

Rethinking Challenge Analysis

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Rethinking Challenge Analysis

By Richards J. Heuer, Jr.

For the past nine months I've been working on an ambitious project called Defining and Developing the Domain of Structured Analytic Techniques for Intelligence Analysis. This has involved developing a taxonomy of structured techniques that shows where these techniques fit into the realm of intelligence analysis methods in general, and a categorization of the structured techniques based on how they contribute to mitigating the cognitive limitations and other pitfalls discussed in my book on the *Psychology of Intelligence Analysis*.

It also involves an extensive discussion of the difficulties encountered when trying to evaluate and validate the effectiveness of individual techniques. And it involves developing a catalogue of about 50 different structured techniques with instructions on how and when to use them, and an aid to help analysts select which techniques are most appropriate to use for various analytic purposes. But I'm only going to talk about one small part of that project today.

While working on the catalogue of techniques, I've become particularly interested in a group of techniques that collectively are now being called challenge analysis. They used to be called contrarian analysis, and more generally alternative analysis. These techniques are specifically intended to challenge the conventional wisdom or to help a small group of analysts challenge their own dominant mindset.

I found that my ideas on how challenge analysis should be done differed from current analytic guidance and practice, and when I found that my concerns were shared by Randy Pherson and others, I decided to work on developing some new techniques to do it better. That's what I'd like to discuss with you today.

As I see it, there are two distinct approaches to what is being called challenge analysis – the self-challenge or self-critique of one's own ideas and the challenge of one's ideas by some other individual or group not previously involved in developing these ideas. In other words, it's the difference between challenging oneself and being challenged by others.

Reframing

All of the self-challenge techniques are based on a process called reframing. That's a method for gaining new insights simply by looking at a situation or problem in a different context or from a different perspective than you are accustomed to. Put on a red hat or a black hat, and you see things differently, although it's not quite that easy. To understand the power of reframing, you need to know a little about how the human brain works. The brain is now believed to have roughly 100 billion neurons, each analogous to a computer chip capable of storing information. Each neuron has octopus-like arms called axons and dendrites. Electrical impulses flow through these arms and are ferried by neurotransmitting chemicals across what is called the synaptic gap between neurons. The main point is that whenever two neurons are activated, the connections or "synapses" between them are strengthened. Think of making a path through the woods. Each time you take that path, it gets a little wider or deeper and more clearly defined.

Once you have started thinking about a problem one way, the same mental circuits or pathways are activated and strengthened each time you think about it. The good side of this is that it facilitates the retrieval of information you want to remember. The downside is that these pathways become the mental ruts that make it difficult to reorganize the information mentally so as to see it from a different perspective. By the time you reach a judgment or decision, this thought process is embedded in your brain.

Each time you think about it, the same synapses are triggered and your thoughts take the same well-worn pathway through your brain. Getting the same answer each time you think about it builds confidence, and often overconfidence, in that answer. Reframing the problem by playing a different role or asking questions from a different perspective is what enables you to avoid the ruts and bring other information and ideas into play.

Premortem Analysis

Now let's discuss a specific analytic technique that uses reframing. You all know that a postmortem is what we do to explain an intelligence failure. How about a premortem of

what *could* go wrong in the future. That's what we can do in advance to avoid the need for a postmortem later. A premortem is an easy-to-use technique that enables a group of analysts who have been working together on any type of future-oriented analysis to challenge the validity of their own conclusions. It may be used by a single analyst but, like most structured analytic techniques, it is more effective when used in a small group.

The term premortem was first used in the context of decision analysis by Gary Klein in his 1998 book, *Sources of Power: How People Make Decisions*.¹ He reported using a technique that he called a premortem in management training programs to show his trainees that decision makers are typically overconfident about the workability of their decisions and plans. After the trainees formulated a plan of action, they were asked to peer into a crystal ball and imagine that it is months into the future, and their plan has been implemented, but it has failed miserably. They were then asked to describe how it might have failed and, despite their original high level of confidence in the plan, they could easily come up with multiple explanations for the failure – possibilities that were never even mentioned or thought about when they first proposed and developed the plan.

This exercise not only provided the trainees with evidence of their overconfidence, it also demonstrated that reframing to look back from the future can be used to expand the number of interpretations and explanations that decision makers consider. Klein explained, “We devised an exercise to take them out of the perspective of defending their plan and shielding themselves from flaws. We tried to give them a perspective where they would be actively searching for flaws in their own plan.”² Klein found that after his management trainees were exposed to the premortem exercise, they showed a “much higher level of candor” when evaluating subsequent plans. This premortem approach was more effective than anything else he tried to get his trainees to self-critique their own plans.

There are two reasons why we should expect premortem analysis to work as a technique for evaluating either intelligence judgments or policy planning, as well as management

¹ Gary Klein, *Sources of Power: How People Make Decisions*, (Cambridge: MIT Press, 1998), p. 71.

² *Ibid.*

plans. First, the question is reframed. Putting oneself into the future and thinking backwards to the present stimulates original thinking by activating an entirely different set of synapses in our brain. And it gives the analyst a much easier task. It is much easier to look back and explain the causes of something than to look forward and see the future. Second, the premortem analysis legitimizes dissent. For various reasons, members of small groups or teams often suppress dissenting opinions, which leads to premature consensus. In a premortem, all analysts are put in a position where identifying *weaknesses* in the previous analysis makes a positive contribution to team goals.

The procedures for this technique are pretty simple.

- State the proposed judgment to be tested using this technique.
- Determine a reasonable time period in months or years after which it might be known whether the judgment was correct.
- Imagine that this time period has expired, you are now in the future, you gain access to a crystal ball, and you see that your judgment was wrong and has had dire consequences.
- Working from this perspective looking back from the future, each analyst puts their imagination and intuition to work to figure out what could possibly have happened to cause their analysis to be so wrong.
- The group leader or a facilitator solicits ideas and leads the discussion of lessons learned from the premortem and what this means for their previous analysis.

This generation and initial discussion of ideas might be accomplished in a single two- or three-hour meeting, which is a small investment of time to undertake an effective challenge to the group's thinking. One expected result is an increased appreciation of the uncertainties inherent in any assessment of the future. Another outcome might be identification of indicators which, if observed, would provide early warning that events are not proceeding as expected. Such modifications might be incorporated within the group or team's existing analytic framework.

On the other hand, the premortem may identify problems, conditions, or alternatives that send the group or team back to the drawing board to rethink their position. The first live

test of this postmortem technique was recently conducted at CIA. The analysts estimated that a certain event would be highly unlikely, and they wanted to challenge this conclusion. They moved the time period ahead one year, at which time they assumed the occurrence of a near-catastrophic event. They then analyzed how this event could have happened. The client was satisfied with the analysis, because it made a persuasive case that answered the clients question about whether the possibility of such an event needed more analytic attention.

Structured Self-Critique

Now let's look at how reframing is applied to another challenge technique called structured self-critique. Intelligence Community already teaches a simple form of self-critique, but it is called Devil's Advocacy. One member of an analytic team is named to play the role of Devil's Advocate. That analyst takes one of the team's key assumptions, reverses it, and then argues from that perspective against the teams conclusions. But that lone analyst seems like a pretty weak devil.

Instead of naming one of their own team to play the role of Devil's Advocate, it may be more effective for all team members to don the hypothetical black hat and become critics rather than supporters. To support this reframing, it must be very clear to all members that they're no longer performing the same function. Their new job is to critique an analytic position taken by some other group (actually themselves with a different hat on). Each member of the team needs to know that they win points with their colleagues for being critical of the previous judgment, not for supporting it. To emphasize the different hats, this should be done in a separate meeting scheduled only for this purpose, and the meeting(s) should be led by a different person. Meetings might even be scheduled in a different location, just to symbolize the difference in the purpose of the meeting. This formal reframing of the analysts' role from advocate to critic is an important part of helping analysts see the issue from a different perspective.

According to my proposed structured self-critique technique, the black-hatted team then goes through a rather lengthy checklist of questions about sources of uncertainty, the analytic processes that were used, critical assumptions, diagnosticity of evidence,

anomalous evidence, information gaps, changes in the broad environment in which events are happening, alternative decision models, availability of cultural expertise, and indicators of possible deception. In other words they check all the possible pitfalls.

Based on its responses to these questions, the team reassesses its overall confidence in its own judgment. The time required to conduct such a comprehensive self-critique may limit its use to particularly important analyses, such as NIEs. However, it is also possible to develop abbreviated versions that go more quickly. There is also an interesting paradox. As analysts gain experience with the self-critique, they may have less need for parts of it, as those parts will be internalized and be done during the initial analysis as they should be.

Challenge by Others

The second broad approach to challenge analysis, as I mentioned earlier, is when you are challenged by others, rather than challenging yourself. CIA's Red Cell and DIA's Devil's Advocate are effective examples of this. They are organizational units that are set up to challenge conventional wisdom. But I view these more as managerial approaches to ensuring that conventional wisdom gets challenged from time to time rather than specific analytic techniques for how to do the challenge.

The Intelligence Community teaches a couple types of structured debate, which are useful, but they call these by the unfortunate name Team A/Team B. I say this is unfortunate, because I'm old enough to remember the original Team A/Team B experiment, and what that brings to mind for me is predictable failure and entrenched warfare between long-term adversaries. I suggest that this is not a good model to follow.

The basic issue here is one of conflict resolution. When analysts disagree, how does that disagreement get resolved? I'm working on that but don't have the answers yet, so I'll just suggest several thoughts that might get us moving in the right direction.

The first thought is to ask whether the disagreement really needs to be resolved. When analysts disagree in the Intel Community, there has often been pressure to get on board before the train leaves without you, or pressure for compromise or for watering down the

differences, or for adding a footnote to register dissent. This is questionable, as it seems to be based on the false assumption that there is always a single correct answer and the IC is expected to know it.

When analysis is based on incomplete and ambiguous information, and especially when dealing with a mystery rather than a puzzle, there may be two different but equally good answers. Even when one answer may be more likely than another, this does not mean that the other should be written off and ignored. Rather than forcing a consensus, watering down the differences, or adding a footnote, we need to consider two other alternatives that may be more useful to our policy maker customers.

- Require that certain intelligence assessments identify and provide at least minimal analysis of one or more alternative judgments that should be kept in mind.
- Facilitate the distribution of a well-reasoned alternative view as a separate intelligence report. I recall that we did this occasionally 30 years ago in what was then the CIA Office of Political Research. I understand that DIA now has special procedures to facilitate getting what it calls “Alternative Views” through its coordination process.

Another thought is that we need several different varieties of structured debate to deal with the different conditions that analysts encounter. The principle conditions that make a difference are amount of time that is reasonably available for the analysis, depth of disagreement, and the amount of emotion involved. There is a wide spectrum of types of disagreement ranging from a collegial difference of opinion between friends to a longstanding, emotional vendetta between analysts in different offices who don't even like to talk with one another. Coming up with optimal techniques may require some research in conflict resolution practices.

There are a couple ideas I plan to work with in trying to develop better techniques. One is to focus the debate on where it really counts. The key disagreements are commonly over assumptions and the validity or diagnosticity of evidence, so one can save some time just by focusing on those two elements. One could start by requiring each side to make its

case by identifying and justifying key assumptions and by identifying its five most diagnostic pieces of evidence. Diagnostic evidence is evidence that appears to refute the other side's hypothesis.

Another approach was suggested to me by Jay Hillmer of DIA. His experience is that when analysts in different offices or agencies disagree, they often have a faulty understanding of the others' position and logical reasoning, usually because they are not really listening to each other. His technique is to require each side to explain its understanding of the other side's position *to the other side*, and to continue explaining until the other side is satisfied that its position is understood correctly. Once people accurately understand the other's position and what it is based on, they can discuss it more rationally and with less emotion. Hillmer uses this technique in coordination activities and finds that it normally prompts some movement of the opposing parties toward a common ground.

Concluding Comments

In summary, then, I'm working on developing new approaches to challenge analysis. I've told you about the premortem analysis and structured self-critique that a group or team of analysts can use to challenge *their own* mindset, and I'd be happy to provide more information on these to anyone who is interested. There will be step-by-step instructions in Randy Pherson's new Handbook for Analytic Tools and Techniques and in the catalogue of techniques that I'm working on. And if any of you test either of these techniques, please do advise Randy or I of the results. On the more confrontational challenge techniques that involve some form of structured debate, there's more work that I need to do. If anyone has any ideas for that kind of technique, I certainly hope you'll pass them on to me.