



6.1 MODERATOR'S SUMMARY

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INTRODUCTION

This roundtable will examine analysis and support of inter-agency efforts that are addressing complex, nontraditional national security problems. In this overview, I will give my perspectives on what can and cannot be modeled, cause and effects, goals, metrics, methods, data requirements, and the need for enterprise approaches.

MODELING ILLUSTRATIVE ACTIVITIES

In a complex, operational environment, what are some of the activities that can be modeled? Illustrative counterinsurgency (COIN) Operation Iraqi Freedom (OIF) activities that can be quantified or predicted include raids; direct action missions; fire support; close air support; clear, hold, or retain operations; intelligence, surveillance, and reconnaissance missions; border perimeter security; population resource control measures; counter-

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improvised explosive device (ED) tactics; mortar attacks; logistics; re-supply; etc. These activities are largely military problems in a physical domain. However, as Secretary of Defense Gates has told us, "Success will be less a matter of imposing one's will and more a function of shaping behavior," the soft power side. That is where the problem lies.

Illustrative activities cannot always be modeled, quantified, or predicted in the COIN/OIF realm, in my opinion. How do you model, quantify, or predict sectarian violence triggered by al Qaeda blowing up a golden mosque that results in four million displaced Iraqis? How do you predict that the Iraqi government will have a blind eye toward Shia atrocities until a tipping point is reached on a Shia holy day? How do you predict the effects of Intel dominated by informants? How do you predict commanders cutting deals with reconcilable insurgents? How do you predict the effects of pressure on the Maliki government for national reconciliation? How do you predict Sunnis being put on the U.S. military payroll? How do you predict a key breakthrough that was caused by a U.S. Colonel cajoling a key obstructionist female aid in the Iraqi government? How do you predict the extent of and benefits from amnesties, pardons, and detainee release and reintegration programs?

These results occur from relationships forged with Iraqis at every level. They are based on human behavior and socio-cultural factors that cannot easily be modeled and quantified.

Continuing with what things that are difficult, at best, to predict, how do you predict the occurrence of and effects from the following COIN/OIF events; the inflow of foreign fighters; Iranian meddling with the Shia militias; diplomatic pressure on Syria and Iran; special U.S. Intel units to identify extremists; Sunni tribes turning on al Qaeda; U.S. forces collaborating with active insurgents; or even the net effect of negative and positive factors that influence the Iraqi populace reaction to U.S. occupiers? There are a lot of factors there. It is very hard to predict how this all will play out, as is the U.S. populace reaction to protracted COIN operations, with another set of associated negative and positive factors.

Once again these activities largely relate to human behavior and typically entail government interagency problems encompassing social, cultural, information, and cognitive domains that are much more complex than modeling, quantifying, and predicting physical outcomes from military operations.

CAUSE AND EFFECT

Now let us discuss cause and effect for the same COIN/OIF illustrative activities. Let us use an example effect such as a dramatic reduction in violence in Iraq as shown by the number of convoys attacked. One in five convoys was attacked in January 2007, going down over time, until the statistic changed to one in 100 a year and a half later. Potential causes include:

- Sunnis turning on al Qaeda
- Outreach to armed antagonists by local U.S. commanders
- “Sons of Iraqi” volunteers providing security and maintaining cease-fires
- Reversing de-Baathification policies (e.g., allowing jobs/pensions for Sunnis)
- More precise counterterrorism operations
- Redistributing U.S./Iraq security forces throughout the populace
- Population control measures to better separate out insurgents
- Clear, hold, retain, and build tactics enabled by increased forces
- Disruption and/or containment of Shia militias

Because we can only speculate on which combinations of these factors are most responsible for the reduced violence in Iraq, how can we hope to make an accurate prediction for this type of complex operational environment, particularly if it is done in the future?

GOALS AND METRICS

Now I will discuss goals and metrics for COIN/OIF. Below are quotes from Albert Einstein and Bing West, from his book *The Strongest Tribe*, that suggest it is very important to establish goals and metrics early in complex endeavors:

“Perfection of means and confusion of goals seem to characterize our age.”

– Albert Einstein

“This absence of clear goals and measures would bedevil the [OIF] military effort for years.”

– Bing West

Examples of potential OIF goals and metrics include (1) short-term tactical and operational level goals, (2) short-term operational and strategic level goals, and (3) long-term strategic level goals. In the short term, you can try to reduce the number and impact of IEDs, and other attacks by belligerents, which is still very hard to predict because there is both soft power and hard power at work there. Also in the short term, you can try to defeat or neutralize particular groups of insurgents, which is even harder to predict.

The harder long-term goal, in fact off the charts in difficulty, would be defeating the overall insurgency movement and achieving sustainable stability. Accomplishment of short-term, immediate goals is necessary and somewhat easier to predict, but it is not sufficient to determine overall success. The accomplishments that really constitute success have to do with whole-of government approaches, including a lot of soft power actions, not just physical power. These are very hard for us to get our arms around, particularly in future scenarios, much less ongoing operations.

THE ANALYSIS SPECTRUM

The spectrum of analysis informs decision makers. The spectrum begins with events (e.g., a conference, a thought piece, or an article) that are more qualitative than quantitative, much like this symposium; these events are mostly a one-way information

dissemination by subject-matter experts (SMEs) that help us to understand a complex and/or emerging problem. There are notable exceptions in some papers, certainly, but largely they provide qualitative professional judgment.

The next step in the analysis spectrum entails seminars and workshops that represent interactions, information exchanges, or possibly even debate among SMEs. SMEs interact in this element to define problems and explore the available solution space.

The third step in the spectrum is what I call the sweet spot: where we are today in most irregular warfare analysis. This includes exercises, role-playing, and war games where SMEs actively participate in the exercise; they take their expertise and apply it to the issues being addressed through the exercise. This portion of the analysis spectrum emphasizes human factors in decision-making. However, you cannot obtain statistically valid results from a war game exercise of this nature.

The final element, and most quantitative, of the spectrum involves models and simulations (M&S) that can provide statistically valid results. This M&S activity has historically supported military work but also, in some cases, interagency problems. The dilemma is that we are not where we need to be today, as many panelists have highlighted, on the soft power side, and we do not have reliable M&S tools ready to provide results to help inform decision makers for complex operational environments. We have models that can do limited predictions for certain applications, but it is challenging today to use a tool that can predict how trends might evolve over only a couple of months, much less for a large-scale problem, that could span a couple of years.

We would like to be in this final phase of the analysis spectrum to inform decision makers with quantitative analysis. We are unfortunately still in the third step, where we are mostly getting insights from SMEs, who can be involved in very different ways. SMEs, in the desired final phase, would provide inputs to the model; then analysts would run the model, and the output. This final phase is less dependent on SME interactions and is more

straightforward in terms of analysis. We need to get to this level of analysis if at all possible.

This lack of progression in this final step is difficult for engineers and scientists, who want to see statistically valid results that allow a classic “racking and stacking” of options. We spoiled ourselves over the Cold War years and the post Cold War in military problems because we used to present options that way (i.e., an analysis of alternatives and associated quantitative results) to decision makers to allow them to see the situation on a very objective, quantifiable basis. We are not there yet. Today, we are often simply trying to inform decision makers and help them be aware of potential unintended consequences or results that defy conventional wisdom.

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DATA

Traditional warfare data and information needs can hinder the ability to solve a military-on-military problem. Let us say we analyze a joint warfare-fighting problem in a very complex scenario. It is not easy to get the data, even though it is mostly physical, except for combat and control and “fog of war” issues.

In nontraditional, unrestricted warfare, we have all the instruments of national power trying to affect all the key aspects of an affected society in all operational domains (i.e., physical, cognitive, information, and social). It is daunting to consider the cross product of elements of power and components of the affected society, not only in terms of the sheer scope but also the fact that

the focus is often more on the cognitive, information, and social domains and less on the physical.

There is a lot of soft power there, and we are receiving a lot of information that we are not even sure how to use. Therefore, the database requirements are very important. The only way to simplify it is to ignore Secretary of Defense Gates when he said, “Never neglect the psychological, cultural, political, and human dimensions of warfare,” quoted in Eric Coulter’s featured remarks. Neglect it at your own risk.

THE ENTERPRISE APPROACH

To advance analysis in complex operational environments, we need a more collaborative enterprise approach. There are a lot of areas for collaboration and knowledge sharing (e.g., information databases, data mining approaches, M&S techniques, analytic frameworks and processes, best ways to use SMEs, studies analysis, research scenarios, metrics, human behavior analysis, and interagency approaches. There are a lot of areas where we can learn from each other, and we occasionally get together to collaborate and learn in an ad hoc way. What we really need is a community of interest with a more disciplined, institutionalized approach.

Just on the DoD side alone, I have identified at least 40 organizations that are exercising irregular warfare analysis for their own purposes. They tend to loosely collaborate in an ad hoc way, sometimes at symposia or simply by making a phone call, but there is no formal institutional collaboration that really crosses all the service components and all the other players in DoD.

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Looking into the interagency—whatever they have to offer as far as techniques and databases—the nongovernment, the foreign government, the foreign nongovernment, and international organization side, there are a lot of people who work in stability operations and irregular warfare who can really be major players in helping us to understand cultures, people, data, and information and to make valid decisions. However, we are not working on the analysis side as a community.

In November 2007, Secretary of Defense Gates said, “We also need new thinking about how to . . . integrate government capabilities with those in the private sector, in universities, [and] in other [nongovernment organizations] with the capabilities of our allies and friends.” I hope that the next time I attend a Military Operations Research Society conference that there are more than just two or three interagency participants, and I hope the next time the State Department has a meeting to discuss assessment techniques, valid metrics, or stability operations that there are a lot of people in uniform in attendance.

I hope that we not only have that kind of meeting attendance but that we have formal ways to collaborate across agencies, including overcoming some of the classification issues. So let the dialogue continue, and let the enterprise begin.

PANELISTS

The panelists that we have for today are Dr. Matthew Levitt from the Washington Institute, who has some very good interagency perspectives, particularly from his time in Treasury and his Intel background; Mr. Andrew Caldwell, who is a U.K. exchange analyst in the Office of the Secretary of Defense and has led MORS workshops on irregular warfare; and Dr. George Akst, the Lead Analyst within the Marine Corps Combat Development Command.