

Principles of Intelligence Analysis

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Insights matter only if they are accurate, relevant, timely, and persuasive.

The purpose of this article is to discuss the foundational elements of intelligence analysis. Although these may be familiar individually to practitioners, and the broad topic has been the subject of many *Studies* articles, I wanted to add my perspective from a career in analysis that included 33 years as an analyst, instructor, and in my final five years as the leader of CIA's Quality Evaluation Program (QEP)—a post-production, “peer review” system in the Directorate of Analysis (DA) that examined thousands of products.

My fellow evaluators—all with decades of experience—and I saw brilliant work as well as products that reflected poorly on our analytic practices. Attention to these fundamental principles can contribute significantly to the quality of analysis.^a

Customer and Context

There are probably many ways to define intelligence analysis. For my purposes, I posit that the role of intelligence analysis is to provide value-added insights to information that is collected through secret or overt means. The insights matter only

if they are accurate, relevant, timely, and persuasive.

For the analyst, these straightforward requirements bump up against the realities of the job. Time is a tyrannical boss. Developments may occur rapidly, demands for quick processing reduce opportunities to consider different possibilities, and review and coordination demand a quick pen but risk introducing unintended messages.

Customers have multiple sources of information, their own biases and preferences, and terrible time pressures of their own. Analysts are competing for their attention. They must protect their intellectual integrity and analytic objectivity zealously, avoiding internal or external attempts to bend their judgments to satisfy political or bureaucratic goals.^b

Many factors can influence a customer's receptivity to intelligence analysis: the political, economic, military, and social milieu of the moment; the customer's preferences, norms, and values; and the bandwidth to make and act on a decision. In candid moments, senior decisionmakers have said that they seldom can deal with more than one or two major

a. This article was inspired by two works: James J. Brosnahan, “Basic Principles of Advocacy: One Trial Lawyer's View,” *American Journal of Trial Advocacy* (1979) and Charles Schultze, *Memos to the President: A Guide Through Macroeconomics for the Busy Policymaker* (Brookings Institution Press, 1993).

b. See Barry Zulauf, “Safeguarding Objectivity in Intelligence Analysis,” *Studies in Intelligence* 65, no. 3 (September 2021).

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foreign affair crises at a time. All experienced analysts have presented convincing material to decisionmakers only to see those authorities shake their heads in acknowledgement of the need to act without the capacity to do so. Analysts must be attuned to the opportunities for action as well as the broader picture of where action might be prioritized (or shunted aside).

Turn customer questions into viable intelligence topics and requirements.

Customers have varying depths of knowledge on intelligence and even on their own areas of responsibility. The questions they ask often try to probe mysteries, such as predictions of the likely occurrence of conflicts. Analysts must use their expertise and their understanding of the customer's interests to refine broad questions into intelligence questions that can be answered logically, based on evidence and informed judgments. Analysts must then translate those intelligence questions into clear and practical collection requirements to generate additional evidence.

This is anything but a straightforward matter. If a decisionmaker asks if a foreign state is stable, analysts must tease out the real concern (coups, economic stability, or popular revolt?) and craft intelligence questions that get to each dimension. Those questions must be refined in the context of the specific country—its history, ethnic composition, officer

corps loyalty, monetary reserves and balance of payments, etc.

Without subject matter expertise this refinement can produce wasteful dead ends and spurious pursuits. Each of those questions, in turn, needs to be translated into specific collection requirements with due consideration for which entities would possess the information needed, how it would be stored, and which collection capability is best suited to obtain the information needed.

Understand the customer's perspective.

People's judgments and willingness to accept analytic findings are framed by multiple factors, including backgrounds, experiences, and beliefs. Every decisionmaker has cognitive biases, including theories that guide them (e.g., the liberal international order), beliefs about how the world works (e.g., the arc of history bends in a particular direction), or sacred beliefs (e.g., all things happen for a reason). Thus it is essential for the analyst to understand as much as possible about the decisionmakers and the environment in which they operate. Each analytic claim as well as the evidence and logic used to support it should be prepared with the decision makers in mind.

Be attentive to the interplay of cognitive biases and metaphorical reasoning.

Beginning in the 1970s, cognitive psychologists like Daniel Kahneman,

Vernon Smith, Richard Thaler, and Amos Tversky unlocked some of the secrets behind how human beings make decisions and evaluate risk and rewards, and their work would greatly influence the field of intelligence analysis.^a Today, through training and tradecraft standards, the IC stresses the need for analysts to beware of how mental shortcuts can lead them astray. For example, the confirmation bias may dissuade analysts from questioning the accuracy of new evidence and their judgments, based on reporting received earlier.^b

Analysts should pay attention to unrecognized metaphorical reasoning—their own and that of their customer. People perceive, think, experience, and act through metaphors. In Harvard psychologist Steven Pinker's words, "metaphor really is a key to explaining thought and language."^c Metaphors translate amorphous concepts into concrete analogies. They provide coherent structures that aid in understanding new information or possibilities, highlighting some characteristics of a problem while obscuring others. If an argument is a war, we aim to defeat the other side, not persuade it with accommodation.

In 2011, a fascinating study by Paul Thibodeau and Lera Boroditsky examined the influences (the metaphorical entailments) on policy choices for different metaphorical models of crime. People who were subtly primed to think of crime as a rampant, dangerous beast gathered information and proposed solutions

a. Kahneman's *Thinking Fast and Slow* (Farrar, Straus and Giroux, 2013) is an accessible overview of his work on bias, risk, and decision-making. See also Zvi Lanir and Daniel Kahneman, "Speaking to Policymakers: An Experiment in Decision Analysis in Israel in 1975," in *Studies in Intelligence* 50, no. 4 (December 1975).

b. See Dan M. Kahan, Ellen Peters, Erica Dawson, and Paul Slovic, "Motivated Numeracy and Enlightened Self-Government," *Behavioural Public Policy* (September 2013).

c. Steven Pinker, *The Stuff of Thought: Language as a Window into Human Nature* (Penguin Books, 2007), 276.

that differed markedly from those primed to think of crime as a virus.^a Their work showed that we often do not recognize the existence of our metaphorical models, much less their entailments or influences.

Terrorism analysts, for example, may not recognize the influence of studying recruitment as gang-like behavior or disease-like contamination. Similarly, intelligence customers may not recognize how seeing foreign leadership cadres as Mafia dons or corporate executives affects their judgments. Their metaphors, nevertheless, shape what information they seek and react to, and which types of actions and reactions they anticipate and believe are likely. Just consider the consequences of visualizing a war on drugs rather than an effort to treat addiction.

Preparation

Preparation is the most important principle of analysis. Done well, it may overcome other shortcomings. Deep immersion into the evidence, background, implications for foreign actors, and implications for our own national security are essential. Analysts must examine every report's strength and weakness, its provenance, and consistencies and inconsistencies among the available reports.

Analysts cannot accept an intelligence report without probing for the circumstances of the collection, motivations, access, and

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miscommunications. Human source reporting passes through many hands and the chance for unintended loss or distortion of information is too high to ignore. Denial and deception must be considered. Technical collection is seldom as simple as “just read the transcript of the conversation.” Even an intercepted conversation involves interpretations of intonation, tempo, and translation, among other factors.

Analysts should always provide perspective. Intelligence agencies wrestle with the concept of analytic expertise, both defining and measuring it for personnel decisions. The most consistent feature of analytic expertise, and the most valued by customers, is deep and broad knowledge that offers perspective, draws comparisons, and contrasts situations and times. Customers have told us again and again that they value relevant historical background, cross-country comparisons, and trend analysis over months and years.

Contextual insights are often the very materials cut during the editing process to shorten the published article. Analysts must push back on this tendency to overemphasize brevity, arguing that these insights establish credibility and enhance understanding. A few extra paragraphs or an additional visual (e.g., a timeline of past events) can be worth their weight in gold.

A closely related characteristic to perspective is multidisciplinary analysis. The all-source analytic community prides itself on integrating political, economic, military, leadership, and other facets of analysis into comprehensive products. My observation from five years in the QEP suggests multidisciplinary analysis is more commonly praised than practiced.

It is similar to the endorsements of many militaries of combined arms operations. Serious integration of disciplines, like integration of different combat arms, is complex and risky. Falling back on sequential treatment of disciplines is easier and consistent with the years of specialized education and training most analysts have under their belts. We should strive to make multidisciplinary analysis a reality, not merely an aspiration.

Know and consider opposing viewpoints.

Engraved on the wall inside the CIA entrance is the quote from the gospel of John, “Ye shall know the truth, and the truth shall set you free.” In an intelligence context, it is misleading. Analysts do not have a lock on the truth.^b They discover facts, connect them to plausible explanations, and build lines of argument to support their judgments. It is generally the case that there are alternative viewpoints and advocates for them. Ignoring opposing viewpoints does a

a. Paul H. Thibodeau, Lera Boroditsky, “Metaphors We Think With: The Role of Metaphor in Reasoning,” *PLOSone* 6, No. 2, (February 2011). For a comprehensive survey, see George Lakoff and Mark John, *Metaphors We Live By* (University of Chicago Press, 1980).

b. Stephen Marrin, “Analytic Objectivity and Science: Evaluating the US Intelligence Community’s Approach to Applied Epistemology,” *Intelligence and National Security* 35, No. 3 (2020).

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disservice to the customers, and may well sink the analyst's case.^a

A few years ago a colleague and I interviewed analysts working on an ongoing insurgency. We elicited their judgments and the evidence and logic for their claims. When I asked for alternative views, they said there were none. Pressed, they admitted another agency might have some, but "you don't want to waste your time talking to them." Such arrogance and shortsightedness—maybe the others have useful insights—was hardly a unique instance.

Understand the full picture.

Intelligence integration since 9/11 has narrowed the gaps between collector, analyst, and intelligence consumer, but analysts need to be attuned to the continued risk that intelligence operations and decisionmaker actions can obscure causes and effects. For example, if a foreign power acts in what seems to be an irrational or paranoid way, analysts might conclude that its leaders are poorly informed or misled by their intelligence services. But I have found on more than one occasion that foreign actions were in fact motivated by US covert actions that I stumbled upon. Analysts must expose themselves to the panoply of intelligence activities, though information compartmentation and good security practices make this challenging.

There is another dimension to this problem of the unknown catalyst. Non-intelligence activities including diplomacy, military actions, and private-sector and non-governmental involvement can have profound influences on foreign actors' perceptions and actions. Analysts must understand what forces are influencing the actions of foreign actors.^b

Develop consistent and comprehensive models.

One of my former colleagues described the typical analytic process as gathering a bunch of reports, reading them, spreading them out on your desk, and coming up with plausible ways to fit them together. That may be a good description, but it is lacking. Analysts must understand complex situations well enough to offer customers coherent and persuasive theories that logically tie together the available evidence. Analysts may argue inductively (from specifics to the general), deductively (from general rule to specific instance), or analogically (this case is like that one, and so the following holds). Other structures can work, depending on the particular case and evidence. A case without an overarching theory of argument, however, is especially vulnerable to rejection.^c

None of this is to suggest that analysts ought to bury inconvenient evidence (gaps, contrary evidence) or suggest there is only one explanation. Nor does it mean that a theory should

become an intellectual straightjacket. However, without clearly articulated explanations customers are left with messes of partially digested evidence that force them to take on the jobs of analysts.

It is also incumbent on analysts to specify key assumptions, to explain how widely accepted those assumptions are, to provide major counter-assumptions, and to explore what happens if assumptions are wrong. No analyst can cover all assumptions and their implications. However, in too many cases analysts leap past key assumptions with no discussion. For example, it is common for analysts to assert, "the four major drivers in this situation are . . ." without backing up such claims or explaining that they are key assumptions.

Support the judgments.

Few faults stand out so baldly and undercut an oral or written presentation more than unsupported judgments or unexplained evidence. If a judgment or claim is made, the customer expects it will be supported by evidence and logic. If a judgment is unsupported or poorly supported, the whole presentation may suffer from a reverse halo effect, that is, one weakly supported claim taints the credibility of other arguments.

As currently practiced, sourcing is often pro forma. If we state that some point was made by a clandestine source, are we inherently endorsing it? Or are we saying, "Here is where it comes from, now you decide if you trust it?" We seldom provide a good

a. A colleague suggested this passage from John Stuart Mill's *On Liberty*: "He who knows only his own side of the case, knows little of that. His reasons may be good, and no one may have been able to refute them. But if he is equally unable to refute the reasons on the opposite side; if he does not so much as know what they are, he has no ground for preferring either opinion."

b. See Robert M. Hathaway, "Confrontation and Retreat: The U.S. Congress and the South Asian Nuclear Tests," *Arms Control Today* 30, No. 1 (January/February 2000): 7–14.

c. See Chip and Dan Heath, *Made to Stick: Why Some Ideas Survive and Others Die* (Random House, 2007).

sense of how much we understand an issue based on our collection posture, redundant and confirmatory sources, and why we trust a particular source.

Do not overpromise.

Analysts should be humble about their ability to see into the future. Many intelligence issues are highly complex problems with multiple, independent actors; hidden features; and evidence manipulated by willful, deceptive opponents. Moreover, predictions are seldom just about facts (e.g., what will be the value of the stock market index in six months) but rather about causal relationships. Just like all humans, analysts by nature try to find relationships and explanations even when the data to support such claims are weak and inconsistent.^a

Pay attention to sequence and structure.

There are alternative ways to present an analytic finding and it is seldom if ever the case that only one way will do. Early in the production process authors should consider the best way to convey the analysis and the relative balance of text and visuals, and when relevant in-person briefings. Visuals can be graphs, photographs, illustrations, maps, physical or interactive media displays, and any number of these combined. Too often visuals are used to “pretty up a piece” of text, sometimes merely repeating points from the text. They should be used more frequently to carry the core analytic message and evidence to take advantage of the different mental channels consumers use to gather information.

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In QEP reviews, we identified a number of products in which a visual accompanying a text contradicted and, sometimes, even disproved the basic judgment of the article’s text. These errors occurred because of poor collaboration, coordination, and review.

One of the most glaring instances of insufficient attention to presentation comes in the use of bullets in writing or slideware presentation such as PowerPoint. It is common to see intelligence products written as a series of similarly structured paragraphs or slides—each as a long declarative sentence followed by a series of bullets. Often, bullets lack an inherent logical role or order.^b They may be a list of examples, key pieces of evidence, steps in a sequence, events in a chronology, etc. Without explanatory linking language (e.g., “the following are the most important reports supporting this claim”) there is no way to know what kind of logic is being applied. As commonly used, bullets lead to an approach that can be described as analysis by anecdote.

Use language suited to the customer.

A skilled analyst tailors language to the customer with prose that is clear and direct. That might mean avoiding jargon or needlessly long and complex words, replacing nominalizations (e.g., the noun “intervention”) with active verbs (“intervene”), or as George Orwell famously advised, replacing Latin-based words with shorter

Anglo-Saxon words (“about” rather than “approximately”).

Vary the length of sentences and avoid long ones. Readers and listeners get lost in 50-plus-word sentences, especially with multiple clauses and parenthetical phrases. In one case, I could find no one who could read a published lead sentence of an important classified assessment in a single breath. Moreover, no one could summarize it for me after reading it once quickly.

Readers can follow active voice more easily and prefer it to passive voice.^c Moreover, as a subject becomes more complex inherently, the more important it is to present it clearly. Simplicity is not about dumbing down analysis but about being able to present the core finding and its support succinctly and accurately.

Use numbers correctly.

When I taught an economics course at the National War College, I told students that I sensed their discomfort: “You can face incoming 107-mm rockets, but you are scared of numbers and economic theories.” Many intelligence analysts have a similar discomfort with numbers and statistics. This leads them to make mistakes that misinform their customers and undercut credibility.

In QEP reviews, we found examples of per capita GDP numbers off by a factor of 10. In some cases, totals and percentages were incorrectly calculated. One egregious study cited

a. See Steven Sloman and Philip Fernbach, *The Knowledge Illusion: Why We Never Think Alone* (Riverhead Books, 2017).

b. Gordon Shaw, Robert Brown, and Philip Bromley, “Strategic Stories: How 3M Is Rewriting Business Planning,” *Harvard Business Review* (May–June 1998).

c. See Christopher R. Trudeau, “The Public Speaks: An Empirical Study of Legal Communication,” *Journal of Legal Writing* (2012).

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factors that were likely to contribute to an undesired outcome without noting that the same factors appeared in instances of desired outcomes. Counting rules were changed without pointing out the change. Samples were used that were not random, large enough, or appropriately measured, without informing the reader.

Be alert to the audience.

Analysts must develop and practice their briefing skills, and just as in written products tailor them to their audience. Although the content of the intelligence finding is key, it must be delivered effectively. Word choice, intonation, pace, pauses, volume, gestures, facial expressions, and any number of other non-substantive aspects can ensure success or doom it. That said, sometimes the most important skill in a briefing is listening. Analysts must balance their own presentation with a keen interest in their audience's reactions.

Analysts should know their material so well that they can deliver a planned 20-minute presentation in one minute (what is often dubbed the elevator speech), or elaborate to fill an hour if the customer wants it. Each of those, regardless of length, should cover the same general contours. Analysts are taught that all presentations, written and in-person, should be fractal; that is, similar patterns should recur at progressively smaller scales.

Present analysis as a professional.

Analysts need to write or speak directly to their audiences, not down or up to them. This calls for a confident but conversational tone. Some analysts exhibit false modesty,

condescension, or diffidence. Others fail to make their points because they are intimidated. All can lead to problems.

This sounds like an easy and obvious matter. It is not. Audiences can be intimidating, whether they intend to be or not. I recall a large meeting with a US defense secretary in which a principal offered a claim made by a foreign power, asking if it was true. The heads around the table nodded like a display of bobble-heads. But they knew better—the foreign power had lied to the secretary. The people attending the briefing, though senior themselves, could not bring themselves to tell this man that he was the victim of a lie and attempted manipulation.

Anticipate questions and objections.

Too many presentations are crafted as one-sided briefs and fail to address reasonable questions and counter-arguments. Well-informed audiences often ask for elaboration or confront analysts with alternative viewpoints or evidence (or have staffers or other analysts alongside to challenge the main presentation). Intelligence customers often learn the most when they can ask questions that answer their particular needs or fill specific gaps in their understanding. Some briefers even structure their presentations as a series of questions and answers; this encourages the audience to prioritize the questions and add their own. This question-and-answer approach can be used effectively in written products as well.

As a junior analyst I was convinced that particular words mattered, and frequently argued with editors who, to my mind, changed the meaning of my work. Words do matter, but I neglected to pay enough attention to their reception. This is particularly telling in terms of probabilistic language, and is best illustrated by a story I heard at the National Academy of Sciences around 2005.

A group of 17 seismologists meeting in the San Francisco Bay area in the late 1980s were asked to write down whether they agreed with the following statement: “A moderate-to-large earthquake likely will hit the San Francisco area in the near term.” All 17 of the participants answered yes. The participants then were asked to write down answers to the following questions: What do they mean by moderate-to-large? What do they mean by likely? What do they mean by San Francisco area? What do they mean by near term?

Answers that related to moderate-to-large varied by a factor of 500; some respondents assumed this range excluded very large earthquakes. The percentages they offered for probability varied from 5 to 90 percent. The San Francisco Bay Area differed from the city boundaries to the entire bay area. And the near term meant anything from months to 10,000 years (still near term in geologic terms).

Obviously, their agreement on the initial statement did not mean consistency among the participants' individual views. Analysts who think they are being clear when they use terms such as probably, unlikely, or remote have in their own minds a sense of what they mean. But there is no reason to assume that briefing

audiences assign the same meaning to the terms.^a

For example, on March 12, 2018, British Prime Minister Theresa May told the House of Commons it was “highly likely” (corresponding to a probability of 75–85 percent, in the UK’s system) that the Russians were responsible for poisoning former Russian intelligence officer Sergei Skripal and his daughter. A few days later, then-Foreign Minister Boris Johnson described the likelihood as “overwhelmingly likely”—a term that is not in the UK’s formal system but presumably equated to the next, and highest, level of likelihood, “almost certainly” (over 90 percent). He did not cite new information, suggesting his comment reflected the common problem of confidence creeping upward each time a judgment is restated.

Similarly, during White House deliberations over whether bin Laden was inside the Abbottabad compound

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before the US raid in May 2011, members of President Obama’s national security team offered probabilities of 30 or 40 percent at the low end to as high as 95 percent.^b The president was confused and frustrated by his advisers’ inability to explain their different subjective, numeric estimates. After a short discussion the president said, “I know we’re trying to quantify these factors as best we can. But ultimately this is a fifty-fifty call. Let’s move on.”^c He told a reporter later, “What you start getting was probabilities that disguised uncertainty as opposed to actually providing you with more useful information.”^d

Conclusion

One cannot overstate the importance of analysis that is objective, thorough, timely, relevant, accurate,

and rigorous. Analysts must hold themselves to the highest possible standard, and the intelligence agencies should strive to promote such standards through training, management, structure, and operations, as IC Directive 203 makes clear. Continuous learning, not one-time inoculation, is essential.

Attending to all the basic principles outlined in this paper reminds me of acrobats spinning plates on poles. And yet, like acrobatics, intelligence is an art that can be learned and practiced intentionally. James Brosnahan noted that lawyers needed to absorb the principles of advocacy: “To read them and to use them is one thing, but consistent success will only come when these principles become an integral part of the advocate’s thinking.” Precisely the same thing can be said for intelligence analysts.



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a. A growing body of literature supports using numbers rather than imprecise terms in probabilistic judgments. See Jeffrey A. Friedman, *War and Chance: Assessing Uncertainty in International Politics* (Oxford University Press, 2019); Philip Tetlock, *Expert Political Judgment* (Princeton University Press, revised edition, 2017); Andrew Mauboussin and Michael J. Mauboussin, “If You Say Something Is ‘Likely,’ How Likely Do People Think It Is?” *Harvard Business Review* (July 3, 2018).

b. Jeffrey A. Friedman & Richard Zeckhauser, “Handling and Mishandling Estimative Probability: Likelihood, Confidence, and the Search for Bin Laden,” *Intelligence and National Security* 30, No. 1 (2015): 77–99.

c. Barack Obama, *A Promised Land* (Crown, 2020), 685.

d. Mark Bowden, *The Finish: The Killing of Osama Bin Laden* (Atlantic Monthly Press, 2012), 258.