UNITED WE STAND, DIVIDED ...? ACHIEVING INTELLIGENCE INTERAGENCY SYNERGY IN COMPLEX WARFARE

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Adaptive work consists of the learning required to address conflicts in the values people hold, or to diminish the gap between the values people stand for and the reality they face

— Ron Heifetz¹

As 9/11, the current Israeli/Hizbollah conflict and the foiled terrorist plot to bring down aircraft departing London taught us, we must efficiently and effectively integrate national and international efforts in order to engage an assortment of new adversaries or find ourselves weakened by the seams we either inadvertently create or tolerate. The Cold War effort, and in particular our intelligence focus, became so narrowly focused on fostering the collapse of the Soviet Union that we lost our ability to fully integrate and leverage all elements of national interagency effectiveness across a range of new and developing adversarial contingencies. The process of adapting our industrial age organizations to today's new reality is not something we have collectively done well.

Today and for the foreseeable future, we will need to assess and effectively deal with a range of threats that are primarily ideologically driven, global and networked. Military effects alone will not get us there – nor will any other single form of national power for that matter. What is required is a concentrated and integrated mobilization of all national efforts, be they academic, intelligence, economic, political, legal or cultural – especially since the great majority of the US is non-federal government. In short, we must transform our agencies into high speed, responsive, adaptive and integrated organizations capable of managing "interagency relations" (IAR) to the highest level of synergy as possible.

One of the greatest gifts that each interagency player has is their differences from one another. It is those differences that add color and context to both perception and action. How one's agency relates to others, how well one learns to address conflicts in the values people hold, or to diminish the gap between the values people stand for and the reality they face will determine just how successful IAR will be.

One must begin with the notion that leadership in effective IAR situations is not about having all the answers, but is really about having a number of diverse diagnostic tools and perspectives that can "influence the community to face its problems."¹ Effectiveness means making the problem statement the leader, thereby getting the agency's decision makers egos out of it.

The leader's adaptive challenge is to *shape a shared meaning* – of a potentially very diverse group as opposed to trying to force a pre-conceived position from their own group. The goal is interagency clarity absent a "stovepiped" bias inherent in a single agency's approach to problem resolution. DIA does not have all the answers and neither does NSA, DEA, the National Security Council nor the FBI. The purpose of creating these agencies in the first place was to get concentrated focus on the problem from a particular point of

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view – that focus is both each agency's greatest strength and their greatest weakness. The weakness is minimized only when its views and conclusions are thrown up against conflicting points of view that challenge its processes and outcomes. It is the mix of ingredients that gives the cake texture and flavor.

As we "map the terrain" of IAR we believe, as would a geographer who creates various maps for many purposes, that multiple perspectives are much better than unitary views. "IAR" means crossing the boundaries of governmental and non-governmental organizations in order to benefit from the shared accomplishments of otherwise autonomous agency operating goals.2 We found it fitting and in concert with our argument to draw from several bodies of knowledge on how agencies relate with one another. We scrutinized open systems theory (borrowed from biology), exchange theory (an economic view), acculturation theory (a symbolic-interpretive view), political decision-making theory (a competing values view), and a theory of legislated control (a legal-rational view). Below we map the territory of interagency relations using these multiple venues. We hope our approach gives the reader an introductory idea about achieving effective IAR from a range of perspectives.

The "Open Systems" View of IAR

Open systems remain adaptive by taking inputs from the external envi-ronment, transforming some of them, and sending them back into the environment as outputs. For example, the liver cleanses the blood that the heart pumps. Animals breathe out carbon dioxide, which trees transform into oxygen.

In *Organizations in Action*, James D. Thompson describes three types of interdependence (listed here from the least to the most complicated).

• **Pooled Interdependence.** In this type of interde-pendence, separate organizations, which perform ade-quately on their own, might fail if one or more of them fail when they all operate in a broad context. We saw this vividly on 9/11 when information captured by the FBI was not shared with the CIA or the FAA and vice versa. One organization's failure threatens all, but perhaps not all at once. The traditional practice of relatively independent national-based intelligence structures is a good example of pooled interdependence. "National intelligence" activities can occur, but only with institutional-oriented, relatively autonomous decisions to share information.

Pooled interdependence may be the most preferred form of interdependence because it is the least difficult way to coordinate. The highly structured internally focused coordination one typically finds with this type of interdependence uses established **stan-dards and rules** (laws, doctrine, habitual routines, official memorandums, set processes, regulations, and standing operating procedures) and is found in the bureaucratic workings of today's intelligence agencies

Sequential Interdependence. This type of inter-dependence is linear, like an assembly line—one unit in the sequence produces something necessary for the next unit and so on. Passing intelligence "up and down the line" is a good example of how sequential interdependence works. For example, CIA passes information to DOD, which in turn passes it down to through the "chain of command."

Here, agencies typically coordinate by adding to standards and rules via developing **schedules and plans** to synchronize a series of decisions yet to be made. This form of coordination is more appropri-ate in more *nonroutine* situations, such as before interventions when tasks are forecasted in the midst of possible situational changes. Formulating a national intelligence estimate focused on a particular emergent situation is an example.

Reciprocal interdependence. Here, the output of one organization becomes the input for others and vice versa. Agency boundaries become less distinguishable, and the combined performance of the agencies requires more complex forms of coordination, information sharing, and collaboration. This form of interdependence is still somewhat rare, even though new intelligence initiatives flowing from the creation of the Director of National Intelligence (DNI) is calling for more and more shared and integrated assessments. We are discovering daily that attempts to close the seams among the range of agencies that make up the U.S. (and coalition) intelligence community are slow in coming, largely because of the underappreciated need for the highly adaptive nature of reciprocal interdependence.

The most complex process of coordination, required for reciprocal interde-pendent

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Interdependency and Coordination

Type of Interdependence Type of Coordination	Pooled Interdependence	Sequential Interdependence	Reciprocal Interdependence
Coordination Required	Rules and Standards	Rules, Standards, Schedules and Plans	Rules, Standards, Schedules, Plans and Mutual Adjustment
Example Supporting Technologies	SOPs, Techniques, Tactics and Procedures (TTP)	Requesting support, rolling up status reports, doctrinal processes, voicemail, using inter-modal transportation "legs"	Physically collocating, instant communications, collaborative information environments, video conferencing, automated sensing and responding

Figure 1. Types of agency interdependencies and associated requirements for coordination (with technological examples) as proposed by open systems theory.

relationships, is mutual adjustment. The more uncertain and ambiguous the situation, the more likely organizations will intentionally seek or inadvertently adjust to one another. IAR under conditions of heightened uncertainty must be managed in real time as new information becomes available and where requirements may not be resolved through organization-specific capabilities. The nature of IAR is driven toward more collective capability in facilitating adjustments to operations in real time. Note that the term "facilitate" replaces "com-mand and control" in cases of reciprocal inter-depend-ence. Traditional command and control rou-tines that go up and down the chain are too slow to coordinate reciprocally dependent, synergistic effects. A good example of enhanced facilitation is evident in the unraveling of the terrorist plot against the airlines in London. The Defense Department's Net-Centric Environment Joint Functional Concept attempts to portray this level of interdependency in the interagency environment as a desired future capability beyond the year 2015.

To achieve effective IAR, intelligence professionals must take full advantage of the array of coordination tools that facilitates productive relations among organizations and groups. Figure 1 summarizes the open systems approach to interdependencies and the requisite types of coordination needed.

If agencies perceive no need for interdependence with others then it is unlikely that interagency relationships will develop. This may be the first tip that something is amiss. Conditions for effective IAR develop initially when two or more agencies take notice of each others' capabilities. Once that recognition takes place, a complex combination of economic, cultural, political, and legal processes shape the way IARs are created and potentially yield more synergistic efforts as intelligence, joint military, intra-Executive Branch, state and local actors, and coalition members interact.

The Economic View of IAR

Economic "exchange theory" promotes the idea that agencies ignore, compete with, or combine with each other into interagency relationships in order to cooperate with each other based on rational-economic analysis toward optimizing costs and benefits. Exchange theory argues that agencies will seek out or be receptive to interorganizational cooperation when such cooperation is expected to create a mutually acceptable value proposition. Perceived scarcity (facilities, funds, people, etc.) is a prime motivator to seek some degree of interdependency with other organizations. Agencies that lack or lose expertise, prestige, reputation, permissions, "strategic position," or authority will also seek others to reduce "performance distress" (and increase certainty toward achieving valuable goals). While, from an economic point of view, agencies ideally would prefer to be autonomous and not engage in IAR; they accept interdependent relationships when it is calculated to be a worthwhile thing to do. We see examples of this in both the government and private sector with corporate mergers and cooperation between federal agencies as they tackle the challenges of taking down terror networks.

The Cultural View of IAR

Culture is all the accepted and *patterned ways of behavior* of a given people. It is a body of *common understandings* that is the sum total of the entire group's *tacit ways of thinking, feeling and acting.* It is often demonstrated through *physical manifestations* (or "artifacts") of the group as exhibited in the objects they make – the clothing, shelter, tools, weapons, implements, utensils, buildings, and so on.³ People are not born with culture; they are raised in it. Each agency's cultural history and orientation shapes its approach to analysis, organization and cooperation. More often than not, those in the culture are unaware that their "objective view of reality" is actually a socially constructed interpretation.⁴

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Cultural reasons for engaging in IAR are more complex than the economic view would explain because organizations have internalized multiple identities with different patterns of values, beliefs, taken-for-granted assumptions, expectations, collective memories, that are imbedded (like genes in living organisms) in a larger external complex of other cultures. If these internalizations are like genes, then the unique language and meanings associated with cultures and subcultures are like DNA.⁵ Even if the rational-economic analysis appears to warrant IAR, conflicting cultural

values and important symbols associated with such coalitions can promote avoidance. For example, the FBI has, first and foremost, been a law enforcement agency that gathers intelligence primarily *after* the threat occurs. On the other hand the CIA sees itself as an intelligence gathering agency that assembles intelligence primarily *before* the threat occurs.

Subcultures existing within or across organizations make IAR even more complex. Subcultures can exist for a multitude of reasons: geography (location in or among buildings/states/ countries); hierarchical or lateral sub-organizational or communal boundaries (departments, divisions, sections, branches, specialties, etc.); and professional affiliation (e.g., "HUMINT," "SIGINT," "GSINT," "MEDINT," "C/I," etc.). Diverse organizations that integrate members with multiple subcultures are successful because they identify their shared values and beliefs and create a mutually shared sense of belonging. For example, the DNI recently published The National Intelligence Strategy of the United States: Transformation Through Integration and Innovation, that appeals to the various cultures and subcultures of the intelligence community by stating, "National intelligence must be collaborative, penetrating, objective, and far-sighted. It must recognize that its various institutional cultures developed as they did for good reasons while accepting the fact that all cultures either evolve or expire, and the time has come for our domestic and foreign intelligence cultures to grow stronger by growing together."6 Notice how the document uses the term "national intelligence" as the rallying point for cultural integration and proposes that collaboration, penetration, objectivity, and prediction become shared values.

Emphasizing cultural interdependence (a shared belief that by combining capabilities a synergistic effect is possible) contrasts sharply with a dominant concept of cultural independence (a shared belief that maintaining differentiated effects will lessen the need for coordination). Compelling arguments can be made for sustaining or increasing either. This dualism illustrates how practitioners of IAR must continuously recognize the tension among often hidden cultural differences. Effective professionals assume that potential members in IAR formations are "imaginative consumers" who can actively reject, accept, or modify their interpretation of reality. In that regard, anyone can influence (deliberately or inadvertently) how an institution is viewed and therefore affect how people identify themselves and the nature of their work. Our awareness and sensitivity to these most often unseen cultural assumptions about interdependency will help us manage conflict by finding common cultural ground in a meaningful way.

Gareth Morgan, a leading organizational interpretivist, asserts that using combinations of images (or metaphors⁷ for organization) could help symbolize which images are culturally dominant (does our organization work like a machine, a basketball team, a living organism or a political campaign? – see Figure 2).

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Figure 2. Images of Organization may differ in IAR settings.

How one conveys his or her image of the agency can influence others to "see it" the same way and thus shape a culturally shared image that influences how individuals and the organization in general go about their business (i.e. "the way we do things around here"). ⁸ For example, consider this symbolic view of the multicultural aspects of "interagency" in an assessment of the cultural differences of the departments of Defense and other agencies:

The Department of Defense is like clocks and the interagency is like clouds. Clocks operate in an orderly way. The actions of each component are predictable from the other, synchronized, and unified. The interagency is more like clouds. Clouds lack the orderliness of clocks. Clouds change form, grow and shrink, and are strongly affected by environmental conditions. The movement of molecules and particles making up a cloud are nearly impossible to predict precisely. The interagency is highly responsive to contextual influences while absent neat orderliness. Just as understanding some of its "molecules and particles" does not give us an understanding of the entire cloud, so do we fail to appreciate the nature of the National Security Council, Department of State, Office of the Director of National Intelligence, or a jointinteragency coordination group when we focus only on its elemental members. The actions and attributes of one group member do not accurately predict another's. The behavior of the interagency does not unfold like clockwork. Rather, variation is the rule.9

Prior to September 11, 2001 and perhaps still today, the U.S. government interagency domain and its intergovernmental relations with state and local organizations could be characterized as lacking an integrative cultural context to win the global war on terrorism. Yet, that "disorganization" is purposeful; albeit

paradoxical, and was intended by the founding fathers to ensure separation of powers, creating an often "messy" political process.

The Political View of IAR

From the political perspective, agencies are political entities that interrelate within a larger political environment, with individuals, groups, and organizations having competing interests. The adaptive challenge of IAR is to minimize conflicting interests and get the job done by negotiating and building consensus. Politics is different from other processes in recognizing that:

- interpretations are more important than facts;
- secrecy and revelation are tools of political strategy;
- unlike the economic model, *political resources are* enhanced through use rather than diminished;
- · likewise, political skills and authority grow with use;
- ambiguity and symbolism often prevail over economic rationality; and,
- the *world is composed of continua, not categories.* There is an infinite choice about how to classify.¹⁰

Politics infers that IAR situations are infused with competing values. *In a world of competing values, assumptions of rigid agency boundaries become inherently unstable.* In establishing IAR engagements as politics, we realize interpretations may divide people while aspirations will unite them. Sustaining an IAR situation is a continuous challenge of discovering and achieving equilibrium among the interrelated value paradoxes of complex human interagency groupings. For example, consider the impact of these valuation paradoxes in our attempt to find common ground in intelligence sharing these continua:

- flexibility with respect to control;
- internal focus with respect to external orientation;
- equity with respect to efficiency;
- hierarchy with respect to heterarchy;
- differentiation with respect to integration;
- interdependence with respect to independence;
- analysis with respect to intuition;
- simplification with respect to complexification;
- randomness with respect to determinism;
- uncertainty with respect to predictability;
- tradition with respect to innovation;
- liberty with respect to security; and,
- present mindedness with respect to the longterm values.

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Self-reflection and organizational reflexivity helps assure the quality of balance. Sustaining a meta-awareness of one's own political values and a healthy self-criticism of those values is especially needed.

Political reasoning intertwines both economic- and culturaldriven valuations. While words such as "liberty" and "security" or "integration" and "differentiation" or "equity" and "efficiency" may be agreed to as abstract social, economic, and cultural values, politics decides how they are weighted and applied in the context of local, state, national, or a collective of "Western" and other styles of democratic governments.¹¹

In addition to a values paradox, the study of "powerdependency" becomes critical in understanding the political aspects of IAR. Agencies naturally desire to maintain stability and certainty; hence, achieving independence in their niche becomes important (whether publicly stated or not). We see this playing itself out in the struggle for control of intelligence autonomy between DOD and the newly established position of DNI.

However, if organizations feel threatened by a common "enemy," they may seek the synergy associated with combined power. When they perceive that rogue or chaotic situations are controllable or preventable if they diminish their independence, they seek IAR.¹²

As a party to a potential relationship, they believe they must "insert their interests into the mainstream of shared political values" in order to "safeguard the legitimacy of their definition of the 'right' social order."¹³ What makes political order "right" has motivated the Executive Branch of the U.S. government to believe that diplomatic, informational, military and economic power can be integrated through IAR to achieve more effective national efforts. The creation of the DNI stems from this political reality.

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Finally, political motivations for IAR may also develop around the concept of legitimacy (legal and moral authority to take action). Other organizations may enter or be enticed into a relationship to increase the image of legitimacy to a proposed activity. For example, increasing the number of coalition partners (regardless of the size of the contribution) in the U.S.led invasion of Iraq helped increase the legitimacy of the war. Building international intelligence cooperation under the mantra of the global war on terror is another example – a cooperation that ironically strengthens with each global terror event as each nation realizes that its legitimacy and that of its intelligence services is threaten by the gray space not covered by its own intelligence apparatus.

The Legal View of IAR

In IAR situations, increased legitimacy is also perceived if there is a legal basis for shared action. Laws regularly establish the structure, governance, funding, and direction of organizations and, as indicated previously, they are powerful tools in establishing pooled interdependence. From laws we derive rules, regulations and procedures that implement them. Sometimes laws dictate IAR and sometimes they prohibit or constrain IAR. Examples of law forcing IAR would include the "Patriot Act" that reorganized former Executive Branch agencies and bureaus under the Department of Homeland Security; and the Goldwater-Nichols Act which forced a degree of IAR among the military Services. Examples of prohibitions would include 10 USC Section 11 on national guard-active duty military authorities and (at least before 9/11) the restrictions associated with sharing intelligence and operational capabilities among the Central Intelligence Agency, the Defense intelligence community, the Federal Bureau of Investigation, and state and local authorities.

The risks associated with legal means of forcing IAR is that enforcement of behavior can lead to "passive resistance," and bureaucratic techniques that demonstrate minimal compliance (attendance of meetings, signing required agreements, etc.) but do little to create high levels of commitment to an IAR undertaking. We see this with the reluctance of American intelligence agencies to aggressively and urgently line up behind the DNI because of autonomous organizational agendas and political turf battles. Following the letter of the law can create a minimalist approach to IAR. On the other hand, using legal means can at least create conditions for initial changes that will "catch on" and become habitual (inculcated) over time – like with Civil Rights legislation.

Conclusion

In summary, shorthand takeaways from this "terrain analysis" of interagency relations are the following:

- Diagnosing and understanding the type of *interdependence* (pooled, sequential, or reciprocal) that draws an organization "to the table" in an IAR situation helps us understand the kind of coordination we need to effectively build on (e.g., rules and standards; scheduling and planning; and/or, mutual adjustment for intelligence collaboration).
- Economic processes reveal that agencies will seek out or be receptive to interorganizational cooperation when such cooperation is expected to

create a mutually acceptable value proposition based on *rational-economic analysis* toward optimizing costs and benefits (e.g., one cannot ignore the economies of scale that can be gained by intelligence resource-sharing).

- **Cultural** reasons for IAR are complex. Diverse organizations are successful together because they find identification with like- values and beliefs and create a mutually shared sense of commitment (e.g., the call to rally around the idea of "national intelligence").
- Economic and cultural valuations compete and merge in complex ways to form the basis for political reasoning in the IAR context (that differs strikingly from purely economic or analytical "rational" reasoning). The intelligence community's continuous challenge will be to find and "manage" equilibrium among complex human groupings and keep both a "meta-" awareness of organizational political values and a healthy selfcriticism of those values (e.g., one organization may value tight control while another honors flexibility and negotiations). A combined organizational approach would require understanding this disparity as an ideological difference that would either lead to some adherence to both approaches or the creation of new ones.
- Legal authority, formed on the basis of all of the above human processes, drives officials to enter or stop from entering interorganizational relationships whether they agree or not, thus creating a legal form of rational accountability (e.g., driving how the CIA Director and the DNI will testify before Congress based on the law).
- The leader's *adaptive challenge* is to participate in shaping a shared meaning for a potentially very diverse group, as opposed to trying to force a preconceived position from one's own group. Essential to the task is to convince each group that their relevance and survival is dependent not on the battles they may fight "against" each other, but in collectively uniting to fight the war that matters – and that failure to do not only creates seams that adversaries can take advantage of but also undermines the very culture that bore them. (e.g., Mr. Negroponte's adaptive work ahead for the mélange of organizations that constitutes the "intelligence community").
- Professionals who engage in IAR form mental models from an array of complex combinations of economic, cultural, political and legal perspectives. They recognize that there are associated risks with such complexity and that there may be unpredictable second- and third-order downstream effects (e.g.,

how centralized control of intelligence might place too much power in one person; hence, the "checks and balances" in our system can be disrupted and may compromise the speed with which decisions need to be made at the "tip of the spear" in today's environment).

Adversaries are expert at exploiting the seams that we create with ineffective interagency relationships.

The contemporary operating environment requires national wartime intelligence integration that reaches beyond the use of the military. Our adversaries are becoming experts at exploiting the seams that we create with ineffective interagency relationships. We need leaders who not only understand the economic, cultural, political and legal nuances of interdependence, but have the courage and ability to build an effective national and international synergistic network by influencing a diverse and sometimes competing set of agencies to act in the national interest. To get there, intelligence professionals will need to familiarize themselves with both the theory and practice of IAR and mold their leadership style around this complex adaptive effort. To quote Sun Tzu: "know your enemy and you have won half the battle, know yourself and a thousand victories are yours".



Footnotes

¹ Ron Heifetz, *Leadership Without Easy Answers*. Cambridge, MA: Belknap, 1994.

² Ibid., p. 14.

³ Adapted from John R. Schermerhorn, Jr., "Determinants of Interorganizational Cooperation," *The Academy of Management Journal*, Vol. 18, No. 4, 1975, p. 847.

⁴Ina Corinne Brown, Understanding Other Cultures, Englewood Cliffs, NJ: Prentice-Hall, 1963, pp. 3-4.

⁵ Peter L. Berger and Thomas Luckman, <u>The Social</u> <u>Construction of Reality: A Treatise in the Sociology of</u> <u>Knowledge</u>, New York: Anchor, 1967.

⁶ M. Mitchell Waldrop, *Complexity: The Emerging Science at the Edge of Order and Chaos*, Simon and Shuster: New York, p. 214.

⁷ John D. Negroponte, *The National Intelligence Strategy* of the United States, October 2005, p. 1. Accessed online

by the authors on 2 November 2005, at http://www.dni.gov/ NISOctober2005.pdf.

⁸ Terence E. Deal and Allen A. Kennedy, *Corporate Cultures: The Rites and Rituals of Corporate Life*, Reading, MA: Addison-Wesley, 1982, p. 6.

⁹ Adapted by the authors from Richard A. Guzzo and Gregory P. Shea, "Group Performance and Intergroup Relations in Organizations," in Marvin D. Dunnette and Leaetta M. Hough (Eds.), *Handbook for Industrial and Organizational Psychology*, Vol. 13 (2nd ed.) (pp. 269-313), Palo Alto, CA: Consulting Psychologists, 1992, p. 273.

¹⁰ Deborah Stone, *Policy Paradox: The Art of Political Decision Making*, 2d Ed. New York, NY: W.W. Norton & Company, 1997, pp. 28-31 and pp. 575-576.

¹¹ Steven L. Wasby, *Political Science—the Discipline and Its Dimensions: An Introduction.* New York: Charles Scribner's Sons, 1970, p. 10.

¹² For similar conclusions, see both: Joseph Galaskiewicz, "Interorganizational Relations," *Annual Review of Sociology*, Vol. 11, 1985, pp. 281-304; and, Christine Oliver, "Determinants of Interorganizational Relationships: Integration and Future Directions." *Academy of Management Review*, Vol. 15, No. 2, 1990, pp. 241-265.

¹³ Robert H. Miles, *Coffin Nails and Corporate Strategies*, Englewood Cliffs, NJ: Prentice-Hall, 1982, p. 23.

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