

# Question-Asking in Intelligence Analysis

## Competitive Advantage or Lost Opportunity?

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*Everything we know has its origin in questions. Questions, we might say, are the principal intellectual instruments available to human beings.*

—Neil Postman

Each year, governments around the world invest billions of dollars in civilian and military intelligence organizations with the expectation that intelligence will provide policy makers, commanders, and operators with a decisive edge in developing policies, formulating strategies, and fighting battles. Particularly within a military context, the ideal is that intelligence enables decision superiority over actual or potential adversaries. Over the last two decades, within the intelligence endeavor, the role of intelligence analysts has received more recognition as playing a central function in both intelligence and the decision-making process. In an age of an abundance of information and daily access to advanced information technologies, the collection of information is considered less of a problem than developing an understanding of what it means. Given this intensified focus on

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analysis, intelligence organizations and their analysts find themselves in incredibly challenging times.

In an era when increasingly advanced technologies and cyber capabilities are within the reach of even nonstate actors and individuals, intelligence agencies and analysts are finding that they cannot base their confidence solely on secrets, whether sources or technologies—at least not for any significant period of time. In addition to making sense of complex situations and supporting clients' intelligence requirements, intelligence organizations face the problem of the loss of secrets and highly sensitive information through hacking, inadvertent disclosure, or deliberate release. Instead of basing confidence on secrets that can be lost, disclosed, or stolen, this article argues that intelligence organizations and analysts need to concentrate on the ability and willingness to ask any question, challenge assumptions, and pursue the answers wherever they lead. Questions represent the most accessible, teachable, and broadly relevant approach to the development of knowledge, well-reasoned judgments, and identification of assumptions. Developing questioning cultures in which analysts are actively encouraged to ask questions and pursue answers constitutes a competitive advantage that cannot be hacked or stolen. A questioning culture, an environment in which analysts are encouraged and rewarded for the ability to think critically and actively learn, offers a competitive advantage over potential adversaries who cannot or will not welcome such internal critiques.

## Questions Are Central to Intelligence

*One of the most important parts of an analyst's job is to formulate questions that will provide timely insight and can be answered with available or obtainable information.*

—Thomas Fingar

In scientific research and technological development, the questions that researchers ask determine problems and opportunities to pursue, solutions to identify, and resources and effort to expend. Intelligence analysis is no different. As a field of knowledge development, questions play a crucial role in intelligence, whose analysts are regularly involved in answering questions put to them by commanders, operators, or policy makers. Thomas Fingar defines questions presented to analysts as factual, analytic, or estimative:

Questions can be factual (for example, “When was the last time that North Korea staged a military exercise as large as those now taking place?”), analytic (“Why did Iraqi President Maliki decide to move against insurgents in Basra

without informing the United States?”), or estimative (“What is likely to happen in Afghanistan over the next six months?”).<sup>1</sup>

According to Fingar, much of the intelligence community’s effort goes into estimative questions because these are the most important. As a result, “many of the questions . . . [the intelligence community] is asked to address—and all of the important questions—have unknown or indeterminate answers.”<sup>2</sup> The importance given to answering estimative or future-based problems reflects a desire on the part of policy makers and military commanders to influence the future. That is, the priority is more on understanding what is going to happen than on what has already happened.<sup>3</sup>

It is not simply a matter of answering questions put to them. Analysts need to develop and answer their own questions and assess whether these are the right ones to be asking. As Richards Heuer notes, “intelligence analysts, too, are expected to raise new questions that lead to the identification of previously unrecognized relationships or to possible outcomes that had not previously been foreseen.”<sup>4</sup> Intelligence analysts deliberately asking themselves questions about their own analysis is also seen as key to improving the rigor and accuracy of their judgments, whereas analysts’ disinclination to question existing assumptions is often identified as a critical factor leading to analytic failures.<sup>5</sup>

Whether or not intelligence organizations actively encourage question-asking by analysts is open to debate. Despite the recognized importance of these individuals going beyond the initial problems or questions that they are presented with, uncertainty remains regarding the actual practice of question-asking within intelligence organizations. When question-asking does occur, it is usually in relation to analysts properly defining the problem—namely, identifying the actual issue and the questions relevant to solving the problem.<sup>6</sup> However, despite the importance of analysts asking these problem-definition questions, it is evident that they do not always do so.<sup>7</sup> Doctrine might specify the questions analysts should ask, but there is still no guarantee that these inquiries are actually made. Indeed, even doctrine might not be clear about the questions to be asked but merely outline a process or formal structure to apply.<sup>8</sup> Even when different intelligence agencies address the same problem, the questions that their analysts ask will differ, reflecting their organization’s particular emphasis, area of specialization, and understanding of the answers their “customers” are interested in.<sup>9</sup> Of course, answering the questions that clients actually want answered requires that analysts and agencies have a strong comprehension of their clients’ requirements. However, it goes further, insofar as

question-asking within hierarchical and bureaucratic organizations can be highly contentious.

Testimony by intelligence officials to the United Kingdom's Iraq Inquiry (Chilcot Inquiry) indicated the possible existence of questions that some government departments do not want intelligence agencies to ask. In this specific case, it appears that either another government agency or the analysts themselves ensured that the questions they felt should have been asked were both asked and answered.<sup>10</sup> Recent allegations over the altering or influencing of intelligence analysts' assessments within United States Central Command also raise concerns about the degree to which analysts are able to ask potentially difficult or awkward questions that might not adhere to accepted positions.<sup>11</sup> For example, analysts might ask, "Why is threat X so effective?" This reasonable analytic question is at the same time likely to be a *safe* or *acceptable* interrogative within a hierarchical organization. Perhaps another important question that should also be asked, which directly relates to how analysts understand a threat, is, "Why are we so ineffective at dealing with threat X?" This question is perhaps more important, given the interrelationship between understanding a threat actor in reference to our own situation. However, it is a potentially difficult, uncomfortable, or even unacceptable question for an analyst to ask within an organization. If analysts are dealing with situations involving predetermined or acceptable answers, then asking questions will be discouraged. Allegations of political interference in intelligence analysis are of concern because they not only influence the answers that analysts are explicitly or implicitly encouraged to arrive at but also shape what questions analysts can and cannot pursue.

The issue of organizational culture is important in determining an analyst's approach to asking questions. Organizational culture influences whether or not analysts are encouraged or discouraged from asking questions; whether there are questions that analysts can and cannot ask; and whether questions are welcomed as intellectual tools for examining assumptions or seen as distractions to the task at hand.<sup>12</sup> Attempts at developing self-critiquing functions, whereby analysts and officials deliberately challenge and question the underpinning assumptions and evidence for assessments, appear to have met with mixed success. Considering the process for producing national intelligence estimates in the United States, James Bruce maintains that the coordination process, during which analysts meet to discuss the report line-by-line, is the only explicit, self-correcting step in the analysis. Unfortunately, he contends that rather than a debate on the evidentiary basis for judgments, the process

often becomes a linguistic exercise in finding the right words to expedite the production.<sup>13</sup>

In response to the Butler Review (Review of Intelligence on [Iraqi] Weapons of Mass Destruction), the United Kingdom established a formal challenge function under a professional head of intelligence analysis to critique Joint Intelligence Committee products. The idea that *questioning* or *challenge functions* should be established as a formal step or function potentially under-emphasizes the desirability of every analyst being able and willing to question and challenge what are often estimative assessments at any stage of the analytic process. Rather than encouraging every analyst to adopt such an approach throughout the entire process, by formalizing a challenge function, one risks simply reproducing the inconsistent results evident in efforts to introduce “contrived dissent” into organizations.<sup>14</sup> However, evidence indicates that organizations might not encourage analysts to develop or express authentic dissent. Within the United States, the Congressional Joint Task Force investigating allegations of the manipulation of intelligence at Central Command noted in its interim report that the organizational culture and leadership within the Intelligence Directorate “ultimately chilled analytic dissent.”<sup>15</sup> Following the Butler Review, the British Ministry of Defence established formal arrangements so that intelligence staff could “raise issues of conscience and professional concern, including dissent.”<sup>16</sup> That a requirement existed to establish a formal process for staff to raise dissent within a knowledge-development context is of particular concern. Because many of the issues intelligence organizations deal with are debatable, one would hope such disagreements were standard and normal rather than the exception, but such appears not to have been the case.<sup>17</sup>

Arguments that intelligence analysts need to be able to think laterally, creatively, and “outside the box” occur frequently. Whether or not they can do so within intelligence organizations remains to be seen. Wilhelm Agrell contends that issues calling for creative thinking and imagination are impossible within traditional intelligence organizations or at least not without a more profound transformation than has been contemplated.<sup>18</sup> Similarly, Steven Maiorano maintains that issues such as compartmentalization, narrow domains, data overload, and an infrastructure that fosters “within-the-box-thinking” makes “out-of-the-box-thinking” all but impossible, regardless of the number of creative thinkers.<sup>19</sup> Whether or not existing intelligence organizations are able to develop creative thinking environments or whether alternative perspectives can come only from outside these environments remains unknown. Regardless, question-asking is one of the few intellectual tools that

offers at least the *possibility* of analysts being able to break patterns of thought established within organizational structures. Question-asking appears essential to identifying assumptions, thinking critically, and arriving at considered and well-reasoned judgments. Whether intelligence organizations do develop cultures in which analysts are encouraged to ask difficult questions is open to debate. One reason for this uncertainty is that the field lacks the kind of empirical research needed to understand how analysts actually make judgments and how they formulate the questions they ask.

### Absence of Empirical Research

As a newer field of academic and research inquiry, intelligence analysis still lacks empirical research into many of the aspects of the analytic process. This deficit applies to how analysts arrive at judgments and decisions as well as the best approaches for addressing the different kinds of problems that they must deal with. As Fingar observes,

Analysts work in many different ways (for many different reasons), but we lack an empirical basis to determine which ways are best in general and/or for the analysis of particular types of problems under different time constraints and so on. We could know this, and we should know this. What we discover should be fed back into training programs, mentoring arrangements, and guidance to analytic supervisors.<sup>20</sup>

One result of a lack of empirical data is that we fail to appreciate that intelligence analysis goes beyond simply processing data. As James Bruce and Roger George point out, analysis extends further than printed or electronic data and includes analysts' numerous interactions with policy makers (and military commanders) through meetings, discussions, videoconferences, phone calls, and e-mails. These "analytic transactions," involving information, hypotheses, and questions among analysts, decision makers, and experts, are "possibly where the most insightful cognition is occurring, rather on the page of a finished assessment or a PowerPoint slide."<sup>21</sup> This fact reinforces the argument that there is much we do not know about the process through which analysts reach conclusions, make judgments, and formulate assessments.

The lack of empirical data equally applies to understanding the actual questions intelligence analysts ask as part of the analytic process. Much remains to learn about how they make judgments and assessments, and the lack of empirical research does continue to limit development of the field. For example, despite statements on the importance of analysts asking the *right ques-*

*tions*, insufficient empirical data exists for determining what these right questions are for the many situations and problems that intelligence analysts make judgments about.<sup>22</sup> Identifying the *right questions* to ask is difficult because every situation is different and the *right* question or questions will likely reflect the specific context of the particular problem at hand. Thus, it is not simply a matter of coming up with a generic list of “right questions” for every situation; otherwise, analysts probably would have done so by now, and the entire analytic process could simply be automated to answer this list of questions. Good questions might well be applicable for every situation: “What do we know?” and “What is the basis for our knowledge?” are two such examples.<sup>23</sup> However, given the complexity and specificity of every situation, questions that provide the insight and cognitive breakthroughs are likely to be specific. As Maiorano observes, intelligence analysts’ real need “is to obtain specific answers to specific questions.”<sup>24</sup> The significance of analysts identifying and asking the right questions is underscored by the increasing importance and influence of intelligence analysis as part of the decision-making process.

### Intelligence Analysis Is Decision Making

The literature heavily emphasizes the role of intelligence analysts in supporting decision makers. Less often recognized is that intelligence analysis is itself a form of decision making. It is a continual process of forming judgments (i.e., making decisions) based on available information while dealing with inherent uncertainty. This analysis of information, together with the judgments and assessments made by analysts, represents the decision-making process of intelligence analysis. This fact is evident in the way that intelligence has shifted to a more central and less “subordinate” role:

Intelligence has now become an integral element of both the policy and military operational processes. . . . Increasingly-integrated military operations, in which intelligence directly drives operations, and command centers in which intelligence personnel are fully integrated, are tangible evidence of such changes. As a result, it is important that intelligence appreciate not only the centrality of its role, but also the increased obligations and responsibilities that such a role brings.<sup>25</sup>

That intelligence analysis is itself part of the decision-making process is apparent when we consider the consequences when even a relatively junior intelligence analyst decides that something or someone is or is not a threat. In recent years, a number of mass-casualty attacks in the United States and Eu-

rope have been carried out by people previously identified as potential threats by intelligence and security agencies, only later to be removed from watch lists or from further investigation because of insufficient evidence. These decisions had consequences: individuals were not monitored; resources were shifted elsewhere (or not increased); and, ultimately, lives were lost at the hands of these same individuals who were once considered a serious cause for concern.

Investigations following intelligence failures remove any doubt about whether or not intelligence analysis is decision making since these investigations are primarily focused on determining *What information was available?* and (if there was information) *What was done with that information?* and the often-unstated question *Who is responsible?* As one answers these questions about what was known and what was done, the focus quickly shifts to analysts—even relatively junior ones—who would have analyzed such information (if collected in some form). As becomes apparent, significant judgments are often made at relatively junior levels within organizations. In an era of an overabundance of information, increased pressures, and “busyness,” policy makers, commanders, and senior leaders simply do not have the time to review all the information that an analyst has read through before they make their assessment.<sup>26</sup> Consequently, in addition to helping frame the way senior decision makers grasp a situation, analysts’ decisions and judgments can determine whether or not situations even come to the attention of senior decision makers.<sup>27</sup>

## Common Characteristics of Intelligence Problems

Given the diversity of intelligence analysts’ roles and duties, it is difficult to generalize on characteristics of intelligence problems across the entire intelligence community. Acknowledging that not every analyst necessarily faces all of these problems, we note that the following characteristics occur frequently within intelligence analysis, which makes them worth highlighting. These traits relate to the nature of the problems facing many analysts as well as those relating to the practice of intelligence analysis itself.

### *People-Based*

The difficulty in forecasting human behavior has been well documented.<sup>28</sup> It is inherently unpredictable, yet most estimative problems presented to analysts involve people. The limiting factor of predicting human behavior is the issue of identifying cause and effect; people can react entirely differently to identical influences—even to the same situation. For intelligence analysts attempting to

comprehend the causes or even forecast behavior, whether of an individual or on a collective level, the basis for such judgments can be entirely reversible—somebody might simply change his or her mind about a future course of action.<sup>29</sup> Nate Silver, known for a string of successful predictions of election outcomes and voter tendencies in the United States, indicates that “there is no reason to conclude that the affairs of man are becoming more predictable. The opposite may well be true. The same sciences that uncover the laws of nature are making the organization of society more complex.”<sup>30</sup>

### ***Future-Focused***

Intelligence analysts supply assessments on past, present, and future situations: what happened (and why); what is happening (and why); and what will happen (and why). As discussed, estimative questions about the future consume much of an analyst’s efforts. Even understanding the past or present is given particular importance because commanders and senior decision makers are concerned with what this means for the future. If we accept the logic that if something is known, then it must be true and knowable, we can rule out future events being knowable because they have not yet happened.<sup>31</sup> By the very nature of the subject, assessments about future actions, events, or situations involving people can be only speculative.

### ***Complex***

The term *complex* frequently appears within the intelligence field to describe any number of situations, operations, issues, and problems. We could define *complexity* as relating to a situation, issue, or topic that is inherently complicated, often because of multiple interacting actors and issues. Another layer of complexity for analysts is that they will attempt to understand the situation *as it is* as well as from an adversary’s perspective or a particular worldview. Even issues that appear relatively straightforward can be inherently complex for both operators and analysts. Recent military operations have underscored the difficulty experienced by military forces operating in urban environments in doing something as fundamental and critical as accurately identifying who is and who is not an adversary.<sup>32</sup> The situation is made even more complicated for deployed forces in culturally unfamiliar environments, where power structures, roles, and allegiances might not be apparent, resulting in unanticipated actions or reactions.<sup>33</sup> Intelligence analysts must deal with these complex problems because commanders and senior leaders do not have the immediate answers to them.

### *Unfinished*

One of the terms regularly used in intelligence analysis is *finished intelligence*—the analytical product that analysts develop and distribute, usually in the form of a report, assessment, or brief. However, the idea of “finished” intelligence potentially hinders rather than helps in comprehending intelligence as a field of knowledge development. The questions should not stop with publication or release of an intelligence assessment because many of the situations that intelligence analysts deal with remain ongoing and unfinished long after their analysis has been published. Deadlines are often arbitrary, based on an organization’s own planning and timings requirements, rather than having anything to do with the situation itself. Furthermore, reporting timings usually reflect the time available to inform a specific decision rather than the amount of time needed to understand a problem. The situation is a little like guessing the outcome of an entire television series based on watching only the first 15 minutes of the first episode. Much like assessments of the weather, stock market, or betting markets, intelligence assessments should be in constant flux, based on changes in the environment and new information. When one deals with estimative questions, updating assessments on the basis of better understanding should be the norm, emphasizing the ongoing nature of many intelligence problems.

### *Interpreted Differently*

Information can be interpreted differently—not a new problem for analysts. In her classic text *Pearl Harbor: Warning and Decision*, Roberta Wohlstetter identifies the issue of information supporting multiple hypotheses, observing in the lead-up to the Japanese attacks that “for every signal that came into the information net in 1941 there were usually several plausible alternative explanations, and it is not surprising that our observers and analysts were inclined to select the explanations that fitted the popular hypotheses.”<sup>34</sup> Even if information can be confirmed as accurate (as it was actually said or written the way it was collected), the meaning and context of this same information can be interpreted any number of ways. A question as seemingly simple as “What does this information mean?” can have different answers, depending on an analyst’s own experience, current posting, and his or her service or unit. Again, as Wohlstetter writes, prior to the Japanese attacks, “it was not unusual for a signal to mean one kind of danger in Washington and another in the theatre.”<sup>35</sup>

### ***Pressured to Conform***

Rob Johnston identifies two types of conformity pressures facing intelligence analysts: the pressure to conform to a corporate judgment and the pressure to conform to their own previous assessments.<sup>36</sup> Consequently, organizations and individuals actually encourage analytic conformity whether or not they intend to. The pressure to conform is often implicit and can exist from the outset of looking at a problem. As Johnston notes, when analysts are given a question or a problem to address, they first conduct a literature search, which principally involves looking at previous assessments. Thus, the corporate line becomes immediately apparent, resulting in a tendency to look for data that confirms the existing corporate judgment, which is the most time-efficient approach.<sup>37</sup> If previous assessments have all agreed that an adversary is not preparing an attack, then there is pressure to maintain this assessment. A significant investment of time and resources, changes in plans, rethinking favored positions, and disagreeing with fellow analysts—all of these factors place implied pressure on analysts to agree with existing assessments. In addition to perceived pressure to adhere to others' published assessments, analysts also feel pressured to adhere to their own previous assessments—even more so when these have been formally briefed or published.<sup>38</sup>

### ***Pressured by Time***

The issue of time pressure is a consistent theme within the intelligence literature, with analysts consistently identifying time as one of the most significant constraints on their jobs.<sup>39</sup> Whether in the space of minutes, hours, days, or weeks, analysts are under pressure to deliver assessments to clients who are often waiting on these judgments to make their own decisions about policies, plans, and actions. These clients will likely seek to maximize their own time for decision making, therefore placing pressure on analysts for early closure on judgments of often complex, changing situations. Within this context, analysts might be tempted to avoid questions and concentrate on “the job at hand.” However, because time is such a scarce resource, asking questions to ensure that every minute is used most effectively to research the actual problem is the more effective—but not necessarily most adopted—approach.

### ***Inaccurate***

A consistent lesson from recent history is that intelligence analysts can and do make mistakes, irrespective of their experience, confidence, their organization, or the situation they are addressing. The future-based, human nature of many

intelligence-analysis problems makes incorrect judgments a constant risk. To counter this possibility, an ongoing questioning approach is fundamental to avoid failure (wherever possible) and remind ourselves of the fallibility of our own limited judgments. To increase the potential for accurate judgments, analysts must consciously recognize that failure is always a possibility. Each of these characteristics reinforces the importance of intelligence analysts continually asking questions of the situation, the problem, the conventional wisdom, and their own analysis if they are to provide more insightful and accurate assessments.

### A Questioning Approach

As an intellectual tool, questions are the most accessible, teachable, and broadly relevant approach to the identification of assumptions and development of knowledge. The ancient Greeks formalized the idea of questioning assumptions to arrive at a more grounded understanding of what is known and what is not. These questions are reflected in the concepts of *ontology* (addressing questions about the nature of things) and *epistemology* (addressing questions about the basis for knowledge). Clearly, asking questions to encourage critical thinking is far from new. A number of authors have emphasized the importance of intelligence analysts having at least a basic understanding of epistemology to enable them to deliberately consider the evidentiary basis of their judgments.<sup>40</sup> At the same time, many references have been made to the scientific method and the applicability of scientific principles to intelligence analysis.<sup>41</sup> Central to both epistemology (as a branch of philosophy) and the scientific method is the role of deliberately asking questions to arrive at well-reasoned answers. A criticism of such scientific or philosophical approaches could be that they are idealistic and that the problems that intelligence analysts work with can often be immediate and involve decisions that can have life-or-death outcomes. However, taking just one example, we can see what can be described as the application of a *questioning culture* in the most desperate of circumstances—national survival.

#### ***A Case Study of a Questioning Culture in Practice: British Operations Research in World War II***

In March 1941, Britain was in a desperate battle for national survival in its war with Germany. Unable to produce enough resources to feed its population or support the war effort, Britain relied heavily on merchant shipping for supplies from the United States and Canada across the Atlantic Ocean. Presenting the

biggest threat to these ships were German submarines (U-boats), which were sinking hundreds of thousands of tons of merchant shipping. In desperation, the Royal Air Force (RAF) seconded British physicist Patrick Blackett to head an eclectic team of young scientists challenged to help Coastal Command aircraft defeat the U-boat threat.<sup>42</sup> Because U-boats spent much of the time on the surface, cruising or recharging their batteries, they were vulnerable to being spotted by aircraft and attacked. The German submarine crews and British aircrews were both trying to spot each other first—the Germans to have time to dive and escape, the British to attack and sink the submarines. In March 1941, the U-boats were winning this battle, with very few submarines sunk by British aircraft.

In his book *Studies of War*, Blackett described how his team of scientists considered and recommended all sorts of solutions to resolve the issue, including the use of different flying patterns, better binoculars, and better lookout drills. The breakthrough came during a meeting that addressed the question of tactics when an RAF officer asked aloud, “What color are Coastal aircraft?” The question was simple, and the answer was obvious. Everybody knew that the airplanes were painted black because they were mostly night bombers and that black paint reflected as little light as possible against enemy searchlights. However, these same aircraft flying in daylight over the often overcast Atlantic would appear as dark objects against a lighter sky. Within months Coastal Command aircraft were redone with what was determined to be the best camouflage for the conditions—white paint. Blackett credited this simple solution as one of the contributing factors in the RAF’s rising success against the U-boats.<sup>43</sup> Once the question was identified, the solution was relatively straightforward. The difficult part was identifying the right question to ask.

### ***Getting to the Right Question***

As previously discussed, many people emphasize the significance of intelligence analysts asking the right question or questions. Staying with Blackett and his team, we can see again the difficulty of identifying the right question. After his work with the RAF, Blackett and his team were tasked with addressing the U-boat problem from the naval perspective—namely, how to decrease shipping-convoy losses at the hands of these submarines. The accepted wisdom was that smaller convoys of ships improved the chances of slipping past the U-boats unnoticed and maximized the prospects for survival. Large convoys were considered dangerous, smaller ones safer, so a maximum of 60 ships was allowed in any one convoy, with the average in the early years of the war around

40 ships. This approach, however, derived from experience in World War I, which did not factor in technologies such as radio that allowed U-boats to communicate. After working on the problem, Blackett and his team recognized the importance of the question “What is the optimum size for a convoy?” Only after they evaluated the survivability of larger convoys (more than 40 ships) versus smaller ones (fewer than 40 ships) did they realize that larger convoys were safer. Smaller convoys had a similar chance of being detected but lacked the higher number of armed escort ships that accompanied larger convoys. After some convincing, from the spring of 1943 the Allies began increasing the numbers of vessels in convoys, and the safe arrival of a 187-ship convoy was publicly broadcast in 1944.<sup>44</sup>

Writing after the war, Blackett openly regretted that he and his team had not recognized the importance of the convoy-size question sooner. By Blackett’s own estimation, if his team had addressed the issue in the spring of 1942 rather than one year later, they could have saved around 200 ships and thousands of lives.<sup>45</sup> Nevertheless, this breakthrough meant that the Allies were able to move escort ships from the Atlantic campaign to directly support the D-day landings. In contrast, the Germans never developed any equivalent operations research teams that could identify problems and bring broad scientific analysis and problem solving to support their U-boat operations. If the Germans had established such operations research groups, then the outcome of the U-boat campaign—even the entire war—might well have been different.<sup>46</sup> This scenario strongly suggests that questioning cultures can provide a competitive advantage over an adversary—one with comparable (even at times superior) technological advantage.

If it takes such a talented team a year to identify the right question, how likely is it that intelligence analysts would immediately identify the right question or questions for the problem at hand? Instead, the issue appears to be more about developing a culture in which questions and questioning are encouraged and about cultivating a habit of asking questions that can lead people to the right question or questions. It might take several questions, considerable effort, and trial and error for even a highly intelligent and qualified group of individuals to identify what the *right* question is for a particular problem. Sometimes people recognize the right question only after it has been asked, and—as with the question about the color of the aircraft—the intellectual connection is made. In addition, placing too much emphasis on analysts asking the *right* question might actually act as a disincentive because people might be reluctant to ask questions until they think they have the right ones.

### ***What Made This Culture a Questioning One?***

How do intelligence organizations develop cultures that encourage a questioning approach whereby—irrespective of rank, status, or position—people have the confidence to ask questions and pursue the answers wherever they lead? A brief examination of these early operations research teams presents a number of characteristics that appear to assist in promoting a culture that encourages question-asking:

- *Normal procedure.* The scientific background of Blackett's team considered asking questions the norm. People asked questions because they wanted to better understand the situation and the problem. Being asked a question was not a personal affront but a reflection of a genuine desire to know.
- *Valued procedure.* Scientists and researchers highly valued and rewarded the ability to ask a good question, to see a problem in a new light. This attitude carried over into their roles in World War II when asking questions was valued because it saved lives and meant the difference between victory and defeat.
- *Common problems.* Blackett and his team were invested in finding the questions and solutions to shared problems. They were part of resolving these problems, and their questions were not asked out of idle curiosity but in recognition of the fact that they themselves would be part of researching and finding the answers.
- *Clearly defined problems.* Blackett's team had clearly defined problems that they were working on: prosecuting the air war against the U-boats and keeping convoys safe. They were not concerned about asking *any* question but about asking questions *relevant* to these problems. One of the most important parts of these teams' work was defining the actual problem, which was not always what they first thought it was and often took longer to determine than expected. However, until these teams identified the right problem and the right question, they could not produce an accurate solution.
- *Intellectual diversity.* Because Blackett's team consisted of people with diverse backgrounds, skills, and experiences, they approached the same problem from different perspectives. Thus, they could think both deeply and broadly. In terms of thinking, they were a diverse group but united by a common purpose.
- *Truth seeking.* The operations research teams during World War II were truth seeking; they wanted to understand the actual problem and iden-

tify the best available solution. Consequently, even if the question did not come from within the team itself, they were still open to considering the question and its significance.

- *Persistence.* When they received a problem, Blackett and his team persisted until they understood it and came up with either solutions or ways around the problem. They diligently asked questions and pursued answers.
- *Desperation.* Gary Klein asserts that people can gain insight through creative desperation when the situation dictates that they have to try something different.<sup>47</sup> Britain was at war and facing defeat; people were dying, and the country was desperate. The RAF was also desperate and willing to ask for the assistance of a team of civilian scientists to help solve military problems.<sup>48</sup> That scientists themselves understood what was at stake is evident in Blackett's open regret about the delay in identifying the convoy question and his estimate of the human and material costs of this delay. Within this environment, it appeared that people were more open to coming up with new ideas and trying out different approaches.

As Blackett's operations research teams demonstrate, a questioning culture can offer a competitive advantage over an adversary. It came down to encouraging questions, challenging assumptions, and actively pursuing answers—all of which appear highly relevant to intelligence organizations avoiding surprise, providing warning, and enabling decision superiority. The characteristics identified appear broadly relevant to intelligence organizations. Interestingly, many of the breakthroughs of these operations research scientists were not the result of advanced mathematics or complex calculations but simply of asking questions and pursuing answers that helped them identify mistaken assumptions and flawed reasoning. Many intelligence problems are estimative, but these early operations analysts dealt with issues that were arguably better able to draw on cause-and-effect relationships. Consequently, without direct cause-and-effect relationships, one could argue that many of the problems facing analysts might even be more difficult than those facing Blackett's team. This possibility only further underscores the need for a built-in culture of asking questions and challenging assumptions. Without asking their own questions, analysts are presented only with the answers to other people's questions. Highly relevant to intelligence organizations is Blackett's observation that the really vital problems were identified by the operations research teams rather

than those provided by the services.<sup>49</sup> Often redefining the original problem or question led these researchers to the actual problems that needed addressing.

### ***Obstacles to Developing Questioning Cultures***

If intelligence organizations do in fact have the desire to develop and pursue questioning cultures in order to identify assumptions, define the actual problem, and deliver accurate and insightful analysis, then it is worth considering ways that people can hinder or prevent the development of a culture that encourages questions. Just as one can disagree with or dissent from a group or a majority opinion, so can fear play a substantial part of people not raising issues or asking questions. They might be reluctant to raise issues because they fear being perceived as disloyal, the possibility of recrimination, the boss's disapproval, being ostracized from the group, potential effects on their careers, and not actually making a difference.<sup>50</sup> Increasingly, *busyness* appears to be a reason that questions are discouraged when the perception through words or actions is that "We don't have time for questions." However, as discussed earlier, if time is a critical limitation for intelligence analysis, then the most effective and efficient use of the time available appears to be defining the actual problem and dedicating available resources to resolving it. If organizations want to develop cultures in which questions are encouraged, then they need to ensure that these concerns and fears are dealt with and that people are not only encouraged but also rewarded for asking questions and pursuing answers. Are existing intelligence organizations capable of developing such questioning cultures, or are desperate circumstances a prerequisite for their emergence? As noted previously, some of the signs are not necessarily positive, but in the absence of any empirical research, we can only speculate.

## **Conclusion**

A questioning culture is a learning culture. Questions are an intellectual tool that allows all analysts to critically examine a topic, identify what they do and do not know, and enable them to arrive at well-reasoned judgments. Whether or not intelligence analysts are actively encouraged to ask questions—even difficult or uncomfortable ones—is open to debate. Indeed, some evidence suggests that organizational cultures might actually discourage, or at least not encourage, this question-asking approach. If operations research provides any insight, it is that developing questioning cultures is possible, even in the most desperate of circumstances, and that the initial problems presented to analysts might not be the actual problems or questions that need answering. In

an increasingly complex and contested environment where secrets cannot be guaranteed, questions continue to offer the opportunity to gain a competitive advantage over adversaries. Alternatively, if intelligence analysts are unable or unwilling to ask difficult and uncomfortable questions, then who will? The disturbing answer might be *nobody*.

## Notes

1. Thomas Fingar, *Reducing Uncertainty: Intelligence Analysis and National Security* (Stanford, CA: Stanford University Press, 2011), 39.

2. *Ibid.*, 67.

3. Roger Z. George and James B. Bruce, eds., *Analyzing Intelligence: National Security Practitioners' Perspectives*, 2nd ed. (Washington, DC: Georgetown University Press, 2014), 2.

4. Richards J. Heuer Jr., *Psychology of Intelligence Analysis* (Washington, DC: Center for the Study of Intelligence, Central Intelligence Agency, 1999), 75, <https://www.cia.gov/library/center-for-the-study-of-intelligence/csi-publications/books-and-monographs/psychology-of-intelligence-analysis/PsychofIntelNew.pdf>.

5. For an example of deliberately asking questions, see George and Bruce, *Analyzing Intelligence*, 6. As just one instance of failing to ask questions, Tim Dowse, former chief of the Assessments Staff in the United Kingdom, notes that on the issue of Iraqi weapons of mass destruction, “we had got out of the habit of questioning ourselves and our assumptions. That is something that we certainly have given a lot of attention to since, to make sure it doesn’t happen again.” Tim Dowse, evidence to the Iraq Inquiry, transcript, 25 November 2009, afternoon sess., 46, <http://www.iraqinquiry.org.uk/media/94790/2009-11-25-Transcript-Ehrman-Dowse-S1-pm.pdf>.

6. Martin Petersen, “What I Learned in 40 Years of Doing Intelligence Analysis for US Foreign Policymakers,” *Studies in Intelligence* 55, no. 1 (March 2011): 6.

7. *Ibid.*, 17.

8. For example, Joint Publication 2-01.3, *Joint Intelligence Preparation of the Operational Environment*, 21 May 2014, provides a doctrinal and structured approach for the analysis of an adversary. Although the doctrine offers guidance and direction on the framework and steps for analysts to follow, it is almost entirely devoid of questions that they are expected to answer.

9. For a practical and historical example, see Catherine H. Tinsley, “Social Categorization and Intergroup Dynamics,” in *Intelligence Analysis: Behavioral and Social Scientific Foundations*, ed. Baruch Fischhoff and Cherie Chauvin (Washington, DC: National Academies Press, 2011), 200.

10. See Tim Dowse, chief of the Assessments Staff (2003–9), witness transcript to the Iraq Inquiry, 14 June 2010, 53–54, <http://www.iraqinquiry.org.uk/media/98181/2010-06-14-Transcript-Ehrman-Dowse-S1-declassified.pdf>.

11. US House of Representatives, *Initial Findings of the U.S. House of Representatives Joint Task Force on U.S. Central Command Intelligence Analysis*, 10 August 2016, [http://intelligence.house.gov/uploadedfiles/house\\_jtf\\_on\\_centcom\\_intelligence\\_initial\\_report.pdf](http://intelligence.house.gov/uploadedfiles/house_jtf_on_centcom_intelligence_initial_report.pdf).

12. In reviewing Rob Johnston’s book *Analytic Culture in the U.S. Intelligence Community*, Joseph Hayes argues that the US intelligence community “is a world in which the most fundamentally important questions—what if and why not—are too often seen as distractions and not as invitations to rethink basic premises and assumptions.” Joseph Hayes, “Afterword,” in Johnston, *Analytic Culture in the U.S. Intelligence Community: An Ethnographic Study* (Washington, DC: Center for the Study of Intelligence, Central Intelligence Agency, 2005), 160.

13. George and Bruce, *Analyzing Intelligence*, 149–50.

14. Attempts to improve group decisions by introducing “contrived dissent,” such as having a devil’s advocate, have failed to produce consistent results. See Reid Hastie, “Group Processes in Intelligence Analysis,” in Fischhoff and Chauvin, *Intelligence Analysis*, 184.

15. US House of Representatives, *Central Command Intelligence Analysis*.

16. “Statement from Sir Gus O’Donnell and Sir Peter Ricketts,” submission to the Iraq Inquiry, 13, accessed 6 August 2016, <http://www.iraqinquiry.org.uk/media/221476/2011-01-19-statement-odonnell-ricketts.pdf#search=statement%20from%20sir%20gus%20o%27donnell>.

17. Additional testimony by Martin Howard raises further questions about dissent within intelligence organizations. Responding to questions from the inquiry panel into a number of judgments about postconflict Iraq that later proved incorrect, Howard maintained that “there was no one in DIS [defense intelligence staff] [who] would have at that stage, in April 2003, have [sic] dissented from those judgments.” This absence of disagreement over intelligence assessments is noteworthy and a matter of concern, particularly because these were judgments about future situations. Martin Howard, deputy chief of defence intelligence (2003–4), witness transcript to the Iraq Inquiry, 18 June 2010, 23, <http://www.iraqinquiry.org.uk/media/98193/2010-06-18-Transcript-Howard-S1-declassified.pdf>.

18. Wilhelm Agrell, “Intelligence Analysis after the Cold War: New Paradigm or Old Anomalies?,” in *National Intelligence Systems*, ed. Wilhelm Agrell and Gregory F. Treverton (Cambridge, UK: Cambridge University Press, 2009), 112.

19. Steven J. Maiorano, “Question Answering: Technology for Intelligence Analysis,” in *Advances in Open Domain Question Answering*, ed. Tomek Strzalkowski and Sandra Harabagiu (Dordrecht, Netherlands: Springer, 2006), 494, 496.

20. Fingar, *Reducing Uncertainty*, 131.

21. George and Bruce, *Analyzing Intelligence*, 4.

22. For an example of asking the right questions, see Heuer, *Psychology of Intelligence Analysis*; and Fingar, *Reducing Uncertainty*, 3–4. See also Charles Vandeeper, “What Are the Questions Intelligence Professionals Ask?” (paper presented at the International Studies Association 57th Annual Convention, Atlanta, GA, March 2016).

23. For a generic list of questions that is broadly applicable for analysts assessing the reliability of a judgment (i.e., “How do I know that X is true?”), see James B. Bruce, “Making Analysis More Reliable: Why Epistemology Matters to Intelligence,” in George and Bruce, *Analyzing Intelligence*, 149–50.

24. Maiorano, *Question Answering*, 477.

25. Jeffrey R. Cooper, *Curing Analytic Pathologies: Pathways to Improved Intelligence Analysis* (Washington, DC: Center for the Study of Intelligence, Central Intelligence Agency, 2005), 14–15, [https://www.cia.gov/library/center-for-the-study-of-intelligence/csi-publications/books-and-monographs/curing-analytic-pathologies-pathways-to-improved-intelligence-analysis-1/analytic\\_pathologies\\_report.pdf](https://www.cia.gov/library/center-for-the-study-of-intelligence/csi-publications/books-and-monographs/curing-analytic-pathologies-pathways-to-improved-intelligence-analysis-1/analytic_pathologies_report.pdf).

26. “One of the most important of such lessons was that I had no option except to rely on the work and judgments of my colleagues and subordinates. There was simply no time—and I did not have the requisite expertise—to review the intelligence used in more than a tiny subset of the roughly 14,000 analytic reports that I approved during eleven years in the INR [Bureau of Intelligence and Research] front officer and four years as chairman of the National Intelligence Council (NIC). I could review the tradecraft but not check the homework. I had to trust the people who had done the work.” Fingar, *Reducing Uncertainty*, 12.

27. For example, see Commonwealth of Australia, *Martin Place Siege: Joint Commonwealth—New South Wales Review* (Canberra: Australian Government, Department of the Prime Minister and Cabinet, January 2015), [https://www.dpmc.gov.au/sites/default/files/publications/170215\\_Martin\\_Place\\_Siege\\_Review\\_1.pdf](https://www.dpmc.gov.au/sites/default/files/publications/170215_Martin_Place_Siege_Review_1.pdf).

28. For example, see James Shanteau, “Competence in Experts: The Role of Task Characteristics,” *Organizational Behavior and Human Decision Processes* 53, no. 2 (February 1992): 252–66.

29. Roberta Wohlstetter, *Pearl Harbor: Warning and Decision* (Stanford, CA: Stanford University Press, 1962), 395.

30. Nate Silver, *The Signal and the Noise: Why So Many Predictions Fail—but Some Don’t* (New York: Penguin Books, 2012), 448.

31. Daniel Kahneman, *Thinking, Fast and Slow* (New York: Farrar, Straus and Giroux, 2011), 201.
32. This situation is not dissimilar to the challenge for security and police forces within civil societies in dealing with the current threat of mass casualty or “any casualty” attacks.
33. Ben Connable cautions against overly simplistic delineations of actors within an operating environment. This oversimplification is reflected in the designation of actors as either “red,” “white,” or “green” in recent operations despite the fact that the same actor has multiple identities. Connable, *Military Intelligence Fusion for Complex Operations: A New Paradigm* (Santa Monica, CA: RAND Corporation, 2012).
34. Wohlstetter, *Pearl Harbor*, 393.
35. *Ibid.*, 73.
36. Johnston, *Analytic Culture*, 22–24.
37. *Ibid.*
38. *Ibid.*, 23.
39. *Ibid.*, 13.
40. See, for example, Matthew Herbert, “The Intelligence Analyst as Epistemologist,” *International Journal of Intelligence and CounterIntelligence* 19, no. 4 (2006): 666–84; and Bruce, “Making Analysis More Reliable,” 135–56.
41. See, for example, Richards J. Heuer Jr. and Randolph H. Pherson, *Structured Analytic Techniques for Intelligence Analysis* (Washington, DC: CQ Press, 2011), 147–48, 157, 160.
42. As Maurice Kirby notes, among Blackett’s first recruits were “three physicists, three communications experts, four mathematicians, two Canadian astronomers, and several physiologists and biologists.” Derman Christopherson and E. C. Baughan, “Reminiscences of Operational Research in World War II by Some of Its Practitioners,” *Journal of the Operational Research Society* 43, no. 5 (June 1992): 574.
43. The estimate was that a white aircraft would catch a U-boat on the surface 30 percent more frequently than would an aircraft painted black. Patrick Blackett, *Studies of War* (London: Oliver & Boyd, 1962), 216–17.
44. *Ibid.*, 228–34.
45. *Ibid.*
46. This was the conclusion of J. G. Crowther and R. Whiddington, *Science at War* (London: His Majesty’s Stationery Office, 1947), 119.
47. Gary Klein, “Leverage: How We Spot Opportunities,” *Psychology Today*, 27 June 2014, <https://www.psychologytoday.com/blog/seeing-what-others-dont/201406/leverage>.
48. R. V. Jones, Britain’s chief intelligence scientist during World War Two, makes this observation. He compared Fighter Command, which sought scientific assistance (before World War Two started) with Bomber Command, which became serious about seeking such assistance only when it faced a significant loss of bomber aircraft and when photographs provided evidence of the inaccuracy of its bombing. R. V. Jones, *Reflections on Intelligence* (London: Mandarin Paperbacks, 1990), 193–94.
49. Blackett, *Studies of War*, 234
50. Charlan J. Nemeth and Brendan Nemeth-Brown, “Better than Individuals? The Potential Benefits of Dissent and Diversity for Group Creativity,” in *Group Creativity: Innovation through Collaboration*, ed. Paul B. Paulus and Bernard A. Nijstad (Oxford, UK: Oxford University Press, 2003), 63–84.

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