

## **Developing an Understanding of Analytic Tradecraft in the Intelligence Community**

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## Abstract

Analytic tradecraft, how intelligence analysts do their job, has been cited in the literature, congressional hearings, and the press as an underlying reason for intelligence failures. Poor tradecraft in the US Intelligence Community (IC) generated enough interest that it was specifically addressed in the Intelligence Reform and Terrorism Prevention Act of 2004 (IRTPA). The assumption within the IRTPA is that improving analytic tradecraft will result in fewer intelligence failures. Achieving those improvements without an understanding of what constitutes analytic tradecraft is, however, unlikely. Analytic tradecraft is an understudied and poorly understood concept and, not surprisingly, tradecraft reforms adopted as a result of legislative impetus have not changed the pattern of intelligence failures.

The purpose of this paper is to describe a research effort being conducted as part of a doctoral program which will result in a better understanding of analytic tradecraft. This study is designed as a qualitative narrative study using Actor-Network Theory as the theoretical framework. Purposeful case sampling will be used with the intent to gain a representative mix of experience levels and IC agencies.

Community wide reform in the IC is costly and in an era of declining budgets and fiscal austerity the nation should not expect to fund a reform effort based on incomplete research. As the IRTPA approaches 10 years of implementation and community wide tradecraft enforcement, there are few indications that these newly implemented community tradecraft standards have improved analysis. A more comprehensive understanding of how analysts approach intelligence problems and operate within their environment will help to identify shortfalls, tailor future improvements, and improve intelligence support to the nation.

## **Background**

The United States currently spends over \$50 billion a year to support a national intelligence program<sup>1</sup> employing hundreds of thousands of people in worldwide locations for the purpose of collecting and analyzing information “necessary for the conduct of foreign relations and the protection of the national security of the United States” (Dozier, 2013; Office of the Director of National Intelligence [ODNI], 2011a; ODNI, 2011b, p. 7; ODNI, 2012; ODNI, 2013; Priest & Arkin, 2010). Few would argue the need for the United States to maintain a robust national intelligence program, or that national intelligence is “fundamental to America’s national security” (Obama, 2011). Given the criticality of the intelligence function, the amount of national capital invested in it annually, and the number of people putting forth their best effort on a daily basis, the national Intelligence Community (IC)<sup>2</sup> still suffers from seemingly routine “intelligence failures.”

Analytic tradecraft has been cited in literature, congressional hearings, and the press as a major reason for these intelligence failures. The perception of poor tradecraft generated enough interest that it was specifically addressed in the post-9/11 and Operation IRAQI FREEDOM intelligence reform legislation. However, analytic tradecraft is an understudied and poorly understood concept and, not surprisingly, tradecraft reforms adopted as a result of legislative impetus have not changed the pattern of intelligence failures. Rather than being the explanation for failure, analytic tradecraft itself is in need of explanation. Improving tradecraft, resulting in better quality intelligence and support to the nation, is unlikely without this understanding.

### **IRTPA & the Legislation of Tradecraft Reform**

Following the 9/11 surprise attacks and the mischaracterization of the Iraqi Weapons of Mass Destruction (WMD) program, the largest reform effort since the creation of the IC occurred under the Intelligence Reform and Terrorism Prevention Act of 2004 (IRTPA) (ODNI, n.d.). Developed under a broad bipartisan mandate, IRTPA reforms targeted: the organizational structure and underlying responsibilities and authorities within the IC; supporting technology; personnel management; and analytic tradecraft (Negroponte & Wittenstein, 2010; ODNI, 2006).

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<sup>1</sup> This figure does not include money budgeted for those intelligence programs specifically identified to support military operations, known as the Military Intelligence Program (MIP). The total US budget combining national and military intelligence programs has been between \$75 – 80 billion since 2009.

<sup>2</sup> The Director of National Intelligence describes the US Intelligence Community as the loose confederation of 17 separate government agencies that individually provide niche intelligence support and come together as a community to provide comprehensive assessments to national decision makers.

Organizational structure reforms adjust the bureaucracies of government in order to achieve efficiencies and improvements in management; improvements to the supporting technology can range from the launch of a new satellite to the fielding of collaborative software for classified information networks. Personnel management, or human capital reforms, address the need to recruit, train, and retain quality personnel. These types of reforms have occurred in the IC since its creation and are generally well understood (Betts, 2002; Warner & McDonald, 2005). However, reforming analytic tradecraft is less concrete and certainly less well understood. While the strengths and weaknesses of different organizational relationships or the capabilities of a new technology can be identified and debated, what actually constitutes the analytic process and analytic tradecraft is still an undeveloped aspect of the IC (Marrin, 2011; Varouhakis, 2013).

### **Tradecraft: A Black Boxed Concept**

Within the IC and academic communities meaningful definitions of tradecraft or even a scope of what analytic tradecraft encompasses, are rare. For example, a 54 page government funded assessment of analytic tradecraft, including ten suggestions for improvement and a separate chapter of recommendations, fails to define or describe the term (Treverton & Gabbard, 2008). Gannon's (1997) definition of "the special skills and methods required to do their business" (p. v) and Johnston's (2005) more general "practiced skill in a trade or art" (pp. 17-18) are decidedly vague. The WMD Commission's definition of tradecraft as "...the way analysts think, research, evaluate evidence, write, and communicate..." may be the most comprehensive but still lacks necessary precision (Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction [WMD Commission,] 2005, p. 12). Johnston states that the term has become a "catchall for the often idiosyncratic methods and techniques" (p. 17) of analysts and believes the term purposely "obfuscates and complicates the reality of their [analysts] work." (p. 18). While Bruce and George (2008) identify seven essential skills for an analyst, combining the professional traits of "historian, journalist, research methodologist, collection manager, and professional skeptic" (p. 3); current analytic standards (Director of National Intelligence, 2007; Pigg, 2009) focus on conveying analytic judgments rather than the process of arriving at them, resulting in uncertainty about the role and scope of analysts.

The architect of analysis in the US IC, Sherman Kent, begins "one of the most influential books ever published on intelligence analysis" (Wagner, 2002, p.1) by stating that "Intelligence is a simple and self-evident thing...intelligence work is in essence the search for the single best answer" (Kent, 1949, p. vii). He does go on to identify however, "the three separate and distinct things that devotees of

intelligence usually mean when they use the word” in the context of national security: knowledge, organization, and activities. Organizing his book along those three elements of national intelligence, Kent weaved discussions on analysis through each section. At the dawn of the US IC, Kent presciently identified the controversy that would resist settlement over 60 years later: while the role of the analyst to provide intelligence to reduce uncertainty is patently obvious, *how* the analyst arrives at that information is ill defined and straddles several conceptual boundaries of intelligence. This complexity behind what analysts actually do continues to the present time and directly impacts the understanding of analytic tradecraft. Using a concept in science and technology studies, it is clear that analysis has been *black boxed*. The inputs and outputs of the analytic process can be identified and even measured but the process itself is unexamined because it is either too complex, mysterious, or obscured (Bell, 2006, p. 44; Stowell & Welch, 2012, pp. 7 – 9).

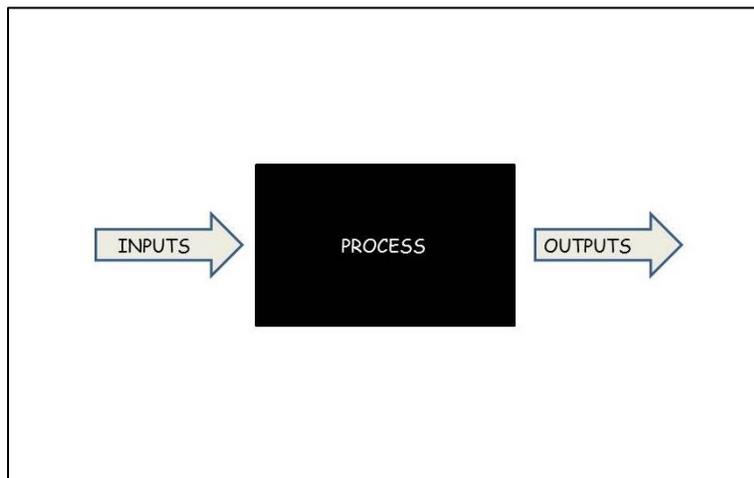


Figure 1. A Black Boxed Process.

The concept of tradecraft within the sphere of national intelligence has traditionally involved the nuts and bolts of espionage, or spying. An intelligence officer’s tradecraft was a reflection of both national and personal attributes, of training, technology, and individual skill and cunning. In the period of reform following the fall of the Berlin Wall and collapse of the Soviet Union, the idea of tradecraft migrated to the analytic side of the IC.

Kent (1949) described intelligence as a combination of surveillance and research, not individual pieces of information but knowledge gained through a process, identifying that “surveillance without its accompanying research will produce spotty and superficial information” (pp. 151-155). This analytic process, which he called *research*, was the only way that analysts could provide “... the truth, or a closer

approximation to the truth, than we now enjoy” (Kent, 1949, p. 155). While Kent drew distinctions between different types of intelligence and intelligence products, he identified that all intelligence was derived from the same seven step process. Kent acknowledged that the research process he described approximates academic research in the social sciences, yet he distinguished it from academic research because of the types of issues driving intelligence work and the nature of the data available to analysts.

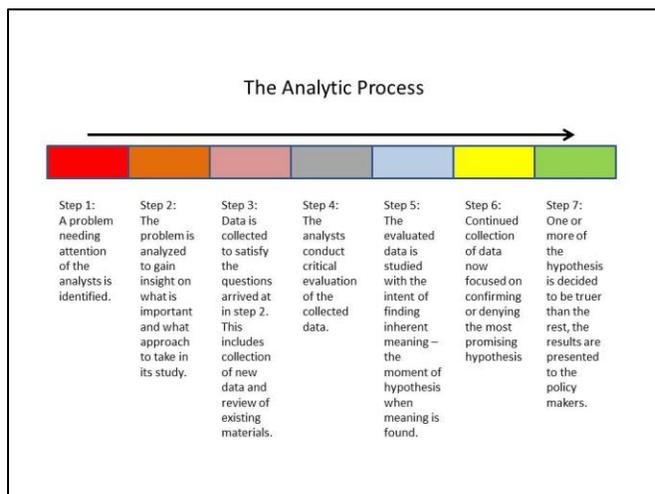


Figure 2. Graphic portrayal of Sherman Kent’s seven step analytic process as described in Strategic Intelligence for American World Policy, pp. 157 – 158.

Following the Korean War and the ensuing entrenchment of the Cold War, the emphasis on developing technology to penetrate denied areas resulted in an increase in the flow of information to analysts, changing how analysts worked. The 1955 Hoover Commission advocated for stronger collection efforts in the IC, stating that “collection of intelligence is a vital element in the fight to preserve our national welfare and existence” (Commission on Organization of the Executive Branch of Government [Hoover Commission], 1955, p. 43). Yet in 1966, just eleven years after the publication of the Hoover report, a CIA Inspector General (IG) report found that the IC was “collecting too much information...flooding the system with secondary material...degrading production” (Central Intelligence Agency [CIA], 1974, p. D-2). Analysis was suffering not only because analysts had more information to evaluate, but the flood of data was changing how analysts approached their job. The emphasis on collection had resulted in a “jigsaw theory” of intelligence; a belief that by collecting one more missing piece of information a puzzle could be solved (Select Committee to Study Governmental Operations with Respect to Intelligence Activities [Church Committee], 1976, Ch. 12, pp. 274 – 275). In 1970 President Nixon authorized a study of the IC known as the “Schlessinger Report.” This report identified that the quality of analysis had not risen despite access to large amounts of data, and in fact, the IC had

not “shown much initiative in developing the full range of possible explanations in light of available data” (Schlessinger, 1971, p. 10). The report also concluded that “there is a strong presumption in today’s intelligence set-up that additional data collection rather than improved analysis will provide the answer to particular intelligence problems” and that analysis had become “the stepchild of the community” due to the focus on increasing collection (Schlessinger, 1971, p. 11). Both the CIA IG report and the Schlessinger Report identified that analysts were faced with confusing or conflicting priorities, the relationship between analysis and collection was backwards, and that analytic practices in general were poor and the analysis itself was shallow (CIA, 1974, p. F-2; Schlessinger, 1971, p. 12).

Peter Szanton and Graham Allison (1976) characterized inadequate analysis as the number one deficiency in the IC and the analytic process as “data collected by sophisticated methods and analyzed by primitive ones” (p. 184, 190). They argued that flaws in the analysis included “bias, irrelevance, and a judgmental rather than analytic orientation” (Szanton & Allison, 1976, p. 190).

The first large scale and concerted attempts to open the black box of analysis came after the Berlin Wall and Soviet collapse intelligence failures and the ensuing charges of politicization of analysis as a cause. The need to address analytic procedures and make the analytic process more transparent resulted in a focus on improving analytic techniques and providing clearer output to the consumer.

In 1992 Robert Gates, then serving as Director of Central Intelligence, responded to charges of politicization in agency’s analysis. He described intelligence as a process, and stated that analysts must be trained to “...gather evidence, assess sources, make judgments, and write up or brief their analysis, our so-called tradecraft” (Gates, 1992).

Douglas MacEachin, a career analyst at the CIA who served as Deputy Director for Intelligence from 1993 – 1995, reportedly told a colleague in 1994 that after reading a number of published intelligence assessments designed to support policymakers “roughly a third of the papers...had no discernible argumentation to bolster the credibility of intelligence judgments and another third suffered from flawed argumentation” (Davis, 1999, p. xviii). He authored a monograph in 1994 titled *The Tradecraft of Analysis: Challenge and Change at the CIA* that addressed these concerns and identified five principles of tradecraft. Under MacEachin, uniform analytic procedures were established and disseminated to the workforce to provide “the standards against which products will be evaluated, and as the measure of excellence for evaluating analysts’ professional performance” (MacEachin, 1994, p.

13). The focus of MacEachin's tradecraft is to clearly communicate to the user of the intelligence product the information and methodology underlying the assessment.

MacEachin's *Tradecraft of Analysis* ultimately had as much impact on how the IC viewed analysis as Kent's *Strategic Intelligence*. The difference in their works lies in their intent and the environment in which they wrote. While Kent looked to define a research process from beginning to end as the nation began to professionalize the previously ad hoc national intelligence apparatus, MacEachin addressed the relevant issue of his day – poorly written and politicized analytic output. His tradecraft discussions were focused on the attributes of an ideal intelligence product. MacEachin had effectively operationalized analysis; the five principles of tradecraft he developed provide empirical indicators of “good analysis” (MacEachin, 1994, p. 2). By 1997 MacEachin's concept of tradecraft had been further developed and *A Compendium of Analytic Tradecraft Notes* was published. This manual contained 10 notes, or chapters, which expounded on the five principles of tradecraft he identified (CIA, 1997).

Following the 9/11 attacks and the subsequent failure to properly assess Iraq's Weapons of Mass Destruction program in 2003, two intelligence failures exhibiting two completely different types of errors, (Betts, 2007, p. 596) official investigations were conducted to determine their underlying causes. The 9/11 Commission was operationally focused and tended toward examining government operations and organizations in the failure. Still, it famously identified a “failure of imagination” within the IC as a key contributor to the successful 9/11 attacks (National Commission on Terrorist Attacks Upon the United States [9/11 Commission], 2004, pp. 339, 344 – 348). Conversely, the WMD Commission focused almost exclusively on the intelligence community's role in the mischaracterization of the Iraqi WMD program. The WMD Commission report mentioned weak tradecraft as an issue several times. Examining pre-war intelligence, the Commission's findings echoed MacEachin's criticisms of the 1990's when it stated that the finished intelligence products it reviewed were “...loosely reasoned, ill supported, and poorly communicated...we found too many analytic products that obscured how little the Intelligence Community actually *knew* [italics in original] about an issue and how much their conclusions rested on inference and assumptions” (WMD Commission, 2005, p. 12). Critical of the existing state of tradecraft in the IC, the Commission found the IC was “dead wrong in almost all of its pre-war judgments” constituting a “major intelligence failure” (WMD Commission, 2005, p. 2).

The Intelligence Reform and Terrorism Prevention Act of 2004 (IRTPA) was drafted and passed following the completion of 9/11 report, concurrent with the WMD commission investigation. The IRTPA “represents the most sweeping reform of our intelligence structures in more than 50 years”

(Collins, 2004) and specifically addressed the need to improve analysis and analytic tradecraft (Intelligence Reform and Terrorism Prevention Act [IRTPA], 2004, 118 STAT. 3650-3651, 3671-3672). The IRTPA legislated specific standards of sound tradecraft which mirrored MacEachin's five principles of tradecraft adopted ten years earlier (IRTPA, 2004, 118 STAT. 3671; MacEachin, 1994).

Following the passage of the IRTPA and the publication of the results of the 9/11 and WMD commissions, a flurry of authors added to the discussion of analytic tradecraft. The most common theme identified the genesis and maturity of the IC in the Cold War era and the Church Commission's finding of a reliance on the jigsaw approach to analysis as the primary cause of the failures and the logical focus of reform. Exemplified by Lahneman (2010), Moore (2011), and Hall and Citrenbaum (2010), all offer alternative analytic frameworks to break IC analysts out of the puzzle solving construct.

A less popular perspective was that while analytic frameworks may play a part in intelligence failure, the issue is much more complex and systemic. Parker and Stern (2002) examined the human psychology of strategic surprise while Colby (2007) identified the limits of analytic frameworks and empiricism in developing sound and useful intelligence products. Without focusing on analytic tradecraft explicitly, several authors (Betts, 1978, 2002, 2007; Clarke, 2008; Hedley, 2005; Phythian, 2006; Pillar, 2006a; 2006b, 2012) concluded that intelligence reform which focuses solely on the IC, and not on the intelligence / consumer / oversight mélange, was doomed to fail.

### **The Problem**

Attempts to reform analytic tradecraft under the auspices of the IRTPA have not resulted in obvious improvements. A review of academic literature, IC professional journals, and press reports identified 14 known cases of significant intelligence failure in the 57 years between 1947 and 2004, or an average of about one failure every 4 years. In the almost 10 year period from the passage of the IRTPA to the present (2004 – 2014) there have been three significant and publicly identified intelligence failures, the Christmas Day bomber of 2009, the series of uprisings now known as the Arab Spring beginning in December 2010, and the failure to identify the significance of the available information on the Boston bombers in 2013, keeping pace with previous performance (Brooke, 2013; CBS, 2011; Koring, 2010).

Addressing analytic tradecraft in the IRTPA represented a new approach to legislative oversight of intelligence. The assumption is that improving analytic tradecraft will result in fewer intelligence failures. While this may be a valid premise, achieving those improvements without an understanding of

what constitutes analytic tradecraft is unlikely. The community's understanding of the process of analysis itself is still immature, compounding the uncertainty underlying analytic tradecraft and limiting the effectiveness of any potential reforms.

### **The Purpose of the Study**

The purpose of this study is to conduct research which results in a better understanding of analytic tradecraft. Current analytic and tradecraft standards (Director of National Intelligence, 2007; Pigg, 2009) focus on conveying analytic judgments rather than the process of arriving at them, resulting in uncertainty about the analytic process and associated tradecraft.

### **Using Actor-Network Theory to Take Tradecraft Out of the Black-Box**

The theoretical framework guiding this proposed study is the Actor Network Theory (ANT). ANT was originally developed as a means to understand how knowledge in the scientific community was created; "knowledge" defined to be the end result of a social effort in which a natural tendency towards isolation is overcome to combine disparate and heterogeneous elements into some material form (papers, presentations, transferrable skills) (Law, 1992, p. 2). The ANT approach allows actors to describe their environment and their activities in their own words, so the researcher can then trace, or map, the assembled network (Latour, 2005, p. 1, 23).

ANT is not a theory in a classic sense, it does not offer an explanation of why a particular network of action forms the way it does, or allow for a prediction of a network's structure; it is instead a method for describing and understanding actions, or transformations, within networks (Latour, 2005, 141 – 156; Fenwick & Edwards, 2012, x – xii). ANT guides the researcher in exploring new, previously unstudied, or understudied social activities and then in developing a cogent description of the resultant network.

One of the co-founders of ANT, in antecedent research, conducted an anthropological study of a Salk Institute laboratory over a two year period examining the construction of scientific facts (Latour & Woolgar, 1979). Latour observed that scientific research, "a body of practices widely regarded by outsiders as well organized, logical and coherent in fact consists of a disordered array of observations with which scientists struggle to produce order" (p. 36). Latour's work in the laboratory shaped his thoughts on the role of the social environment in the scientific community. Fellow researchers and staff, the laboratory equipment used, reputations of individual researchers and facilities, and many

other social interactions were all factors in how the scientists arrived at their conclusions and how the results were presented.

Latour, in partnership with John Law, Michael Callon, and others built on this background through the 1980's resulting in ANT (Cutcliffe, 2000; Law, 1992). There are three methodological principles of ANT: agnosticism, or removing any preconceived notions of the network; the use of a generalized symmetry in which every actor (human or non-human) in the network is considered an equal player; and the use of free association to establish the relationship between actors (Callon, 1986; Crawford, 2004; Delukie, 2009). By using this approach, a clearer understanding of the actions and supporting infrastructure of the actor-network can be developed. When using ANT as a framework "the search for order, rigor, and pattern is by no means abandoned," but instead it is postponed until the actors themselves relate their role in the network and the patterns they describe can be traced (Latour, 2005, p. 23).

ANT was a framework specifically envisioned to be used where there is little known about the environment being studied (Latour, 2005). Callon (1986) specifies that ANT is appropriate as a means to study "a society which is considered to be uncertain and disputable" (p. 3) while in a defense of ANT Latour (1999, p. 18) reminds us that "actors know what they do and we have to learn from them not only what they do, but how and why they do it."

ANT has been used as the guiding framework to examine how people develop patterns of behavior within organizations and translate information into knowledge. For example Czarniawska (2009) studied the emergence of institutions in organizations, examining how entrepreneurs within an organization conduct activities which can then become routinized. Ranerup (2008) applied ANT to examine how technology; specifically an internet based decision support system, shaped opinions and follow on actions. Weiss and Domingo (2010) traced the complex ecology of newsrooms, and examined how the introduction of new technology changed relationships and activities within the network. Additionally ANT has also been used extensively in the education field (Fenwick & Edwards, 2012) and in sociological studies of science and technology (Bijker, Hughes, & Pinch, 2012). No previous use of ANT in the study of intelligence analysis or the intelligence community was identified.

As previously described, our understanding of analytic tradecraft today as defined from the legislation and implementing instructions has, for the most part, been decided a priori. Originally developed as an effort to address the perception of a specific problem – the politicization of intelligence

regarding the Soviet Union, the IC's true understanding of the analytic process and resultant analytic tradecraft is still immature. This thought is captured by Marrin (2011, p. 9) when he states that "where there has been a lot of general descriptions of the analytic process, there is very little detailed scholarship that describes exactly who analysts are and exactly what they do on a daily basis." This black boxing of the analytic process, where it has essentially been neither studied nor described, (Broer, Nieboer, & Bal, 2010) is a situation similar to others which has been shown to benefit from studies using ANT.

At its heart, analysis is a transformation of information into knowledge. Using ANT as the theoretical framework will provide the basis for tracing that process of transformation through the connections – human, physical, virtual, et al., which are currently obscured within the black box. This "complex ecology" (Latour, 2010) of the analyst can be best identified by allowing the analysts to describe and define their own environment.

### **Description of the Study**

In order to better understand the tradecraft of intelligence analysis the following research questions have been developed and will be addressed:

1. How does an intelligence analyst move along the process of analysis, from becoming aware of the need for an intelligence product to creating the finished product?
  - a. How is the analytic process learned – formal training, trial and error, intuition?
  - b. How fixed is that process for individual analysts, and between analysts? What is the reason for variations in the analytic process?
2. What is the environment in which that process takes place? What software, hardware, tools, people, knowledge, etc., populate that environment and how does the analyst move within it?
  - a. How does the environment of the analyst change the analytic process?
  - b. Can the analyst manipulate the environment to match needs or does the environment determine the process?
3. What skills, technical, social or otherwise, are needed to navigate the analytic environment?

The central phenomenon of the study (Creswell, 2007) is creation of an intelligence product by an analyst. Accepting the broad definition of tradecraft as the "practiced skill in a trade or art" (Johnston, 2005, p. 17-18) and also that it entails a combination of individual attributes (e.g. learned

skills, experiences, personality, etc.) and the environment (e.g. hardware/software, phones, product formats, etc.); then to understand the tradecraft of analysts it is necessary to understand the process of analysis from the perspective of an analyst.

This study is designed as a qualitative narrative study. A narrative is “understood as a spoken or written text giving an account of an event/action or series of events/actions, chronologically connected” (Czarniawska, 2004, p. 17). Narratives are “a basic human strategy for coming to terms with time, process, and change...” (Herman, 2009, p. 2); and are “a practical solution to a fundamental problem in life, creating reasonable order out of experience” (Moen, 2006, p. 2). Narrative research asks the subject to relate the experience which is the focus of the study in the form of a story, to put a beginning, middle, and end to a sequence of related events (Josselson, 2010; Rankin, 2002). The use of narrative research, analyzing and restorying the detailed accounts of individuals to understand specific experiences in context, is recognized as a valid approach to studying the role of the individual in organizations (Creswell, 2007; Patton, 2002). Intelligence analysis is a sequence of events acted out and experienced by an individual within the context of their environment. If we want to obtain a better understanding of how analysts do their job; and the skills, techniques, and tools they use to do it; having them inform us in their own words of the experience of creating an intelligence product is a sound methodological approach.

As the subjects’ stories are deconstructed and restoried to obtain a clearer understanding of the skills of an analyst, it is important for the researcher not to attempt to fit those stories into a preconceived notion of tradecraft. By adhering to the principles of Actor-Network Theory – agnosticism, generalized symmetry, and free association; combined with the rich description found in the narratives, a more complete description of activities of the analyst in the heterogeneous network of the IC and the transformation of information and knowledge into an intelligence product can be developed. The narrative approach guided by ANT will allow me to use analysts’ own words, their descriptions of the sequences and process involved in their work, to develop a more complete understanding of analytic tradecraft.

### **Status**

The research proposal is currently being finalized and will be submitted for an ethical review and approval from the Walden University Institutional Review Board (IRB). Assuming approval, subject recruitment and selection will begin in September 2014 with interviews conducted throughout the fall.

Analysis of the data will continue through the winter and completion of the dissertation and publication of the results is scheduled to be complete by spring 2015.

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