

A critical evaluation of two Structured Analytic Techniques (SATs) in order to support recommendations for future SAT utilization by intelligence analysts.

As the world becomes an increasing complex environment, intelligence analysts are pressed to work more effectively and efficiently in order to deliver valuable intelligence products – they need to combat threat actors who can “adapt and transform themselves faster than those who seek to monitor and contain them.”¹ The process of generating intelligence in light of this adaptability is not easy nor simple, involving a lengthy and rigorous selection, evaluation, interpretation, and expression process, before the significance of an intelligence product becomes clear.² Intelligence analysis also risks falling victim to human fallacies – biases and heuristics – which can impair judgement and subvert conclusions.³ The creation and implementation of a set of Structured Analytic Techniques (SATs) seeks to mitigate these issues by serving as a formalized framework for information processing (thus accelerating analysis), quality gates and checks (thus ensuring objectivity), and establishing the foundation for critical analysis (leading to self-reflection and processual improvements). This article will examine two of these SATs, namely the Key Assumptions Check (KAC) and Red Teaming Analysis (RTA), their origins, usage, and the inherent challenges to their implementation in an intelligence organization. This evaluation will provide a basis for recommendations for how these SATs can be better utilized in the future. The first step, however, is to briefly discuss what SATs are, and why they are important.

The utilization of techniques to meet analytic requirements is not new however, and is said to have begun in the 1950s with the RAND Corporation.⁴ Figures

such as Richards J. Heuer, Jr were fundamental to further developing SATs in the mid-1980s, this whilst Heuer taught counterintelligence courses at the CIA.⁵ Whilst this was a beneficial move to standardize a domain seen by some to be based more on ‘anecdotal training’ than “validated, scientific knowledge”⁶ it was not until the attacks of September 2001 that the cost of intelligence failures in the modern world were made clear.⁷ It was not only the cost of intelligence failures that was brought into the public sphere however. Due to the public scrutiny following 9/11, it was made painfully obvious that there are significant and potentially critical limitations regarding intelligence analysis itself. There is no clear, authoritative methodology for how information is to be processed.⁸ A definitive methodology would help considerably in allowing an analyst to follow concrete processing steps rather than becoming lost amongst the wealth of information. This is especially important for the new forms of OSIF, such as Social Media, which have a short lifespan and must be processed as soon as possible.⁹

Some years after the 9/11 attacks, and most certainly informed by deficiencies identified by the 9/11 Commission, Intelligence Community Directive 203:2015 was released, stating:

“Analysts must perform their functions with objectivity and with awareness of their own assumptions and reasoning. They must employ reasoning techniques and practical mechanisms that reveal and mitigate bias. Analysts should be alert to influence by existing analytic positions or judgements and must consider alternative perspectives and contrary

[1] UNITED STATES GOVERNMENT, “A TRADECRAFT PRIMER: STRUCTURED INTELLIGENCE TECHNIQUES FOR IMPROVING INTELLIGENCE ANALYSIS” (WASHINGTON DC, 2009), 1.S.

[2] DAVID T. MOORE, CRITICAL THINKING AND INTELLIGENCE ANALYSIS, NATIONAL DEFENSE INTELLIGENCE COLLEGE OCCASIONAL PAPER 2007: 1 (WASHINGTON, D.C.: NATIONAL DEFENSE INTELLIGENCE COLLEGE, 2007), 48.

[3] MOORE, CRITICAL THINKING AND INTELLIGENCE ANALYSIS, 48–49.

[4] ANDOLPH H. PHERSON AND RICHARDS J. HEUER, JR, “STRUCTURED ANALYTIC TECHNIQUES: A NEW APPROACH TO ANALYSIS,” IN ANALYZING INTELLIGENCE: NATIONAL SECURITY PRACTITIONERS’ PERSPECTIVES, ED. ROGER Z. GEORGE AND JAMES B. BRUCE, SECOND EDITION (WASHINGTON, DC: GEORGETOWN UNIVERSITY PRESS, 2014), 232.

[5] STEPHEN J. COULTHART, “AN EVIDENCE-BASED EVALUATION OF 12 CORE STRUCTURED ANALYTIC TECHNIQUES” INTERNATIONAL JOURNAL OF INTELLIGENCE AND COUNTER INTELLIGENCE 30, NO. 2 (2017): 378.

[6] COULTHART, “AN EVIDENCE-BASED EVALUATION OF 12 CORE STRUCTURED ANALYTIC TECHNIQUES,” 371.

[7] COULTHART, “AN EVIDENCE-BASED EVALUATION OF 12 CORE STRUCTURED ANALYTIC TECHNIQUES,” 368.

[8] WILLIAMS AND BLUM, “DEFINING SECOND GENERATION OPEN SOURCE INTELLIGENCE (OSINT) FOR THE DEFENSE ENTERPRISE,” IX–X.

[9] WILLIAMS AND BLUM, “DEFINING SECOND GENERATION OPEN SOURCE INTELLIGENCE (OSINT) FOR THE DEFENSE ENTERPRISE,” 15–16.

information. Analysis should not be unduly constrained by previous judgements when new developments indicate a modification is necessary.”¹⁰

These are the requirements which the United States Intelligence Community (US-IC) set for its intelligence analysts – finally establishing a concrete set of expectations which could be actioned. This report established the modern groundwork for analysts to pursue SAT “professionalization” whereby common rules could be established.¹¹ It was this professionalization, married with the development of intelligence analysis methods that Heuer Jr and Pherson considered “essential” for the analytic profession.¹² Through the utilization of these SATs, analysts could better structure their analysis process, ensure logical argumentation of conclusions, avoid cognitive biases, stimulate ‘out-of-the-box’ thinking, and identify ‘indicators of change’ – all valuable when dealing with uncertainty and high risk.¹³

Now that a brief overview of the origins and value of SATs has been completed, a more specific examination can begin.

Firstly, there are a broad range of SATs which have been identified over the past decades, with attempts being made to categorize them such as Roger Z. George, and James B. Bruce, who identified fifty SATs, and organized them into eight categories.¹⁴ The following techniques are categorized as either a diagnostic technique, which are “primarily aimed at making analytic arguments, assumptions, or intelligence gaps more transparent,” or as an imaginative thinking technique, which aim to “develop new insights, different perspectives and/or develop alternative outcomes.”¹⁵

The first SAT to be examined is the Key Assumptions Check (KAC), a diagnostic technique – meaning that it is primarily aimed at “making analytic arguments, assumptions, of intelligence gaps more transparent.”¹⁶ A Key Assumption is described in *A Tradecraft*

Primer in a rather general manner as “any hypothesis that analysts have accepted to be true and which forms the basis of the assessment.”¹⁷ A KAC consists of spending some time, either alone or as a group/team first identifying and then elaborating upon and reviewing any key assumptions which have thus far been made.¹⁸

The KAC methodology is a four-step process¹⁹ which consists of:

1. Review what the current analytic line on this issue appears to be; write it all down for all to see.
2. Articulate all the premises, both stated and unstated in finished intelligence, which are accepted as true for this analytic line to be valid.
3. Challenge each assumption asking why it “must” be true and whether it remains valid under all conditions.
4. Refine the list of key assumptions to contain only those that “must be true” to sustain your analytic line; consider under what conditions or in the face of what information these assumptions might not hold.

This technique is most useful when utilized at the beginning of an analytic project, although it can also be implemented throughout the entire analytic process before a conclusion is reached.²⁰

The benefits of implementing this SAT is the capability to critically examine and better understand the most important aspects of an investigation; both individual data points and the links between them.²¹ A KAC also helps an analyst better explain the logic of their argument, understand key factors that shaped the issue, stimulate alternative ways of considering the issue, uncover new relationships and links between factors, identify developments that would lead to an abandonment of assumptions, and mentally prepare for changing circumstances.²²

The KAC is a technique that, as stated above, can be utilized throughout the analytic process, has very

[10] OFFICE OF THE DIRECTOR OF NATIONAL INTELLIGENCE - UNITED STATES OF AMERICA, “INTELLIGENCE COMMUNITY DIRECTIVE 203: ANALYTIC STANDARDS” (OFFICE OF THE DIRECTOR OF NATIONAL INTELLIGENCE, 2015), 2.

[11] REK REINHOLD, CHARLES RUSSO, AND BETH EISENFELD, “ANALYTICAL STANDARDS IN THE INTELLIGENCE COMMUNITY: ARE STANDARDS PROFESSIONALIZED ENOUGH?” JOURNAL OF STRATEGIC SECURITY 14, NO. 1 (2020): 109–10.

[12] PHERSON AND HEUER, JR, “STRUCTURED ANALYTIC TECHNIQUES.” P. 444.

[13] UNITED STATES GOVERNMENT, “A TRADECRAFT PRIMER,” 2.

[14] ROGER Z. GEORGE AND JAMES B. BRUCE, EDs., “ANALYZING INTELLIGENCE: NATIONAL SECURITY PRACTITIONERS’ PERSPECTIVES”, SECOND EDITION (WASHINGTON, DC: GEORGETOWN UNIVERSITY PRESS, 2014).

[15] UNITED STATES GOVERNMENT, “A TRADECRAFT PRIMER,” 5.

[16] UNITED STATES GOVERNMENT, “A TRADECRAFT PRIMER,” 5.

[17] UNITED STATES GOVERNMENT, “A TRADECRAFT PRIMER,” 7.

[18] UNITED STATES GOVERNMENT, “A TRADECRAFT PRIMER,” 7.

[19] UNITED STATES GOVERNMENT, “A TRADECRAFT PRIMER,” 9.

[20] UNITED STATES GOVERNMENT, “A TRADECRAFT PRIMER,” 7.

[21] PHERSON AND HEUER, JR, “STRUCTURED ANALYTIC TECHNIQUES” P. 455.

[22] UNITED STATES GOVERNMENT, “A TRADECRAFT PRIMER,” 7.

little setup requirements, is not complex, and can have an immediate and valuable impact. Take the following example – The 2002 DC Sniper Case. In 2002, a series of shootings occurred which resulted in the deaths of 17 people, with an additional 10 wounded in a 10-month period. When initially assessing the incident, law enforcement made some key assumptions:

1. The sniper was male.
2. The sniper was acting alone.
3. The sniper was white.
4. The sniper had military training.
5. The sniper was driving a white van.

A critical analysis of these assumptions would have resulted in the following points of contention. Firstly, whilst statistically most incidents of this sort in the US are perpetrated by white, male, solo actors, to exclude non-white and female suspects would severely limit the suspect pool. Secondly, regarding military training, this may be a plausible assumption based on the style of crime, i.e., long-distance sniping, but it is definitely not a certainty. Plenty of individuals have access to firing ranges as private citizens. Thirdly, whilst a witness described seeing a white van speed off after the incident, this was only one of many reports, and accepting this would prematurely restrict the number of potential suspects.²³

Ultimately the “DC sniper” was detained and two men of Jamaican heritage were charged with the crimes. One did in fact have military training, however the vehicle they utilized for the attacks was a blue Chevrolet. Of the above assumptions, only two of the five proved to be correct. Had these assumptions been properly critiqued, the investigation may have concluded faster, thus saving lives. The KAC could have been utilized with a bare minimum of effort and to significant effect. Of note, on this exact day, October 2nd, the United States Congress had passed a joint resolution to authorize the President to utilize the United States Armed Forces as and when necessary, against Iraq. Over the coming weeks, protests were staged, including on October 26th where

between 100,000 and 200,000 people are said to have demonstrated. Although the “DC Snipers” were caught on October 24th, an argument could be made that had the political environment in DC been less chaotic in the preceding weeks, an arrest may have come sooner.

A common criticism against SATs is that typically analysts do not have enough time to perform them²⁴, thus in this case, assumptions were validated based upon historical precedent and suffered from confirmation bias²⁵ and seemed content with the first answer that more or less seemed reasonable, thus running afoul of ‘satisficing’²⁶. It should be noted that the above criticism is countered by the statement that all analysts should have enough time “to do good analysis”, and that these techniques merely “add rigor to well-known thought processes”²⁷. The “DC Sniper” case was not an intelligence investigation in the classical military sense, however due to the range of applicability of SATs, their usage could have been beneficial in this instance. Law Enforcement should also be trained in the usage of SATs, either to proactively assist in investigations, or as with the KAC, to challenge assumptions, and make intelligence gaps more transparent.

The KAC can be a valuable technique for use during an intelligence investigation. However, if it is to be utilized, then it has to be done in a methodological, rigorous and frequent manner; the consequences of faulty analysis are such that a ‘better than nothing’ approach does not create the necessary imperative for use in all situations, all the time. Until this is the case, this SAT may serve more to complicate the analytic process than to add clarity; time and resources would perhaps be better invested in developing a capacity to evaluate SAT utility, rather than mandating their teaching upon analysts.²⁸

The second SAT which will be examined is Red Team Analysis (RTA) an *Imaginative Thinking* SAT meaning that it is aimed at “developing new insights, different perspective and/or [to] develop alternate outcomes.”²⁹ Red Team activities have existed for

[23] UNITED STATES GOVERNMENT, “A TRADECRAFT PRIMER,” 8.

[24] PHERSON AND HEUER, JR, “STRUCTURED ANALYTIC TECHNIQUES,” 464.

[25] UNITED STATES GOVERNMENT, “A TRADECRAFT PRIMER,” 2.

[26] MOORE, CRITICAL THINKING AND INTELLIGENCE ANALYSIS, 49.

[27] PHERSON AND HEUER, JR. OP. CIT., P. 466.

[28] STEPHEN MARRIN, “TRAINING AND EDUCATING U.S. INTELLIGENCE ANALYSTS” INTERNATIONAL JOURNAL OF INTELLIGENCE AND COUNTER INTELLIGENCE 22, NO. 1 (2009): 133.

[29] UNITED STATES GOVERNMENT, “A TRADECRAFT PRIMER,” 5.

the entire length of recorded history, with military philosophers such as Sun Tzu stating the importance of “knowing the other and knowing oneself” in order that “in one hundred battles no danger [sic]”.³⁰ Obviously this would require engaging in some form of RTA.

This SAT is rather difficult to define due to both the scope of the SAT itself, and also its application. This scope of RTA was demonstrated during a Military Operations Research Society (MORS) workshop in 2016 where the definition: “Any activity that analyses plans, processes, systems or equipment by using one or more alternate—typically adversarial—perspectives”³¹ was proposed. *A Tradecraft Primer* defines Red Team Analysis as an activity that “models the behavior of an individual or group by trying to replicate how an adversary would think about an issue.”³² Fundamentally RTA seeks to remove the analyst from an established mental environment, and shift from merely an ‘observer’ of an adversary, to an ‘actor’ or more typically, to take on the role of the ‘adversary’ – this means considering the cultural norms, personal values and sense of rationality of the adversary one is seeking to emulate.³³

The RTA which is covered in *A Tradecraft Primer* does not have clear and concise steps, but rather seeks to establish an environment in which the technique can be leveraged. It entails:

1. That the analysts put themselves in the adversary’s circumstances and reacting to stimuli as they would.
2. Developing a set of questions to be answered from the perspective of the adversary.
3. Draft a set of policy papers stating which the leader or group make specific decisions, proposes recommendations, or lays out a course of action.³⁴

It should be noted that ‘alternative’ analysis should be specifically emphasized, as opposed to engaging in ‘competitive’ RTA – that being RTA with a hard-

line and semi-belligerent tone. This approach creates an immediate bias for the participants, both for those exhibiting these behaviors, but also the other teams in their responses to this approach. This was notable in the CIA’s “B-Team” competitive analysis exercise of 1976 where one team, “Team-B”, analyzing Soviet strategic policy and objectives, focused more on the National Intelligence Estimate (NIE) as the target of their criticism, rather than the question of Moscow and Russian intentions. The reason for this, argued by many from the intelligence community, was to paint the Soviet Union as more belligerent than the IC thought, solely for the purpose of disrupting attempts at détente and halting the Strategic Arms Limitations Talks (SALT). The exercise was ultimately so uncomfortable and fraught with challenges that it was never again repeated.³⁵

RTA challenges institutionalized beliefs and helps to avoid cognitive biases³⁶, but there can be more benefits. From an RTA ‘wargaming’ perspective, Abe Greenberg identified benefits such as helping with the assessment of plans, establishing a common understanding between the military and analysts, formulation of insights and intuition, and most certainly, the detection of flaws in assumptions.³⁷

However RTA is a very complex technique to plan and conduct, and is also extremely context dependent, thus altering many of the given requirements.³⁸ Kardos and Dexter identified seven different Red Teaming activity types, ranging from *Field / Deployment Exercises to Discussion / Tabletop Exercises*.³⁹ The perspective and approach for each of these activity types needs to be defined and planned to create the framework and boundaries for the exercise. Next, the selection of participants is critical. Ideological neutrality needs to be ensured in order to maintain objectivity – a ‘stacked’ team may be inclined to beat dissenters into submission rather than engage in substantive debate.⁴⁰ Due to the nature of RTA

[30] SUN TZU, THE ART OF WAR: TRANSLATION, ESSAYS AND COMMENTARY BY THE DENMA TRANSLATION GROUP, SHAMBHALA CLASSICS (BOSTON, MASSACHUSETTS: SHAMBHALA, 2001), 12.

[31] MONIQUE KARDOS, PATRICIA DEXTER, AND FRED D. J. BOWDEN, “ENHANCING AND DEVELOPING A RED TEAMING COMMUNITY IN MORS,” PHALANX 49, NO. 4 (DECEMBER 2016): 20–21.

[32] UNITED STATES GOVERNMENT, “A TRADECRAFT PRIMER,” 31.

[33] UNITED STATES GOVERNMENT, “A TRADECRAFT PRIMER,” 31.

[34] UNITED STATES GOVERNMENT, “A TRADECRAFT PRIMER,” 31.

[35] JOHN P. MORAN, “RED TEAM OR RED HERRING? LESSONS LEARNED FROM THE

POLICY COUNTER TERRORISM EVALUATION GROUP,” THE INTERNATIONAL JOURNAL OF INTELLIGENCE, SECURITY, AND PUBLIC AFFAIRS 23, NO. 3 (2021): 400–401.

[36] MORAN, “RED TEAM OR RED HERRING?” 400.

[37] ABE GREENBERG, “AN OUTLINE OF WARGAMING,” NAVAL WAR COLLEGE REVIEW 34, NO. 5 (SEPT-OCT 1981): 96.

[38] KARDOS, DEXTER AND BOWDEN, “ENHANCING AND DEVELOPING A RED TEAMING COMMUNITY IN MORS,” 21.

[39] KARDOS, DEXTER AND BOWDEN, “ENHANCING AND DEVELOPING A RED TEAMING COMMUNITY IN MORS,” 21.

[40] JOHN P. MORAN, “RED TEAM OR RED HERRING?” 404–5.

and its requirement to ‘get inside the head’ of the adversary, intimate knowledge of adversarial tactics, technology, political climate and forces, systems and values for example, need to exist. This is quite possibly beyond the capabilities of ‘regular’ intelligence analysts and requires true expert knowledge – such as that of a university professor.

This is not to say that RTA cannot be used at all, rather than within the typical bounds of the IC and both the knowledge and capacity limitations inherent therein, RTA may not be an SAT which can be implemented without an inordinate amount of effort.

The question stands - can RTA be successfully undertaken, without deriving false conclusions or failing to consider critical adversarial actions? To take the modern example of the September 11, 2001, attacks, the 9/11 Commission Report specifically stated that “the CTC [Counter-Terrorist Center] did not analyze how an aircraft, hijacked or explosives-laden, might be used as a weapon. It did not perform this kind of analysis from the enemy’s perspective (“red team” analysis), even though suicide terrorism had become a principal tactic of Middle Eastern terrorist.”⁴¹ The competitive international environment of pre-9/11 required competitors, and the CTC failed to provide them.⁴²

Having made the above examination of these two SATs, there are three recommendations which are suggested.

1. That the international IC collaborates in establishing a codified list of SATs which can be used for intelligence analysis in order to ensure uniformity amongst intelligence-sharing nations.

2. Those SATs that are identified are given a rating based upon their position within a matrix consisting of axis: range of applicability, complexity of utilization (plan and undertake), risk associated with misuse.

3. Those SATs which are high-complexity, high-risk, low-applicability should be further researched in order to establish a set framework for all usages.

These recommendations would ensure that not all

SATs are treated ‘equally,’ that more granularity is created regarding the attributes of each SAT mentioned above, and that investment is made into better understanding the more problematic SATs, rather than forcing them upon analysts and expecting positive results. This would help to support the drive to professionalism for intelligence analysts, much as with doctors and engineers; by providing critically analyzed and effective tools with which to do their jobs. Ultimately intelligence analysis could develop its own knowledge systems, standards and methods; it could finally turn from a craft into a profession.⁴³

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[41] NATIONAL COMMISSION ON TERRORIST ATTACKS ON THE UNITED STATES, “THE 9/11 COMMISSION REPORT” (2004), 347.

[42] PHILLIP E. POURNELLE, “DESIGNING WARGAMES FOR THE ANALYTIC PURPOSE,” PHALANX 50, NO. 2 (JUNE 2017), 52

[43] REINHOLD, RUSSO AND EISENFELD, “ANALYTICAL STANDARDS IN THE INTELLIGENCE COMMUNITY: ARE STANDARDS PROFESSIONALIZED ENOUGH?” 108.

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