

INSIGHT TO INTELLIGENCE: FACILIATING CREATIVE AND IMAGINATIVE
ANALYSIS WITH BERNARD LONERGAN'S INSIGHT METHODOLOGY

by

Kimberly Orsulak
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Committee:

Julie Riddell for James Price

Chair of Committee

Julie Riddell for Andrea Bertoli

James Orsulak

David Kothari

Graduate Program Director

[Signature]

Dean, School for Conflict Analysis and
Resolution

Date: _____

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by

Kimberly Orsulak
Bachelor of Arts
University of Connecticut, 2007

Director: James R. Price, Professor
School for Conflict Analysis and Resolution

Summer Semester 2013
George Mason University
Fairfax, VA

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LIST OF ABBREVIATIONS

Al-Qa'ida in the Arabian Peninsula	AQAP
Alternative Competing Hypotheses	ACH
Canadian Border Services Agency	CBSA
Central Intelligence Agency	CIA
Haji Khairullah Haji Sattar	HKHS
Intelligence Community.....	IC
Lashkar-e Tayyiba	LeT
National Public Radio	NPR
Office of Secretary of Defense	OSD
United Nations	U.N.
United States	U.S.
Weapons of Mass Destruction	WMD

ABSTRACT

INSIGHT TO INTELLIGENCE: FACILITATING CREATIVE AND IMAGINATIVE ANALYSIS WITH BERNARD LONERGAN'S INSIGHT METHODOLOGY

Kimberly Orsulak, M.S.

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Thesis Director: Dr. James R. Price

This thesis intends to demonstrate the applicability of Lonergan's Insight Method to intelligence analysis by seeking to answer three questions: How can the field of Conflict Analysis and Resolution contribute to analytic efforts of the Intelligence Community? How effective are current alternative and structured analytic techniques in evaluating contemporary intelligence questions? Is there a way to supplement analytic tradecraft to facilitate creative assessments that yield progressive and cumulative intelligence?

Grounded in Richard Heuer's *Psychology of Intelligence Analysis* and work on cognitive limits, this thesis examines the vulnerability of the human mind to cognitive error and evaluates the alternative analytic techniques designed to mitigate those errors, proposing Bernard Lonergan's Insight Method as an alternative approach to better capture what it is we do when we analyze intelligence.

INTRODUCTION

In a 23 May 2013 speech at the National Defense University, President Obama summed up the challenge facing the Intelligence Community today when he remarked, Now, make no mistake, our nation is still threatened by terrorists. From Benghazi to Boston, we have been tragically reminded of that truth. But we have to recognize that the threat has shifted and evolved from the one that came to our shores on 9/11. With a decade of experience now to draw from, this is the moment to ask ourselves hard questions – about the nature of today’s threats and how we should confront them.

Events of the past decade – the September 11, 2012 attack on the U.S. Embassy in Benghazi and the April 15, 2013 attack at the Boston Marathon – are indicative of a developing era of intelligence, one where the greatest threat is no longer a nation-state but myriad actors operating across complex networks.

In traditional international relations and conflict theories, these actors are an anomaly; state actors are the norm. Today, however, while a small number of countries still pose threats or strategic challenges to the United States, the threats posed by non-state issues and actors have emerged as the major drivers of international affairs. Transnational challenges of energy and resource security, climate change, terrorism, and illicit trafficking are unencumbered by borders or boundaries. Moreover, advances in

technology and communications have enhanced the power, agency, and reach of a new cadre of minority actors to levels previously reserved for the state and empowered these actors with a global audience. The emergence of the empowered individual actor, as evidenced by the Arab Spring, underscores the need for the U.S. Intelligence Community to fundamentally change how it approaches conflict and threat analysis.

In the aftermath of September 11, 2001, intelligence analysts are increasingly confronted with the challenge of understanding and evaluating the actions of individuals and small group actors with methodologies best suited for nation-state actors. These deductive analytic methodologies, grounded political realism and the legacy of the protracted ideological clash between the U.S. and the Soviet Union, are ill-equipped to contend with the complex, transient network of al-Qa'ida and similar actors.

Since September 11, the Intelligence Community has responded with a shift in analytic training to include a greater focus on methodology – what the Community refers to as analytic tradecraft – via alternative analytic techniques and structured analytic techniques. Alternative analytic techniques – techniques for questioning the predominant assessment by evaluating alternatives – and structured analytic techniques – methods that externalize the analytic process – reflect a deepening attention to cognitive psychology as it applies to intelligence analysis; these techniques are designed to contend with the cognitive limits of the analyst's mind to facilitate objective analysis of complex problems.

This thesis examines intelligence analysis by addressing three core questions: How can the field of Conflict Analysis and Resolution contribute to analytic efforts of the

Intelligence Community? How effective are current alternative and structured analytic techniques in evaluating contemporary intelligence questions? Is there a way to supplement analytic tradecraft to facilitate creative assessments that yield progressive and cumulative intelligence?

The assessment of these questions begins with an identification of the contemporary challenges facing intelligence analysts and an examination of the theoretical foundations informing analytic tradecraft. It then progresses to an evaluation of the state of analysis, drawing heavily from Richards Heuer's work in *The Psychology of Intelligence Analysis* to understand the analyst's cognitive nature and framework for analytic techniques before examining the application of these techniques to decision-making in intelligence. Recognizing that current techniques are centered on the premise of improving how we analyze intelligence, this thesis then introduces Bernard Lonergan's Insight Method as an alternative approach to empirically understand what it is analysts do when they analyze intelligence.

Intelligence Analysis: The Contemporary Challenges

The U.S. Intelligence Community was formed in the wake of one of the greatest intelligence failures of the twentieth century: Pearl Harbor. In the book *Legacy of Ashes, the History of the Central Intelligence Agency*, Tim Weiner writes:

Well before dawn on December 7, 1941, the American military had broken some of Japan's codes. It knew an attack might be coming, but it never imagined Japan would take so desperate a gamble. The broken code was too secret to share with commanders in the field. Rivalries within the military meant that the information

was divided, hoarded, and scattered. Because no one possessed all the pieces of the puzzle, no one saw the big picture (2008, 6).

Information was available, but analysts were unable to exploit this information in a way that provided actionable intelligence. On the one hand, analysts did not seriously consider the potential for an attack by Japan that was not consistent with past Japanese action. On the other hand, the lack of a formal communication infrastructure and directives prevented the available information from reaching the analysts that needed it most.

September 11, 2001, nearly 60 years after Pearl Harbor, al-Qa'ida attacked the World Trade Center. Again, failures of analysis and breakdowns in communication rocked the world of the U.S. Intelligence Community. According to the 9/11 Commission charged with investigating the circumstances that enabled the September 11 attacks, “the 9/11 attacks were a shock, but they should not have come as a surprise” (Kean and Hamilton, 2004, 2). Per the Commission report, “During the spring and summer of 2001, U.S. intelligence agencies received a stream of warnings that al-Qa'ida planned, as one report put it, ‘something very, very, very big.’ Director of Central Intelligence George Tenet told us, ‘The system was blinking red’” (11). But the key question is: How was this intelligence system – created specifically to understand and predict the threats posed by nation states – to understand and predict the intentions of a non-state actor like al-Qa'ida?

“The most important failure was one of imagination,” reported the Commission (14). Administration and national security leaders did not fully appreciate the threat posed by al-Qa'ida. Commission interviews found an underlying uncertainty among top officials as to whether the threat from al-Qa'ida was consistent with the history of

terrorist threats or whether al-Qa'ida represented a radical deviance from the norm. "As late as September 4, 2001," the Commission noted, "Richard Clarke, the White House staffer long responsible for counterterrorism policy coordination, asserted that the government had not yet made up its mind how to answer the question: 'Is al Qida (sic) a big deal?'"(14).

Less discussed, but of equal importance was the failure of imagination at the analyst level. Deputy Secretary Paul Wolfowitz highlighted this issue in a letter to then-Secretary of Defense Donald Rumsfeld following the attacks. Citing the failure of analysts to provide actionable intelligence in advance of the 1995 Manila Air plot to crash an explosives-laden plane into CIA headquarters and the attempted hijacking of a Gulf Air flight, Wolfowitz pointed to a "failure of imagination' and a mind-set that dismissed possibilities" (336). Like the leaders they served, intelligence analysts were unable to adequately understand and assess the information they had on these non-state actors – including knowledge of past hijackings – to "imagine" the threat they actually posed.

As in the case of Pearl Harbor, breakdowns in communication and information sharing exacerbated the problem. The first two operational failures cited in the 9/11 Commission's executive summary focus on information sharing on Kalid al Mihdhar, one of the hijackers of American Airlines Flight 77. Intelligence information connecting him to al-Qa'ida operatives involved in the October 2000 USS *Cole* bombing was not uniformly available across the seventeen agencies that comprise the Intelligence Community (13). This, of course, limits the analyst's ability to accurately assess the

threat al Mihdhar posed. However the problem of imagination remains. If analysts lack the critical tools they need to understand and predict the intentions of non-state actors like al-Qa'ida, even perfectly shared intelligence information won't prevent intelligence "surprises."

An intelligence problem this complex is easier to diagnose than solve. While the Commission highlights imagination as the greatest failure, it is not referenced in the recommendations of the report. Instead, the Commission proposes solutions that were structured to foster a "unity of effort" across the national security institutions formed following the Pearl Harbor attacks. The Commission emphasized information sharing, highlighting the need to strengthen weak procedures for processing intelligence information and recommended replacing the system of "need to know" with a system of "need to share" (30).

So where does that leave imagination in analysis today? According to former CIA methodologist Richards Heuer, "major intelligence failures are usually caused by failures of analysis, not failures of collection" (1999, 65). And as CIA analyst Jeffery Cooper notes, "Many of today's principal analytic problems arise from continued reliance on analytic tools, methodologies, and processes that were appropriate to the static and hierarchical nature of the Soviet threat during the cold war" (2005, 23).

More than a decade after September 11, the problem of imagination remains unsolved and the dialogue on intelligence failure continues – now in the context of the September 11, 2012 attack on the U.S. Embassy in Benghazi, Libya, the April 15 attack at the finish line of the Boston Marathon by Tamerlan and Dzhokhar Tsarnaev, and the

attempted December 25, 2009 attack by Umar Farouk Abdulmutallab – better known as the underwear bomber.

Indeed, the preliminary report released in January 2010 by the White House on Abdulmutallab’s attempted attack echoes the findings of the 9/11 Commission. It cites:

A failure of intelligence analysis, whereby the CT community failed before December 25 to identify, correlate, and fuse into a coherent story all of the discrete pieces of intelligence held by the U.S. Government related to an emerging terrorist plot against the U.S. Homeland organized by al-Qa’ida in the Arabian Peninsula (AQAP) and to Mr. Abdulmutallab, the individual terrorist.

The suggestion here is that the deductive theories inherited from the Cold War are not working; rather the allied field of Conflict Analysis and Resolution – and in particular the Insight approach to conflict resolution – may be of help to the Intelligence Community in grappling with “the problem of imagination.”

Conflict Analysis: A Potential Contribution

The “problem of imagination” described in the previous section is one of the most pressing problems confronting the Intelligence Community today. Broadly speaking, this problem is fundamentally related to the relationship between the intelligence analyst and the possible conflict; the analyst must be able to imagine what behaviors currently and could possibly pose a threat to U.S. interests and security.

Framed this way, the problem of imagination becomes the following question: What models and methods will enable the intelligence analyst to (1) accurately assess the threat posed by an actor and (2) imagine the conflict behavior of that actor. To this end,

this thesis intends to demonstrate the application of the analytical developments within the field of Conflict Analysis and Resolution to the problem of imagination in intelligence analysis. This field provides a framework for evaluating the human dimension of security to identify and analyze threats originating from a range of actors.

The Intelligence Community and the field of Conflict Analysis and Resolution both emerged in the wake of World War II. Accordingly, both were decisively oriented by the predominant theory of international relations at the time – political realism – although to vastly different purposes. The 1948 work of Hans Morgenthau, *Politics Among Nations*, set forth the tenets and principles of political realism, chief of which are the assumptions that the world of politics is “inherently a world of opposing interests and of conflicts among them” and that principle actors of concern on the international stage are nation states (1948, 3). In the words of Morgenthau, “The aspiration for power on the part of several nations, each trying either to maintain or overthrow the status quo, leads of necessity to a configuration that is called the balance of power and to the policies that aim at preserving it” (1948, 161).

In this regard, political realism reflected the dynamics of the international order at the time and is clearly consistent with the principles upon which the Intelligence Community was formed. According to a Congressional Research Service analysis of the National Security Act of 1947 – the legislation that provided the Intelligence Community with a formal mandate – the Act was designed to preserve a balance of power in light of Soviet aggression. “The fundamental intent of this legislation was to coordinate U.S.

national defense efforts, including intelligence activities, in the face of a Soviet Union intent upon expanding and leading a system of communist states” (Best, 2004, 3).

The early scholars in the field of Conflict Analysis and Resolution acknowledged political realism’s attention to conflict between nation states, however disagreed with the reliance on power. Arguing from the assumption that politics can be reduced to the issue of power, Morgenthau argued that neither the moral character or philosophical nature of individual political leaders are relevant factors in political analysis and policy making. As Morgenthau writes, the reality of power “sets politics as an autonomous sphere of action and understanding apart from other spheres, such as economics (understood in terms of interest defined as wealth), ethics, aesthetics, or religion” (1948, 5). In contrast, the field of conflict analysis and resolution has argued from its beginning that conflict cannot adequately be understood without explicitly accounting for what John Burton called “the human dimension of conflict” (Burton, 1990, 25-33).

However, the realities of the international order today are leading to a convergence between the questions of the Intelligence Community and the concerns of the Conflict Resolution field. Today’s intelligence and security questions cannot be addressed by isolating political from economic, ethical, or religious issues or questions of power from questions of individual intentions and values. The Intelligence Community is now confronted with the challenge of assessing analytical questions formerly ignored by the governing tenets of political realism. In an essay on curing analytic pathologies, CIA analyst Jeffery Cooper acknowledged, “The problem presented by many of the new threats, whether from transnational terrorist groups or from non-traditional nation state

adversaries, however, is not that of accessing denied areas but of penetrating ‘denied minds’ – not just those of a few recognized leaders, but of groups, social networks and entire cultures” (2005, 5). The argument here is that the field of Conflict Analysis and Resolution has a lead in developing analytical models and frameworks that can potentially aid the Intelligence Community in understanding and assessing these formerly denied areas and minds.

In a recent article, Jamie Price and Andrea Bartoli trace the development of analytic frameworks in the field of Conflict Analysis and Resolution, identifying three phases of consequence. At the onset, John Burton introduced a theory of human needs to explain conflict. He argued that conflict could not be adequately understood without attending to the dynamic of human needs – universal needs related to individual identity and recognitions that in turn drive the need for security (1990, 33). However, like Morgenthau, Burton relied on a deductive analytical approach. Kevin Avruch, in turn, contributed an empirical turn to the field with his work on culture and conflict dynamics. Avruch’s work expanded upon Burton’s notion of the human dimension of conflict but explicitly differentiated human affectivity and cognition from the cultural images and symbols that people use to process conflict.

According to Price and Bartoli, Avruch succeeded in providing an empirical framework for addressing culture and cognitive awareness. “Avruch replaces Burton’s appeal to the canons and standards of deductive logic with a focus on empirical data – in particular, the data on the cognitive and affective operation of human minds and how individuals (and groups) use cultural images and schemas to guide the decisions they

make in creating and resolving conflict” (2013, 162). However, Price and Bartoli also note that the theory highlights the need for intentionality – understanding not only how individuals use cultural images, but what they are doing when they deploy them in conflict scenarios (163).

In a third development, several scholars including Ken Melchin, Cheryl Picard, and Price leverage the Insight theory of philosopher Bernard Lonergan to develop an intentionality analysis of conflict that explains exactly what humans do when they lock themselves into conflict.

“[Melchin and Picard] explicitly differentiate outwardly identifiable conflict behavior – words, deeds, and so on – from the inner cognitional and affective processes people employ when they engage in such behavior” (Price and Bartoli, 2013, 164). Melchin and Picard argue that conflict can be a function of an inner apprehension of “threat-to-care,” where an individual’s pattern of consciousness identifies a causal link between a situation and a set of dire future consequences (Price and Bartoli, 2013, 164). This perceived threat leads the individual to engage in conflict behavior. The Insight approach analyzes conflict by seeking to isolate and understand the cognitional processes and values that trigger conflict behavior – what is happening when we decide to engage in conflict.

It is this latest development in the field of Conflict Analysis and Resolution that holds the greatest potential for the Intelligence Community’s challenge of imagination. In Chapter One, this thesis examines the current efforts to contend with the problem of imagination and creativity that have emerged within the Intelligence Community and the

shortcomings to these efforts. Chapter Two will then demonstrate how an application of Insight approach to intelligence analysis can facilitate creative and imaginative assessments.

INTELLIGENCE: THE STATE OF ANALYSIS

Richards Heuer and *The Psychology of Intelligence Analysis*

Concepts of consciousness and cognitive issues are not new to the Intelligence Community; Richards Heuer's seminal work, *The Psychology of Intelligence Analysis* (1999), called attention to the role of the analyst's cognitive process in analysis. Heuer's application of a cognitive framework to assess the function of mindset and cognitive bias in analysis provided the foundation for a transition from the model of critical thinking to alternative and structured analytic techniques.

According to Heuer – a psychologist by trade – analysis is shaped by the conscious and subconscious processes of the analyst. “Analysis begins when the analyst consciously inserts himself or herself into the process to select, sort, and organize information. This selection and organization can only be accomplished according to conscious or subconscious assumptions and preconceptions” (1991, 41). However, it is the subconscious processes that provide the framework and foundations for analytic assessments. “People have no conscious experience of most of what happens in the human mind. Many functions associated with perception, memory, and information processing are conducted prior to and independently of any conscious direction. What appears spontaneously in consciousness is the result of thinking, not the process of thinking” (1999, 1).

Heuer's claim raises a question of consequence for the Intelligence Community. Is it true that what appears in consciousness is the result – not process – of thinking? As this thesis will discuss further, Heuer's fundamental claim regarding the problem of imagination is that human consciousness operates in terms of mental models, that such mental models are prone to bias and error, and that it is only by attempting to compensate for this bias that the Intelligence Community can contend with the problem of imagination.

Cognitive Limits and Mental Models

Heuer's approach to mental models is dependent upon the work of Herbert Simon, who is credited by Heuer with the conceptualization of "limited rationality." According to the theory of limited rationality, there are limits to the capacity and capability of the human mind to process and comprehend the complexity of the world. To compensate for this limitation, humans construct simplified mental models of the world that enable us to contend with and understand complex realities inherently beyond our grasp (Heuer, 1999, 3). Mental models serve as a cognitive heuristics through which individuals make sense of the world around them.

According to Heuer mental models operate at the subconscious level and are constructed from past experiences, education, and are inclusive of all we think we know. As Heuer puts it, "People construct their own version of 'reality' on the basis of information provided by the senses, but this sensory input is mediated by complex mental [i.e. mental models] that determine which information is attended to, how it is organized,

and the meaning attributed to it” (1999, 4). This construction of reality is better known as perception and mental models make perception possible.

Perception, Heuer contends, is a dynamic, conscious process by which people use their mental models to make sense of the world accessed through sight, touch, taste, feel (1999, 7).

Mental Models and Cognitive Bias

For Heuer, mental models are inherently vulnerable to errors or biases: cognitive errors that result from simplified or abbreviated mental processes. As James Wirtz points out, this limitation is central to the problem of imagination in intelligence analysis: “At the heart of the problem are the limits to human cognition that constrain our ability to anticipate the unexpected or novel, especially if the future fails to match our existing analytical concepts, beliefs or assumptions” (2009, 73). According to CIA analyst Roger George and James Bruce, a former CIA analyst, “The human mind’s natural tendency to develop patterns of thinking or ‘mind-sets’ often distorts, exaggerates, or dismisses new information in ways that produce errors in judgment or thinking” (2008, 310). As Heuer explains the problem, the human mind is not intrinsically prepared to process information that deviates from our expectations and understandings of reality; therefore it is our mental model that hinders creativity and imagination in intelligence analysis by creating “mental ruts”.

Once people have started thinking about a problem one way, the same mental circuits or pathways get activated and strengthened each time they think about it. This facilitates retrieval of information. These same pathways, however, also

become the mental ruts that make it difficult to reorganize the information mentally so as to see it from a different perspective (1999, 21).

To illustrate Heuer's view of how mental models give rise to failures of imagination in the Intelligence Community, consider Christine Fair's analysis of the 2008 attacks across Mumbai, India. In an interview with the *New York Times*, Fair, a senior political scientist and South Asia expert at RAND Corporation, "insisted the style of the attacks and the targets in Mumbai suggested the militants were likely to be Indian Muslims and not linked to al-Qa'ida or Lashkar-e Tayyiba [LeT], another violent South Asian terrorist group." As Fair asserted, "There's absolutely nothing al-Qa'ida-like about it....Did you see any suicide bombers? And there are no fingerprints of Lashkar. They don't do hostage-taking and they don't do grenades" (McDonald and Cowell, 2008). As it was, Fair's assessment was incorrect: the attacks were, in fact, carried out by the South Asian terrorist group linked to LeT. The question here is: How did Fair go wrong?

According to Heuer, the problem can be traced to cognitive bias inherent in our use of mental models. Fair's mental model is constructed from extensive experience analyzing and evaluating events in South Asia. However her assessment, while consistent with her mental model, did not account for facts that fit outside her understanding of al-Qa'ida and LeT. Rather, she highlighted the data points that confirmed al-Qa'ida and LeT were not involved. For Heuer, this is a form of confirmation bias, in which analysts focus on information that confirms our existing belief and tend to ignore that which does not. When analysts confront a problem without complete information, when they

experience time constraints, they rely on their “mental ruts” to retrieve information that fits within their mental model of how the problem should look.

Fair’s initial analysis of the Mumbai bombings was wrong, but there are many other instances where her initial analysis was accurate and provided valuable contributions to analytical discourse. This raises the question: How deep is the problem of confirmation bias, and what can be done to prevent it? This is the core challenge of analytic work: being able to draw upon institutional knowledge while maintaining the flexibility to imagine and identify the unexpected. In interviews with senior analysts, Heuer found that many took pride in their mind-set and professional skills. These analysts, he wrote, “view themselves, often accurately, as comparable to chess masters. They believe the information embedded in their long-term memory permits them to perceive patterns and make inferences that are beyond the reach of other observers” (1999, 29). While the institutional knowledge of an experienced analyst is invaluable to the Intelligence Community, their mental models can still lead to bias against situations that deviate from their expectations.

In addition to confirmation bias, analysts are also vulnerable to a bias that Heuer refers to as mirror-imaging. Mirror imaging is a form of cultural bias where the analyst relies on the assumption that his or her subject is likely to act as people in the United States would act in similar circumstances (Davis, 2003, 6; Heuer, 1999, 4). This form of bias often occurs when an analyst lacks complete information about a situation. As former CIA methodologist Jack Davis explains, “The analyst’s psychological drive for coherence often causes them to fill any gaps in understanding with what they, as

American-trained rationalists, think would make sense to the foreign leader or group under assessment” (2008, 162). When information does not exist, cognitive processes fill the gaps with information derived from the analyst’s mental model which is inevitably informed by the analyst’s past experiences, cultural values, education, and morals.

Mirror-image is specifically a challenge to strategic and political analysis.

According to Heuer,

In estimating the influence of U.S. policy on the actions of another government, analysts more often than not will be knowledgeable of U.S. actions and what they are intended to achieve, but in many instances they will be less well informed concerning the internal processes, political pressures, policy conflicts, and other influences on the decision of the target government (1999, 139).

The first few years of the war in Afghanistan are evidence of this. In his book *In the Graveyard of Empires*, RAND Corporation researcher Seth Jones wrote:

Nevertheless, U.S. policymakers gravely underestimated the gritty resolve of the Afghans. Through most of the landscape is barren and parched, and though its people appear unobtrusive and primitive, this region has nurtured a proud warrior culture that has repelled invading armies for more than two thousand years.

Indeed, the central tragedy of the American experience in Afghanistan is the way this history was disregarded (2010, xxvii).

The cultural framework of U.S. policymakers failed to account for the extent to which Afghan factions would resist U.S. policies of democracy; the understanding and

reliance on a U.S. brand of democracy contradicted historical empirical evidence from the experiences of the British, Soviets, and even Genghis Khan.

Anchoring bias is a third type of cognitive error that highlights the challenge that conflicting information presents to an analyst's mental model. In theory, an analyst's confidence in an assessment is reinforced not only by the presence of supporting data, but also the absence of contradicting information. Cognitively, an analyst's confidence is reinforced by the presence of supporting data and previous patterns of experience. When conflicting information arises, that information is weighed in the context of current and historical evidence. George and Bruce describe this as an anchoring bias, explaining "In essence, the initial judgment acts as an anchor, making the final estimate closer to the original one than should be the case, given the new information available to analyst" (2008, 310). According to a May 2012 *Newsweek* article by Colin Powell, "During the 1991 Gulf War, our Intelligence Community was absolutely certain that the Iraqi Army had chemical weapons. Not only had the Iraqi Army used them in the past against their own citizens and against Iran, but there was good evidence of their continued existence." He continues, discussing Operation Iraqi Freedom, "Many intelligence analysts and experts believed the Iraqis would use chemical weapons. That was their opinion. The facts could be taken either way" (Powell, 2012). Despite credibility issues related to the person nicknamed Curveball – the single source of weapons of mass destruction (WMD)-related intelligence – analytic judgments continued to favor the presence of chemical weapons in Iraq; the initial assessment from 1991 anchored the analytic assessments in 2001.

The tendency to rely on pre-existing mental relationships also informs what psychologist Daniel Kahneman refers to as an “availability heuristic,” or the process of judging frequency by ease of mental retrieval (2012, 129). In an experiment examining how individuals estimate the frequency of an event, Kahneman discovered that if data retrieval is fluent and easy, individuals will judge a high frequency. Conversely, if it is difficult to retrieve data related to the event, individuals will judge the event rare. In analyzing the events leading to September 11, analysts could not easily recall instances where al-Qa’ida was affiliated with hijacking attacks; these occurrences were only readily available in hindsight of the event. Therefore, analysts were less likely to have confidence in an assessment indicating al-Qa’ida possessed the capability to conduct a hijacking attack.

The availability heuristic explains why, in the aftermath of the 2011 Norway bombings, news outlets speculated that al-Qa’ida was responsible. In the rush to provide an assessment, Max Fisher of *The Atlantic* wrote:

It’s natural to wonder whether al-Qa’ida, the world’s most famous terrorist organization, might have been involved. But why would the group target Norwegian government infrastructure? Last year, after several immigrants to Norway were arrested plotting terrorist attacks on behalf of al-Qa’ida, Thomas Hegghamer and Dominic Tierney wrote “Why Does Al-Qa’ida Have a Problem With Norway?” for TheAtlantic.com (2011).

Fisher then cited three theories proposed by Hegghammer and Tierney to explain al-Qa’ida’s interest in Norway: Afghanistan, the reprinting of Danish cartoons depicting the

Prophet Muhammad, and Norway's treatment of the Iraqi Kurdish Islamist Mulla Krekar. The ease by which Fisher was able to correlate al-Qa'ida to Norway due to the group's prominence in media and earlier reports by *The Atlantic*, facilitated his attribution of the July 2011 bombings to al-Qa'ida—attacks that ultimately were attributed to Anders Behring Breivik, a Norwegian with a far-right ideology.

The potential for individual bias and cognitive error associated with mental models are compounded when they become operative in a form of group think. As Jack Davis points out, this imperils one of the key phrases of intelligence analysis: review and coordination (2008, 163). The review and coordination phase is a critical component of the analytic and production process; it provides the opportunity for colleagues to challenge assumptions and refine arguments. However, cognitive patterns can facilitate a system of group think, or as Wirtz describes it, “deference to organizational preferences or an organizational culture that creates ‘intelligence to please’” (2009, 73). Group think can obstruct the potential for creative assessments by preventing analysts from exploring scenarios that conflict with their colleagues, bosses, or policy. In practice, Davis found, “the process most often involved a large number of analysts from diverse bureaucratic offices – many with a penchant for argument, some under orders from their bosses to ‘fix’ the final text so that it conforms to office or agency interests” (2008, 163). Institutionalized assessments temper innovative and bold ideas and the available agreed-upon judgments go unchallenged. According to an interview Davis conducted with one of the CIA's weapons analysts, he “acknowledged accepting as a ‘given’ the principal analysts’ judgment that the Saddam regime harbored such weapons, and to sifting

through the evidence critically, but with the expectation that the case for a particular suspected weapons system was there to be made” (2008, 165).

At the time Heuer wrote *The Psychology of Intelligence Analysis*, he assessed that analytic judgments were largely based on common-sense assumptions about how the world normally behaves (1999, 141). Nearly 15 years later, the prevailing analytic method is expert judgment, which includes historical analysis, case studies, and evidentiary reasoning, and is dependent upon subject-matter expertise and critical thinking (Heuer and Pherson, 2010, 22). At a fundamental level, intelligence analysis remains largely a combination of common-sense logic and critical thinking: the deconstruction, analysis, and assessment of the thought process.

However, as Heuer’s analysis of cognitive bias and mental models surveyed above clearly demonstrates: critical thinking methodologies on their own are inadequate for meeting the challenge of cognitive error in intelligence analysis. The patterns of expectations and the mental models that evolve from subject-matter expertise are so embedded in the analytic framework of the analyst that the expectations rather than facts weigh heavier in the analyst’s assessment of the problem. Moreover, subconscious processes limit the ability of the analyst to think creatively and imaginatively by anchoring assessments to the mental model.

Method in Intelligence Analysis

Heuer’s work also exposed a clear need for a method in intelligence analysis that would overcome the biases associated with mental models—a need the Intelligence Community has responded to by developing alternative analytic techniques. A 2004

report by the CIA's Sherman Kent School for Intelligence Analysis with the RAND Corporation articulated the need as follows:

Understanding complex transnational issues, such as terrorism and weapons proliferation, requires an alternative analysis approach that is more an ongoing organizational process aimed at promoting 'mindfulness'—continued wariness of analytic failure—than asset of tools that analysts are encouraged to employ when needed. This means that the analytic Intelligence Community organizations need to institutionalized sustained, collaborative efforts by analysts to question their judgments and underlying assumptions, employing both critical and creative modes of thought (Fishbein and Treverton, 2004, v).

Alternative analysis—tools to facilitate critical self-review, challenge preconceptions and judgments, and consider unconventional scenarios—are specifically designed to address cognitive errors, including the errors responsible for September 11 and the assessment of WMDs in Iraq. Alternative analysis exists as an alternative or supplement to the traditional methods of critical thinking and informal historical analyses. Heuer, along with Randy Pherson, has contributed seminal work to the field of alternative analytic tradecraft, in particular, structured analytic techniques. We now turn to an analysis of these techniques.

Structured Analytic Techniques

Structured analysis, as Heuer and Pherson assert, "is a mechanism by which internal thought processes are externalized in a systematic and transparent manner so that they can be shared, built on, and easily critiqued by others" (2010, 4). Methods of

structured analysis contend with cognitive error via deconstruction of a problem, so that the components and underlying principles can be isolated, examined, and their relationships evaluated. Heuer and Pherson maintain that externalized deconstruction of analysis provides transparency and enables other analysts to follow and critique the judgments underpinning the assessment.

Heuer and Pherson's structured analytic techniques are grounded in Heuer's work on cognitive processes and the inherent risk of cognitive error. In the introduction to their techniques, Heuer and Pherson begin by drawing a clear distinction between "mindset" and "mental model."

Why does it matter whether one uses the term "mindset" or "mental model"? It matters because it may affect how one tries to solve a problem. If an analyst's mindset is seen as the problem, one tends to blame the analyst for being inflexible or outdated in his or her thinking. That may be valid in individual cases, as analysts do vary considerably in their ability and willingness to question their own thinking. However, if one recognizes that all analysis is based on fallible mental models of a complex and uncertain world, one might approach the problem differently (2010, 6).

For Heuer and Pherson, the key to overcoming the limitations and biases of any one mental model is to insure that alternative models are also included. "Greater accuracy is best achieved through collaboration among analysts who bring diverse viewpoints to the table and the use of structured analytic techniques that assess alternative explanations or outcomes (2010, 6).

Heuer and Pherson's philosophies regarding mindset and mental models are reflected in the external and collaborative nature of structured techniques. Heuer and Pherson address the "fallible" nature of the human mind by devising strategies to correct for analytic errors once judgments have been formally articulated and written down. Accordingly, Heuer and Pherson make a key distinction between "structured analysis" and "expert judgment" with the latter referring to the analytic processing internalized in the mind of the analyst and the former referring to the product of that internal processing as articulated in a draft report (2010, 22).

These principles are reflected in Heuer and Pherson's handbook *Structured Analytic Techniques for Intelligence Analysis*. The techniques, which are organized into eight families based on the nature and intent of each method, are tailored to structure analysis in a way that leverages the analyst's expertise while facilitating objective analysis. Figure 1.1, taken from the handbook, indicates the linkages and structure of Heuer and Pherson's analytic methods while a brief description of each family follows.

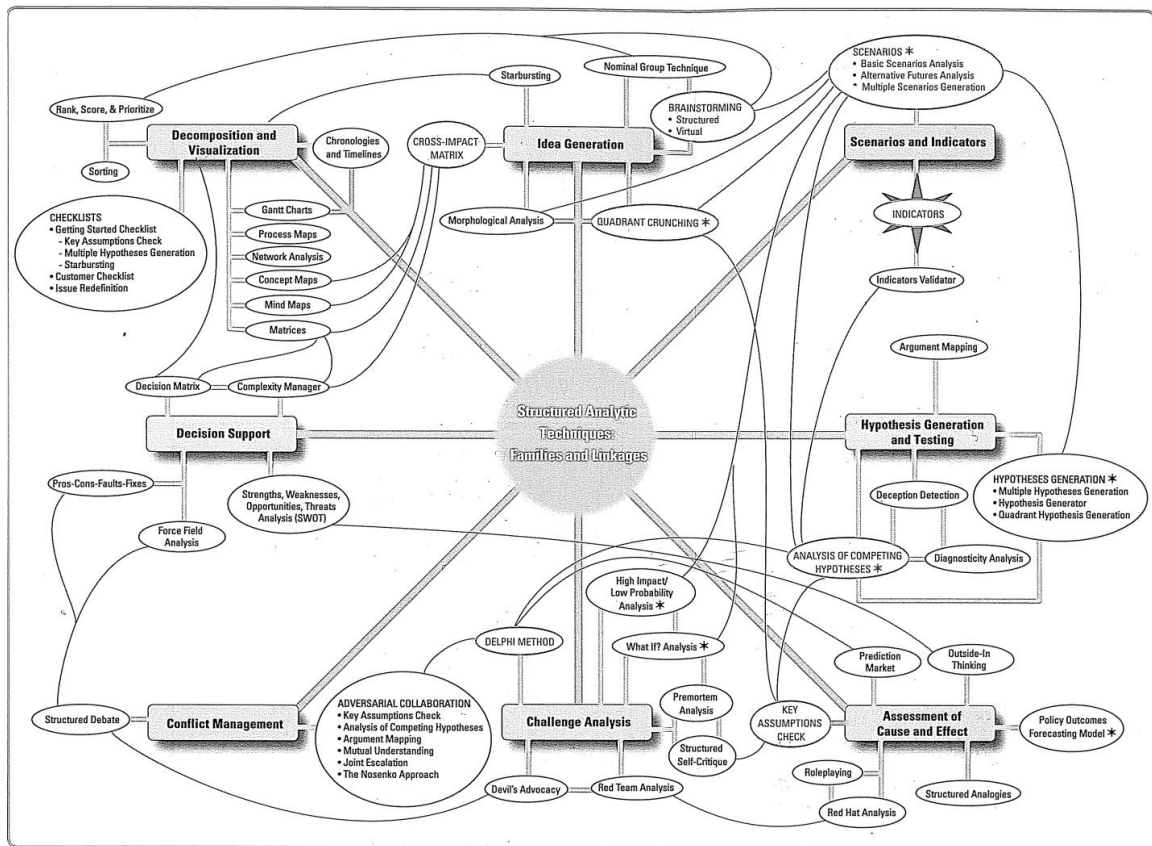


Figure 1.1: Heuer and Pherson's Typology of Structured Analytic Techniques

Decomposition and Visualization: Decomposition and visualization techniques deconstruct and subsequently map out, on paper or electronically, a problem to provide an illustration of the evidence and the relationship. These techniques are useful in exposing hidden relationships and connecting evidence and, therefore, illuminate information outside the analyst's mind-set or natural thought processes. Examples include: Chronologies and Timelines, Sorting, Matrices, Network Analysis, and Mind Maps or Concept Maps. Decomposition and visualization through the use of tools such as Analyst's Notebook and Palantir allow the analyst to build a structure of relationships and visualize the dynamics of the target's interactions.

Ideas Generation: Techniques of idea generation focus on the initial task of identifying hypotheses, topics for research and new research and data gathering methods. Structured techniques of idea generation differ from unstructured techniques in that there is a formalized procedure for identifying new ideas. Techniques include: Structured Brainstorming, Virtual Brainstorming, Starbursting, and Nominal Group Techniques. These techniques facilitate discussion so that each group member is heard and each variable or perspective is systematically evaluated, thereby disrupting the group-think dynamics.

Scenarios and Indicators: Scenario and indicator techniques are concerned with generating future scenarios. Heuer and Pherson define scenarios as “plausible and provocative stories about how the future might unfold,” noting that as an analyst, it is impossible to predict these scenarios precisely and rather “the best an analyst can do is to identify the driving forces that may determine future outcomes and monitor those forces as they interact” (2010, 119). Scenarios and their indicators pinpoint fundamental factors likely to influence future events. Examples include: Simple Scenarios, Alternative Futures Analysis, and Multiple Scenarios Generation. The technique of Simple Scenarios involves an analyst defining the issue and listing the underlying factors that will influence the issue to generate four different scenarios: a best case, worst case, mainline, and a wildcard scenario. Once these different scenarios are established, the analyst then generates a list of indicators to monitor that would signal the emergence of each scenario (2010, 125).

Hypothesis Generation and Testing: Techniques of hypothesis generation and testing are intended to imitate the underlying principles and reasons of the scientific method and include methods of Diagnostic Reasoning, Argument Mapping, Deception Detection, and Analysis of Competing Hypotheses. The majority of these methods are designed to generate hypotheses from a single piece of information or result in a single hypothesis. Heuer developed Alternative Competing Hypotheses, previously described, to examine multiple hypotheses in order to prevent an analyst from focusing on the hypothesis that is most consistent with his or her mental model.

Assessment of Cause and Effect: Cause and effect methods focus on understanding current events and forecasting the future. These techniques work to mitigate the effects of fundamental attribution error, or ascribing an incorrect cause to an effect. Most frequently, causal estimates are based off three principal strategies: situation logic, comparison with historical situations, and applying theory (Heuer and Pherson, 2010, 190). In each, fundamental attribution error can be caused by the tendency to attribute behavior and the actions to the character of the actor rather than the scenario, or conversely, to weigh too heavily the influence of the situation on the individual's actions (Heuer and Pherson, 2010, 179). Key cause and effect techniques include: Key Assumption Check, Structured Analogies, Role Playing, and Policy Outcomes Forecasting Model.

Challenge Analysis: Techniques of challenge analysis are designed to counter situations of group think and compensate for strong individual mind-sets. According to Davis,

Challenge analysis is usually undertaken as the analysts in charge of an issue have reached a strong consensus and are in danger of becoming complacent with their interpretive and forecasting judgments. Challenge analysis is essential “argument for argument’s sake” —that is, a rigorous evaluation of the evidence, including gaps in evidence, from a plausible if seemingly unlikely set of alternative assumption (2008, 168).

Heuer and Pherson assert that the benefits of challenge analysis stem from the reframing of the issues by forcing an analyst to examine the conclusion through an alternative perspective (2010, 218). Methods of challenge analysis include Devil’s Advocacy, Red Team Analysis, Delphi Method, and High Impact/Low Probability.

Conflict Management: Conflict management techniques address the analytical issues that arise when analysts disagree. Conflict can be functional—it challenges the status quo, can force critical evaluation of key assumptions, and can lead to new ideas and understandings. Current intelligence practices, however, rely on footnotes or hedging assessments (2010, 253). Heuer and Pherson propose two techniques to exploit the benefit of conflict management: Adversarial Collaboration and Structured Debate. Adversarial Collaboration requires disagreeing analysts to work together, utilizing an alternative analytic methodology to foster an understanding of their differences and the implications on the final product. Structured Debate requires each analyst to debate each other in front of senior analysts and managers. The intent of each technique is to identify the key assumptions underlying each assessment and reduce the uncertainty surrounding the final product.

Decision Support: Decision support techniques assist analysts in remembering the reasoning and logic behind their assumptions and enable analysts to work from the perspective of decision -makers. These techniques “describe the forces that are expected to shape the decision, identify several potential outcomes, and then select indicators or signs to look for that would provide early warning of direction in which events are headed” (2010, 269). Such techniques include Complexity Manager, Decision Matrix, Force Field Analysis, and SWOT Analysis. Each decision support technique organizes information to allow an analyst to wholly consider a scenario from a decision- making perspective, outlining each factor and assigning weights to those factors to reach an assessment.

Alternative Competing Hypotheses (ACH) – a Hypothesis Generation and Testing technique – serves as an exemplar of externalized analysis. ACH is 1 of more than 50 techniques described in Heuer and Pherson’s handbook that is designed to provide a method for addressing the cognitive challenges posed by an analyst’s mental model. It draws from the scientific method’s use of hypotheses and incorporates alternative analytic methods of challenge analysis to facilitate a comprehensive assessment that evaluates not only the likely scenarios, but less likely scenarios (2008, 253). According to Heuer,

ACH offers a simple model for how to think about a complex problem when the available information is incomplete or ambiguous, as typically happens in intelligence analysis. The unique insight behind ACH is that a key element of the scientific method can and should be applied to types of intelligence problems

where this method in the past has been considered inapplicable. Like the scientific method, ACH proceeds by trying to refute hypotheses rather than confirm them. Unlike the scientific method, ACH cannot conduct empirical experiments to test these hypotheses, it can only test hypotheses by assembling the available intelligence reporting, open source information, and the informed logical deductions and assumptions of a knowledgeable analyst (2008, 253).

To begin, the analyst first brainstorms possibly hypotheses and creates a list of substantive evidence in support of and contradicting each hypothesis, organizing the data into a matrix that allows for a visual comparison of all hypotheses. This is the deconstruction and externalization phase of ACH—breaking the problem into hypotheses and evidence and creating a physical matrix that exists outside of the analyst’s mind. Heuer contends that externalization, be it in the form of a matrix or another organizational tool, encourages the analyst to critically equally evaluate hypotheses in light of the available evidence rather than instinct rather than rely on the so-called “expert judgments” produced by the biased internalized models. “If analysts focus mainly on trying to confirm one hypothesis they think is probably true, they can easily be led astray by the fact that there is so much evidence to support their point of view. They fail to recognize that most of this evidence is also consistent with other explanations or conclusions, and that these other alternatives have not been refuted” (1999, 96).

ACH exemplifies Heuer and Pherson’s focus on the product of analytic thought as opposed to the interior, conscious processes of analytic thought. Their structured analytic techniques are concerned with improving the product of the analyst’s mind as opposed to

the way the analyst uses his or her mind during the course of the analysis. This distinction is important because it highlights Heuer and Pherson's notion of the inevitability of cognitive limits, and their strategy of trying to work around those limits rather than attempting to understand and expand them. A consequence of this strategy is that it neither directs nor enables the analyst to attend to or attempt to understand the interior conscious processes by means of which the analyst carries out his or her analysis. As we shall see in Chapter Two, this approach directly contrasts with that of the Insight approach to conflict analysis. In what follows immediately, however, we will examine some of the limitations to Heuer and Pherson's approach that have emerged within the Intelligence Community.

Application to Intelligence Analysis

The challenge of working with the product of cognitive processes is highlighted by Daniel Kahneman's research on decision making. Where Heuer focused on cognitive nature and its manifestation in consciousness, Kahneman's work explores the cognitive operations involved in decision making. While Heuer and Pherson's structured analytic techniques complement and enhance standard practices of critical-thinking and expert analysis, the conceptualization of fallible mental models and limits inherent in the techniques themselves limit the ability of structured analytic techniques to identify the unexpected and adequately address the need for creativity and imagination in intelligence.

In *Thinking, Fast and Slow*, Daniel Kahneman's philosophy supposes that decisions are driven by two systems of thought: System 1, the quick and intuitive, and System 2, the deliberative and logical. According to Kahneman,

System 2 receives questions or generates them: in either case it directs attention and searches memory to find the answers. System 1 operates differently. It continuously monitors what is going on outside and inside the mind, and continuously generates assessments of various aspects of the situation without specific intention and with little or no effort. These basic assessments play an important role in intuitive judgment, because they are easily substituted for more difficult questions—this is the essential idea of the heuristics and biases approach (2011, 89).

Heuer and Pherson's structured analytic techniques intends to provoke System 2 thought—each of the methods described above relies on deliberate and logical thought patterns to assess analytic problems. Structured analytic techniques are best aligned to the slow, methodological pace of long-term analysis of complex problems—the type of work that leads to substantive analytic products such as the National Intelligence Council's *Global Trends 2030* report and in-depth assessments of a terrorist group or political leader.

The National Intelligence Council's *Global Trends 2030* report demonstrates the utility of Heuer and Pherson's structured analytics as a supplemental method. The long schedule of the Global Trends reports – production takes 18 months – and the broad scope of each report enables the integration of modeling techniques; a variety of

analytical tools, including scenarios and indicator techniques; and coordination with the public, private, and academic sectors. *Global Trends 2030: Alternative Worlds* provides a long term analysis of global power shifts, structural trends, and possible game-changers. According to the Director of National Intelligence's website, the report "is intended to stimulate thinking about the rapid and vast geopolitical changes," and "provide a framework for thinking about possible futures and their implications" (National Intelligence Council, 2012).

In addition to leveraging modeling techniques from academia, the National Intelligence Council sponsored a public blog to provoke discussion and critical thought on key themes of the report. Per Christopher Kojm, Chairman of the National Intelligence Council, this public blog had more than 140 posts and 200 comments from experts and as of mid-October, the website was visited more than 70,000 times by readers in 167 countries. The Global Trends blog is an example of Heuer and Pherson's virtual brainstorming on a large-scale. Virtual brainstorming enables the lead analyst to capture and track ideas in a single location, enabling different analysts – regardless of location – to refine, debate, or expand on an idea via comments or new blog posts. On the Global Trends blog, the range of participants—and therefore the range of mental models—enabled the consideration of diverse ideas and assessments while tempering the bias of any single analyst.

Complex problems can also place the analyst under cognitive strain, shifting the analytic approach from a casual intuitive mode to a System 2-engaged deliberative mode (Kahneman, 2011, 65). According to Kahneman, cognitive strain can occur as an

individual struggles to read a faint font or a complicated language (2011, 59). In intelligence analysis, cognitive strain is also induced by the the challenge of large amounts of data, both structured and unstructured. Just as the analyst's mind is ill-equipped to deal with the complexity of the world, it is ill-equipped to deal with the complexity of large datasets.

Heuer and Pherson's techniques contend with cognitive strain by providing a framework to organize data and an analytical approach to understanding that data. Unstructured, foreign language data in faint fonts is the norm for Financial Intelligence analysts working terrorist financing in Afghanistan. Afghanis, in general, do not rely on the formal Western banking system. Instead, banking and money transfers are conducted in a hawala system where hawaladars – in essence the bankers – transfer money via networks that are largely based on familial or pre-existing relationships. The key is that physical currency is not actually transferred, rather the hawaladars transfer money on a system of trust where hawaladar 2 will pay out the transfer that hawaladar 1's client requested. These transactions are recorded on handwritten ledgers that calculate how much money is owed to or due from other hawaladars.

The handwritten ledgers, often scribbled in a foreign language, are analyzed to identify money laundering in support of terrorist activities. The cognitive strain imposed by the conditions of the ledgers lead analysts to use the System 2 mode of thought, methodologically examining each transaction for evidence, cross-referencing other ledgers and known derogatory information to identify instances of money laundering to terrorist groups. This work can result in the designation of a hawala for sanctions

pursuant to the U.S. government's terrorist sanctions authority, as in the case of the Haji Khairullah Haji Sattar Money Exchange (HKHS) run by Haji Abdul Sattar Barakzai and Haji Khairullah Barakazi, designated for serving as hawaladars for Taliban senior leadership and for providing financial assistance to the Taliban (Treasury.gov, 2012).

Cases like HKHS rely heavily on network decomposition and visualization tools supported by Heuer and Pherson to map out the financial connections of hawaladar networks and beneficiaries. Tools such as Palantir and Analyst's Notebook integrate different datasets, providing analysts with a comprehensive visual of large amounts of information – in this case financial and personal relationships – that highlights behavioral patterns and exposes new links in the network.

Several challenges exist to analysis completed under cognitive strain. According to Kahneman, “When you feel strained, you are more likely to be vigilant and suspicious, invest more effort in what you are doing, feel less comfortable, and make fewer errors, but you are also less intuitive and less creative than usual” (2011, 60). The deliberative and focused nature of System 2 prevents the analyst from naturally pursuing the adjacent possible, a term coined by scientist Stuart Kauffman to capture “both the limits and the creative potential of change and innovation” (Johnson, 2010). Kaufmann originated the term in the scientific context to discuss the “shadow future hovering on the edges of the present state of things,” but it is applicable to intelligence analysis as demonstrated by the interest in futures and scenario-oriented reports. However, under cognitive strain, the analyst focuses on the task at hand following the course of logic, rather than pursuing creative tangents.

Heuer and Pherson's structured analytic techniques contend with this challenge in long-term analysis, providing frameworks that encourage creativity via red cell analysis and the incorporation of diverse perspectives in brainstorming. The CIA created a Red Cell component following the attacks of September 11 with the mandate to provide alternative analytic challenges and assessments to the Community. In a 2012 segment of NPR's *All Things Considered*, the Chief of the Red Cell explained, "There definitely was an emphasis in years past to say, 'It is most likely going to go this way.' We still have to make those calls, but now we try to explain what factors would it take in a different direction" (Gjelten, 2012). She cited a recent example where the Red Cell proposed five unique perspectives for the Middle East during the course of 18 months, including a "'mosaic' scenario characterized by new democracies and reformist governments," and a "region-wide Sunni-Shiite conflict shaped by a Saudi-Iranian competition for influence" (ibid). The Red Cell examines not only what is probable, but what is possible.

Additionally, cognitive strain limits the ability of the analyst to see the full picture. Kahneman's *Thinking, Fast and Slow* opens with a reference to Christopher Chabris' and Daniel Simon's *The Invisible Gorilla*. *The Invisible Gorilla*, an experiment designed by Chabris and Simon to test the limited capacity of attention, required participants to view a short film of two teams passing basketballs and count the number of passes made by the team wearing white while ignoring the passes made by the team wearing black. Halfway through the film, a woman wearing a gorilla suit appears, crossing to the center of the court, thumps her chest, and then exits. Kahneman notes, of

the thousands of people who have seen the video, nearly half do not notice the gorilla.

He explains:

It is the counting task—and especially the instruction to ignore one of the teams—that causes the blindness. No one who watches the video without that task would miss the gorilla...The authors note that the most remarkable observation of their study is that people find its results very surprising. Indeed, the viewers who fail to see the gorilla are initially sure that it was not there—they cannot imagine missing such a striking event. The gorilla study illustrates two important facts about our minds: we can be blind to the obvious, and we are also blind to our blindness (2011, 23-24).

The Invisible Gorilla highlights the phenomenon of cognitive strain and the limitations it places on identifying the unexpected. The cognitive strain imposed on the participants – the intense focus on the white team’s passes while filtering out the black team’s passes – narrowed the ability of participants to remain aware of their surroundings.

Cognitive blindness poses a particular challenge to short-term analysis, which includes daily accounts of threat reporting and operations and immediate alerts and warnings related to national security. According to Kahneman, “When engaged in mental sprint, people may become effectively blind” (2011, 34). Due to the “sprint” nature of this reporting, there is not time to integrate one of Heuer and Pherson’s structured analytic techniques—the analyst cannot weigh all hypotheses. Instead, the analyst works within his or her scope of reference, deliberately weighing the data from his or her mental model with the data immediately available to inform the assessment.

This creates a vulnerability to the unexpected—as evidenced by Christine Fair’s initial assessment of the Mumbai attacks. While these short-term assessments are rarely considered finished intelligence due to the quick turnaround, they provide leads and shape follow-on products; cognitive errors or biases in the initial assessment can then anchor later assessments.

The tendency for these short-term assessments to carry over to later assessments exposes another fault of System 2: it is inherently lazy. “Many people are overconfident, prone to place too much faith in their intuition. They apparently find cognitive effort at least mildly unpleasant and avoid it as much as possible” (Kahneman, 2011, 45). Consequently, when confronted with a difficult problem, System 1—despite being intuitive and reactive—most often drives the response. According to Kahneman, “People can overcome some of the superficial factors that produce illusions of truth when strongly motivated to do so. On most occasions, however, the lazy System 2 will adopt the suggestions of System 1 and march on” (2011, 64). System 2’s laziness poses a challenge to Heuer and Pherson’s structured analytic techniques: they are only as good as the mental effort that informs them. The visualization of a financial terrorist network could provide the analyst with new leads to significant terrorists or terrorist activities; however, these leads are only worthwhile insofar as the analyst takes the time to explore and evaluate them.

System 1’s influence is particularly strong when a problem is assessed with cognitive ease. Whereas cognitive strain triggers System 2 thinking, cognitive ease facilitates the adoption of System 1 intuition. The ease by which an answer arrives, the

familiarity an individual has with an answer, and the consistency with the individual's mental model—all previously discussed as instances leading to cognitive error—are the type of superficial factors that Kahneman references as producing illusions of truth.

“How do you know that a statement is true? If it is strongly linked by logic or association to other beliefs or preferences you hold, or comes from a source you trust and like, you will feel a sense of cognitive ease” (2011, 64).

The problem, however, is that structured techniques do not provide a method to trace feelings, identify the true nature of cognitive ease, and verify the validity of a thought. Heuer and Pherson's methods intend to promote objective analysis; in doing so, they leave little room for emotion. While objective assessments and analysis are consistent with the goals of the Intelligence Community, structured analytic processes limit the ability of an analyst to think creatively. Understanding the emotions and feelings that form an intuitive assessment can provide valuable lead information and insight to a problem.

Public reaction to the September 11, 2012 attack on the U.S. Embassy in Benghazi is evidence of the role of emotion in providing insight to an analytic assessment. Due to the historical significance and sentiment of the date of the attack, the public was primed to associate the attack in Benghazi to terrorism; terrorism and al-Qa'ida were subconsciously at the forefront of the collective American mind and it was a natural connection to associate the Benghazi attack with a terrorist attack. An objective, deliberative System 2 would have pointed to ongoing controversy over an anti-Islam video as a contributing factor – as did U.N. Ambassador Susan Rice. It would have

taken into account the Arab Spring and the general instability in the Middle East as a possible explanation or framework through which to assess the attack. However, once fully evaluated by the Intelligence Community, the public's initial intuitions – despite the emotional origins – proved to have merit.

Additionally, intuition plays a significant role in the work of targeters. Targeting Analysts, analysts who leverage network analysis techniques to identify and detail key threats to the United States, and Targeting Officers, specialists who research and analyze complex datasets to identify operational leads, run complex queries generating leads that analysts must then prioritize and evaluate (CIA.gov). Like other areas of analysis, this process becomes institutionalized, so that functional experts develop a rhythm and toolset for their queries, relying on favored databases and analytic tools, standard queries, and even consistent language in reports—all practices that can limit the targeter's creativity if not addressed.

The analytic tempo of targeting work requires an inquisitive nature and flexibility; targeters must be able to refine their strategy to contend with both limited and excessive data. Understanding the intuition forming the decision of which tool to use for which scenario is critical to capturing institutional knowledge on targeting tradecraft – a field that is rapidly evolving.

Cognitive ease also factors into the analytic tempo of targeters, influencing which leads they will pursue and the methods by which they pursue them.

Words that you have seen before become easier to see again—you can identify them better than other words when they are shown very briefly or masked by

noise, and you will be quicker (by a few hundredths of a second) to read them than to read other words. In short, you experience greater cognitive ease in perceiving a word you have seen earlier, and it is this sense of ease that gives you the impression of familiarity (Kahneman, 2011, 61).

For counterterrorism analysts, the names “al-Aulaqi” and “bin Ladin” are synonymous with al-Qa’ida. Due to this strong familiarity and association with al-Qa’ida, analysts are likely to subconsciously pay greater attention to any connections associated with the names al-Aulaqi or bin Ladin. However, Anwar al-Aulaqi, a now-deceased attack planner for al-Qa’ida in the Arabian Peninsula (AQAP), comes from the large al-Awalek tribe of southern Yemen –the name al-Aulaqi is not unique and may not provide a valuable lead. Similarly, analysts are less likely to prioritize the name “Adam Pearlman,” due to its Anglo-origin and inconsistency with the analyst’s mental model of what a terrorist name looks like. Pearlman is actually the true name of Adam Yahuye Gadahin AKA Azzam al Amriki, an al-Qa’ida affiliate wanted by the FBI for engagement in terrorist activities (NCTC.gov, 2012). When confronted with the two options, the cognitive bias towards al-Aulaqi-associated lead over Pearlman is likely to occur near instantaneously, even before the thought of structured analytic techniques register.

In 2009, the CIA’s Center for the Study of Intelligence produced a Tradecraft Primer subtitled *Structured Analytic Techniques for Improving Intelligence Analysis*, intended to highlight how structured analytic techniques can facilitate the analytic process via challenging assumptions, identifying mental mindsets, and stimulating creativity (2009).

To demonstrate the utility of a Key Assumptions Check, the primer recalls assumptions driving law enforcement's investigation of the 2002 DC sniper shootings and provides a corresponding assessment questioning the validity of the assumptions (Figure 1.2).

Key Assumptions Check: The 2002 DC Sniper Case	
The outbreak of sniper shootings in the Washington, DC area in the fall of 2002 provides a good example of how this technique could have been applied. After the initial flurry of shootings, the operating assumption that quickly emerged was that the shootings were the work of a single, white male who had some military training and was driving a white van. If law enforcement officials had conducted a Key Assumptions Check, they could have broken this statement into its key components and assessed the validity of each statement as follows:	
Key Assumption	Assessment
The sniper is a male.	Highly likely (but not certain) given past precedent with serial killers. We are taking little risk by not looking for a female.
The sniper is acting alone.	Highly likely (but not certain) given past precedents.
The sniper is white.	Likely, but not as certain, given past precedents. We would be taking some risk if we rule out nonwhites as suspects.
The sniper has military training/experience.	Possible, but not sufficient reason to exclude from consideration potential suspects who have not had any military training.
The sniper is driving a white van.	Possible because you have a credible eyewitness account but worthy of continuing scrutiny given the number of white vans in the area (more than 70,000 registered in the Maryland suburbs of Metropolitan Washington, DC) and that different kinds of vehicles are being described.

Figure 1.2: Excerpt from CIA Tradecraft Primer

The primer then provides the method and questions to ask during the Key Assumptions Check, including:

- How much confidence exists that this assumption is correct?
- What explains the degree of confidence in the assumption?

- What circumstances or information might undermine this assumption?
- Is a key assumption more likely a key uncertainty or a key factor?
- Could the assumption have been true in the past but less so now?
- If the assumption proves to be wrong, would it significantly alter the analytic line? How?
- Has this process identified new factors that need further analysis?

The primer highlights the challenge of identifying hidden assumptions, asserting [I]dentifying hidden assumptions can be one of the most difficult challenges an analyst faces, as they are ideas held—often unconsciously—to be true and therefore, are seldom examined and almost never challenged....The goal is not to undermine or abandon key assumptions; rather it is to make them explicit and identify what information or developments would demand rethinking them (7).

The exercise is designed to address assumptions specific to the problem set, it does not contend with the nature of the assumptions as they relate to the analyst's mental model. Rather, as demonstrated in the table above, the assessments are depersonalized and grounded in historical occurrences: "Highly likely (but not certain) given past precedent with serial killers," "Highly likely (but not certain) given past precedents," and "Likely, but not as certain, given past precedents."

As written, the example follows a logical approach to the problem. Take the assumption "The sniper has military/training experience." An analyst could easily draw on historical precedence to quantify instances where snipers have had military/training or

experience to provide a level of confidence. However, relying solely on historical precedence – which is limited to specific problem types – creates a cognitive constraint that prevents the analyst from exploring data that is not evidently relevant to the specific problem at hand.

The pragmatic approach of Heuer and Pherson's structured analytic techniques transfers the weight of the analytic problem from the analyst to the technique. In doing so, the analytic process shifts to a problem-specific method that intends to answer a specific question. This transition consequently limits the ability of the analyst to fully make use of the social relationships that construct his or her mental model by restricting his pattern of thought to data that is immediately relevant to the question.

Structured Analytic Techniques have a demonstrated value-add to the challenge of contending with cognitive limits as they relate to organization of data and collaboration. However, Heuer and Pherson acknowledge the limitations of structured analytic techniques in the introduction to their handbook, noting that “method must be combined with substantive expertise and an inquiring and imaginative mind” (2010, 6). While Heuer and Pherson's methods advance analytic tradecraft in the areas of sustained, collaborative efforts and provide framework for critical modes of thought, they are limited in their effect on the aforementioned 2004 RAND report recommendation for employing creative modes of thought to question their judgments and underlying assumptions. At the fundamental level, Heuer's theoretical understanding of the cognitive constraints of one's mental model combined with the pragmatic approach of Heuer and Pherson's structured analytic techniques limit the analyst's ability to explore and exploit

their baseline feelings, emotions, and biases to identify new insights and construct creative assessments. As we shall see in the next chapter, the Insight approach offers the possibility of compensating for this limitation.

INSIGHT METHOD: AN ALTERNATIVE APPROACH

Heuer and Pherson call for a “substantive expertise and an inquiring and inquisitive mind” to supplement method. However, what if a method could facilitate inquisitiveness? What if a method could exploit the awareness of an individual’s cognitive limits to enable creativity? What can the Intelligence Community do to advance beyond the limitations of Heuer and Pherson’s framework?

Introduction to Insight

In 2007, the Canadian Border Services Agency (CBSA) and Saint Paul University conducted a “proof of concept” project to study the application of Insight Theory to the development and evaluation of intelligence professionals.

Insight Theory, the work of Canadian philosopher Bernard Lonergan – and the foundational theory of the Insight approach to conflict analysis and resolution – seeks to illuminate the moment of understanding in the analytic process. At a March 2013 discussion at the Pentagon, as part of the Office of Secretary of Defense (OSD) “New Ideas @ OSD” initiative, Kahneman discussed the challenge facing policy makers and thinkers alike: “Every scientist has the experience of not understanding what they mean until many years later.” It is only when they have that “aha!” moment that everything comes together to make sense. This moment, according Lonergan, is called insight.

Insight as generally understood, is simply the mental event of “coming to comprehend something; it is not the content of what is understood, but the grasping of that content. To gain insight is to understand (something) more fully, to move from a state of relative confusion to one of comprehension...it is associated with the “aha!” experiences, with the proverbial light bulb going on over one’s head (Fitterer, 2008, 34).

According to the project report’s authors, Insight Theory presents a unique opportunity to isolate the cognitive operations that lead to knowing. “While many authors and cognitive theories refer to the notion of *insight*, Lonergan’s Insight Theory is the only one that proposes an experientially based, in-depth analysis of the patterned operations of human knowing that lead from the experience of data, through understanding, to judgment and finally action” (2008, 20).

Self-appropriation and Cognitive Operations

At the center of Insight Theory is the notion of self-appropriation. Self-appropriation draws on the ability of the human mind to be reflexively aware of one’s cognitive and affective operations and processes – our ability to pay explicit attention to the data of our own consciousness. The data set of Insight Theory is distinguishable from the experiential data – that which is understood through sight, feel, taste, touch, sound – of the physical world. Self-appropriation involves the objectification of the data of consciousness in the form of a cognitional theory, which the Insight approach identifies as a pattern of four progressive and cumulative levels – the experiencing, understanding, judging, and deciding referenced by the project authors.

Each of these levels is named for its key operation and the first three of these levels – experiencing, understanding, and judging – constitute our process of coming to know. “First there is the inquisitively directed attention to the data of presentation; second, the occurrence of insights of understanding; and third, the reflective insights of judgment” (Fitterer, 2008, 38). On the fourth level of consciousness – deciding – we value, deliberate, and evaluate what we what to do in response to what we have concluded we know, based on the performance of the first three levels of consciousness (Fitterer, 2008, 38).

Each of these conscious operations is transitive; they act on an object and it is through each of the operations that the analyst becomes aware of the object – and consequently aware of himself or herself carrying out the act on the object. That is to say, during the process of analysis the analyst is aware of himself analyzing the problem, present to himself analyzing the problem, and experiencing himself analyzing the problem (Lonergan, 1957, 8).

The analyst’s awareness enables him or her to objectify the operations of consciousness to transform them to objects of consciousness – and consequently operate with self-appropriated awareness. The analyst experiences herself experiencing the data of consciousness, she understands that she is experiencing this data and then verifies that she is experiencing it. This goes on for each operation: experiencing her understanding of understanding and verifying this understanding – all the way through verifying her verification.

Insight Method reflects a structure of intent verifiable in the data of consciousness. It objectifies the structure of conscious, intentional inquiry: “What is this?” leads from experience to understanding. “Is it so?” leads from understanding to verification. “So what?” moves from knowing to valuing and deliberating on the fourth level of consciousness. “What is my responsibility here?” leads to evaluation and “Will I do it?” culminates in a decision to act. Throughout this process, the self-appropriated thinker can isolate and pin down various moments of insight – the “aha!” moments – that reflects progress in knowledge and decision making.

The objectification and intent in Insight Method allows the analyst to work with the “data of consciousness,” thereby making Insight an intrinsically empirical method. The data of consciousness – referred to by Jamie Price as “the inner flow of conscious activity operative when we are using our minds,” is the empirical evidence by which the analyst then grounds his or her assessment (2013, 117). This recalls Melchin and Picard’s method of mediation, where the mediators seek to understand what are we doing when we decide to engage in conflict – rather than focus on the problem itself. In intelligence analysis, this translates to “What are we doing when we form an assessment?” The answer lies in the data of consciousness.

This process is illustrated below in Figure 2.1, which was presented to project participants as part of an introduction to Lonergan by Saint Paul University researchers Dr. Kenneth Melchin and Morag McConville.

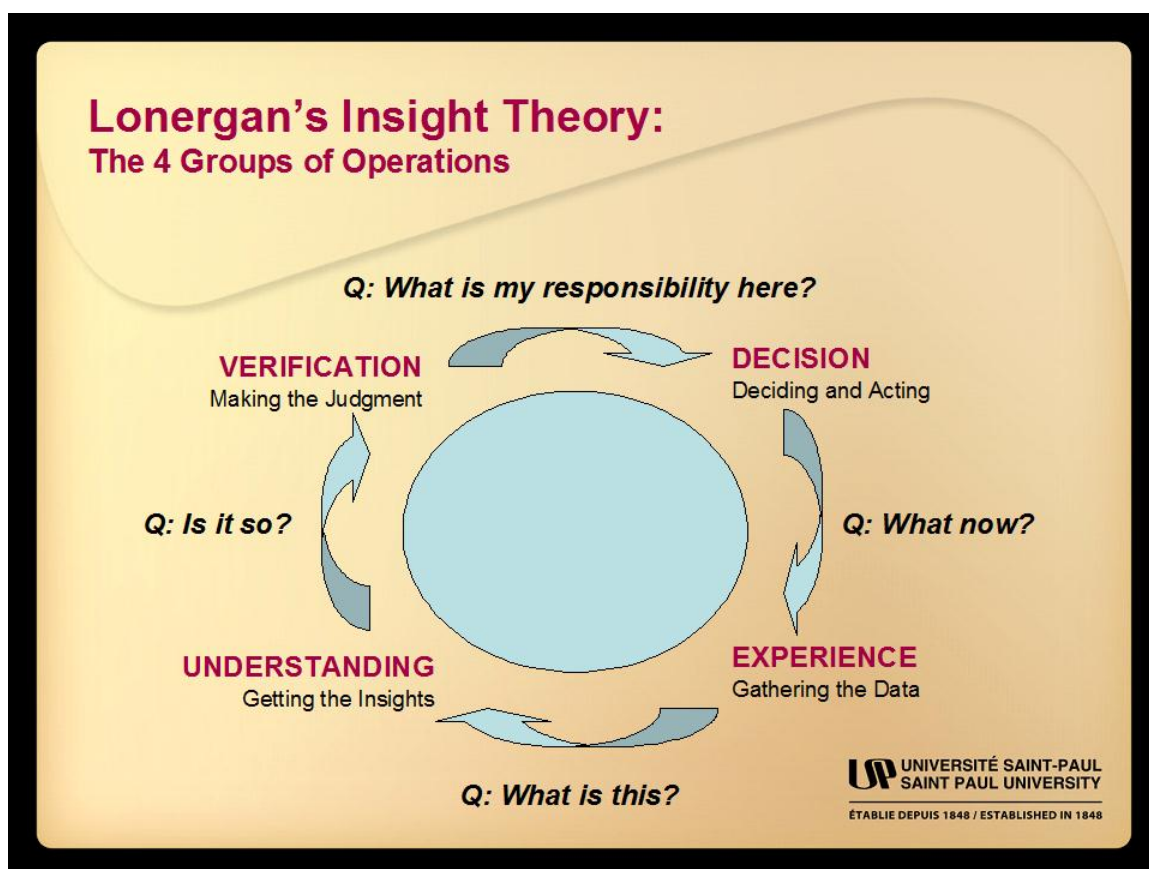


Figure 2.1: Lonergan's Insight Theory

Lonergan's questioning framework of "What is this?" and "Is it so," enables the analyst to articulate and reflect on each operation – experiencing, understanding, judging, and deciding – as it occurs. Therefore not only does the analyst isolate insights, he or she isolates the conditions and triggers leading to that insight. As such, the analyst can articulate what is occurring as he or she forms an insight.

Cognitive Operations in Tweets: The Boston Marathon Bombing

To illustrate the utility and potential of the Insight approach for intelligence analysis, consider the data provided by a Twitter feed. Twitter is somewhat anonymous in

nature, easily accessible via mobile devices, and creates a forum that often captures raw and uncensored content. In Twitter feeds, we see a range of emotional reactions, reflective thoughts, and succinct judgments, each articulated in 140 characters or less. Insight Theory reveals that a user's tweets can disclose their cognitive and affective processes – their experiencing, understanding, judging, and deciding what to do about a particular event. Twitter then, can serve as a representation of the data of consciousness.

On April 15, *Runner's World* magazine was live tweeting the results of the Boston Marathon under the Twitter name @runnersworld; as marathoners ran the course, *Runner's World* posted tweets highlighting elite runners and participants in real time. Twenty-four of these tweets were posted before confusion broke out at the finish line, Figure 2.2.



Figure 2.2: Runner's World Experiences Noises at Boston Marathon Finish Line

The 2:55PM tweet “#BostonMarathon press room on lockdown. Loud noises heard near finish line,” isolates the moment of *experiencing* the data. *Runner's World*

experienced the sound, understood it as noise, and judged it as loud. *Runner's World* next tweet – Figure 2.3 – occurs 2 minutes later at 2:57PM:



Figure 2.3: Runner's World Transitions from Experiencing to Understanding

In this tweet, *Runner's World* reveals its deepening understanding of data. As a follower of Josh Cox (@joshcox), the tweet originally appeared in *Runner's World's* Twitter feed of incoming information. However, the tweet also signifies a shift to *understanding* the data. The loud noises are now understood to be explosions: “2 explosions in the building,” an answer to the question “What is this?” In addition, the first phrase of the tweet reveals the act of evaluating and deciding that is characteristic of the fourth level of consciousness: “Do not go near the finish line,” serves as an answer to the question “What now?”

9 minutes later, *Runner's World* tweets again, Figure 2.4:



Figure 2.4: Runner's World Verifies Understanding of Explosion

The tweet, sent at 3:06PM reflects continued progress in *Runner's World's* cognitive operations and knowledge of the event. The question “Is it so” calls for the verification of an understanding; this tweet demonstrates *Runner's World's* assessment that the “explosions” are in fact “bombs.” Moreover, the tweet demonstrates the spontaneous pattern by which human consciousness progresses from *judgment of fact* to *questions for decision*, “What is my responsibility here?” and “What now?” As a media outlet, *Runner's World* judged that they had a responsibility to inform: the shortened url “ow.ly/k5qxy” links to an article by *Runner's World* titled “Explosions Rock Boston Marathon Finish Line.” Further, the note “Will add as story develops,” indicates the intent to continue to fulfill their responsibility to provide ongoing information on the bombing – a response to the question “What now?”

Insights satisfy both the data that is experienced and the questions that seek to understand that experience; as an analyst adds insight to insight, she comes closer to a comprehensive understanding. In the immediate 20 minutes following the “loud noises at the finish line,” *Runner's World's* tweets reflect the intent to resolve the concrete question of “What happened?” Each tweet builds upon the previous insight – loud noises, explosions, bombs – to develop a progressive and cumulative understanding of the event. “The whole point to the process of cumulative insight is that each insight regards the

concrete while the cumulative process heads toward an ever fuller and more accurate view” (Lonergan, 2005, 101). The progressive and cumulative process of coming to know is at the core of Lonergan’s conceptualization of method (Lonergan, 1957, 4).

Insight in Intelligence: Proof of Concept

As noted earlier, the Canadian Border Services Agency (CBSA) conducted a proof of concept experiment to determine the potential relevance of the Insight approach to intelligence analysis. The CBSA project had four objectives: to conduct a literature review highlighting the potential of Insight Theory on the development and evaluation of intelligence professionals; to survey intelligence professionals and identify areas that could potentially benefit from the application of Insight Theory; to identify the context of analyst thought to develop “Insight into Insight” puzzles; and to run pilot “Insight into Insight” sessions that evaluate the benefit of Insight Theory in capturing and explaining analyst thought processes (2008, 1).

To test the practical application of Insight Theory to the Intelligence Community, Melchin and McConville led managers, chiefs, analysts, intelligence officers, and co-op students from CBSA in a series of IQ puzzles. The exercises were designed to isolate cognitive operations and provide participants the opportunity to identify challenges at each stage. “Through facilitative processes participants were taken through a step-by-step series of noticing activities to illuminate *questioning frameworks*, the dynamics of *before and after the insight*, the *emotional dynamics* associated with the understanding process, and *barriers* to getting insights” (2008, 40).

A peer reviewer of the study, Dr. Michael Stebbins, reported evidence of a “striking” success in participant feedback. “The Research Report contains numerous statements which show that many of the participants found Insight Theory very useful as a way not only of naming the different aspects of what they do every day at work, but also of helping them do that work more effectively” (2008, 74-75).

Indeed, participants found Insight Theory translated to several key facets of their work by isolating the different phases in the analytic process. When asked for feedback on the Insight activities, one participant noted “This helps me to be more aware of what operations we are working with and where I didn’t complete the circle e.g. verification” (2008, 61). In a discussion of what worked, another participant reported “Reflection between each puzzle worked. Slowing down the process and explaining what worked and what didn’t before proceeding to the next one” (2008, 61). And when asked what component was most beneficial in intelligence work, a participant noted, “Understanding the thought or insight process we used without realizing it” (2008, 61).

Moreover, the potential for Insight Theory to contend with cognitive error – while not a key objective – was a recurrent theme in the study. “Insight theory adds to the existing analysis by providing a way of locating where biases affect the cognitional process. It also offers resources that assist individuals in identifying biases while they are working” (2008, 23). Additionally, the report concluded that Insight Theory uses “approaches to analysis that promote the occurrence of insights and the elimination of biases and other obstacles that inhibit the occurrence of insights” (2008, 25).

Lonergan's Theory of Consciousness

As evidenced by the CBSA study, Insight Method enables the analyst to identify and articulate bias as it occurs throughout the analytic process. This is not only a function of Insight Method, but a reflection of Lonergan's cognitive philosophy. Like Heuer, Lonergan grounds his method in a cognitive philosophy that attends to the conscious and subconscious limitations of the human mind. Recall Heuer's construct of a mental model: it is a cognitive heuristic inclusive of all we think we know, our past experiences, education, and understanding of the world that determines which information is attended to and how it is organized. Heuer's conceptualization of the mental model implies an inherent limit to the ability of the analyst to process data without first subconsciously simplifying it.

Cognitive Limits: An Expanding Horizon

Lonergan's theory, instead, frames cognitive limits as a horizon of concerns and cares. Horizons are constructed and function in a similar mean to Heuer's mental model – an analyst's horizon is inclusive of his or her knowledge and determines which information is attended to and how it is processed. However, because Lonergan is focused on the operations of consciousness rather than its products, unlike Heuer's mental model, Lonergan's horizons do not serve as an inherent limit to our ability to process data. Instead, horizons serve as a flexible limit of the questions our mental model enables us to ask.

Within the first circle, I can wonder about and care about things; I can ask questions and get answers; I can have concerns and know how to deal with them.

Within the second circle, however, I may wonder and care about things that I do not know, and for that very reason I am driven on to learn and discover the things that are of concern to me. But regarding the outermost circle of the unknown unknown, I do not even ask questions nor do I care at all. The unknown unknown may certainly be intelligible and valuable in itself, but for me it is beyond my world of cognition and concern (Fitterer, 2008, 45).

Lonergan's concept of horizons is reflected in a 2002 statement by then-Secretary of Defense Donald Rumsfeld. In a Department of Defense press briefing on Iraq and WMDs, Rumsfeld remarked "There are known knowns; there are things we know that we know. There are unknown unknowns; that is to say, there are things that we now know we don't know. But there are also unknown unknowns – there are things that we do not know we don't know (2002). The limit of the unknown unknown is not fixed; instead as we come to know and understand more, our horizon expands and the "unknown unknown" becomes "known unknown." This process is marked by the curiosity of new data and the ability to ask new questions.

The horizon is the limit of the outermost circle of concern. The data within the first two circles of concern reflect an analyst's knowledge, his or her past experiences, education, and understanding of the world. "We live by the experience and reports of others, by the development of understanding that has been achieved before our day. While we have our own personal judgments, still they live not in some compartment of their own, they live in symbiotic fusion with beliefs one has picked up in various places"

(Lonergan, 1957, 209). This data provide the foundational lens for experiencing, understanding, and judging data.

In Lonergan's construct, an individual's care and concerns progress the desire to know and differentiate between the first and second circle of concern. Throughout the analytic process, cares and concerns prioritize which data the analyst will attend to, which questions the analyst will ask, and which insights the analyst will pursue. Consequently, these cares and concerns will determine what knowledge the analyst develops.

Cares and concerns, in turn, are determined by an individual's feelings. Feelings inform what an individual cares about, concerns himself with – feelings form the basis for how we interpret the world. According to Lonergan, "Feelings can be in full consciousness so deep and so strong, especially when reinforced, that they channel attention, shape horizons, direct one's life" (2008, 142).

Feelings, then, anchor an individual's horizon of concern. "Feelings establish the horizon within which deliberations takes place, for the things we will deliberate about will first have to be included within the horizon of things we care about" (Fitterer, 2008, 45). Given all the demands for our attention, we cognitively prioritize that which we care most about. For an analyst to identify his or her cognitive limits he or she must first identify the feelings that inform the limits of each circle.

Lonergan's cognitive theory enables an individual to isolate feelings by differentiating between levels of consciousness; cognitive operations can occur on one of

four levels: empirical, intellectual, rational, and responsible. At each level, we operate and feel with varying degrees of conscious intentionality.

There is the empirical level on which we sense, perceive, imagine, feel, speak, move. There is an intellectual level on which we inquire, come to understand, express what we have understood, work out the presuppositions and implications of our expression. There is the rational level on which we reflect, marshal the evidence, pass judgment on the truth or falsity, certainty or probability, of a statement. There is the responsible level on which we are concerned with ourselves, our own operations, our goals, and so deliberate about possible courses of action, evaluate them, decide, and carry out our decisions (Lonergan, 1957, 9).

As we develop insights and understanding, we progress from experiencing at the empirical level to understanding at the intellectual level, judging on a rational level, and deciding responsibly on both our knowledge and feelings.

Feelings present themselves and inform the operation that occur in each level of consciousness. As the tweet in Figure 2.5 demonstrates, at the empirical level feelings can be raw and undeveloped. We know we feel, but we are not quite sure what that feeling is yet. However, this initial emotion compels us to progress in the analytic process and is reflected in the insights we choose to pursue and advance. “For our emotions are often the first clue that what we value is relevant here, even before we can articulate it, and they send us into reflection and deliberation precisely to uncover that value” (Fitterer, 2008, 58).



Figure 2.5: Andrew Kaczynski Experiences Emotion

As we press on in our cognitive operations, understanding and judging data, we can concurrently experience, understand, and judge our feelings. Feelings in these cognitive operations can be nuanced and subtle – however, they reflect the individual’s personal interest and values. The benefits of this to the Intelligence Community are twofold: the Insight approach provides an interpretive framework for attending both an individual actor’s feelings and enables the analyst to attend to his or her feelings.

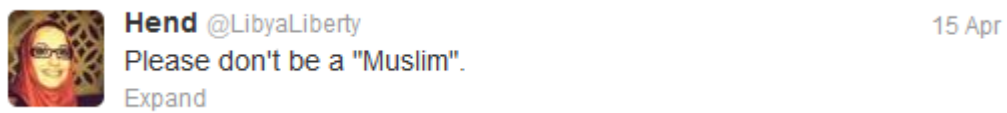


Figure 2.6: Hend's Apprehension of Threat in Response to the Boston Bombing

Figure 2.6, Hend’s (@LibyaLiberty) decision to tweet “Please don’t be a ‘Muslim,’” reflects both her personal values and Melchin and Picard’s dynamic of threat-to-care. In Melchin and Picard’s framework of threat-to-care, actions are a response to a perceived threat to values – deeply held convictions derived from an individual’s social understanding. These values present as feelings in consciousness. “Values manifest

themselves in feelings: the stronger the value, the more intense the feeling” (2008, 82).

The act of tweeting is a decision on Hend’s part to respond to personal values – that her feelings are reflected in this tweet reinforces the interpretation of underlying values related to Islam.

Moreover, Hend’s tweet demonstrates her perception that the Boston bombing poses a threat to her values. The apprehension of threat to an individual’s care results from a perceived pattern of consciousness – there is a causal relationship between the data that appears in consciousness and a “set of dire future consequences” (Price and Bartoli, 2013, 164). Hend’s tweet indicates a sensitivity to past associations of extremist attacks with Muslims post-September 11, in this case the dire consequence is the continued perception of Islam as an extremist religion. The public response to her tweet reflects a shared perception: it was retweeted nearly 300 times and inspired a *Washington Post* article ““Please don’t be a ‘Muslim’: Boston Marathon blasts draw condemnation and dread in Muslim world” (2013). “People in the Muslim world are often keenly aware of the American reflex to associate bombing attacks on U.S. citizens with Muslim extremists” (Fisher, 2013). Hend’s tweet reflects her – and the individuals who retweeted her thoughts – perception of the threat relationship between bombings and Islam.

Hend’s tweet also calls attention to the role of feelings and values in cognitive error. “Please don’t be a ‘Muslim’” was the first of many tweets related to the bombings – the tweets that immediately followed related to processing the event. This is not to say that her tweet is a result of cognitive error, rather that bias is inherent within the core circle of concern by virtue of our nature as social beings. The foundation for our

perception and understanding of the world and our initial apprehension of values are derived from the insights of others.

For just as every group embodies a set of common sense insights that have survived the attention of time and pragmatism, so too each group's set of acquired and tested practical insight inversely reflects a body of rejected concerns, unasked questions, scorned sentiments and ignored presentations that are transmitted between members and generations. Thus, each individual never does start life with a clean slate but with a block of pre-critical assumptions of what is worth asking or worth feeling (Fitterer, 2008, 65).

These pre-critical assumptions of what is worth asking and worth feeling fused with accumulated personal feelings and insights establish the framework for experiencing data. Cognitive error occurs when this framework precludes an analyst from fully experiencing, understanding, and judging data.

The Role of Feelings in Cognitive Frameworks and Error

Lonergan's cognitive framework interprets information to determine the relevancy of data to the first circle of concern. "Memory ferrets out instances that would run counter to the prospective judgment...memories and anticipations rise above the threshold of consciousness only if they possess at least a plausible relevance to the decision to be made (Lonergan, 1957, 209). A narrow and close-minded framework will prevent the analyst from recognizing a range of relevant data. Therefore, they will limit the questions they ask, if they ask any at all.

The concept of relevancy presents an alternative interpretation of the cognitive error that led Christine Fair to misjudge the Mumbai attacks in 2008. Over the course of her career analyzing South Asia, Fair developed a collection of insights that formed her framework for apprehending the relevancy of information. The attack, in which the perpetrators took hostages and used grenades, was not consistent with her knowledge of Lashkar-e Tayyiba. Therefore, her framework did not interpret the attack as relevant to her understanding of LeT and triggered an abbreviated analysis of the event as it related to LeT. Whatever analytic method she deployed did not encourage exploration of her cognitive horizon – rather than question her judgments that LeT does not do hostages or grenades, she assessed that LeT was not involved.

Interpretive frameworks can also lead to reliance on a recurring schema. Like Heuer, Lonergan subscribes to the notion of pre-existing patterns of relationships. “Human actions are recurrent; their recurrence is regular; and the regularity is the functioning of a scheme, of a patterned set of relations that yields conclusions of the type: If an X occurs, then an X will recur” (Lonergan, 1957, 235). The patterned schema, a cognitive heuristic, can lead to cognitive error when the analyst fails to evaluate the pattern and underlying judgments each time new data is experienced.

Moreover, entrenched feelings can lead an analyst to prioritize questions and insights. Feelings, an instinctual response to an analyst’s values, inform relevancy. Price conceptualizes Lonergan’s questioning framework to include an existential level of consciousness – at which the individual reflects on his values, “So what?” “What does it matter to me;” deliberates, “What can I do?” and evaluates “What should I do?” – before

deciding (2013, 118). Consequently, an analyst will prioritize the line of questioning and insights in response to a judgment of value – “What does this mean to me?”

The immediate reaction to the bombs in Boston centered on experiencing the attack, expressing concern, and trying to understand at the most basic level what occurred. A day later, tweets related to the attack began to diverge, pursuing different angles of understanding the bombing. These tweets reflect the varying values of the community. For example, after the first day of experiencing and making sense of the explosions, *Runner's World* transitioned to tweets that appealed to the perspective and interests of their key demographic – runners.



Figure 2.7: Runner's World's Prioritization of Inquiry

The tweets in Figure 2.7 frame the attacks in a way that all runners – not just those participating in the Boston Marathon – can understand and relate to the attack.

In the same vein, Anonymous tweeted a warning on April 16 to Westboro Baptist Church after the church announced it would picket the funerals of marathon victims. Anonymous, an Internet collective of “hactivists” with a history of virtually targeting governments, financial institutions, and oppressive organizations, previously targeted the church – an anti-gay, anti-Semitic group (Bennett-Smith, 2013).



Figure 2.8: Reflection of Anonymous’ Judgments of Value

The initial warning and subsequent tweet highlighted in Figure 2.8 are indicative of two things: the judgment of initial value “What does it matter to me?” and evaluation of that value – the “Is this the best thing to do?” However, the order of the tweets – the decision to act followed by the evaluation of the decision to act – demonstrates an abbreviated cognitive process. Anonymous experienced the announcement of Westboro’s tweet, understood Westboro’s picketing of the funerals as a reflection of the church’s values, verified that interpretation of Westboro’s announcement, and then progressed to the existential level of “What does it matter to me?” That act of threatening Westboro came before the evaluation “Is this the right thing to do?” indicates that Anonymous did not progress fully through the cognitive operations but let the threat to their cares bias their judgment. Where *Runner’s World* pursued a line of inquiry to understand runners’

reactions to the bombings and effects on upcoming races, Anonymous prioritized Westboro Baptist Church's threat to their underlying values.

Just as feelings can lead to the prioritization of insights, feelings can arise with such saliency that the analyst resists insights that challenge their interpretive framework. "There may be cases where, in direct conflict with a pure desire to know, there is operative a deep desire not to know, a desire to flee from unwanted or threatening insights. Such a bias against well-ordered cognition can exist within the individual, the group, and the entire culture" (Fitterer, 2008, 65). This desire not to know can close off the analyst to relevant and important insights.

Resistance to insight occurs when values are threatened. Recall Jack Davis' explanation of mirror imaging: "The analyst's psychological drive for coherence often causes them to fill any gaps in understanding with what they, as American-trained rationalists, think would make sense to the foreign leader or group under assessment" (2008, 162). Heuer identifies the gaps as internal processes, political pressures, policy conflicts, and other influences on the decision-making process of the target government; however, at the fundamental level the information in these gaps is related to the cares and values of the target government.

If conflict is interpreted as a relationship between threat to cares, then the cares of a foreign leader or group is central to intelligence analysis. However, U.S. policies of democracy are anchored in strong, institutionalized values related to principles of self-determination. In the case of Afghanistan, as previously illustrated by Seth Jones, how a U.S.-based individual interprets his values is in conflict with how an Afghani apprehends

his cares. Mirror imaging, then, can occur when the analyst resists insights related to a target's values that threaten his core values. He fails to question how the data and his understanding of it is limited by his core circle of concern – preventing him from insights of understanding the target's judgments and decisions. His horizon is set and curiosity inhibited by his resistance to new information. Bias in this sense is not found in the content of assessment itself but in the resistance to a pattern of operations that fully explores the data.

Similarly, analysts may resist new insights that threaten their self-interest, particularly when they have a large investment in the judgment. The threat to investment – be it emotional, intellectual, or time in nature – can prevent the analyst from pursuing insights or integrating new data into their understanding. Insight Method is a cumulative and progressive process – the judgments and assessments that arise in Insight become the data of consciousness for the next cycle of operations. Recall the example of Operation Iraqi Freedom as an anchor to WMD assessments in the early 2000s. Even if the 1991 assessment anchored the 2000 assessment, a complete pattern of operations that integrated experiencing the new intelligence, understanding the new intelligence, and evaluating the new intelligence, should have produced a new assessment reflective of current empirical evidence. However, the emotion, intellect, and time invested in establishing the baseline assessment led analysts to defer to the existing baseline rather than fully experiencing, understanding, judging, and deciding on the conflicting intelligence that presented itself.

Heuer and Lonergan: A Divergence on Feelings

Albeit in fundamentally different ways, both Lonergan and Heuer's cognitional theories regard cognitive error as the result of simplified or abbreviated mental processes. However Lonergan's conceptualization of the role of feelings serves as a key differentiator between the two theories. According to Lonergan, bias alone is not enough to corrupt cognitive operations, rather it is bias laced with emotion that poses the greatest threat to knowledge. "Bias is tangled with emotion and often cuts short the open-mindedness of free inquiry" (Fitterer, 2008, 73).

This divergence on feelings factors into how Lonergan and Heuer contend with cognitive error. Heuer's theoretical reliance on implicit cognitive limits and fallible mental models requires collaborative analytic techniques to diversify viewpoints and provide a transparent structure that encourages objective analysis and easily facilitates critique (Heuer and Pherson, 2010, 4-6). An analyst begins by asking "What type of problem is this?" to classify the problem and select an appropriate technique from the taxonomy; the nature of the problem determines what method best exploits the available evidence and isolates key judgments. "The value and accuracy of an analytic product depends in part upon selection of the most appropriate technique or combinations of techniques for doing analysis" (Heuer and Pherson, 2010, 33).

Heuer and Pherson's structured analytic techniques are largely a linear process; they do not explicitly encourage the analyst to re-evaluate his or her understanding and judgments as new insights occur. Feelings are stripped from the process and judgments are assessed on supporting evidence. An analyst's classification of a problem and

subsequent selection of an analytic technique inherently limits the questions that he or she will ask and the insights he or she will pursue.

Comparatively, Lonergan's association between bias and feelings informs an approach that is focused on attending to feelings in analysis. Objectivity is not the elimination of feelings from the process, rather objectivity ensures feelings do not inhibit the process. "Elimination of bias is not the elimination of 'our way of doing things' or 'our point of view.' It is the elimination of the fear or hate or suppressed wonder concerning other ways of doing things" (Fitterer, 2008, 83).

Cognitive errors then, are not resolved by eliminating feelings, but by attending to them. Lonergan's Insight Method enables the analyst to evaluate feelings and bias in the context of their horizon of concern. "There are, of course, oversights, biases, errors, but they are eliminated not by rejecting all belief but by discovering when one has been mistaken in one's knowing and then finding all the things that are to be associated with that mistaken knowing, and also examining a bit the mistaken believer" (Lonergan, judgments of value, 146). This process occurs in the articulation of feelings and insights throughout the cognitive process of the Insight Method.

Lonergan's inclusion and apprehension of feelings in cognitive operations enables the analyst to exploit feelings in Insight Method to verify and expand upon their knowledge. "The materials that emerge in consciousness are already patterned, and the pattern is already charged emotionally and conatively" (Lonergan, 1957, 212). The Insight Method enables analysts to experience, understand, and evaluate his or her feelings as they arise in cognitive operations. This ability to evaluate feelings leads to

insights on the origins of these feelings and enables the analyst to relate their feelings to the problem at hand.

Feelings can be a conscious expression of subconscious conflict and discord. Doubt and discomfort can reflect concern over the validity of a judgment. Fear can be indicative of resistance to change or challenging the status quo. Similarly, feelings also serve as a warning of the potential for cognitive error. Frustration can reflect cognitive strain. Even a sense of ease can indicate that the analyst is not fully engaged in the cognitive operations. In each instance, feelings serve as a warning indicator to the potential for an inverse insight.

While insights answer a question to progress the pattern of operations, inverse insights reveal errors in the process. Inverse insights occur when the evidence at hand is in conflict with our feelings and understandings. They arise in response to a disconnect between the expectations of data and the demands of the experience. “Inverse insights disengage us from these expectations and they open up our learning to new lines of questioning that explore alternative pathways” (Melchin and Picard, 2008, 96). Inverse insights not only identify error in cognitive operations, but reveal the expectations causing that error. This revelation allows the analyst to isolate the expectation and de-link it from the new experience to produce an unbiased insight.

At the same time, the insights that occur in response to experiencing, understanding, and validating feelings can facilitate insight to an analytic problem. Evaluating feelings is particularly important in the Intelligence Community, where analysts are often asked to provide an assessment of confidence in their analysis.

Confidence can be attributed to a number of factors: evidence, intuition, trust in colleagues, and historical analytic products. The ability of an analyst to isolate confidence as it relates to each factor enables him to articulate a more accurate assessment of his confidence. Moreover, in his evaluation, the analyst may discover insights answering why he is confident in a historical analytic product or why he trusts a colleague. What judgments underpin the historical product? What attributes make my colleague a respected analyst? These insights, when examined in the context of the problem at hand, expand the analyst's horizons and enhance the ability of the analyst to validate his or her judgments.

Lonergan's philosophy accounts for the inherent feelings present in intelligence analysis and the Insight Method leverages these feelings rather than excludes them.

Feelings never become something that we can control as we control the movements of our hands and feet, and so on. They are not at the beck and call of our will. While feelings do arise spontaneously, still once they have arisen they can be reinforced or curtailed, and in that way one can change one's spontaneous preferences – by such advertence, approval, or distraction, moving on to something else. This process of education is not merely a matter of advancing knowledge, it is also a matter of the refinement of one's feelings, creating a climate of discernment in which one can respond to values more fully, more exactly, more precisely (Lonergan, judgments of value, 141).

The goal, then, is to clarify and refine – empirically with the data of consciousness – “How do I attend to my feelings in analysis?” “The more sensitive,

open-minded, and experienced a person is, the more likely she is to raise and answer more relevant questions” (Fitterer, 2008, 49).

The Progressive and Cumulative Nature of Insight Method

The patterns of operation that lead to knowledge are a dynamic, self-correcting process. “Growth, progress, is a matter of situations yielding insights, insights yielding policies and projects, policies and projects transforming the initial situation, and the transformed situation giving rise to further insights that correct and complement the deficiencies of previous insights” (Lonergan, 2005, 103). Throughout the process, the analyst confirms his or her judgment not only against situational evidence, but the totality of the insights and experiences that construct his knowledge. Once collective knowledge progressed from experiencing the explosion, to understanding it as a bomb – and subsequently judging it as a terrorist act – users on Twitter began to question how their insights from the event altered their interpretive framework.



Mitzi Emrich @missmitzi

17 Apr

Reddit's Boston Marathon Crowdsourcing: Digital Witch Hunt or Law Enforcement Aid? #mppr755 t.usnews.com/a4B5C6 via @usnews

Expand



Inc. @Inc

19 Apr

Emergencies like the Boston bombings raise thorny questions about how businesses should react. @JeremyQuittner ow.ly/keW1V

Followed by Gary Barnabo and 1 other

Expand Reply Retweet Favorite More



Figure 2.9: The Progressive and Cumulative Nature of Insight Method

Figure 2.9 demonstrates the progressive and cumulative nature of Insight Method.

Insofar as any question is followed by an insight, one has only to act, or to talk, or perhaps merely think, on the basis of that insight, for its incompleteness to come to light and thereby generate a further question.... Such is the spontaneous process of learning. It is an accumulation of insights in which each successive act complements the accuracy and covers the deficiency of those that went before (Lonergan, common sense/subject, 199).

The self-correcting and cumulative dynamic of Insight Method is a critical feature in the Method's ability to facilitate creative analysis. The Boston Marathon bombing – an event within itself – did not occur in isolation, but in relationship to law enforcement, business, medicine, and athletics, among other things. This is representative of the complex interdependencies of the larger international order. In examining social relationships rather than a specific problem, Insight Method generates insights that go beyond “What happened?” and “Who did this?” As insight leads to insight, the questions that arise push the horizon of concern outward so that the analyst comes to know more

and comes to be aware of more. This is the essence of creativity – the ability to explore various relationships to identify new and compelling ideas.

CONCLUSION

The Intelligence Community has long struggled with creative and imaginative analysis; the transition to a world of empowered non-state actors and transnational challenges has served only to highlight the problem of imagination within the Intelligence Community. The onus on intelligence analysts to produce creative and innovative assessments on the nature of today's – and even more so tomorrow's – threats is growing. While the Community has responded with a shift to focus on cognitive processes and analytic tradecraft, the analytic methods deployed by intelligence analysts do not fully address the need for innovative and progressive assessments.

Richards Heuer's work in *The Psychology of Intelligence Analysis* on cognitive processes and consciousness demonstrated a clear need for method outside of longstanding models of critical-thinking and common-sense assumptions. According to Heuer, analysis is inevitably and decisively shaped by the subconscious and mental models processes of the analyst – and analysts can have no conscious experience of the foundational framework developed in their subconscious. Consequently, analysts and their respective assessments are prone to cognitive errors and bias due to the unavoidable limitations of their mental models and the analyst's mind is intrinsically incapable of processing information outside this heuristic. The analyst is cognitively ill-equipped to process and comprehend the complexity of the world on his or her own; analysis requires

an empirical method that attends to data and enables the analyst to critically reflect on the judgments and assessments produced in consciousness.

At present, Heuer and Randy Pherson's work on structured analytic techniques serve as *the* alternative in the field of alternative analytic techniques applied to intelligence analysis. Heuer and Pherson's structured analytic techniques are grounded in the philosophy that there are inherent cognitive limits – those of the analyst's mental model – preventing intelligence analysts from internally and independently conducting objective analysis. As such, they rely on methods that externalize the analytic process in a systematic and transparent manner to facilitate collaboration and critique. Moreover, these methods encourage analysts to equally evaluate assessments and hypotheses to ensure that their cognitive limits do not bias them toward one assessment.

Heuer and Pherson's structured techniques have demonstrated the ability to complement and enhance standard practices of common-sense assumptions and critical thinking in the areas of data visualization and collaboration. The externalized and transparent nature of structured analytic techniques facilitates awareness of the underpinning judgments and assessments in long-term, deliberative products. One needs only to look at the number of hits on the *Global Trends 2030* public blog, internal wikis, and collaborative tools to realize that analysts are craving a forum for communication and collaboration. These tools and methods enable the analytic community to build off each other's work, critique judgments, provide alternative and conflicting viewpoints, and leave the community with a repository of information to support knowledge management efforts.

Additionally, Heuer and Pherson's recommendations on network visualizations are critical to contending with the oft-discussed challenge of big data. Visualization tools enable the analyst to manipulate multiple large and complex datasets to identify new connections, nodes of interest, and patterns of activity – this work is crucial to connecting the proverbial dots and finding the illusive needle in the haystack.

However, while Heuer's work has significantly contributed to and advanced analytic tradecraft in intelligence analysis, his reliance on rational and linear methodologies prevents his oeuvre from fully addressing the community's need for method. While they direct analysts to observe and understand the data, structured analytic techniques are less empirical than they are logical. As such, structured analytic techniques invoke Kahneman's concept of System 2 thought – deliberative and logical. Consequently, structured analytic techniques are poorly suited to contend with System 1 patterns of thinking – emotional responses and intuitive associations.

Moreover, there are cognitive limits inherent in the method itself. The methods are organized in a taxonomy specific to problem-type; the nature of the problem determines the method – there is not one method that is applicable across intelligence questions. Success then, is dependent on the analyst's initial response to the question "What type of problem is this?" The assessment of this question is vulnerable to the same cognitive errors as any analytic process but with greater consequence: cognitive error in determining the problem type will subsequently frame how the analyst approaches the problem.

Further, the problem-specific nature of the techniques limit the potential for the analyst to build on his or her assessments – his or her analysis becomes a linear process that ends with the answer to a specific question. The challenge of creativity in intelligence analysis today is compounded by structured analytic techniques designed to contend with cognitive bias: assessments are restricted by the cognitive limits inherent in the method. There are techniques for creativity, there are techniques for validation, there are techniques for collaboration, but the limits of each are not easily transcended to identify and take advantage of the unexpected.

Heuer and Pherson are pragmatic in the challenges to the availability of empirical evidence in intelligence – in his description on ACH Heuer notes “ACH cannot conduct empirical experiments to test these hypotheses, it can only test hypotheses by assembling the available intelligence reporting, open source information, and the informed logical deductions and assumptions of a knowledgeable analyst (2008, 253). Moreover, Heuer and Pherson do acknowledge the need for structured analytic techniques to be supplemented with expertise and an inquiring and imaginative mind. The methods are not designed as a end-all be-all solution, but as an analytic toolkit for the analyst to deploy as needed.

Alternatively, Bernard Lonergan’s Insight Method is grounded by a critically reflexive attentiveness to the data of consciousness. On this basis he is able to point to the fact that the type of cognitive limits identified by Heuer can in fact be transcended – and that self-appropriation of one’s cognitional processes are the key to that self-transcendence. For Lonergan, the biases and limits of our minds are not an intrinsic

function of our mental models but the intrinsically flexible horizon that distinguishes between our ability to ask and answer questions of what we know, what we do not know, and what we know we do not know. This expansion of cognitive horizons occurs through a normative pattern of operations – experiencing, understanding, judging, and deciding – that guides the analyst through the process of empirically examining the data of consciousness to generate new insights.

That Insight Method is, in fact, a normative pattern of operations ensures that it is not specific to one problem type. Instead, it provides the analyst with a framework for “critical reflexivity,” one that calls for the analyst to explicitly focus and reflect on cognitive operations and critically ground his or her assessments in the data of consciousness (Price, 2013, 117). Consequently, Insight Method is a dynamic process that is cognizant of, responsive to, and adaptable to the data of consciousness – including emotions and feelings. Therefore, analysis is not limited or impinged upon by the method itself and can fully and accurately attend to the data as it is presented.

Moreover, the dynamic nature of Insight Method ensures that it is a cumulative and self-correcting process. With each insight, new questions arise – we come to know more and we come to realize there is more that we do not know. And so we repeat the pattern of operations to explore these new insights. As Steven Johnson noted in an article on good ideas and innovation,

The strange and beautiful truth about the adjacent possible is that the boundaries grow as you explore them. Each new combination opens up the possibility of other new combinations. Think of it as a house that magically expands with each

door you open. You begin in a room with four doors, each leading to a new room that you haven't visited yet. Once you open one of those doors and stroll into that room, three new doors appear, each leading to a brand-new room that you couldn't have reached from your original starting point. Keep opening new doors and eventually you'll have built a palace (2010).

Johnson's metaphorical expanding house is the essence of insight: the cumulative and progressive nature of Insight Method enables the analyst to expand his mental framework, discovering new rooms, new insights, and new relationships to identify the adjacent possible. This is the foundation of creativity and innovation. Such an approach is appropriate for the Intelligence Community, as analysts are often concerned with developing events or determining the possibility of threats. Therefore, there is not a specific problem, per se, to solve via logical deduction but overall behavior and relationships to analyze for empirical evidence of the possibilities.

Insight Method – as demonstrated by the CBSA study – is wholly appropriate for the Intelligence Community. However, like Heuer and Pherson's structured analytic techniques, it has its challenges. Primarily, the adequacy and effectiveness of Insight Method is dependent upon the analyst's apprehension, understanding, and verification of data. Additionally, while the data of consciousness provides valuable insight to the cognitive operations of the analyst – empirical data related to the relationships among actors is limited, as Heuer and Pherson previously asserted. While open source information – public data from Twitter, Facebook, and other social networking sites – is

providing new insight into individual values, feelings, and actions, this data is far from complete.

Moving forward then, the Intelligence Community should reference the work of Kenneth Melchin and Morag McConville and continue to develop the applications of Insight Method to intelligence analysis. While the participants in the CBSA study leveraged logic puzzles to facilitate “Insight into Insight” workshop activities, future iterations should be held in a forum that allows participants to reference specific examples from their work as intelligence analysts or officers to discuss direct applications to their work as intelligence professionals with the facilitator. Such a study might explore at the practical level the following ideas:

- How can Insight Method help analysts identify critical information gaps?
- How can Insight Method facilitate creative and innovative products, ideas, and assessments?
- How can Insight Method help analysts capture and deploy insights that are unhelpful for the question at hand but relevant for future questions?
- How can Insight Method complement current practices of analytic tradecraft in the community?
- How can Insight Method help analysts prioritize insights and data?

The economy of communication is fundamentally transforming the means by which we transmit, receive, and process information. While this poses significant intelligence challenges – empowering individual and minority actors with an audience via social media in the Arab Spring, connecting dispersed and isolated actors to rhetoric and

resources to facilitate homegrown violent extremism, and providing networks of spies with covert, impenetrable channels of transmitting secrets – it is also a significant opportunity to exploit the power of big data, examine the nuances and interdependencies of social relationships, and facilitate innovation by synthesizing insights across industry. These challenges and opportunities demand a method that enables the Intelligence Community to leverage the exigencies of the analyst mind to enable creative and cumulative analysis. Lonergan’s Insight Method provides a critical and empirical framework for meeting these exigencies that the Intelligence Community should explore in earnest.

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BIOGRAPHY

Kimberly Orsulak received her Bachelor of Arts from the University of Connecticut in 2007. She is employed as a Consultant in Washington, DC.