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Jason M. Brown, Colonel, USAF

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Advisor: Colonel Daniel F. Baltrusaitis, USAF

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Biography

Colonel Jason M. Brown is a U.S. Air Force intelligence officer assigned to the Air War College, Air University, Maxwell AFB, AL. He graduated from Texas A&M University with a Bachelor of Arts degree in Journalism (1993), and Marine Corps University with a Master of Military Studies (2007) and Master of Operational Studies (2008). He is a graduate of the U.S. Air Force Weapons School, the U.S. Marine Corps Command and Staff College, and U.S. Marine Corps School of Advanced Warfighting. He was the commander of the 13th Intelligence Squadron (Distributed Ground System – 2) and served in the Office of the Under Secretary of Defense (Intelligence) as the Military Assistant to the Director, Department of Defense Intelligence, Surveillance, and Reconnaissance Task Force.

Abstract

In the last 10 years, numerous reports highlighted many obstacles to the integration of ISR in military campaigns and major operations. The root cause of these difficulties is adherence to a centralized, Cold War collection management doctrine focused on production rather than goals and objectives. This Industrial Age paradigm is not agile enough to meet the challenges of military operations in the Information Age; a strategy-oriented approach that balances ISR ends, ways, and means will more effectively meet commanders' needs and expectations.

This paper proposes the purpose of ISR is to increase decision makers' understanding of and ability to influence an environment and the relationships that exist within it; ISR helps decision makers anticipate change, mitigate risk, and shape outcomes. ISR strategy, therefore, is a set of ideas that integrates organizations and balances ends, ways, and means in pursuit of that purpose. This paper will define the problem current collection management doctrine creates for implementing ISR strategy. It will then propose an alternative framework for ISR strategy using a commander's intent for ISR as a method to balance ends, ways, and means. Finally, the paper will offer practical recommendations for commanders and staffs on how to organize and operate to effectively execute ISR strategy.

Introduction

> *As we learned to build an effective network, we also learned that leading that network -- a diverse collection of organizations, personalities, and cultures -- is a daunting challenge in itself. That struggle remains a vital, untold chapter of the history of a global conflict that is still under way.*
>
> -- General Stanley A. McChrystal[1]

> *We don't have a collection problem, we have a precision problem.*
>
> -- Lieutenant General Michael T. Flynn[2]

In the Information Age, strategy has never been more difficult or more important. Military campaigning is now a struggle between multiple, hyper-connected groups to learn and influence faster than others. Because tactical actions increasingly have strategic consequences, military forces must anticipate how their actions could influence groups and how the actions of others could influence them.[3] Generating relevant intelligence has become increasingly difficult as the demands for both precise action and force protection multiply. Modern technology simultaneously challenges and enables intelligence, surveillance, and reconnaissance (ISR) operations. It provides a direct connection between analysts and consumers separated by thousands of miles, but leads to ever-changing sources and methods for coping with complex operating environments and compressed decision cycles.[4]

In the last 10 years, numerous reports highlighted many obstacles to the integration of ISR in military campaigns and major operations.[5] The root cause of these difficulties is adherence to a centralized, Cold War collection management doctrine focused on production rather than goals and objectives.[6] This Industrial Age paradigm is not agile enough to meet the challenges of military operations in the Information Age; a strategy-oriented approach that

balances ISR ends, ways, and means will more effectively meet commanders' needs and expectations.

The U.S. military uses the term ISR strategy frequently but does not specifically define it in doctrine. Given that, this paper proposes the purpose of ISR is to increase decision makers' understanding of and ability to influence an environment and the relationships that exist within it; ISR helps decision makers anticipate change, mitigate risk, and shape outcomes. ISR strategy, therefore, is a set of ideas that integrates organizations and balances ends, ways, and means in pursuit of that purpose.[7] This paper will define the problem current collection management doctrine creates for implementing ISR strategy. It will then propose an alternative framework for ISR strategy using a commander's intent for ISR as a method to balance ends, ways, and means. Finally, the paper will offer practical recommendations for commanders and staffs on how to organize and operate to effectively implement ISR strategy.

The Problem: Root Cause and a Cure

The history of the U-2 in Operation Iraqi Freedom provides an excellent example to illustrate challenges related to ISR strategy. Shortly after start of the 2003 Iraq war, improvised explosive devices (IEDs) began taking their toll on Coalition forces, causing the US military to spend billions and dedicate countless resources toward defeating these threats. This included tasking reconnaissance aircraft to find IEDs prior to detonation.

Intelligence collection managers at the Multi-National Corps-Iraq (MNC-I) headquarters routinely tasked the U-2 to conduct coherent change detection (CCD), a technique of using two radar images taken at different times to determine changes on the ground. In theory, if an insurgent planted an IED during the time between the two U-2 images, an analyst could detect a change on the second image and report the possibility of an IED.[8] Because the collection

management system treated all counter-IED requirements equally, MNC-I "peanut-butter spread" U-2 coverage throughout Iraq.[9] As a result, the U-2 could not capture the second image required for CCD until 4 to 5 days after the first; meanwhile insurgents detonated IEDs within hours of planting them. Also, analysts within tactical units had to submit most collection requests no later than 72 hours in advance of the U-2 mission, long before units planned and executed missions involving ground movement. Finally, collection managers at MNC-I discouraged U-2 operators and analysts from interacting directly with ground units for fear the units would circumvent their rigid collection request process. Consequently, U-2 operations did not integrate with the tactical ground operations they were meant to support.[10] The result was little-to-no evidence the U-2 CCD technique found any IEDs. Despite this lack of evidence, collection managers, concerned more about the percentage of satisfied requirements than flaws in ISR strategy, continued to task the U-2 to hunt for IEDs via CCD for nearly 5 years.[11, 12, 13]

This U-2 example illustrates a decades-old, systemic problem with ISR. During the Cold War, limited availability of collection assets and an Industrial Age approach to intelligence production favored long-term indications and warning problems focused on large-signature collection targets such as Soviet tank divisions. As a result, a system of managing competing requirements emerged that worked well for static environments, but failed to adequately integrate ISR operations into dynamic military operations. In 2002, Markus V. Garlauskas, an intelligence specialist with the Department of the Army, described the doctrinal struggles of ISR:

> Every iteration of warfighting doctrine since World War II has held expectations for intelligence that were not fully met. […] This was highlighted most notably with AirLand Battle, which required quickly finding and selecting targets deep in enemy territory in rapidly changing situations. […] Desert Storm revealed that effectively tracking key mobile targets, a major component of AirLand Battle, was a remote goal. [14]

While a lack of analytic and collection resources contributed to ISR problems, it did not explain why many of the same issues persisted despite a massive infusion of ISR resources into Iraq and Afghanistan.[15] In 2010, the Department of Defense ISR Task Force (ISR TF) conducted a study on the utility of ground moving target indicator (GMTI) platforms, such as the E-8C Joint STARS, in Afghanistan. The study found the utility was "moderate to low" not because GMTI was inappropriate for the operating environment, but because there was not an effective organizational framework to integrate ISR operations to optimize intelligence and tactical effects for the warfighter.[16]

The following describes how the doctrinal collection management process essentially works. An analyst believes a specific intelligence discipline, such as GMTI, can identify a signature related to a particular collection target. The analyst then submits a collection request for the specific intelligence discipline against the target. Collection managers then validate the requirement and ensure it is de-conflicted with requirements already in the system. The collection manager then tags a numerical priority to the collection requirement. A collection manager will task an asset to collect the requirement based on the priority ranking and the frequency with which analysts need information about the collection target.

The ISR TF discovered many drawbacks to this process. First, analysts and collection managers rarely had the appropriate understanding of ISR capabilities to determine the feasibility of requirements. Analysts submitted requirements based on limited ISR training prior to deploying, and collection managers throughout the validation process often rubber-stamped requirements. For example, analysts would submit GMTI requirements over cities failing to recognize GMTI platforms' inability to distinguish moving targets in the clutter of an urban environment. Analysts and collection managers rarely consulted with platform experts when

submitting requirements or any other time prior to collection. Second, there was little incentive for time-constrained analysts to remove older requirements from the collection management system. Collection managers provided little oversight on purging the system of stale requirements, yet would grow frustrated, for example, if their CCD requirements had a 35 percent satisfaction rate.[17] The third problem was requirements were rarely prioritized in a manner that focused ISR on the most important task at any given time. For example, if five different units had counter-IED requirements in the system, all of their requirements likely had the same priority, even though four out of the five may not have planned any ground movement during the collection cycle. Lastly, there was little to no feedback to determine if intelligence collection was meeting commanders' expectations. The system focused on whether ISR resources "satisfied" the requirement, which meant collection occurred, not that collection actually met commander's intent. In short, analysts, collectors, and consumers rarely interacted directly, and ISR planners expended more energy on administering requirements than planning to meet commanders' objectives.[18]

For Afghanistan, Iraq, Haiti, and Libya, intelligence leaders and analysts eventually realized it was not viable to submit formal intelligence requirements then hope all the pieces would arrive at the right time.[19] Military units achieved ISR success when they focused less on managing requirements and more on ends, ways, and means. In other words, they succeeded when they thought through objectives and concepts to allow commanders to arrange ISR resources in time, space, and purpose.

For example, units found some success in countering IEDs by re-focusing ISR from locating the devices to understanding the insurgent network behind them. To meet the *ends* of protecting troops from IED attack, ISR planners adjusted the *ways* from threat warning to

targeting, and the *means* from route scans to man-hunting. This new approach required phasing and layering ISR resources against the right targets at the right time. One Marine unit in early 2012, for example, dedicated 80 percent of their ISR resources to studying insurgent network patterns and linkages. This shift against routine procedures of route scans and patrol over-watch required a great deal of restraint by the unit commander to allow time for ISR efforts to generate targeting intelligence. In this case, the Marine unit learned the path to force protection was indirect, and was only obtainable by carefully thinking through the ISR strategy that would achieve the commander's goals.[20]

The Marines' success juxtaposed with the ineffective Industrial Age requirements-based processes illustrate the need for new thinking about ISR strategy. With that in mind, ISR planners should recognize strategy is "the continuous process of matching ends, ways, and means to accomplish desired goals within acceptable levels of risk."[21] The Marines succeeded because they adjusted ISR ends, ways, and means to achieve their commander's intent. Rather than impose an ISR construct meant for static, warning scenarios, commanders must emulate the Marines' example and create processes that generate similar effects throughout a joint force engaged in a campaign. Other warfighting functions, such as joint fire support, have a solid foundation and track record for achieving that purpose: that is, integrating the ends, ways, and means related to that function with the overall campaign strategy.[22] With that in mind, the next section describes a similar process to integrate ISR strategy in a campaign.

Developing the Commander's Intent for ISR

The goal of an ISR strategy should be to create a problem-centric, versus a requirements-centric, approach to operations. In other words, analysts, platform operators, and consumers should state the problems they need to solve, not simply what requirements they have to satisfy.

Achieving the ends for any military operation requires commanders and their staff to unify the ISR enterprise in support of campaign goals. Articulating intent—the traditional method commanders use to establish unity of effort for organizationally complex operations—is the necessary, but often overlooked, step to specifically focus ISR strategy.

According to the Chairman of the Joint Chiefs of Staff (CJCS), intent is one of the basic principles of mission command, which is the operating construct "critical to our future success in defending the nation in an increasingly complex and uncertain operation environment."[23] Mission command provides leaders dispersed throughout an organization, or many organizations, the ability to take initiative based on an understanding of the purpose and goals of an operation. However, reaching that understanding requires more than writing down a purpose, method, and endstate. The CJCS *Mission Command White Paper* states, "Shared context is a critical enabler of […] intent. In mission command, intent fuses understanding, assigned mission, and direction to subordinates. Commanders will be required to clearly translate their intent (and that of higher) to their subordinates and trust them to perform with responsible initiative in complex, fast-changing, chaotic circumstances."[24] The key to intent, therefore, is to establish shared context. In his article "Communicating Intent and Imparting Presence," Lieutenant Colonel Lawrence G. Shattuck states, "It is not enough to tell subordinates what to do and why. When situations permit, commanders should explain how they arrived at the decision. Explaining the rationale helps subordinates understand and develop similar patterns of thought."[25]

Communicating intent is not just a top-down method to establish unity of effort. ISR operations over the last decade demonstrated the importance of explaining intent to higher headquarters and outside organizations. Major John M. Ives, the J2 for Combined Joint Special Operations Task Force – Afghanistan (CJSOTF-A), explained how his team sold their ISR

strategy for village stability operations (VSO), beginning with the commander's intent, to establish shared context among higher headquarters collection managers and supporting ISR organizations:

> Fearing our phased non-kinetic collection requirements, taken individually, would go uncollected; the J2 ISR team briefed the plan in its entirety to the [higher headquarters] collection managers (CM). The briefing flowed from the operational macro view of CJSOTF-A's mission to the tactical micro view of a village stability platform, followed by the comprehensive collection plan as it related to the phases of VSO expansion. […] Linking the purpose of the collection plan to the individual requirements proved highly productive and informative. The CMs recognized the overall long term phased collection plan as both sustainable and feasible. […] We determined our audience and developed a briefing that displayed, from macro to micro, how the operation worked. Most importantly, we presented the collection plan as Phase 0 or I in the overall scheme of maneuver – linking requirements to specific operation maneuvers. Every stakeholder, support organization, and decision maker needs to know how the collection plan sets the stage for the successful completion of the mission. For example, "If we don't get hyper spectral collection at point X NLT D-5 to deny activity, we have to commit forces to that area, which pulls from the main effort." With this method, we showed how the operation's execution hinged on certain intelligence functions. This increased non-unit ownership and cooperation throughout the community. We cannot underestimate the sense of duty inherently present in the people associated with the mission. Knowing how they fit in the larger picture makes people very focused on mission success. Putting a face to our requirements ensured their successful accomplishment.[26]

All of this suggests that ISR strategy must start by framing the problem, setting mission expectations, and outlining objectives in a way that will guide the activities of disparate groups and organizations at all levels toward a common purpose.

Moving Beyond Priority Intelligence Requirements

The doctrinal method for guiding ISR is through commander-approved priority intelligence requirements (PIR), which are a product of Joint Intelligence Preparation of the Operational Environment, the analytical process that supports decision-making.[27] PIR began as questions ground commanders would ask about enemy forces when they reached a decision point

during offensive maneuvers. These questions would guide intelligence staffs to develop specific collection requirements to answer commanders' questions.[28] Combatant commands adopted PIR as a means to guide strategic-level ISR operations (i.e., are the Soviet tank divisions mobilizing?). When military forces attempted to adopt PIR at the operational level, the decision points disappeared and the questions became stagnant and less precise. As PIR developed into broad, unconstrained questions, analysts and commanders did not consider ISR capabilities and limitations when developing the questions. In other words, they often asked questions that had little to no chance of being answered (i.e., where are the IEDs?).

Broad, unconstrained questions lead to unfocused activities, which create vulnerabilities. In *Collaborative Intelligence: Using Teams to Solve Hard Problems,* J. Richard Hackman describes a series of simulations that pit a team of intelligence professionals—a "blue team"—against a "red team" whose task was to carry out a terrorist strike against a city. Hackman noted the red team consistently won primarily because they had a focus and purpose as a result of being on the offense. The blue team, realizing they had no idea what the red team was planning, began flooding the simulation controllers with broad questions, and consequently drowned in data as the controllers answered. Hackman concluded the blue team had to somehow reorient itself from defense to offense to succeed. That process started with the blue team determining what they would do if they had the red team's capabilities and resources. As Hackman states, "Just that simple cognitive change can re-orient members toward the specific information that has the greatest potential analytic payoff."[29]

For the reasons above, PIR are not an effective mechanism for guiding ISR in major military campaigns.[30] Still, doctrine establishes PIR as the foundation for plans, orders, and concepts of operation that guide ISR resourcing and employment.[31] Within those directives,

commanders must move beyond PIR and focus the ISR enterprise by explaining problems, roles and missions, and objectives in a way that establishes shared context and communicates intent.

Framing Intelligence Problems

Commanders and their ISR staffs must understand *what* they are trying to accomplish before they determine *how* to accomplish it. This starts by examining the campaign goals in order to determine the problems ISR operations must solve. The challenge for ISR in recent campaigns is the lack of a common framework for approaching the problem to consistently drive collection and analysis. From the 1970s through the 1990s, the Defense Intelligence community had a very clear system for profiling potential adversaries in the form of orders-of-battle overlaid with capability assessments. While this machine was adequate for conventional conflicts, it was virtually meaningless to the operations over the past decade, and no framework has clearly arisen to replace it.[32] Intelligence problems have become campaign specific, therefore, planners must make the effort to frame unique problems and not rely on peacetime organizational inertia to define the categories for analysis and collection.

As Hackman asserts above, a red teaming effort is a valuable tool for breaking down the complexity of the operating environment in order to provide focus. That effort can provide planners manageable categories of intelligence problem sets (IPS) to focus ISR planning.[33] Planners must carefully avoid making IPS an order-of-battle by another name. Categorizing with proper nouns (people, places, and things) can result in analytic gaps; therefore analysts and planners should focus on behavior and intent as the criteria to define IPS. For example, in assessing threats to air operations, an intelligence organization may spend a great deal of time studying an integrated air defense system (IADS). What they may overlook is the adversary's primary objective, or end, is not to shoot down aircraft, it is to prevent getting bombed. While

they may pursue this goal by defending their airspace using their IADS, they will likely use other ways and means to achieve their goal—cyber-attack or poisoning the airbase water supply for example. The most appropriate IPS in this scenario would be *adversary attack of our airpower*. This ends/ways/means red teaming drill can provide the analytic framework for a campaign and the starting point for focusing ISR.

Once planners identify IPS, they can then determine where and how to leverage the ISR enterprise by asking a series of questions. What are the capabilities and limitations for ISR against each IPS? What IPS are most relevant in the pursuit of campaign goals? How thin can planners spread resources among IPS while still effectively supporting the campaign? In answering these questions, planners should consider five roles and missions for ISR that emerged in the last decade – understanding the environment, targeting, operational assessment, threat warning, and operations over-watch.[34] The commander must effectively balance these roles and missions by identifying their priority, weight-of-effort, and phasing within the campaign.

Ranking Roles and Missions

Historically, ISR is decisive when focused on the right roles and missions at the right time. The U.S. Navy was victorious during the Battle of Midway primarily because signals intelligence and aerial reconnaissance provided awareness of Japanese operations (threat warning) and reaction to U.S. Navy deception efforts (operational assessment). During the Korean War, the effort U.S. intelligence took to analyze the site of the Inchon Landing (understand the environment) made possible the strategic surprise of the amphibious operation. Efforts to understand and destroy key components of air and air defense capabilities were the decisive factors in both the Six Day War and Desert Storm (targeting).[35] In the fight against terrorist organizations, targeting efforts have been critical, but also counterproductive when

commanders engage in "whack-a-mole" strategies that lose sight of the strategic endstate.[36] As with the IED example, an inappropriate ISR focus can detract from meeting campaign goals.

Much of that misdirection stems from the inherent tension between ISR roles and missions, particularly those that require operational and tactical patience (understanding the environment, operational assessment, and targeting networks) and those requiring short-term support (threat warning, operations over-watch, and targeting specific threats). The counter-IED examples showed how competition for assets between roles and missions requires commanders to make clear choices. If commanders do not clearly articulate priorities between roles and missions, planners will inevitably revert to spreading resources thin, primarily to support short-term operational needs, while potentially making ISR ineffective for all missions. As Marine Captain Devaunt Z. LeClaire states, "Using an ISR asset exclusively to support operations is 'robbing Peter to pay Paul' in that planning based on sound information and intelligence is not possible without robust collections."[37] Choosing to focus ISR on a single problem set does not guarantee success, however. When commanders focus on roles and missions where ISR is ineffective (threat warning for IEDs) they siphon resources away from roles and missions where ISR succeeds (targeting the network).

Another dilemma commanders face when developing an ISR strategy is whether to strengthen ineffective ISR roles and missions. While attempts to strengthen ISR capabilities for threat warning against IEDs were mostly ineffective, efforts to re-orient ISR toward understanding the environment in Iraq and Afghanistan, the population in particular, while simultaneously improving targeting capabilities against insurgents were vital in pursuit of counterinsurgency objectives. Adding additional remotely piloted aircraft (RPA) to the Libya operation improved NATO targeting capabilities helping lead to Gaddafi's demise.[38]

Determining which roles and mission to emphasize or strengthen requires a constant evaluation of the enterprise's capabilities, coverage, capacity, and constraints. ISR planners can use these "4Cs" throughout the development of ISR strategy by asking the following questions about specific resources and the enterprise as a whole. Are the available resources capable in dealing with the problem sets? Is the capacity sufficient to cover the timelines related to the IPS operating scheme? Does the enterprise have adequate coverage, both geographically and within the networks analysts are trying to understand? What constraints prevent the ideal employment of resources? The answers to these questions can help commanders develop obtainable, relevant objectives for ISR.

Stating ISR Objectives

Joint doctrine defines an objective as "a clearly defined, decisive, and attainable goal toward which every operation is directed."[39] Using campaign goals, IPS, roles and missions, and the 4Cs as a foundation, commanders can develop ISR objectives that provide focus and direction to operational and intelligence efforts. ISR objectives can also provide a basis for resource development, deployment, apportionment, and allocation. Staffs struggle constantly with these activities because collection requirements provide the foundation for ISR resourcing decisions. Requirements are difficult to regulate, which inevitably leads to an ever-increasing demand for resources, and a misrepresentation of needs and risk. The U-2 was continually tasked to conduct CCD, for example, because the requirement satisfaction rate was always low, and collection managers felt they needed to fix this shortfall. If, instead, the ISR staff used an objective like "Provide threat warning for convoys by delivering intelligence to ground units of probable IED locations," U-2 CCD missions would have received appropriate scrutiny when they did not produce results, or put another way, when the ways and means did not achieve the

ends. ISR objectives which flow from commander's intent and appropriately defined IPS provide a better foundation for ISR assessment.

Objectives provide a common terminology to prioritize the things a commander must *know* with what he must *do*. This is important for working through the competition between roles and missions (i.e., should planners pull resources off targeting missions to conduct operations over-watch?). As the roles for all types of resources continue to blur—traditional fire and maneuver assets gathering intelligence, for example—objectives offer a clear process to prioritize both operational actions and intelligence collection for infantry squads, fighter pilots, remotely piloted aircraft crews and cyber operators alike. Successfully achieving campaign goals increasingly depends on the military's ability to integrate intelligence and operations to a degree where they become mutually-supporting.[40] Finally, objectives provide a foundation for implementing mission command through mission type orders within an ISR enterprise.[41] Mission type orders (MTO) convey purpose and intent and facilitate the interaction between ISR consumers, platform operators, and analysts. [42] This is the surest way to establish shared context within the organizationally complex ISR enterprise.

The four components of a commander's intent for ISR—campaign and operational goals, intelligence problem sets, ISR roles and missions, and ISR objectives—are the foundation for ISR strategy. Intent is more than a way to establish shared context and unity of effort; it is an investment. Hackman observed during his study of intelligence teams, "An up-front investment in developing a performance strategy that takes explicit account of a team's task requirements, its performance context, and the outcomes it is charged with achieving can generate substantial dividends later."[43] The largest dividend of intent is the foundation it establishes for leading the

ISR enterprise. As organizations become more connected and operations become more complex, leadership in implementing intent matters infinitely more than management.

Implementing ISR Strategy

In addition to a conceptual framework, commanders and their staffs require a practical method to develop and carry out ISR strategy given Information Age capabilities and challenges. Iraq provided an example of a central planning staff exercising tighter controls to regulate and synchronize ISR in an attempt to deal with emerging organizational and operational complexity.[44] Centralized ISR planning as part of a joint operational planning process may work well in the early phases of a campaign and in high-risk scenarios, however, as operations progress the ISR enterprise will naturally disaggregate organizationally, structurally, geographically, and procedurally.[45] Headquarters staffs attempting to centrally control diversified and distributed processes and organizations can stifle the ISR enterprise's ability to adapt to changing conditions in a campaign. How should ISR strategy evolve to allow planners at different levels to creatively employ ISR resources to achieve operational and campaign objectives? This section will describe how planners can develop and implement an ISR strategy that is strong enough for higher headquarters to guide operations and flexible enough to adapt to changes in lower-level commanders' intent. Despite lessons from Iraq and Afghanistan, joint doctrine still emphasizes a centralized method for developing ISR strategy, failing to account for the complex command relationships or the increasingly collaborative nature of ISR planning that affects the full spectrum of operations.[46] Rather than focus on a centralized point for planning, commanders should concentrate on synchronizing ISR strategy teams at multiple echelons and components through appropriate resourcing, relationships, and processes.

While not using the term "ISR strategy teams," in recent campaigns formal or working groups emerged within organizations to flatten hierarchical structures and integrate expertise to improve ISR operations. Commanders and their ISR staffs can discern practical methods to integrate these teams by specifically examining ISR strategy improvements between the height of operations in Iraq (2006-2008) and Afghanistan (2010-2012). There were significant differences between each campaign that account for these improvements. Because Afghanistan is more rural than Iraq, smaller units owned larger areas, which led to lower ranks leading more fluid operations. This dynamic led commanders to more heavily rely on and integrate their intelligence staff into planning processes as the earlier Marine example showed. Suddenly platoons operated like special operations teams and demanded to be treated with some level of maturity in their decisions and to be given more freedom to interact with ISR units once International Security Assistance Force Joint Command (IJC) allocated resources.[47] Another factor impacting planning integration was the heavy Coalition presence in Afghanistan versus Iraq. Coalition partners, in particular the British, used more flexible planning structures than the US-dominated organization in Iraq.[48] Eventually, there was also a much larger armada of ISR assets available to units in Afghanistan compared to Iraq, which necessarily improved integration at the tactical level.[49] However, the most important lessons on ISR strategy from Afghanistan are not related to ostensible situational advantages, but rather come from structural and procedural improvements that reduced friction, promoted planning integration, and encouraged operational creativity.

Identifying the Lessons

Policies related to overcoming fractures between organizations became the catalyst for improvements in ISR strategy. At various points in recent campaigns, tension and friction

occurred whenever planners could not agree on appropriate ISR processes, as the commander in Iraq, General Raymond Odierno, revealed in a 2008 article:

> Because of the diverse and complex needs of commanders in a COIN environment, our brigade combat team (BCT) commanders need to "own" not only their organic ISR assets but also theater- and corps-level systems for given periods based on the corps commander's priorities. External agencies do not have the perspective, agility, or grasp of the full range of ISR systems in theater to responsively integrate ISR assets into COIN operations.[50]

This excerpt reflects the debate between MNC-I and the Combined Forces Air Component Commander over ISR planning policies. Although General Odierno accurately identified a lack of perspective of external agencies, MNC-I failed to recognize ISR integration was far more complicated than "owning" assets or establishing supported/supporting relationships. For instance, the earlier CCD example showed MNC-I's failure to effectively grasp the 4Cs of ISR strategy. In the same article, General Odierno discussed a mechanism which overcame some of this tension:

> One initiative that has helped tactical commanders in Iraq integrate theater ISR assets into their operations is the presence of Combined Air Operations Center (CAOC)/Combined Forces Air Component Command (CFACC) ISR liaison officers (ISRLOs) at division headquarters. Providing these Air Force subject matter experts as advisors to division staff sections and as key members of the intelligence-operations team has been a combat multiplier. It would also be extremely helpful to have these experts at BCT level to provide the CAOC and related organizations with insight into the operations they support.[51]

Embedding ISRLOs into units created a de facto ISR strategy team that effectively flattened much of the hierarchal planning process. While General Odierno did not acknowledge the full purpose or potential of ISRLOs, he recognized the need to deploy them to lower echelons where the proverbial rubber met the road. This would eventually become the policy in Afghanistan.

At the height of operations in Afghanistan, commanders made two key structural improvements which enhanced ISR strategy compared to Iraq. First, the U.S. dedicated more manpower, including ISRLOs, to ISR planning at multiple echelons including the Regional Command (RC) level and below. ISRLOs who demonstrated expertise and leadership received continuous praise from ground commanders and were critical to integrating ISR capabilities from various components and agencies in support of their host units. Second, Afghanistan offered greater incentives for planners to think through ends, ways, and means rather than flooding the system with requirements. While both headquarters in Iraq and Afghanistan conducted regular Joint Collection Management Boards in order to allocate resources, the former focused on the number of operations and requirements as a means to justify allocation, while the latter encouraged analytic rigor in its allocation process. Subordinate units in Afghanistan more often had to explain not simply *what* they needed but *how* they would employ ISR resources prior to allocation. The introduction of the ISR MTO concept, which provided tactical units greater flexibility in executing ISR operations and an organizational construct to share operational context, offered another incentive to develop integrated ISR strategies. IJC required detailed coordination and planning before approving ISR MTOs. In short, higher headquarters in Afghanistan focused more on prioritization, and units were more likely to receive resources and/or more flexibility when they invested intellectual capital in ISR strategy instead of simply submitting requirements. This second structural improvement—designing a system that encouraged better planning—could not have happened without the first improvement—resourcing units with the right people to carry out that planning. [52, 53]

Building the Team

Given those lessons, how should ISR strategy teams organize and operate? Depending on the nature of the campaign, level of headquarters, and phase of operation, some ISR strategy teams will be ad hoc, while others will be formal and enduring. When building ISR strategy teams, leaders must take into account specific functions and characteristics. Most importantly, ISR strategy teams must include the right mix of analysts, capability experts, and consumers from throughout the commander's staff and external organizations, who have the right planning, critical thinking, and leadership abilities.[54] The optimal place for an ISR strategy team is a location within an existing staff structure, operations center, or fusion center that ensures 1) the integration of ISR with other warfighting functions, 2) access to the commander to ensure the team understands his or her intent, and 3) the ability to break the monotony of a "battle rhythm" when necessary.[55]

Describing how Joint Special Operation Task Forces designed their ISR planning teams in Iraq and Afghanistan, Lieutenant General Flynn wrote in 2008, "[T]he organizational imperative was simple: get the best people and bring them together face to face in a single location collaborating on a target set while orchestrating reachback support to their national offices."[56] But what if face-to-face interaction is not feasible? Organizational and logistical constraints may lead to a distributed ISR strategy team facilitated by modern technology. While not always ideal, there were numerous examples in Afghanistan where a distributed construct worked when members were focused and determined in launching planning efforts, building relationships, and remaining relevant.[57] Formal, ad hoc, face-to-face or distributed, building a team that includes the right leaders and experts, with the right interpersonal skills, is the foundation for ISR operational success.

Effective teams must include active leadership and expertise to break through the inherent imperfection of processes, technology, and organizational structure. Simply relying on formal, impersonal processes will not sufficiently focus the enterprise to solve a unit's intelligence problems. ISR strategy teams must address challenges through leadership, tradecraft, policy, and technology…in that order. Too often, unfortunately, commanders and staffs approach problems in the reverse. As Marine LtCol Timothy Oliver, who served five tours in Iraq and as an intelligence battalion commander in Afghanistan, asserts, "Any success or failure of intelligence stems from the same source as other types of military failures, from the leadership. Intelligence must be an 'all hands' effort, and commanders, consumers, and producers all must drive this process and insist on its success."[58]

Fostering Relationships

ISR strategy consistently succeeds when team leaders overcome the challenges of multi-organizational complexity and lack of unity of command by building solid personal relationships. Alternatively, poor relationships directly contribute to ineffective ISR strategy as General Odierno's article implied. Because every commander's level of confidence and perception of risk is linked to ISR, competition for resources between organizations can quickly become personal. Trust can easily break down when teams begin to stereotype along organizational lines and argue over command relationships. Trust depends on selecting knowledgeable team members who can break down cultural and organizational barriers in pursuit of mission accomplishment and installing the right leaders to direct their efforts.

Barriers inherent in formal command relationships should not provide an excuse for failing to invest the time and energy necessary to create the trust required within the ISR

enterprise. Leaders overcome barriers and create trust by demonstrating transparency, empathy, and competence. Major Ives provides an example:

> Our ISR team's proficient grasp of collection management created a mutual trust with the IJC ISR planners. Over the next few days, our two teams worked hand-in-hand towards a theater-wide effort supporting the original purpose of the focus area collection without disrupting the IJC priority collection plan for ongoing named operations.

Major Ives illustrates the success well-resourced teams had when operating within a system that incentivized both competence and interaction. Valuing competence and creating trust resulted in a virtuous circle which reinforced itself over time, leading to a willingness to accept greater risk to obtain greater payoff in future ISR operations.

Testing the Process

Trust alone, however, will not deliver success. ISR strategy teams must also build an effective structure and process to meet mission requirements. Other than identifying the need to integrate effectively within operational planning processes, any other prescriptive guidance on the effort to develop ISR strategy would likely not apply across a broad spectrum. Leaders must avoid making the campaign fit a doctrinal process, and must instead design a process to fit the campaign. That said, planners should apply several tests to any ISR strategy development process.

First, does the process minimize and scrutinize assumptions? Unlike fire and maneuver capabilities, ISR does not have an adequate test and evaluation process. As a result, ISR planners rely heavily on assumptions about capabilities versus collection targets. Minimizing these assumptions requires an ongoing red team effort combined with adequate operational assessments to continuously evaluate assumptions. Planners may assume a sensor is adequate

for finding IEDs, but must develop a feedback loop among ISR strategy teams that focuses on the interplay of enemy and friendly activities to determine the assumption's validity.

Second, does the process minimize gaps and seams in a way that creates a problem-centric ISR enterprise? As mentioned earlier, an evolving campaign will naturally disaggregate ISR, and teams must work through the disaggregation by refining the process to make the enterprise act as a whole. Organizing constructs including ISR objectives, MTOs, or a find-fix-finish-exploit-analyze targeting model can provide the synchronization needed for a problem-centric approach.[59]

Third, does the process provide checks and balances needed to ensure the ISR strategy is feasible, acceptable, and relevant? The challenge for higher-level headquarters is to develop an ISR strategy that uses resources effectively, but also provides units the flexibility to innovate in addressing intelligence problem sets. An unregulated requirements-based system can lead to a waste of resources when units pad their requirements to obtain a baseline of allocated assets, or submit requirements without considering the 4Cs. These unfiltered requirements require oversight to optimize available resources and comply with the theater commander's priorities. IJC attempted to rein-in uncontrolled requirements submission by objectifying the process of allocation through designing and communicating a prioritization and weighting scheme to subordinate units. IJC required each unit to provide the rationale for ISR requests, but then worked with all units in order to optimize the ISR enterprise in support of legitimate, high-priority requirements. IJC also used an assessment process to ensure units used resources in accordance with priorities during execution. This method represented both a prioritized and collaborative ISR strategy. As Major Ives illustrated, teams at multiple echelons had to

collaborate to develop ISR strategy in parallel to develop transparency and trust in order to make the system function effectively.

Finally, does the process allow for resources to quickly mass and disperse with a minimal amount of friction? Losing ISR resources to another unit or mission often creates a significant emotional event for commanders and staffs, exacerbating the tensions described earlier. This can cause staffs at multiple levels to expend energy on organizational knife fights instead of future planning. Organizations can overcome this friction when commander's intent is adequately developed, updated, and communicated in a way so that subordinate commanders perceive the allocation decisions are consistently in line with campaign goals. IJC's prioritization and weighting scheme enabled massing and dispersal while limiting friction because ISR stakeholders at all levels understood IJC made their allocation decisions in line with commander's priorities.

When designing processes to develop ISR strategy, commanders and staffs should consider important lessons from Iraq and Afghanistan. Lessons from these operations demonstrate the need for dedicated development teams at multiple levels and components to continually refine ISR strategy. Investment in leadership, manpower, relationships, and balanced processes are critical to making these teams effective. This focus provides the best method to ensure shared context and expertise throughout the enterprise. It also overcomes the disaggregation inherent in the requirements-based collection management process. As Lieutenant General Flynn concludes:

> If we do more synchronized planning with greater rigor right from the start, using our operations planning process, we can provide our subordinate units greater flexibility and less uncertainty. At the end of the day, we achieve success in combat when subordinate units collectively understand the mission and higher

> commands have properly resourced them for success. Then and only then can they accomplish a well-synchronized campaign plan.[60]

Conclusion

ISR strategy should provide clear, focused direction, and create a shared context that orients the ISR enterprise toward problem solving over production. Articulating intent, as the CJCS asserts, is the best method to achieve these aims. The commander's intent for ISR should define intelligence problems and identify the critical ISR roles and missions to address those problems based on the capabilities, coverage, capacity, and constraints of available resources. Intent must guide the enterprise and joint forces toward achieving specific ISR objectives that support campaign goals. In short, intent balances the ends, ways, and means of ISR operations and facilitates leaders' efforts to integrate intelligence and operations in ways modern military campaigning demands.

The key to developing and implementing ISR strategy is finding ways to move organizations, relationships, and processes toward collaboration, trust, and incentives. During recent operations, leaders created ISR strategy successes when they overcame organizational inertia and doctrinal restrictions that impeded integration. This happened when leaders focused teams of experts at multiple echelons on ISR strategy. These teams balanced the needs of lower-level commanders with campaign goals, and reduced friction between organizations that inevitably occurs in operations involving life and death.

ISR's role in building confidence and reducing risk naturally leads to competition over resources. Less successful attempts to reduce pressure and friction in recent campaigns included throwing resources at problems or spreading resources evenly among organizations without adequately balancing ISR ends, ways, and means. The struggle to counter IEDs offers an

example of how organizations can obsess over numbers while losing sight of operational realities. The last decade drove significant discovery learning on ways to make ISR relevant in high-tempo operations. Joint forces must codify the hard lessons learned on evolving ISR processes that reduce friction and increase timeliness while retaining a focus on priorities and effectiveness. Failure to do so will mean future commanders and their staffs will once again spend energy and resources chasing white whales instead of developing winning ISR strategies.

When faced with Information Age challenges and their impact on ISR operations, many still insist better adherence to collection management doctrine and processes is the answer to those challenges. Departure from proven doctrine has certainly led to disaster for military forces in the past. However, joint ISR doctrine has yet to prove itself in major operations without significant modification by commanders and their staffs. If there is one fundamental flaw in current joint doctrine, it is this: ISR is *managed*, while other forms of operation are *led*...and doctrine that relies on management over leadership will fail time and again in the heat of battle.

Notes

1. GEN Stanley A. McChrystal, "Becoming the Enemy," *Foreign Policy*, no. 185, 2011, 70.
2. LTG Michael T. Flynn, “ISR in Counterinsurgency Capability Area Deep Dive” (opening remarks, Arlington, VA, 26 April 2011).
3. Gen Charles C. Krulak, "The Strategic Corporal: Leadership in the Three Block War," *Marines Magazine*, January 1999, http://www.au.af.mil/au/awc/awcgate/usmc/strategic_corporal.htm (accessed 31 January 2013). Former USMC Commandant Gen Charles C. Krulak’s seminal article on the “Strategic Corporal” remains one of the best descriptions of the modern operating environment.
4. Lt Col Jason M. Brown, “Rethinking the Network,” *C4ISR Journal*, March 2010, 32-34.
5. Patrick W. Lueb (Department of Defense ISR Task Force), interview by the author, 15 October 2012. Mr. Lueb is the lead action officer for the ISR TF Mission Management project. The project began in 2010 after an ISR TF study on the effectiveness of GMTI in Afghanistan. Based on the results of the study, General James E. Cartwright, the Vice Chairman of the Joint Chiefs of Staff, directed the ISR TF to lead a doctrine, organization, training, materiel, leadership and education, personnel and facilities (DOTMLPF) change recommendation, or DCR, to improve ISR mission management. The author was the lead project officer for the doctrine and organization working group for the DCR effort. The ISR TF found several documents, including reports from the General Accounting Office (GAO-12-396C, GAO-11-224C) and 2010 Joint Forces Command ISR Summit, which highlighted similar integration challenges identified during the GMTI study.
6. Lt Gen David A. Deptula and Maj R. Greg Brown, "A House Divided: The Indivisibility of Intelligence, Surveillance, and Reconnaissance," *Air & Space Power Journal*, vol. 22, no. 2, 2008, http://www.airpower.au.af.mil/airchronicles/apj/apj08/sum08/deptula.html (accessed 1 November 2012). Lt Gen Deptula and Maj Brown describe the inadequacies of Industrial Age intelligence processes in the Information Age, and argue to replace them with integrated ISR functions.
7. This is the author’s own definition of ISR strategy, which was crowdsourced from several colleagues’ suggestions.
8. Rick Atkinson, "There was a Two-Year Learning Curve…and a Lot of People Died in those Two Years," *The Washington Post*, 1 October 2007, http://www.washingtonpost.com/wp-dyn/content/article/2007/09/30/AR2007093001675.html (accessed 10 September 2012).
9. Stephen C. Price, Jr., "Close ISR Support: Re-organizing the Combined Forces Air Component Commander's Intelligence, Surveillance and Reconnaissance Processes and Agencies" (thesis, Naval Postgraduate School, Monterey, CA, December 2009), 156, http://edocs.nps.edu/npspubs/scholarly/theses /2009/Dec/09Dec_Price.pdf (accessed 28 July 2012).
10. Lt Col Michael L. Downs, "Rethinking the Combined Force Air Component Commander's Intelligence, Surveillance, and Reconnaissance Approach to Counterinsurgency," *Air & Space Power Journal*, vol. 22, no. 3, 2008, http://www.airpower.maxwell.af.mil/airchronicles/apj/apj08/fal08/downs.html (accessed 1 February 2013).

11. Atkinson. Also, the author had detailed knowledge of U-2 and other ISR operations in Iraq and Afghanistan between 2004 and 2010. He coordinated ISR operations for Iraq and Afghanistan from the CAOC in Qatar in 2004 and 2006. He forward deployed to Iraq and Afghanistan for ISR planning and strategy forums several times between 2004 and 2009. He was the commander of an intelligence squadron that planned U-2 missions in Iraq and Afghanistan from 2008-2010.

12. Statement of Honorable John J. Young, Jr., Director of Defense Research and Engineering, in House, Committee on Armed Services, Subcommittee on Terrorism, Unconventional Threats and Capabilities, 21 March 2007, http://www.dod.mil/dodgc/olc/docs/TestYoung070321.doc (accessed 1 February 2013). According to Director Young, "Synthetic Aperture Radar Coherent Change Detection (SAR CCD) enables tactical users to detect minute changes in terrain due to human activity or develop a persistent picture of activities within an area of interest. Currently, SAR CCD requires post mission processing and extensive human analysis to develop a product that is time late and not easily accessible by tactical decision makers."

13. Joint Airpower Competence Centre, NATO Air and Space Power in Counter-IED Operations, July 2011, http://www.japcc.de/fileadmin/user_upload/Reports/CIED_2/NATO_Air_and_Space_Power_in_Counter-IED_Operations._A_Primer-Second_Edition.pdf (accessed 1 February 2013), 13-29. This NATO primer discusses airborne CCD techniques for counter-IED missions.

14. Markus, V. Garlauskas, "Intelligence Support for Military Operations." *Joint Force Quarterly*, no. 33, winter 2002/2003, 105.

15. Between 2008 and 2012, the ISR TF directed the increase of ISR resources in Iraq and Afghanistan totaling over $11 billion.

16. Lueb, interview.

17. This is a synopsis of a discussion the author had with MNC-I collection managers in August 2008 regarding the ineffectiveness of CCD.

18. Lueb, interview. The GMTI study concluded most of the current ISR effort, particularly at the Joint Task Force level, focused on asset allocation and requirement administration rather than planning to meet objectives.

19. Col Rachel A. McCaffrey (Col McCaffrey was Chief, ISR division at the Poggio Renatico CAOC 5 for Operation Unified Protector), email to the author, 20 January 2013. Col McCaffrey provided remarkable insights (and editing skills) for this paper that are greatly appreciated.

20. Lueb, interview. Mr. Lueb cited a lessoned learned report from 2nd Battalion, 9th Marines for their role in Operation Psarlay Taba. See 1st Lt Chris Harper, "Marines, ANA in Marjah shift focus to counternarcotics," Afghanistan International Security Assistance Force, 4 July 2012, http://www.isaf.nato.int/article/news/marines-in-marjah-shift-focus-to-counternarcotics.html (accessed 1 February 2013), and Cpl. Alfred V. Lopez, "Video: Perspectives on Operation Psarlay Taba: Lt. Col. Michael Styskal," Defense Video and Imagery Distribution System, 30 June 2012, http://www.dvidshub.net/video/148617/perspectives-operation-psarlay-taba-lt-col-michael-styskal (accessed 1 February 2013).

21. Air Force Doctrine Document 1, *Air Force Basic Doctrine, Organization, and Command*, 14 October 2011, 4.

22. Joint Publication 3-09, *Joint Fire Support*, 30 June 2010, chapter 2, and United States Joint Forces Command, *Joint Fires and Targeting Handbook*, 19 October 2007, chapter 2.

23. GEN Martin E. Dempsey, chairman, Joint Chiefs of Staff, *Mission Command White Paper*, 3 April 2012, 3, http://www.jcs.mil/content/files/2012-04/042312114128_CJCS_Mission_Command_White_Paper_2012_a.pdf (accessed 1 February 2013).

24. Ibid., 5.

25. LTC Lawrence G. Shattuck, "Communicating Intent and Imparting Presence," *Military Review*, March-April 2000, 71.

26. MAJ John M. Ives, "Back to Basics: Reenergizing Intelligence Operations," *Small Wars Journal*, http://smallwarsjournal.com/jrnl/art/back-to-basics-reenergizing-intelligence-operations (accessed 18 January 2013).

27. Joint Publication 2-01.3, *Joint Intelligence Preparation of the Operational Environment*, 16 June 2009, I-10.

28. LTC William G. McDonough and LTC John A. Conway, "Understanding Priority Intelligence Requirements," *Military Intelligence Professional Bulletin*, vol. 35, no. 2, April – June 2009, 18.

29. Hackman, J. Richard, *Collaborative Intelligence: Using Teams to Solve Hard Problems*, San Francisco: Berrett-Koehler Publishers, 2011, 19.

30. Lueb, interview. Commanders turned to other criteria including named operations (Afghanistan) and lines of operation (Haiti) as the primary guiding mechanism for ISR operations.

31. Joint Publication 2-01, *Joint and National Intelligence Support to Military Operations*. 7 October 2004, III-8.

32. Chris Whitlock (former president of National Interest Security Company and Edge Consulting), email to the author, 2 November 2012.

33. Headquarters USAF/A2. *Theater ISR CONOPS*, Washington DC, 4 Jan 2008, 6. The author wrote the *Theater ISR CONOPS* with Lt Col Max Pearson, and borrows/evolves the concepts of IPS, ISR Objectives and Commander's Intent for ISR for this paper.

34. This list of roles and missions is not outlined in doctrine, but is derived from the author's own experience and suggestions from colleagues.

35. Elder, Gregory "Intelligence in War: It Can Be Decisive," *Studies in Intelligence*, vol. 50, no. 2, 15 April 2007, https://www.cia.gov/library/center-for-the-study-of-intelligence/csi-publications/csi-studies/studies/vol50no2/html_files/Intelligence_War_2.htm (accessed 8 April 2011).

36. Maj Jason M. Brown, "To Bomb or Not to Bomb?: Counterinsurgency, Airpower, and Dynamic Targeting," *Air and Space Power Journal*, vol. 21, no. 4, 2007, http://www.airpower.maxwell.af.mil/airchronicles/apj/apj07/win07/brown.html (accessed 1 February 2013).

37. Capt Devaunt Z. LeClaire, "ISR Integration: The Marine Corps can learn from British forces," *Marine Corps Gazette*, vol. 95, no. 6, 2011, 52.

38. Thomas Harding, "Col Gaddafi killed: convoy bombed by drone flown by pilot in Las Vegas," *The Telegraph*, 20 October 2011,

http://www.telegraph.co.uk/news/worldnews/africaandindianocean/libya/8839964/Col-Gaddafi-killed-convoy-bombed-by-drone-flown-by-pilot-in-Las-Vegas.html (accessed 1 February 2013).

39. See "objective" in Joint Publication 1-02, *Dictionary of Military and Associated Terms*, 8 November 2010 (as amended through 31 January 2011).

40. Lt Col Jason M. Brown, "Fighting for Intelligence: The Design of Intelligence-Led Operations" (master's thesis, Quantico, VA: U.S. Marine Corps School of Advanced Warfighting, 2008), 1-2.

41. Dempsey, 5.

42. Capt Jaylan Michael Haley, "An Evolution in Intelligence Doctrine: The Intelligence, Surveillance, and Reconnaissance Mission Type Order." *Air & Space Power Journal*, vol. 26, no. 5, 2012, 41.

43. Hackman, 19.

44. Lt Col Stephen C. Price (Lt Col Price was an ISRLO in Iraq from May to November 2007), email to the author, 23 January 2007. This account was also based on the author's personal observations.

45. Maj Valerie A. Long, "Operational Design and ISR and Zombies -or- How operational design can help to re-aggregate joint ISR at the theater and component levels" (thesis, Maxwell AFB, AL: Air Command and Staff College, 2010) 6-9.

46. Joint Publication 2-01, xii. Doctrine defines the joint intelligence operations center (JIOC) as the focal point for intelligence planning, collection management, analysis, and production.

47. MAJ John M. Ives, email to the author, 14 January 2013.

48. Lt Col Max Pearson (Lt Col Pearson was an Air Force Distributed Common Ground System liaison officer deployed to the CAOC and Afghanistan from January - April 2010), email to the author, 14 January 2013.

49. Maj Lee Thompson (Maj Thompson was first flight commander of the MC-12W ISR exploitation cell in Kandahar, Afghanistan from March - September 2010), email to the author, 17 September 2012.

50. GEN Raymond T.Odiero, Nichoel E. Brooks, and Francesco P. Mastracchio, "ISR Evolution in the Iraqi Theater," *Joint Force Quarterly*, no. 50, 2008, 55.

51. Ibid.

52. The content of this paragraph was derived from numerous interviews and emails by the author to former and current members of the US Central Command (CENTCOM), IJC, and CFACC staffs. These include: Lt Col Price; Lt Col Michael Johanek (currently assigned to CENTCOM J2), interview by the author, 11 January 2013; Maj Peter Halsey (Maj Halsey was the IJC deputy CM and CM from November 2011 to May 2012), email to the author, 19 January 2013; Capt Jaylan M. Haley (Capt Haley was ISRLO at the division and battalion levels in RC South and RC Southwest from October 2010 to April 2011); and Maj Eduardo Pires (Maj Pires was deployed to the CAOC in fall 2008 and is currently deployed to the IJC ISR division in Kabul, Afghanistan), email to the author, 18 January 2013.

53. According to Halsey, Haley, and Pires, ISR planners in Afghanistan still faced plenty of challenges. IJC allocated resources based on the priority of named operations. The RC with operational priority was guaranteed a certain amount of resources and often did not invest in planning until after allocation. Attempts at integration were often last-minute, and not nearly as

effective as integration based on a more rigorous up-front planning effort to overcome ISR disaggregation. Much of this was due to ISR planners varying significantly in their knowledge, influence, and capability. While the process was not ideal, there was considerable improvement compared to Iraq making it worthwhile to examine the policies and structure that led to those improvements.

54. Hackman, 151.

55. While this paper recognizes there is not a one-size-fits-all construct for ISR strategy teams, the author recommends readers examine the British Intelligence, Surveillance, Target Acquisition, and Reconnaissance (ISTAR) cell (see LeClaire, "ISR Integration: The Marine Corps can learn from British forces") and the "Joint Fires Element" concept in JP 3-09 for potential organizational models.

56. BG Michael T. Flynn, COL Rich Juergens, and Maj Thomas L. Cantrell, "Employing ISR: SOF Best Practices," *Joint Force Quarterly*, no. 50, 2008, 56-61.

57. Haley, email to the author. This is also based on the author's personal observations.

58. LtCol Timothy Oliver, "A Blueprint for Success, Marine Corps intelligence operations in Anbar," *Marine Corps Gazette*, vol. 94, no. 7, 2010, 82, http://www.mca-marines.org/gazette/article/marine-corps-intelligence-operations-anbar (accessed 10 September 2012).

59. BG Flynn, "Employing ISR: SOF Best Practices," 57.

60. LTG Michael T. Flynn and BG Charles A. Flynn, "Integrating Intelligence and Information: Ten Points for the Commander," *Military Review*, vol. 92, no. 1, 2012, 4-8.

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