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Introduction and Overview

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CHAPTER 1

Introduction and Overview

Analysis as practiced in the intelligence, law enforcement, and business communities is steadily evolving from a mental activity done predominantly by a sole analyst to a collaborative team or group activity.¹ The driving forces behind this transition include the following:

- ★ The growing complexity of international issues and the consequent requirement for multidisciplinary input to most analytic products.²
- ★ The need to share more information more quickly across organizational boundaries.
- ★ The dispersion of expertise, especially as the boundaries between analysts, collectors, operators, and decision makers become blurred.
- ★ The need to identify and evaluate the validity of alternative mental models.

This transition is being enabled by advances in technology, such as new collaborative networks and communities of interest, and the mushrooming growth of social networking practices among the upcoming generation of analysts. The transition is being facilitated by the increasing use of structured analytic techniques to guide the exchange of information and reasoning among analysts in ways that identify and eliminate a wide range of cognitive biases and other shortfalls of intuitive judgment.

1. *Vision 2015: A Globally Networked and Integrated Intelligence Enterprise* (Washington, DC: Director of National Intelligence, 2008).
2. National Intelligence Council, *Global Trends 2025: A Transformed World* (Washington, DC: U.S. Government Printing Office, November 2008).

1.1 OUR VISION

This book defines the role and scope of structured analytic techniques as a distinct analytic methodology that provides a step-by-step process for dealing with the kinds of incomplete, ambiguous, and sometimes deceptive information with which analysts must work. Structured analysis 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. Each technique leaves a trail that other analysts and managers can follow to see the basis for an analytic judgment. These techniques are used by individual analysts but are perhaps best utilized in a collaborative team or group effort in which each step of the analytic process exposes participants to divergent or conflicting perspectives. This transparency helps ensure that differences of opinion among analysts are heard and seriously considered early in the analytic process. Analysts tell us that this is one of the most valuable benefits of any structured technique.

Structured analysis helps analysts ensure that their analytic framework—the foundation upon which they form their analytic judgments—is as solid as possible. By helping break down a specific analytic problem into its component parts and specifying a step-by-step process for handling these parts, structured analytic techniques help to organize the amorphous mass of data with which most analysts must contend. Such techniques make our thinking more open and available for review and critique by ourselves as well as by others. This transparency enables the effective communication at the working level that is essential for intraoffice and interagency collaboration.

These are called “techniques” because they usually guide the analyst in thinking about a problem rather than provide the analyst with a definitive answer, as one might expect from a method. Structured analytic techniques in general, however, do form a methodology—a set of principles and procedures for qualitative analysis of the kinds of uncertainties that many analysts must deal with on a daily basis.

1.2 TWO TYPES OF THINKING

In the last twenty years, important gains have been made in psychological research on human judgment. Dual process theory has emerged as the predominant approach, positing two systems of decision making called System 1 and System 2.³ The basic distinction between System 1 and System 2 is intuitive versus analytical thinking.

3. For further information on dual process theory, see the research by Jonathan Evans and Keith Frankish, *In Two Minds: Dual Processes and Beyond* (Oxford, UK: Oxford University Press, 2009); and Pat Croskerry, “A Universal Model of Diagnostic Reasoning,” *Academic Medicine* 84, no. 8 (August 2009).

System 1 is intuitive, fast, efficient, and often unconscious. It draws naturally on available knowledge, past experience, and often a long-established mental model of how people or things work in a specific environment. System 1 thinking is very alluring, as it requires little effort, and it allows people to solve problems and make judgments quickly and efficiently. It is often accurate, but intuitive thinking is also a common source of cognitive biases and other intuitive mistakes that lead to faulty analysis. Cognitive biases are discussed in the next section of this chapter.

System 2 thinking is analytic. It is slow, deliberate, conscious reasoning. It includes all types of analysis, such as critical thinking and structured analytic techniques, as well as the whole range of empirical and quantitative methods. The introductory section of each of this book's eight chapters on structured analytic techniques describes how the type of analytic technique discussed in that chapter helps to counter one or more types of cognitive bias and other common intuitive mistakes associated with System 1 thinking.

1.3 DEALING WITH BIAS

There are many types of bias, all of which might be considered cognitive biases, as they are all formed and expressed through System 1 activity in the brain. Potential causes of bias include professional experience leading to an ingrained analytic mindset, training or education, the nature of one's upbringing, type of personality, a salient personal experience, or personal equity in a particular decision.

All biases, except perhaps the personal self-interest bias, are the result of fast, unconscious, and intuitive thinking (System 1)—not the result of thoughtful reasoning (System 2). System 1 thinking is usually correct, but frequently influenced by various biases as well as insufficient knowledge and the inherent unknowability of the future. Structured analytic techniques are a type of System 2 thinking designed to help identify and overcome the analytic biases inherent in System 1 thinking.

Behavioral scientists have studied the impact of cognitive biases on analysis and decision making in many fields such as psychology, political science, medicine, economics, business, and education ever since Amos Tversky and Daniel Kahneman introduced the concept of cognitive biases in the early 1970s.⁴ Richards Heuer's work for the CIA in the late 1970s and the 1980s, subsequently followed by his book *Psychology of Intelligence Analysis*, first published in 1999, applied Tversky and Kahneman's insights to problems encountered by intelligence analysts.⁵ Since the publication of *Psychology of Intelligence Analysis*, other authors associated with

4. Amos Tversky and Daniel Kahneman, "Judgment under Uncertainty: Heuristics and Biases," *Sciences* 185, no. 4157 (1974): 1124–1131.

5. *Psychology of Intelligence Analysis* was republished by Pherson Associates, LLC, in 2007, and can be purchased on its website: www.pherson.org.

the U.S. Intelligence Community (including Jeffrey Cooper and Rob Johnston) have identified cognitive biases as a major cause of analytic failure at the CIA.⁶

This book is a logical follow-on to *Psychology of Intelligence Analysis*, which described in detail many of the biases that influence intelligence analysis.⁷ Since then hundreds of cognitive biases have been described in the academic literature using a wide variety of terms. As Heuer noted many years ago, “Cognitive biases are similar to optical illusions in that the error remains compelling even when one is fully aware of its nature. Awareness of the bias, by itself, does not produce a more accurate perception.”⁸ This is why cognitive biases are exceedingly difficult to overcome. For example, Emily Pronin, Daniel Y. Lin, and Lee Ross observed in three different studies that people see the existence and operation of cognitive and motivational biases much more in others than in themselves.⁹ This explains why so many analysts believe their own intuitive thinking (System 1) is sufficient.

An extensive literature exists on cognitive biases, sometimes called “heuristics,” that explains how they affect a person’s thinking in many fields. What is unique about our book is that it provides guidance on how to overcome many of these biases. Each of the fifty-five structured analytic techniques described in this book provides a roadmap for avoiding one or more specific cognitive biases as well as other common intuitive pitfalls. The introduction and overview in each of the eight chapters on structured analytic techniques identifies and describes the diverse System 1 errors that this category of structured analytic techniques is designed to avoid. While these techniques are helpful, they too carry no guarantee.

1.4 ROLE OF STRUCTURED ANALYTIC TECHNIQUES

Structured analytic techniques are debiasing techniques. They do not replace intuitive judgment. Their role is to question intuitive judgments by identifying a wider range of options for analysts to consider. For example, a Key Assumptions Check requires the identification and consideration of additional assumptions. Analysis of Competing Hypotheses requires identification of alternative hypotheses, a focus on refuting rather than confirming hypotheses, and a more systematic analysis of the evidence. All structured techniques described in this book have a Value Added section that describes how this technique contributes

6. Jeffrey R. Cooper, *Curing Analytic Pathologies: Pathways to Improved Intelligence Analysis* (Washington, DC: CIA Center for the Study of Intelligence, 2005); and Rob Johnston, *Analytic Culture in the U.S. Intelligence Community: An Ethnographic Study* (Washington, DC: CIA Center for the Study of Intelligence, 2005).

7. Richards J. Heuer Jr., *Psychology of Intelligence Analysis* (Washington, DC: CIA Center for the Study of Intelligence, 1999; reprinted by Pherson Associates, LLC, 2007).

8. *Ibid.*, 112.

9. Emily Pronin, Daniel Y. Lin, and Lee L. Ross, “The Bias Blind Spot: Perceptions of Bias in Self versus Others,” *Personality and Social Psychology Bulletin* 28, no. 3 (2002): 369–381.

to better analysis and helps mitigate cognitive biases and intuitive traps often made by intelligence analysts and associated with System 1 thinking. For many techniques, the benefit is self-evident. None purports to always give the correct answer. They identify alternatives that merit serious consideration.

No formula exists, of course, for always getting it right, but the use of structured techniques can reduce the frequency and severity of error. These techniques can help analysts mitigate the proven cognitive limitations, sidestep some of the known analytic biases, and explicitly confront the problems associated with unquestioned mental models or mindsets. They help analysts think more rigorously about an analytic problem and ensure that preconceptions and assumptions are not taken for granted but are explicitly examined and, when possible, tested.¹⁰

The most common criticism of structured analytic techniques is, “I don’t have enough time to use them.” The experience of many analysts shows that this criticism is not justified. Many techniques take very little time. Anything new does take some time to learn; but, once learned, the use of structured analytic techniques saves analysts time. It can enable individual analysts to work more efficiently, especially at the start of a project, when the analyst may otherwise flounder a bit in trying to figure out how to proceed. Structured techniques aid group processes by improving communication as well as enhancing the collection and interpretation of evidence. And, in the end, a structured technique produces a product in which the reasoning behind the conclusions is more transparent and more readily accepted than one derived from other methods. This saves time by expediting review by supervisors and editors and thereby compressing the coordination process.¹¹

Analytic methods are important, but method alone is far from sufficient to ensure analytic accuracy or value. Method must be combined with substantive expertise and an inquiring and imaginative mind. And these, in turn, must be supported and motivated by the organizational environment in which the analysis is done.

1.5 VALUE OF TEAM ANALYSIS

Our vision for the future of intelligence analysis dovetails with that of the Director of National Intelligence’s *Vision 2015*, in which intelligence analysis increasingly becomes a collaborative enterprise, with the focus shifting “away from

10. Judgments in this and the next sections are based on our personal experience and anecdotal evidence gained in work with or discussion with other experienced analysts. As we will discuss in chapter 13, there is a need for systematic research on these and other benefits believed to be gained through the use of structured analytic techniques.

11. Again, these statements are our professional judgments based on discussions with working analysts using structured analytic techniques. Research by the U.S. Intelligence Community on the benefits and costs associated with all aspects of the use of structured analytic techniques is strongly recommended, as discussed in chapter 13.

coordination of draft products toward regular discussion of data and hypotheses early in the research phase.¹² This is a major change from the traditional concept of intelligence analysis as largely an individual activity and coordination as the final step in the process.

In a collaborative enterprise, structured analytic techniques are a *process* through which collaboration occurs. Just as these techniques provide structure to our individual thought processes, they can also structure the interaction of analysts within a small team or group. Because the thought process in these techniques is transparent, each step in the technique prompts discussion within the team. Such discussion can generate and evaluate substantially more divergent information and new information than can a group that does not use a structured process. When a team is dealing with a complex issue, the synergy of multiple minds using structured analysis is usually more effective than is the thinking of a lone analyst. Structured analytic techniques when paired with collaborative software can also provide a framework to guide interagency collaboration and coordination, connecting team members in different offices, agencies, parts of traffic-congested metropolitan areas, and even around the world.

Team-based analysis can, of course, bring with it a new set of challenges equivalent to the cognitive biases and other pitfalls faced by the individual analyst. However, the well-known group process problems are minimized by the use of structured techniques that guide the interaction among members of a team or group. This helps to keep discussions from getting sidetracked and facilitates the elicitation of alternative views from all team members. Analysts have also found that use of a structured process helps to depersonalize arguments when there are differences of opinion. This is discussed further in chapter 12. Also, today's technology and social networking programs make structured collaboration much easier than it has ever been in the past.

1.6 HISTORY OF STRUCTURED ANALYTIC TECHNIQUES

The first use of the term “structured analytic techniques” in the U.S. Intelligence Community was in 2005. However, the origin of the concept goes back to the 1980s, when the eminent teacher of intelligence analysis, Jack Davis, first began teaching and writing about what he called “alternative analysis.”¹³ The term referred to the evaluation of alternative explanations or hypotheses, better understanding of other cultures, and analysis of events from the other country's point of view

12. *Vision 2015: A Globally Networked and Integrated Intelligence Enterprise* (Washington, D.C.: Director of National Intelligence, 2008), p. 13.

13. Information on the history of the terms “structured analytic techniques” and “alternative analysis” is based on information provided by Jack Davis, Randolph H. Pherson, and Roger Z. George, all of whom were key players in developing and teaching these techniques at the CIA.

rather than by mirror imaging. In the mid-1980s some initial efforts were made to initiate the use of more alternative analytic techniques in the CIA's Directorate of Intelligence. Under the direction of Robert Gates, then CIA Deputy Director for Intelligence, analysts employed several new techniques to generate scenarios of dramatic political change, track political instability, and anticipate military coups. Douglas MacEachin, Deputy Director for Intelligence from 1993 to 1996, supported new standards for systematic and transparent analysis that helped pave the path to further change.¹⁴

The term "alternative analysis" became widely used in the late 1990s after Adm. David Jeremiah's postmortem analysis of the U.S. Intelligence Community's failure to foresee India's 1998 nuclear test, a U.S. congressional commission's review of the Intelligence Community's global missile forecast in 1998, and a report from the CIA Inspector General that focused higher-level attention on the state of the Directorate of Intelligence's analytic tradecraft. The Jeremiah report specifically encouraged increased use of what it called "red-team" analysis.

When the Sherman Kent School for Intelligence Analysis at the CIA was created in 2000 to improve the effectiveness of intelligence analysis, John McLaughlin, then Deputy Director for Intelligence, tasked the school to consolidate techniques for doing what was then referred to as "alternative analysis." In response to McLaughlin's tasking, the Kent School developed a compilation of techniques, and the CIA's Directorate of Intelligence started teaching these techniques in a class that later evolved into the Advanced Analytic Tools and Techniques Workshop. The course was subsequently expanded to include analysts from the Defense Intelligence Agency and other elements of the U.S. Intelligence Community.

The various investigative commissions that followed the surprise terrorist attacks of September 11, 2001, and then the erroneous analysis of Iraq's possession of weapons of mass destruction, cranked up the pressure for more alternative approaches to intelligence analysis. For example, the Intelligence Reform Act of 2004 assigned to the Director of National Intelligence "responsibility for ensuring that, as appropriate, elements of the intelligence community conduct alternative analysis (commonly referred to as 'red-team' analysis) of the information and conclusions in intelligence analysis."

Over time, however, analysts who misunderstood or resisted this approach came to interpret alternative analysis as simply meaning an alternative to the

Wisdom begins with the definition of terms.
—Socrates, Greek philosopher

14. See Heuer, *Psychology of Intelligence Analysis*, xvii–xix.

normal way that analysis is done, implying that these alternative procedures are needed only occasionally in exceptional circumstances when an analysis is of critical importance. Kent School instructors had to explain that the techniques are not alternatives to traditional analysis, but that they are central to good analysis and should be integrated into the normal routine—instilling rigor and structure into the analysts' everyday work process.

In 2004, when the Kent School decided to update its training materials based on lessons learned during the previous several years and publish *A Tradecraft Primer*,¹⁵ Randolph H. Pherson and Roger Z. George were among the drafters. "There was a sense that the name 'alternative analysis' was too limiting and not descriptive enough. At least a dozen different analytic techniques were all rolled into one term, so we decided to find a name that was more encompassing and suited this broad array of approaches to analysis."¹⁶ Kathy Pherson is credited with coming up with the name "structured analytic techniques" during a dinner table conversation with her husband, Randy. Roger George organized the techniques into three categories: diagnostic techniques, contrarian techniques, and imagination techniques. The term "structured analytic techniques" became official in June 2005, when updated training materials were formally approved.

The Directorate of Intelligence's senior management became a strong supporter of structured analytic techniques and took active measures to facilitate and promote this approach. The term is now used throughout the U.S. Intelligence Community—and increasingly in academia and many intelligence services around the globe.

One thing cannot be changed, however, in the absence of new legislation. The Director of National Intelligence (DNI) is still responsible under the Intelligence Reform Act of 2004 for ensuring that elements of the U.S. Intelligence Community conduct alternative analysis, which it now describes as the inclusion of alternative outcomes and hypotheses in analytic products. We view "alternative analysis" as covering only a part of what now is regarded as structured analytic techniques and recommend avoiding use of the term "alternative analysis" to avoid any confusion.

1.7 SELECTION OF TECHNIQUES FOR THIS BOOK

The techniques described in this book are limited to ones that meet our definition of structured analytic techniques, as discussed in chapter 2. Although the focus is on techniques for strategic intelligence analysis, many of the techniques described

15. *A Tradecraft Primer: Structured Analytic Techniques for Improving Intelligence Analysis*, 2nd ed. (Washington, DC: Central Intelligence Agency, 2009), <https://www.cia.gov/library/publications/publications-rss-updates/tradecraft-primer-may-4-2009.html>.

16. Personal communication to Richards Heuer from Roger Z. George, October 9, 2007.

in this book have wide applicability to tactical military analysis, law enforcement intelligence analysis, homeland security, business consulting, financial planning, and complex decision making in any field. The book focuses on techniques that can be used by a single analyst working alone or preferably with a small group or team of analysts. Techniques that require sophisticated computing, or complex projects of the type usually outsourced to an outside expert or company, are not included. Several interesting techniques that were recommended to us were not included for this reason.

From the several hundred techniques that might have been included here, we identified a core group of fifty-five techniques that appear to be most useful for the intelligence profession, but also useful for those engaged in related analytic pursuits in academia, business, law enforcement, finance, and medicine. Techniques that tend to be used *exclusively* for a single type of analysis in fields such as law enforcement or business consulting, however, have not been included. This list is not static. It is expected to increase or decrease as new techniques are identified and others are tested and found wanting. In fact, we have dropped two techniques from the first edition and added five new ones to the second edition.

Some training programs may have a need to boil down their list of techniques to the essentials required for one particular type of analysis. No one list will meet everyone's needs. However, we hope that having one fairly comprehensive list and common terminology available to the growing community of analysts now employing structured analytic techniques will help to facilitate the discussion and use of these techniques in projects involving collaboration across organizational boundaries.

In this collection of techniques we build on work previously done in the U.S. Intelligence Community, but also include a few techniques developed and used by our British, Canadian, Spanish, and Australian colleagues. To select the most appropriate additional techniques, Heuer reviewed a large number of books and websites dealing with intelligence analysis methodology, qualitative methods in general, decision making, problem solving, competitive intelligence, law enforcement intelligence, forecasting or futures research, and social science research in general. Given the immensity of this literature, there can be no guarantee that nothing was missed.

About half of the techniques described here were previously incorporated in training materials used by the Defense Intelligence Agency, the Office of Intelligence and Analysis in the Department of Homeland Security, or other intelligence agencies. We have revised or refined those techniques for this book. Many of the techniques were originally developed or refined by one of the

authors, Randolph H. Pherson, when he was teaching structured techniques to intelligence analysts, students, and in the private sector. Twenty-five techniques were newly created or adapted to intelligence analyst needs by Richards Heuer or Randy Pherson to fill perceived needs and gaps.

We provide specific guidance on how to use each technique, but this guidance is not written in stone. Many of these techniques can be implemented in more than one way, and some techniques are known by several different names. An experienced government analyst told one of the authors that he seldom uses a technique the same way twice. He adapts techniques to the requirements of the specific problem, and his ability to do that effectively is a measure of his experience.

The names of some techniques are normally capitalized, while many are not. For consistency and to make them stand out, the names of all techniques described in this book are capitalized.

1.8 QUICK OVERVIEW OF CHAPTERS

Chapter 2 (“Building a System 2 Taxonomy”) defines the domain of structured analytic techniques by describing how it differs from three other major categories of intelligence analysis methodology. It presents a taxonomy with eight distinct categories of structured analytic techniques. The categories are based on how each set of techniques contributes to better intelligence analysis.

Chapter 3 (“Choosing the Right Technique”) describes the criteria we used for selecting techniques for inclusion in this book, discusses which techniques might be learned first and used the most, and provides a guide for matching techniques to analysts’ needs. Analysts using this guide answer twelve abbreviated questions about what the analyst wants or needs to do. An affirmative answer to any question directs the analyst to the appropriate chapter(s), where the analyst can quickly zero in on the most appropriate technique(s).

Chapters 4 through 11 each describe a different category of technique, which taken together cover fifty-five different techniques. Each of these chapters starts with a description of that particular category of technique and how it helps to mitigate known cognitive biases or intuitive traps. It then provides a brief overview of each technique. This is followed by a discussion of each technique, including when to use it, the value added, description of the method, potential pitfalls when noteworthy, relationship to other techniques, and origins of the technique.

Readers who go through these eight chapters of techniques from start to finish may perceive some overlap. This repetition is for the convenience of

those who use this book as a reference guide and seek out individual sections or chapters. The reader seeking only an overview of the techniques as a whole can save time by reading the introduction to each technique chapter, the brief overview of each technique, and the full descriptions of only those specific techniques that pique the reader's interest.

Highlights of the eight chapters of techniques are as follows:

- * Chapter 4 ("Decomposition and Visualization") covers the basics such as checklists, sorting, ranking, classification, several types of mapping, matrices, and networks. It includes two new techniques, Venn Analysis and AIMS (Audience, Issue, Message, and Storyline).
- * Chapter 5 ("Idea Generation") presents several types of brainstorming. That includes Nominal Group Technique, a form of brainstorming that rarely has been used in the U.S. Intelligence Community but should be used when there is concern that a brainstorming session might be dominated by a particularly aggressive analyst or constrained by the presence of a senior officer. A Cross-Impact Matrix supports a group learning exercise about the relationships in a complex system.
- * Chapter 6 ("Scenarios and Indicators") covers four scenario techniques and the indicators used to monitor which scenario seems to be developing. The Indicators Validator™ developed by Randy Pherson assesses the diagnostic value of the indicators. The chapter includes a new technique, Cone of Plausibility.
- * Chapter 7 ("Hypothesis Generation and Testing") includes the following techniques for hypothesis generation: Diagnostic Reasoning, Analysis of Competing Hypotheses, Argument Mapping, and Deception Detection.
- * Chapter 8 ("Assessment of Cause and Effect") includes the widely used Key Assumptions Check and Structured Analogies, which comes from the literature on forecasting the future. Other techniques include Role Playing, Red Hat Analysis, and Outside-In Thinking.
- * Chapter 9 ("Challenge Analysis") helps analysts break away from an established mental model to imagine a situation or problem from a different perspective. Two important techniques developed by the authors, Premortem Analysis and Structured Self-Critique, give analytic teams viable ways to imagine how their own analysis might be wrong. What If? Analysis and High Impact/Low Probability Analysis are tactful

ways to suggest that the conventional wisdom could be wrong. Devil's Advocacy, Red Team Analysis, and the Delphi Method can be used by management to actively seek alternative answers.

- ★ Chapter 10 ("Conflict Management") explains that confrontation between conflicting opinions is to be encouraged, but it must be managed so that it becomes a learning experience rather than an emotional battle. It describes a family of techniques grouped under the umbrella of Adversarial Collaboration and an original approach to Structured Debate in which debaters refute the opposing argument rather than support their own.
- ★ Chapter 11 ("Decision Support") includes several techniques, including Decision Matrix, that help managers, commanders, planners, and policymakers make choices or trade-offs between competing goals, values, or preferences. This chapter describes the Complexity Manager developed by Richards Heuer and two new techniques, Decision Trees and the Impact Matrix.

As previously noted, analysis done across the global intelligence community is in a transitional stage from a mental activity performed predominantly by a sole analyst to a collaborative team or group activity. Chapter 12, entitled "Practitioner's Guide to Collaboration," discusses, among other things, how to include in the analytic process the rapidly growing social networks of area and functional specialists who often work from several different geographic locations. It proposes that most analysis be done in two phases: a divergent analysis or creative phase with broad participation by a social network using a wiki, followed by a convergent analysis phase and final report done by a small analytic team.

How can we know that the use of structured analytic techniques does, in fact, improve the overall quality of the analytic product? As we discuss in chapter 13 ("Validation of Structured Analytic Techniques"), there are two approaches to answering this question—logical reasoning and empirical research. The logical reasoning approach starts with the large body of psychological research on the limitations of human memory and perception and pitfalls in human thought processes. If a structured analytic technique is specifically intended to mitigate or avoid one of the proven problems in human thought processes, and that technique appears to be successful in doing so, that technique can be said to have "face validity." The growing popularity of many of these techniques would imply that they are perceived by analysts—and their customers—as providing distinct added value in a number of different ways.

Another approach to evaluation of these techniques is empirical testing. This is often done by constructing experiments that compare analyses in which a specific technique is used with comparable analyses in which the technique is not used. Our research found that such testing done outside the intelligence profession is generally of limited value, as the experimental conditions varied significantly from the conditions under which the same techniques are used by most intelligence analysts. Chapter 13 proposes a broader approach to the validation of structured analytic techniques. It calls for structured interviews, observation, and surveys in addition to experiments conducted under conditions that closely simulate how these techniques are used by intelligence analysts. Chapter 13 also recommends formation of a separate organizational unit to conduct such research as well as other tasks to support the use of structured analytic techniques.

Chapter 14 ("The Future of Structured Analytic Techniques") employs one of the techniques in this book, Complexity Manager, to assess the prospects for continued growth in the use of structured analytic techniques. It asks the reader to imagine it is 2020 and answers the following questions based on an analysis of ten variables that could support or hinder the growth of structured analytic techniques during this time period: Will structured analytic techniques gain traction and be used with greater frequency by intelligence agencies, law enforcement, and the business sector? What forces are spurring the increased use of structured analysis? What obstacles are hindering its expansion?