Commission noted several analytical successes, such as with some intelligence on Libya and the A. Q. Khan nuclear proliferation network, it also found a preponderance of "serious analytical shortcomings." These included

> inadequate Intelligence Community collaboration and cooperation, analysts who do not understand collection, too much focus on current intelligence, inadequate systematic use of outside experts and open source information, . . . and poor capabilities to exploit fully the available data. Perhaps most troubling, we found an

> Intelligence Community in which analysts had a difficult time stating their assumptions up front, explicitly explaining their logic, and, in the end, identifying unambiguously for policymakers what they *do not know*. In sum, we found that many of the most basic processes and functions for producing accurate and reliable intelligence are broken and underutilized.[10]

The WMD Commission's major recommendations on analysis focused on improvements in

- management of analysts,
- utilization of nontraditional sources, including open sources,
- understanding of how foreign denial and deception can have an impact on collection and analysis,
- long-term research and strategic thinking, and particularly
- tradecraft (or methodology) through much improved training, especially to produce analysis that is more rigorous and transparent.[11]

We intend to give particular attention in this volume to these issues and to others as well.

Having said all this about what has been written so far on the recent intelligence failures, we believe there is still a notably thin professional literature on intelligence analysis. Part of this glaring absence is the result of management imperatives that are driven by *current intelligence* demands (as opposed to more in-depth research and less time-pressured analysis) and do not permit sufficient time to reflect on the intelligence community's past performance or to record the lessons learned, from which subsequent generations of analysts can benefit. Another part is a justified sensitivity to focusing too exclusively on the intelligence community's past failings—which are easier to document than its many successes.

Indeed, defining successful analysis is itself a complex question. When analysts convincingly warn of a possible threat and policymakers heed this advice, disaster may be averted; then, policymakers may claim that intelligence analysts exaggerated the threat in the first place. In other cases, good analysis helped to shape a policymaker's perspective on an issue early in the decision-making process, leading to successful policy formulation and implementation. Accordingly, the policy question seems relatively unimportant and the international repercussions seem so unimportant that few outsiders can appreciate the counterfactual consequences of flawed analysis that could have driven policy in a different direction and dramatically changed the U.S. stakes in an issue. Little effort, of course, has been made to record these routine "successes" where timely and well-constructed analysis was part of a policy process that went smoothly or did not result in a major crisis or controversy. This is an area where more work remains to be done.

Putting Analysis in a Policy Context

To understand analysis and how to improve it, one must understand how it fits into the actual policymaking process here in the United States. Certain realities

must be recognized so that analysis can be better understood. First, policymakers live in an information-rich environment. Second, intelligence provides an important part of the information used to make decisions. Analysis tries to bound the uncertainty inherent in complex international developments and tailor understanding to fit specific government needs.

An Information-Rich Policy Environment

When U.S. national security decision makers deliberate over significant policy issues, information that bears on those decisions is always important and often vital. Whether deciding to negotiate with or coerce another country, whether deciding to intercede in an ethnic conflict to halt genocide, or whether deciding how to stem an insurgency using a mixture of policy tools, the policymaker is relying on a multitude of information sources to determine what course of action the government should take. National security policymakers enjoy access to a broad range of information to help them deliberate such issues and support their decisions. Some of that information will be reliable; some not. Some is biased, calculated to influence. Some is irrelevant or useless. Often it can be controversial. Some is secret or highly sensitive. But much of it comes from open sources such as newspapers, media outlets, the Internet, and scholarly articles and books. Some are opinion pieces in magazines and op-ed pages written mostly in Washington and New York. Still other information comes from personal and professional contacts, other interested U.S. policymakers and stakeholder government agencies, policy advocates, and opponents—or even from select foreign officials or foreign plotters and power seekers, and additional knowledgeable parties who may be interested or disinterested and whose involvement may never be publicly known. And some information for policy decision making comes from the intelligence community.

Using Intelligence Analysis to Bound Uncertainty

Intelligence officials cannot control which sources of information policymakers will use or how they will use them—that is the sole prerogative of policymakers. But intelligence officers do have a unique vantage point compared with those in the policy world to weigh and assess the relative reliability and accuracy of many sources of information available to decision makers. Notably, what intelligence officials *can* control is the quality and quantity of the intelligence information that will be provided to government officials. The better the quality and relevance of the information, the higher the policy impact—or so intelligence officers hope.

The lion's share of intelligence for these policymakers often comes in the form of *analysis*.[12] Such analytical products are referred to as "finished" intelligence because analysts have synthesized raw information collected from multiple sources and have interpreted the meaning of such information in the context of the policymakers' needs. That is analysis. These analytical products are almost always classified "secret" or "top secret" to protect intelligence sources and

methods. They can be as short as a paragraph-length article found in the *President's Daily Brief* or as long as hundred-page estimative or "forecasting" studies such as National Intelligence Estimates (NIEs). These analyses can also fall somewhere in the middle in the form of periodic updates or specific "warning" documents designed to alert officials to emerging situations that may require their urgent attention and action. Many times these products are the result of analysts' judgment that an issue needs to be brought to the attention of a policymaker. However, senior policymakers will often request "tailored" analysis for a particular issue, typically quick but sometimes in depth, to help inform their decisions or actions. These results of the analytic process are typically aimed at explaining the facts of a situation, identifying key uncertainties, and projecting a range of possible outcomes based on a rigorous review of the facts as well as the knowable unknowns.

Why Intelligence Matters: The Cuban Missile Crisis Example

In light of the vast array of information at their disposal, it is fair to ask: Why should senior policymakers pay attention to intelligence? This is not a rhetorical question. Given their extremely tight schedules, long hours, and heavy workloads, decision makers have to be quite selective in what they read and who they see. For their part, intelligence analysts can never assume access to senior policymakers or that their written products will even be read by the customer(s) for whom they were expressly prepared. Why should policymakers bother with intelligence?

The short answer is that intelligence, especially finished intelligence—the analytical products and the on-call expertise of the analysts who produce them—bring *value added* to the national security policymaking process. Most policy officials appreciate this. This is more true after September 11, 2001, than before when skeptical policymakers began to grasp the idea that intelligence reporting, for all its shortfalls, was typically as good as or better than the competition. In general, the ability of intelligence analysts to command policymakers' attention is the result of the value added they bring to decision making: intelligence collection, analytical expertise, objectivity, and timeliness. We examine these four aspects found in the 1962 Cuban missile crisis as an illustration of successful intelligence performance.

Collection

Intelligence analysts enjoy a special advantage: Intelligence has special sources of information that are unavailable elsewhere. This is a global and unique resource of the intelligence community. Each year, the U.S. taxpayer spends billions of dollars on classified intelligence collection programs. These include a variety of technical collection means and human sources that are tasked to penetrate adversary governments and organizations such as terrorist groups.[13] Information collected by human intelligence (HUMINT) or technical espionage can be a priceless resource uniquely available to intelligence analysts and, through them (and sometimes directly), to their senior customers in national security

decision-making positions. This key attribute of intelligence—the *collection of secret information by secret means*—gives analysts a major edge over the unclassified and open source competition because nearly all this clandestinely acquired information is inaccessible otherwise. Analysts are also often engaged in developing collection requirements, tasking collectors, and redirecting collection efforts, and they sometimes participate in the validation and evaluation of the intelligence collected.

The analysis of such information can make the difference in a complex decision. For example, overhead photography collected by U-2 aircraft revealed emplacements of offensive nuclear-capable missiles covertly deployed by the Soviet Union in Cuba in 1962. Sensitive documents such as the highly classified Soviet SS-4 missile manual provided to CIA by the spy Oleg Penkovskiy enabled analysis that probably extended the decision-making time available to President John Kennedy and his national security team during the heat of crisis. Together, these extraordinary collection successes made a decisive difference in President Kennedy's ability to successfully manage the only direct nuclear confrontation between the United States and the Soviet Union during the cold war.[14] Had we not discovered the secret missile emplacements—and discovered them *before* they became operational—the United States would have faced a significant new strategic disadvantage in the nuclear deterrence equation that had provided bipolar stability since the development of nuclear weapons. Defusing a crisis that brought the superpowers to the nuclear brink shows how intelligence provided uniquely valuable information from special collection sources to U.S. analysts and policymakers that could not have been acquired from any other information provider.

Analysis and Judgment

U.S. intelligence analysts are often regarded as the most authoritative experts in government on many specialized subjects ranging from highly technical issues such as laser or particle physics and virulent pathogens to exotic linguistic groups, rare dialects, and sources of regional instability. Some of the most authoritative experts on particular countries and regions of interest to U.S. national security are found as often in intelligence agencies as in major universities. Intelligence agencies recruit from top graduate schools in most subject areas, and the prevalence of graduate degrees among analysts at "all-source" agencies such as the CIA, Defense Intelligence Agency, and the State Department's Intelligence and Research Bureau is probably the equivalent of most universities and think tanks. Significantly, in-depth expertise in the analytical ranks is also *focused* on issues and problems of direct interest to current policymakers, rather than on historical or other academically interesting subjects of only tangential relevance to U.S. national security.

Just as the Cuban missile crisis illustrates the impact of special collection capabilities that revealed the hidden Soviet missiles, it also demonstrates the power of analysis. The stunning information delivered by the U-2 aircraft from Cuban airspace was not just pictures of land below. It was "raw" imagery that revealed sensitive intelligence to the trained imagery analyst looking for telltale

"signatures" that uncovered the presence of offensive missiles with sufficient range to deliver nuclear warheads to targeted cities in the United States. But only the highest-quality analysis could have answered the most pressing question when the missiles were revealed: How much time would the decision makers have before the missiles become operational? (Another way of putting the question is: "How many days are available to manage this crisis before the Soviets could launch the nuclear missiles at U.S. targets?") This high-stakes question required accurate interpretation of U-2 imagery and in-depth analysis of the HUMINT provided by Oleg Penkovskiy. It was through a remarkable exploitation of Soviet classified materials that Penkovskiy provided clandestinely (referred to as Ironbark documents) that highly trained technical analysts were able to estimate—accurately, it turned out—how long it would take to complete the installation: On October 19, 1962, only five days after the missiles were discovered, analysts had concluded that they would be operational by October 27, only thirteen days from their initial discovery—and what turned out to be the final day of the crisis when the Soviets backed down.[15] This significant finding not only bound the president's time frame; it probably extended it by as much as three days, permitting more precious time to manage the crisis before the Soviets would have been able to unleash a nuclear strike at American cities.[16] The role of intelligence in helping policymakers manage this dangerous crisis illustrated (*after* the missiles were discovered) an extraordinary combination of intelligence collection and analysis at its very best.[17] The tense crisis ended as the Soviets agreed to remove the missiles, and they did so under close U.S. monitoring. President Kennedy and his crisis Executive Committee almost certainly could not have enjoyed the same successful outcome without the extraordinary level of intelligence support they received.

Objectivity

A key attribute of intelligence analysis is maintaining policy relevance while assiduously avoiding policy advocacy. This heritage of *policy neutrality* traces directly to Sherman Kent[18] and is nearly hardwired in the culture of analysis. Analysts strive to work problems and issues of high salience to policymakers, but they seldom construct their analytical path in a way that easily suggests a preferred policy outcome. More typically, they seek to enlighten and inform policymakers and to reduce uncertainty about complex and evolving situations but to avert policy prescriptions. They find their satisfaction in helping the policymaker to think through complex issues without specifying what to do about them. Being information providers perhaps to a fault, intelligence analysts are happy to leave the policy choices to the officials responsible for making them.

Again, the Cuban missile crisis makes the point: As the president and his Executive Committee worked their way through a myriad of policy options—from doing nothing and accepting a Soviet fait accompli to launching "surgical" nuclear strikes against the missiles under construction—intelligence analysts played a vital but highly restrictive role in the decision-making process. Their place was to provide information and analysis that could illuminate policy choices and possible consequences but not to advocate or oppose any particular

course of action. A particularly significant analytical contribution to the crisis management process included sound estimates on likely Soviet reactions to U.S. measures during the crisis, including the successful blockade (or "quarantine") ultimately selected by the president, and—also accurately—that Soviet reactions would concentrate on "political exploitation" and any Soviet military responses would not occur beyond Cuba itself.[19] Analysts did not advocate one or another policy option, but they successfully illuminated the likely outcomes of the major policy options available to the president and his crisis decision makers.

Of course, this characterization of analysis as policy neutral greatly oversimplifies a more complicated and subtle problem often referred to as the *politicization* of intelligence. Not all policymakers see analysts quite the same way. Seen from the policymakers' trench, intelligence analysis should support policy and is thus not always welcome when it may seem to undermine a preferred policy choice. In this way, providing intelligence is risky in high-stakes policymaking. It does not always help the policymaker accomplish his or her objective. Intelligence is most helpful when the policy-level customer is genuinely searching for understanding and is not committed to a particular policy course of action. Once committed, the policymaker tends to evaluate the usefulness of intelligence in direct proportion to the extent that it advances the favored policy objective. Often, intelligence can have exactly the opposite effect.[20] It is sufficient at this point to establish that the *aim* of intelligence analysis is to advance the policy process through the provision of unique information packaged to enhance understanding and to reduce the uncertainty of policy decisions, not necessarily to influence the selection or support (or rejection or undermining) of any particular policy choice. For the most part, policymakers seem to appreciate the studied objectivity they can generally expect from intelligence analysts.[21]

Timeliness

A fourth value-added aspect of intelligence in policymaking is getting the information to policymakers in time so that they can act on it if immediate action is needed. For example, if the Soviet missiles had been discovered in Cuba *after* they had already become operational—or worse, publicly announced by an emboldened Nikita Khrushchev as a strategic fait accompli with an accompanying ultimatum—American policymakers would have faced a very different and far less favorable set of options. The timeliness attribute is at the heart of *warning* intelligence, where analysis plays every bit as critical a role as collection because *both* must work for warning to succeed. In spite of a flawed estimate in September that failed to anticipate the Soviet gambit, the timely and successful U-2 overflights in October, and the trenchant and accurate analysis that followed show the Cuban missile crisis as an outstanding intelligence warning and crisis-support success.

WMD in Iraq: Confronting Intelligence Failure

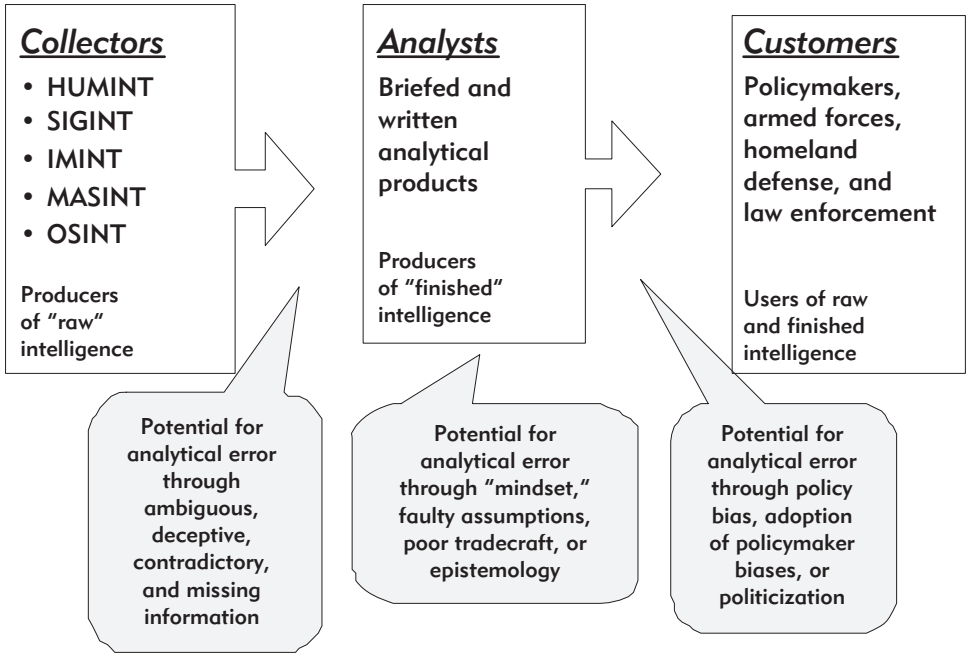
As the successful Cuban missile crisis case shows, intelligence can provide unique value added to policymaking through special collection, insightful

analysis, strictly objective policy relevance, and timeliness. But failure is also part of the record. If intelligence always worked as effectively as it did during the Cuban missile crisis, there would be no controversy over whether it was worth the billions it costs every year, over the need for or shape of intelligence reform, or especially over its putative value added for policymakers. Intelligence failures are disquieting. They shake the confidence of those who argue that the intelligence community consistently provides the most insightful and most reliable information available to policymakers.

Perhaps the most disturbing recent failure is the erroneous estimates of WMD in Saddam Hussein's Iraq. The now-well-known October 2002 NIE on Iraq made major errors in assessing Iraq's WMD programs. This NIE erroneously judged that Iraq had stockpiled as much as 500 tons of chemical weapons (CW) and had an ongoing CW program; that Iraq had an active biological weapons (BW) program with BW agent stored there, along with mobile BW labs; that Iraq was reconstituting its nuclear weapons program; that Iraq had a program of unmanned aerial vehicles that was probably capable of delivering BW agent to foreign shores, including to U.S. shores; and that Iraq had missiles whose range exceeded permissible limits under UN sanctions.[22] Only the last of the five major judgments (on missiles) proved to be correct. Four were completely wrong. Estimates—correct or not—so closely tied to a U.S. decision to take military action are necessarily in the spotlight, and rightly so. But even if this estimate had not been central to the debate over the Iraq invasion, it would still merit attention because of what it uncovered about the current state of U.S. intelligence analysis.

Why were the key findings so wrong?[23] Briefly, it was a significant *collection* failure, because both human and technical intelligence collectors had failed to penetrate Iraq's WMD programs, and collection had also provided some wrong and misleading information. It was also a significant *analysis* failure. Reviewing the record, we find that analysts were more dependent on faulty collection than they comprehended, failed to question their past assumptions, and drew erroneous conclusions from dated, wrong, and poor information.[24] In short, on two key measures of unique value added—special collection and expert analysis—intelligence failed almost completely. Whether it also failed a third key test, strict objectivity, remains a matter of dispute. Two major inquiries, one by the Senate Select Committee on Intelligence and the other by the Silberman-Robb WMD Commission, have given analysts a clean bill of health. Both concluded that they had found no evidence whatever of politicization; that is, that policymakers had not apparently influenced intelligence judgments favorable to the war decision.[25] But other observers think this is a more complex and nuanced problem and even if there were no obvious arm twisting by policymakers, the omnipresent war preparations surely distorted analysis.[26] As figure 2 illustrates, then, the possibility for analytic errors can occur in three critical areas: where there is poor or missing information, where unchallenged mindsets or assumptions exist, or where bias may interfere with analytic objectivity. These three areas will be explored throughout this book.

FIGURE 2
From Collection to Customer: The Analyst's Pivotal Role



Analyzing Intelligence Analysis

Whether we focus on missiles in Cuba in 1962, on WMD in Iraq forty years later, or on other major successes and failures in the years that preceded or followed these two significant cases, our central goal is to address how the vast amount of intelligence analysis—at its best and at its worst—is produced for senior policy and military customers, and how and why it succeeds or fails in this critical mission.

This book draws on the individual and collective experience of many intelligence experts—most of whom have enjoyed long careers as successful analysts themselves, some as senior managers of analysts, and others who are scholars of the issues we pose here. The book explains how analysis has been conducted and how it can improve. We examine how intelligence analysis has evolved since its origins in the middle of the last century, including attention to its traditions, culture, and track record. We examine how analysis supports the most senior national security and military policymakers; how analysts must deal with the perennial challenges of politicization, analytical bias, and foreign denial and deception; and how they must become masters rather than victims of an ever-changing collection environment. We propose new ways to address perennial issues in warning analysis and emerging analytic issues like homeland defense; and we suggest new forms of analytic collaboration in a global intelligence environment. We introduce specific new ideas for evaluating alternative hypotheses, and for developing self-corrective techniques to improve analytical reliability.

We also consider imperatives for the development of a new profession of intelligence analysts.

If this book can illuminate the less-well-known or poorly understood attributes and issues of the intelligence analytical process and can then point to promising ways to improve it, we believe it can help to raise the quality and reliability of analysis. Simply put, our principal objective in the following chapters is to provide a better understanding of analysis for both the producers and users of intelligence.

Notes

1. Sherman Kent, "The Need for an Intelligence Literature," reprinted in *Sherman Kent and the Board of National Estimates*, ed. Donald Steury (Washington, D.C.: Center for the Study of Intelligence, Central Intelligence Agency, 1994), 14–15.

2. Michael Warner, "Wanted: A Definition of Intelligence," *Studies in Intelligence* 46, no. 1 (2002): 15–22.

3. Douglas MacEachin, "Strategic Analysis," in *Transforming U.S. Intelligence*, ed. Jennifer E. Sims and Burton Gerber (Washington, D.C.: Georgetown University Press, 2006), 117.

4. Jack Davis, "Intelligence Analysts and Policymakers: Benefits and Dangers of Tensions in the Relationship," *Intelligence and National Security* 21, no. 6 (December 2006): 991–1021; the quotation is on 1007.

5. This way of depicting the intelligence process as a cyclical phenomenon greatly oversimplifies how it works in practice. For a critique of this approach, see Rob Johnston, *Analytic Culture in the U.S. Intelligence Community* (Washington, D.C.: Center for the Study of Intelligence, Central Intelligence Agency, 2005), chap. 4; and Mark M. Lowenthal, *Intelligence: From Secrets to Policy* (Washington, D.C.: CQ Press, 2000), 50–51. The depiction of the intelligence cycle in figure 1 omits one of the customary five stages: processing (between collection and analysis).

6. Davis, "Intelligence Analysts and Policymakers," 999.

7. Richards Heuer's seminal *Psychology of Intelligence Analysis* (Washington, D.C.: Center for the Study of Intelligence, Central Intelligence Agency, 1999) addresses the cognitive dimensions of the analytical process. Robert M. Clark provides an excellent practical introduction to analysis that puts the collection target at the center of a modeling approach in *Intelligence Analysis: A Target-Centric Approach*, rev. ed. (Washington, D.C.: CQ Press, 2007). A small number of other books cover more limited aspects of analysis, such as Cynthia Grabo's work on warning, *Anticipating Surprise: Analysis for Strategic Warning* (Washington, D.C.: Joint Military Intelligence College, 2002). On estimates, see Hal Ford, *Estimative Intelligence: The Purposes and Problems of National Intelligence Estimating* (Lanham, Md.: University Press of America, 1993). More specialized works on methods are provided by David A. Schum, *Evidence and Inference for the Intelligence Analyst* (Lanham, Md.: University Press of America, 1987), 2 vols.; and Morgan Jones, *The Thinker's Toolkit: 14 Powerful Techniques for Problem Solving*, rev. ed. (New York: Three Rivers Press, 1998). Rob Johnston has conducted the only ethnographic study of intelligence analysis; see Johnston, *Analytic Culture in the U.S. Intelligence Community*. Two memoirist views of heads of the CIA's analytical directorate are Russell Jack Smith, *The Unknown CIA* (New York: Berkley Books, 1992); and Robert M. Gates, *From the Shadows* (New York: Simon & Schuster, 1996). The remainder of the unclassified literature on intelligence analysis in the past twenty-five years is only article-length and found in periodicals or in anthologies covering topics much broader than analysis itself. See Roger Z. George and Robert D. Kline, eds., *Intelligence and the National Security Strategist: Enduring Issues and Challenges* (Lanham, Md.: Rowman &

Littlefield, 2006), chaps 23–27; and Loch K. Johnson and James J. Wirtz, eds., *Strategic Intelligence: Windows into a Secret World* (Los Angeles: Roxbury, 2004), chaps. 8–13. Except for Clark, the only other book-length treatment of analysis writ large was published nearly thirty years ago; see Roy Godson, ed., *Intelligence Requirements for the 1980s: Analysis and Estimates* (Washington, D.C.: National Strategy Information Center, 1980). Most recently, two highly critical books on the CIA's performance allege major analytic failings, yet neither focuses on analysis or provides what can be considered a comprehensive or balanced assessment of the analytical track record. Richard L. Russell, *Sharpening Strategic Intelligence: Why CIA Gets It Wrong and What Needs to Be Done to Get It Right* (New York: Cambridge University Press, 2007), purports to evaluate the CIA's strategic intelligence performance but sheds little light on the complex reasons behind the failures and does not analyze the successes at all. A more popular book, by Tim Weiner, *Legacy of Ashes: The History of the CIA* (New York: Doubleday, 2007), also claims to be a comprehensive history of the CIA performance, but it also barely mentions analytical issues. Weiner's shallow treatment provides almost no insight into the causes of the many failures he selectively cites, and because he found few successes worth mentioning, he provides little insight into this aspect either.

8. The 9/11 Commission's somewhat cryptic recommendation that the U.S. intelligence community must "bureaucratize imagination" leaves a lot to be desired in the way of practical measures. See *The 9/11 Commission Report*, authorized ed. (New York: W. W. Norton, 2003), 344–48. One interpretation is that the commissioners meant to encourage the development of more analytic units whose sole mission would be to challenge conventional analytic lines held by agency analysts. These units would in a sense regularize the use of "contrarian" thinking techniques (e.g., devil's advocacy or Team A/Team B analysis) or "thinking like the adversary" (so-called red-cell analysis). However, the commission was never very clear about what it meant by the phrases, nor has any commissioner subsequently explained it.

9. Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction, *Report to the President of the United States, March 31, 2005* (Washington, D.C.: U.S. Government Printing Office, 2005) (hereafter, *WMD Commission Report*), 12 (emphasis in the original).

10. Ibid., 389; emphasis in the original.

11. *WMD Commission Report*, chap. 8. The findings on Iran and North Korea are not reported in the unclassified volume.

12. Often, "raw" or unanalyzed intelligence from a sensitive human or technical source is provided directly to senior policymakers. This kind of intelligence can be ignored or it may have an impact on policy debates. Sometimes this raw intelligence—provided without context or other analytical evaluation—can be both influential and wrong.

13. Intelligence collection and its relationship to analysis are given expanded treatment in chapter 12 in this volume.

14. See Mary S. McAuliffe, ed., *CIA Documents on the Cuban Missile Crisis, 1962* (Washington, D.C.: History Staff, Central Intelligence Agency, 1992); James G. Blight and David A. Welch eds., *Intelligence and the Cuban Missile Crisis* (London: Frank Cass, 1998); Dino A. Brugioni, *Eyeball to Eyeball: Inside the Cuban Missile Crisis* (New York: Random House, 1991); and Jerrold L. Schecter and Peter S. Deriabin, *The Spy Who Saved the World* (Washington, D.C.: Brassey's, 1995).

15. Raymond L. Garthoff, "US Intelligence in the Cuban Missile Crisis," in *Intelligence and the Cuban Missile Crisis*, ed. Blight and Welch, 27; and Schecter and Deriabin, *Spy Who Saved the World*, 334–35.

16. The three added days are the conclusion of the CIA's Richard Helms, then deputy director for plans (operations). In addition to bounding the decision-making time frame, analysis of the Penkovskiy documents in conjunction with U-2 imagery enabled extremely valuable intelligence judgments on the key information the policymakers needed, e.g., missile range (which U.S. cities could be hit), accuracy (1 to 1.5 miles), warhead size (3000 pounds, or 25 kilotons to 2 megatons), and missile refire rate (5 hours). Schecter and Deriabin, *Spy Who Saved the World*, 334–35, 466.

17. The Cuban crisis also illustrates an important analytical failure, namely, the flawed judgment of an estimate produced less than a month before the missiles were discovered that essentially argued that the Soviets probably would not secretly put offensive nuclear missiles in Cuba. Although DCI John McCone personally disagreed with that judgment, he did pass the estimate on to a concerned President Kennedy as the best thinking in the intelligence community at that time—soon to be refuted by newly discovered facts (SNIE 85–3-62, September 19, 1962). This erroneous estimate, along with other intelligence failures, is discussed in chapter 12 in this volume.

18. Sherman Kent observed some fifty years ago that the most important relationship for analysts, that with the policy officials they seek to inform, does not fall naturally in place but requires careful thought to set right and constant efforts to keep effective; see Sherman Kent, *Strategic Intelligence for National World Policy* (Princeton, N.J.: Princeton University Press, 1949). Kent articulated the basic challenge to effective ties when he observed that "if analysts get too close to their policymaking and action-taking clients, they would be in danger of losing the independence of mind and the substantive depth and analytic expertise that enabled them to make a distinctive professional contribution to national security. Yet if they stay too far apart from those they are charged to serve, they would be cut off from the feedback and other guidance essential for making that contribution." Jack Davis, "Improving CIA Analytic Performance: Analysts and the Policymaking Process," *CIA Sherman Kent School of Intelligence Analysis, Occasional Papers* 1, no. 2 (September 2002).

19. Garthoff, "US Intelligence," 31–32.

20. Gregory F. Treverton, *Reshaping National Intelligence for an Age of Information* (Cambridge: Cambridge University Press, 2003), 183–85. We explore this issue in some depth in chapters 4, 5, and 6 of this volume.

21. See chapter 5 in this volume.

22. National Intelligence Council, *Iraq's Continuing Programs of Weapons of Mass Destruction*, NIE 2002–16HC, October 2002; and Colin L. Powell, "Speech to the U.N. Security Council, New York, Feb. 5, 2003," in *The WMD Mirage*, ed. Craig R. Whitney (New York: PublicAffairs, 2005), 77–106.

23. This failure is discussed more fully in several chapters that follow, especially in 10, 11, 12, and 14.

24. *WMD Commission Report*, 157–76; Jamie Misick, deputy director of intelligence's "State of Analysis Speech," All-Hands Meeting, CIA Auditorium, February 11, 2004.

25. *WMD Commission Report*, 187–91; Senate Select Committee on Intelligence, *U.S. Intelligence Community's Prewar Intelligence Assessments on Iraq*, 108th Congress, 2nd Session, July 9, 2004, chapter 9.

26. Paul Pillar, "Intelligence, Policy, and the War in Iraq," *Foreign Affairs* 85, no. 2 (March/April 2006): 15–28. Similarly, the CIA's Tyler Drumheller argues that Iraq better illustrates a policy failure that sought only supportive intelligence; interview on *Sixty Minutes*, CBS Television, April 23, 2006; he followed with *On the Brink* (New York: Carrol & Graf, 2006). The topic of politicization is dealt with more extensively in chapter 6 by Gregory Treverton.