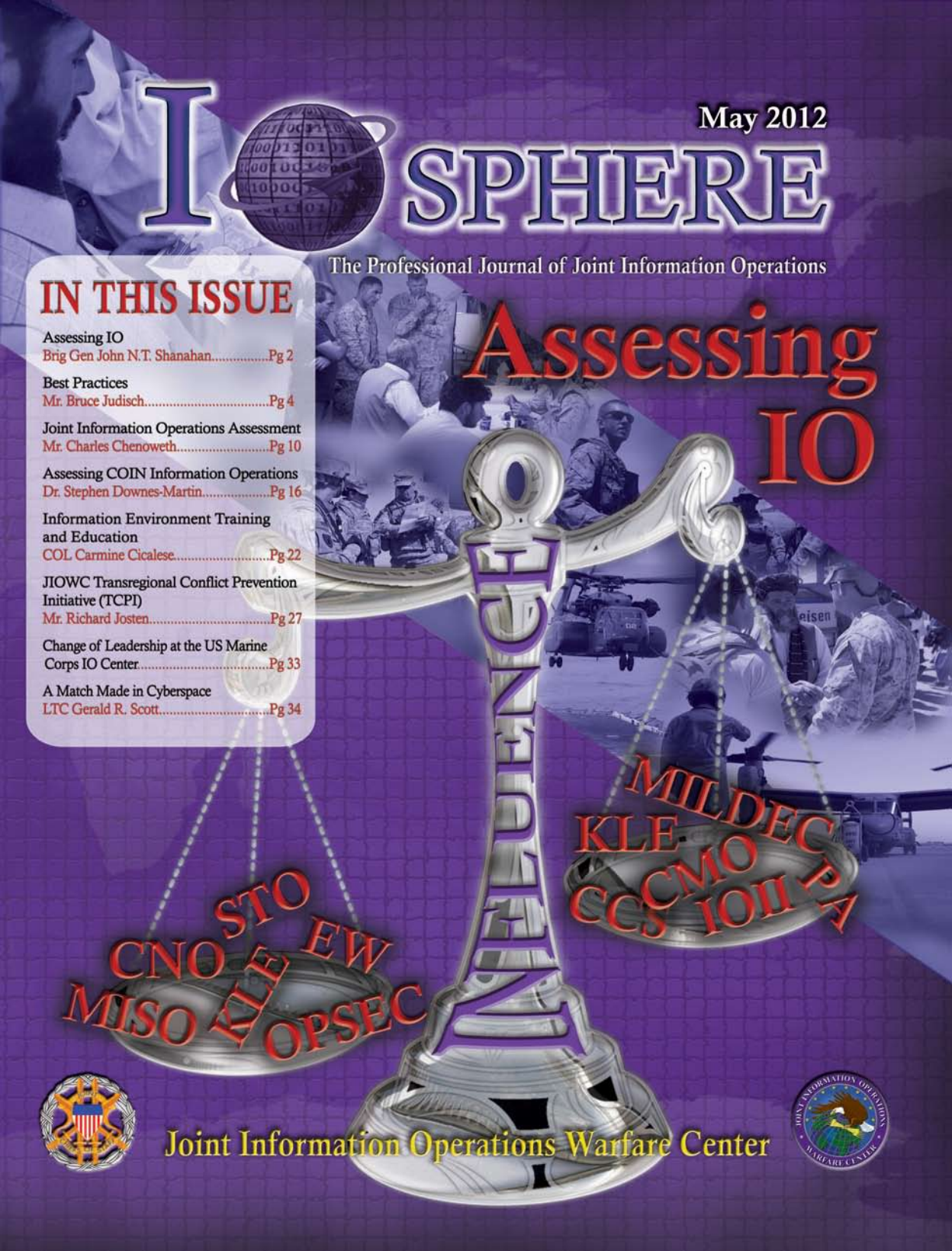
May 2012

IO SPHERE

The Professional Journal of Joint Information Operations

IN THIS ISSUE

Assessing IO



Joint Information Operations Warfare Center

Assessing COIN Information Operations Aimed at the Local Population

By

Stephen Downes-Martin, Ph.D.

Editor's Note: Dr. Stephen Downes-Martin is one of the foremost authorities on operational assessment in DOD. He approaches the assessment question and problem from a commander's objective and decision making framework using logic. Some of his views may be considered controversial but they are worth study and discussion as we find a way to "Assess IO."

If we are to take the population-centric view of counter-insurgency (COIN) seriously, then the perceptions of the population about the Government's legitimacy or the capability and capacity to provide security, governance and economic opportunity, or those of the insurgents, must be a key objective of information operations (IO).[1] It is based on perceptions such as these that individuals and the population at large make the decision to support the Government and its security forces or the insurgents. Therefore, a critical effort of IO in support of COIN must be aimed at influencing these perceptions of the population and of the population's thought leaders towards supporting the Government and its security forces and opposing the insurgents. The same is true for the insurgents, who will be working to influence the population's perceptions and decisions to support them and oppose the Government. The population-centric view of COIN requires a perception war using IO between the Government and the insurgents over the perceptions and decisions of the population. Core to assessing progress in the application of IO in perception warfare is the requirement to forecast the future decisions of a population and individual thought leaders resulting from an IO . Modern research in psychology and decision sciences identifies two fundamental problems that must be addressed: people cannot actually predict their own, let alone other people's, decisions under different information circumstances, and; experienced people become over-confident in their abilities to control situations when those situations are novel. Unless explicitly dealt with, these problems lead IO planners and assessors into believing they are being effective when they are not. This paper describes these problems and suggests methods for circumventing them.[2]

Combat Camera Documenting Damage in Mostar Bosnia-Herzegovina During Operation Joint Endeavor in 1997
Source: defenseimagery.mil

The IO Assessment Question

There is a problem with the 25 Jan 2011 SecDef Memo on "Strategic Communication and Information Operations within DoD"[3] in that it defines the purpose of IO as *"to influence, disrupt, corrupt, or usurp the decision-making of adversaries."* This definition ignores IO aimed at the population and their thought leaders whose decisions ultimately decide the outcome and the success or otherwise of the COIN campaign. Unless one is going to ignore the perceptions of the population being contested by the insurgents (or, worse, treat them as an adversary), then clearly the population-centric view of COIN requires us to expand the IO definition from "adversaries" to "stakeholders" (which includes the insurgents, populations, allies, media, etc.). We must take care to disentangle two very different targets of IO. First, with respect to targeting insurgents the purpose of IO becomes *"to disrupt, corrupt or usurp the decision making of the insurgents in order to influence the insurgents to make decisions that are advantageous to us or disadvantageous to them, or to influence the insurgents to fail to make decisions that are disadvantageous to us or advantageous to them."* Second, with respect to targeting the population and their thought leaders, the purpose of IO becomes *"to influence the perceptions of the population and their thought leaders to encourage them to make the decision to support the Government and their security forces and to oppose the insurgency."*

Whichever the target, one must assess the progress of the IO and we may use doctrine for guidance. The purpose of operations assessment is to support the commander's operational or strategic level decision making. Joint doctrine describes assessment as *"a process that measures progress of the joint force toward mission accomplishment."*[4] Joint doctrine also makes clear that simply measuring progress is insufficient, that the assessment process must *"help commanders adjust operations and resources as required, determine when to execute branches and sequels, and make other critical decisions to ensure current and future operations remain aligned with the mission and military end state."* (JP 3-0, p. IV-31) Operational and strategic decision-making deals with future problems, not current tactical battlefield problems. Therefore, by definition, operations assessment must attempt to forecast future obstacles to achieving operational or strategic objectives in time for

the commander to plan around those obstacles. The most problematic obstacles will be those deliberately generated by the opposing forces. So, in order to provide decision support to the commander within the guidelines laid down by joint doctrine, operations assessment must answer what I call "the assessment question"[5], which for IO has the general form: *"What is the likelihood of the insurgent or the population making the decisions we want, or not making the decisions we do not want (by the specified future date/time), what are the obstacles to influencing those decisions, what is the likelihood of failing to influence those decisions in the ways that we want?"*[6]

Attempting to influence perceptions of, and forecast future decision making by, individuals and groups during COIN and irregular warfare (IW) is highly problematic due to the increasing emphasis of political, economic, social, infrastructure and ideological factors compared to kinetic military considerations, made worse by the ubiquitous presence of media. Nevertheless, influencing the perceptions of others and forecasting their decisions is what one must do to implement and assess an effective IO in modern conflict.

Military Expertise is Not Enough

Traditional tactical attrition warfare is relatively simple to assess. The possible and likely future outcomes of interacting protagonist decisions are driven by physics (for example external ballistics, logistic flows, time and space factors etc.) and the statistics of millennia of small unit actions. We know these physics and statistics rules, and so assessors use these to identify the range of what could happen and what is likely to happen in the future resulting from interacting protagonist decisions. They take into account cultural and morale effects using civilian advisors.

Many of the modern conflicts in which we are interested do not have an associated physics, case studies or statistics on which to base assessment. For example, what are the rules (the equivalent "physics" and "statistics") for identifying possible outcomes of an IO during a COIN in which one or more of the regional powers have nuclear weapons? How many of these have occurred? I suggest near zero is a reasonable answer for most of the problems in which we are interested. Modern operational and strategic level COIN and IW are driven by complex interacting political, military, economic, social and ideological effects, most of which we do not understand or at most have only an intuitive grasp, and for which we do not have a statistically valid sample set of previous situations on which to draw.

A common approach to assessment is to use advisors, often civilians, who are subject-matter experts in the appropriate non-military areas. The assessors draw on their advice to identify the range of possible outcomes to interacting protagonist decisions. Then, drawing on their military experience, they decide which of these outcomes are likely to occur and whether they constitute obstacles to success. The assessors and their advisors have to attempt to forecast decision makers from other cultures. Mirror imaging is a problem when we are interested in friendly decisions in the face of hostile intentions, or are interested in hostile decision-making behaviors. Obtaining experts in hostile thinking generates several problems. Ex-patriots from hostile countries or cultures of interest often have various political agendas, are not necessarily expert in their own country's or culture's political and military decision-making styles (how many disgruntled Americans are truly expert on the political and military culture of the US?); and they face security classification issues. US citizens who are genuinely expert in foreign cultures and who can obtain security clearance are rare, and we can only assume that their interpretations of foreign cultures' decision-making are accurate.

Assessors Can't Predict Decisions

Information operations attempt to influence the decision making of individual thought leaders of a population and of key groups within the population. However, research shows that "People are not aware of the reasons that move them; even an introspective person with incentives to estimate how he or she would have behaved with different information cannot do this."[7] However, this is precisely what we ask IO planners, operators and assessors to do: to imagine that they or their target is in some future (or other) environment, which is different from the present one due to an IO and predict the decisions they or their target would make due to that operation. Since most people cannot accurately predict their own decisions, then they certainly do not make good predictors about other peoples' decisions, i.e. the population's thought leaders or groups within the population. These problems are exacerbated when the decision makers are from a different culture.

Although the advertising industry has great success in predicting and manipulating the decisions of percentages of large populations, it cannot credibly predict the decisions of pre-specified individuals or pre-specified small groups. What one can do is identify the courses of action (COA) probably available to key target decision makers, and then apply pressures to attempt to influence the perceptions of the advantages and disadvantages of these COAs in the mind of the target. This does not allow us to predict the decision a specified decision maker will make, since we know that different people faced with the identical advantages and disadvantages to the same alternative COAs can and do select different COAs based on their choices of which disadvantages to suffer in order to gain which advantages. The more one knows about the individual decision maker, the more likely one can construct an information environment that increases the advantages and decreases the disadvantages in the mind of the target of the decision we want relative to the other COAs. After the target makes a decision, it is extremely difficult to prove he would not have made it absent our IO (even asking the target does not work, since individuals are very poor at predicting what they themselves would decide under different information environments). In addition, we do not and cannot know at what point the target will tip from a decision we do not want to a decision we do want.

The two very different types of operation must be aligned: manipulating the perceptions of the advantages and disadvantages of COAs in the minds of key target individuals (whether thought leaders of the civil population or commanders of the insurgency), and; shifting the perceptions of large specific groups within a population (or within the ranks of the insurgency). Assessing IO focuses on how well we are applying pressure to the advantages and disadvantages in the mind of target individuals and how well we are pressuring local cultural norms concerning the conflict. To do this we need to identify a range of possible future decisions (in response to the pressures) along with an indication as to whether the pressures are increasing or decreasing.

Assessors are Over-Confident

If the conflict environment is novel–as is the case for IO in modern COIN and IW–then assessors and their subject-matter-expert advisors are by definition unskilled at assessing operations within the conflict precisely because they are

Population-centric Information Operations in Counter Insurgency

Disrupt, corrupt, or usurp the decision-making of the insurgents [3]

Counter insurgent perception operations aimed at the population

Influence the population to make the decision to support the Government and oppose the insurgency

Influence perception of local population that the Government is legitimate and has the capability and capacity to provide security [1]

Provide IO assessment to Commander to support decision making [4]

Modern operational and strategic conflicts are complex and novel

Modern operational or strategic conflicts are driven by complex interacting PMESII issues

Influence the insurgents' perceptions about the battlespace

Influence the insurgents to make decisions advantageous to the Government and disadvantageous to themselves, and fail to make decisions advantageous to them and disadvantageous to the Government [1]

Individuals are very poor at predicting the future decisions they would themselves make under different information conditions [7]

People are even poorer at predicting the future decisions other individuals would make under different information conditions

People assessing novel problems are by definition unskilled at those problems

We do not know the PMESII rules for complex modern problems so assessment uses subject matter expert judgment to decide the range of what could happen

We know how to assess tactical attrition warfare

People are good at manipulating an individual's perception of the advantages and disadvantages of small numbers of identified COAs available to that individual

Hard to forecast what future decisions will be made in the absence of IO and the effect of IO on future decisions

An individual's perception of the advantages and disadvantages of a small number of COAs pressures his or her decision

Techniques such as advertising and propaganda influence the perceptions and decisions of large proportions of large groups

Subject Matter Experts tend to be older and more experienced people

The outcomes of interacting protagonist decisions are driven by physics, probability and statistics

Slightly depressed and negative people tend to be better able to think skeptically, but are not good leaders and often not hired as SMEs

Older and more experienced people tend to be overconfident [9]

A leader's perceptions and decisions influences the perceptions and decisions of the group

Align IO aimed at leader's COAs with "advertising style" IO aimed at populations

Unskilled people grossly overestimate their own skill because they do not know how little they know [8]

Overconfident people blur the line between what they can control and what they cannot [9]

Hard to forecast what the future perceptions will be in the absence of IO and the effect of IO on future perceptions

Focus IO on triggering over-reach by the target

Accurate beliefs can lead the target into over optimism

We have to deal with accurate beliefs about us held by the target

Beliefs influence interpretation of information (not the other way around) which in turn influences decision making

Commanders, assessors and SMEs "often believe they already know the answer"

Commanders, assessors and SMEs will be tempted to use tactical attrition measures to assess operational and strategic operations

Launch IO early, do not "wait for the truth"

Beliefs about a situation form early but are resistant to change, even under contradictory information [11]

Modern operational or strategic problems "are not expected to be precisely reproducible"

Commanders, assessors and SMEs "are often under career pressure"

The three risk factors for self deception are present [10]

Commanders, assessors and SMEs will be tempted to use junk arithmetic, bogus logic and cartoon stop lights to do assessment [5]

Focus IO on triggering over-reaction by the target

Inaccurate beliefs can lead the target into making mistakes

We have to deal with inaccurate beliefs about us held by the target

Established Judicial and Scientific methodology is designed to take into account and circumvent deception

Build a context dependent systems thinking framework linking objectives to desired end states based on culture, doctrine, psychological and cognitive biases [5]

Use Devil's Advocacy to remove over-optimism and deception from assessment [5]

Beliefs are founded on underlying culture and common psychological and cognitive biases

Can use knowledge of culture, doctrine, and psychological and cognitive biases to understand pressures on decision makers and influencers

Senior Commanders want credible information and logic on pressuring target decision makers and influencing groups of people

LEGEND

- What do we want?
- Why do we want it?
- Why is this a problem?
- What helps us get it?
- What should we do?

Assessing COIN Information Operations Framework Diagram

novel. They have no statistics and only analogical case studies to draw on, and little proven experience. Two effects demonstrated by psychology research and fraud analysis work together to make this a serious problem for assessment.

First, research shows that people in the lowest quartile of actual competency tend to assess themselves in the second to highest quartile; i.e., their incompetence robs them of the ability to realize they are incompetent. People in the highest quartile of actual competency tend to assess themselves slightly lower but within the highest quartile; that is, they inflate their colleagues' competency compared to their own.[8] Put crudely, unskilled people are unaware of it.

Second, research shows that older and more experienced people tend to be overconfident in their ability to control events that are in fact outside their own control while failing to realize the need for adapting their thinking.[9] Their success in the past leads to confidence, which in competitive situations can mask their lack of competency through successful bluffing. Their successful control of past situations leads them into the mistake of believing their competency applies to current situations involving chance.

Third, three risk factors have been identified in nearly all cases of scientific fraud: the perpetrators "were under career pressure"; they knew, or thought they knew, what the answer to the problem they were considering would turn out to be if they went to all the trouble of doing the work properly; they were working in a field where individual experiments are not expected to be precisely reproducible."[10]

In modern complex conflicts, these effects are likely present for experienced senior people. Their future careers clearly depend on their success in the operation. Older and more experienced people tend to be unaware of their lack of skills in novel situations and tend to be overconfident, and modern complex conflicts are unlikely to be precisely reproducible. The presence of these three risk factors imply that self-deception by assessors must be considered to be likely present amongst senior military assessors and any civilian advisors.

What is to be Done?

First, note a set of four observations: "we tend to perceive what we expect to perceive; mind-sets tend to be quick to form but resistant to change; new information is assimilated to existing images; initial exposure to blurred or ambiguous stimuli interferes with accurate perception even after more and better information becomes available."[11] In summary, beliefs are remarkably robust, even under contradictory evidence. Therefore, an IO should avoid falling into the trap of trying to change a target's mind-set to trigger a desired forecasted decision. An IO should focus instead on strengthening already held beliefs to trigger overreach by the target when we know the target's beliefs are inaccurate, and overreaction by the target when we know the target's beliefs are accurate. The latter is especially useful if the target has accurate beliefs that are shameful to the Government and its security forces. One way of systematically thinking about a target's belief structure is to develop a systems-thinking model of the target's information environment and the target culture's likely reaction to different information.[12]

Second, IO assessors must consciously avoid the trap of being overconfident in their ability to influence and forecast target perceptions and decisions. One way to do this is to use devil's advocacy, in which one argues the optimistic case both for and the pessimistic case against a forecast of a desired outcome (similar to the testing of evidence by the prosecution and defense in a law court), and then makes a final judgment based on the two cases. If the resources are available, have separate teams do the optimistic and pessimistic assessments and argue their respective cases to a senior assessor for final assessment. Otherwise, do the pessimistic assessment first. Be rigorous and ruthless when doing the pessimistic assessment; any squeamishness here will result in challenges to the final assessment in what could be an embarrassing public arena. When judging between the optimistic and pessimistic assessment, pay particular attention to pessimistic items that overwhelm positive ones and to positive items that fix negative ones.

Endnotes:

1. US Army Dept., "Counterinsurgency", Field Manual 3-24 (Washington, DC, 15 December 2006). (FM 3-24 is also issued by Headquarters, US Marine Corps, as Marine Corps Warfare Publication [MCWP] 3-33.5)

2. I will use the term Information Operations (IO) throughout this paper to avoid the sterile debate concerning the use of terms like Psychological Operations and Military Information Support Operations (MISO). These latter are a subset of IO, and so anything true about them is by definition true about IO (but not vice-versa). The types of IO discussed in this paper are clearly psychological in nature; however, I do not discuss the physical means by which they are implemented.

3. SECDEF Memo 25 Jan 11 "Strategic Communication and Information Operations within DoD".

4. US Joint Staff, "Joint Operations", Joint Publication 3-0 (17 September 2006, incorporating change 2, 22 March 2010), p. IV-30; US Joint Staff, "Joint Operation Planning", JP 5-0 (26 December 2006), p. III-57.

5. Stephen Downes-Martin, "Operations Assessment in Afghanistan is Broken: What is to be Done?" Naval War College Review, Autumn 2011, Vol. 64, No. 4, pp 103-125.

6. Note that the adversary not making a decision he would otherwise have made is in fact a decision.

7. Robert Jervis, "Reports, Politics, and Intelligence Failures: The Case of Iraq", Journal of Strategic Studies, Vol. 29, No. 1, 3 – 52, February 2006. See also Robert Jervis, "Understanding Beliefs", Political Psychology, vol. 27, Fall 2006.

8. Kruger J, Dunning, D., "Unskilled and unaware of it: How Difficulties in Recognizing One's Own Incompetence Lead to Inflated Self-Assessments", Journal of Personality and Social Psychology, 1999, Vol. 77, No. 6, 121-1134. See also Timothy Wilson, "Strangers to Ourselves: Discovering the Adaptive Unconscious", Harvard University Press 2002.

9. Malcolm Gladwell, "Cocksure: Banks, battles, and the psychology of overconfidence", The New Yorker July 27, 2009.

10. David Goodstein, "On Fact and Fraud: Cautionary Tales from the Front Lines of Science", Princeton University Press, 2010. See also Michael Shermer, "When Scientists Sin: Fraud, deception and lies in research reveal how science is (mostly) self-correcting", Scientific American, July 2010.

11. "Psychology of Intelligence Analysis", Richards Heuer, CIA 1999.

12. See reference 4 for a description of one way to build such a systems thinking model.

Dr. Stephen Downes-Martin is a Professor in the Warfare Analysis and Research Department of the US Naval War College where his research focus is on decision support, analysis, and assessment methods to deceive decision makers, and how to detect deception. He was a reserve military intelligence officer in the British Army, and is now a US citizen. He received the Superior Civilian Service Award in 2010 for his support in Afghanistan. In spring 2012 he worked with ISAF's Afghan Assessment Group.