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ORAL PRESENTATION

SOCIETY FOR SOCIAL STUDIES OF SCIENCE

2009 ANNUAL MEETING

EXPERTISE AND INTELLIGENCE ANALYSIS

A PAPER FOR THE SESSION:

“RE-THINKING EXPERTISE IN DEFENSE AND INTELLIGENCE”

BY

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OCTOBER 29, 2009

ARLINGTON, VIRGINIA

(REVISED MARCH 23, 2010)

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Historically, American intelligence has been blessed with an analytical workforce second to none, a cadre of analysts containing more than its share of world-class experts, whose depth of expertise helped several generations of policy-makers cope more wisely with the challenges posed by the Cold War and its aftermath. Unfortunately, as highlighted in the WMD Commission Report, experts today are an endangered species.¹ The Commission, as do many others, credits an over emphasis on current reporting and frequent changes in personnel assignments for the problem. Undoubtedly, these factors go a long way in explaining the current predicament, but even more fundamentally the Intelligence Community appears to have lost sight of the vital role of expertise in intelligence analysis.

Many reforms have been put in place since 2001, but the Community shows no clear signs it understands how important expertise is in determining the quality of a final analytical product, or even more worrisome, appears to have lost sight of what it will take to reverse the trend. Most seem to believe that the current practices and procedures emphasizing reporting, albeit done better, is the answer. We can improve the quality of our analysis, they believe, without the more in-depth micro studies produced by research analysts. Doubters such as myself argue that these are the very shortcuts that created the problem in the first place. Without more micro experts in our analytical cadre improvements in the quality of Community products are not possible. For several decades we attempted to replace the detailed micro studies of experts by putting our money into more collection and making everyone a current reporter, apparently thinking this would satisfy policy-makers growing demand for intelligence. It did not work. Instead, the quality of our production has suffered.

In the pages that follow, I will examine more closely the role of experts and expertise in

¹ *The Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction*, (Washington, D.C.: U.S. Government Printing Office, March 2005), p. 13.

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national intelligence analysis starting by defining what the terms mean. Following this I will compare the findings of several academics specializing in expertise, with the Community's analytical practices current and projected. Based on my findings, I will suggest several changes we need take to achieve real improvement in the quality of analysis in the Community.

DEFINING TERMS

Let me start by defining the term "national intelligence." For me it is the intelligence that goes to the President and his top advisors. Sometimes it is strategic. Other times it might be tactical. Some comes from extremely sensitive human and technical sources while much of it is found in open sources. It can be presented orally, written down in a few lines or come to senior officials in a multi-page document. The information may arrive as news, background insights, or even best guesses. What makes it different is the audience. National Intelligence is intended specifically to increase the knowledge of senior officials, and help them make better policy decisions. I suspect most people may wonder why I'm making such a fuss about all this since it is common knowledge that the President is already the Community's number one customer. True, but we dedicate the great majority of our time, money and effort to meeting the needs of the U.S. military. It is their money that mostly pays the bills, determines the targets, and sets the priorities, and this is as it should be. National security issues are the number one focus of all our leaders civilian and military alike. The President is as interested in "military" intelligence as the Secretary of Defense and the Joint Chiefs of Staff. What is not as well understood is that little of what is produced for the military is of direct value to anyone but the experts it was designed to support, those who depend on detailed bits and pieces of information to do their jobs, the war fighters, planners, logisticians, etc. This creates two sets of problems.

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- 1) The first is easy to understand. Knowing the exact locations of radar sites and the heights of bridges is essential knowledge for military experts, but in its raw form has few if any, applications to national intelligence problems. On the other hand many of the questions asked by senior officials are not relevant to the military expert. So a large volume of the information gathered and analyzed for military use by the Community isn't at all helpful in answering the questions of the President and other top officials.
- 2) The second set is a bit less transparent dealing mostly with the choices and practices of those responsible for national intelligence. Although the potentially valuable volume of knowledge left over after meeting the military's requirements, is quite extensive, it is largely in the same format as it is for military experts – detailed micro bits and pieces – something not immediately useful to senior officials in their raw form. This need not be an insurmountable problem, but most of those responsible for doing national intelligence choose not to work with all the micro details available opting instead to develop their insights and observations from a much more limited number of the bits in the data, the obvious pieces, those that are easiest to find.

In combination both sets of problems result in intelligence that lacks the relevance and depth needed by the President and his top advisors to protect our national security.

Next Webster's view of an "expert," "...one who has acquired special skill in or knowledge of a particular subject through professional training and practical experience,"² is a simple, straightforward explanation I think everyone can share. Defining it, however, does not help much when it comes to understanding what it actually means to be an expert, or providing insights into what it takes -- the expertise required -- to achieve expert status. Here everyone probably has his or her opinion of what is involved.

² (Webster's, 1976, p. 800)

Academic studies of expertise and professional practitioners highlight six ingredients that go in to creating an expert:

- 1) It is widely accepted that in a wide range of fields from biology to history *eight to ten years of concentration on a subject* is the norm for becoming an expert, but absent other ingredients in the process seniority is a poor indicator of performance.³ Indeed, it is widely recognized that a senior analyst who has stopped learning can cause great harm by dismissing new ideas coming from less experienced colleagues, or on occasion even block them from sending their work to others higher in the organization.⁴

- 2) *A narrow scope of study* is as important in the equation as time on the job,⁵ it is a function of mental bandwidth. The human brain does not allow anyone to know a lot about every thing. Accumulating the level of detail necessary for expert status greatly limits the number of subjects one can master. To create new knowledge one must advance incrementally by bits and pieces, with any discoveries made only making sense mostly to other experts. An epiphany here or there might give a kick-start to the process, but no one has yet found a way to advance knowledge in the absence of the bits and pieces only a narrowly focused expert can uncover.

³ Paul J. Feltovich, Michael J. Prietula, and K. Anders Ericsson, “Studies of Expertise from Psychological Perspectives” (In *The Cambridge Handbook of Expertise and Expert Performance*, ed. K. Anders Ericsson, et al, New York: Cambridge University Press, 2006) p. 60.

⁴ Richard K. Betts, *Enemies of Intelligence* (New York: Columbia University Press, 2007) p. 51-65. Also see Robert M. Clark, *Intelligence Analysis: A Target Centric Approach, 2nd Edition* (Washington, D.C.: CQ Press, 2007) p. 125-128, and Roger Z. George, “The Art of Strategy and Intelligence (In *Analyzing Intelligence: Origins, Obstacles, and Innovations*, ed. Roger Z. George and James B. Bruce, Washington, D.C.: Georgetown University Press, 2008) p.111.

⁵ Jeffrey R. Cooper. *Curing Analytic Pathologies*, (Washington, D.C.: Center for the Study of Intelligence, 2005) p. 61. Also see Paul J. Feltovich, Michael J. Prietula, and K. Anders Ericsson, “Studies of Expertise from Psychological Perspectives” (In *The Cambridge Handbook of Expertise and Expert Performance*, ed. K. Anders Ericsson, et al, New York: Cambridge University Press, 2006) p. 47.

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- 3) *Training* is the third required element. Narrow specialized work requires the proper formal training in that field. Academic study and organizational training immediately come to mind as examples of minimum requirements. What is not so obvious is that studies have found that these activities by themselves are rarely sufficient in gaining expertise. Because much of the work requires familiarity with obscure fragments within a narrow specialty, classroom preparation alone rarely prepares one for expert level work. *A mentor to guide the day-to-day activities of new entrants to the specialty is almost always an essential step* in one becoming an expert.⁶

- 4) *Hands-on-practice* is another important ingredient. Even the best mentor cannot substitute for an analyst actually doing the detailed, micro work of an expert. As in every field expertise comes from practice. The more you do, the better you get.⁷

- 5) *Peer Review* is also important.⁸ It need not be a formal requirement of the process, but is an important step an expert must take in the quest for new knowledge. It fulfills the requirement for the reproducibility of one's work, and keeps the expert on his or her toes.

- 6) My experience suggests that *state of mind and work style* also sets the expert apart from one's colleagues, especially those whose chief claim to fame is time on the job. An expert's top priority is finding flaws and poking holes in their favorite

⁶ Lauren A. Sosniak, "Retrospective Interviews in the Study of Expertise and Expert Performance (In *The Cambridge Handbook of Expertise and Expert Performance*, ed. K. Anders Ericsson, et al, New York: Cambridge University Press, 2006) p. 298

⁷ Janice M. Deakin, Jean Cote, and Andrew S. Harvey, "Time, Budgets, Diaries and Analyses of Concurrent Practice Activities (In *The Cambridge Handbook of Expertise and Expert Performance*, ed. K. Anders Ericsson, et al, New York: Cambridge University Press, 2006) p. 305-306.

⁸ I am indebted to Bill Brown long time intelligence analyst now at Centra Technology for this insight.

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hypothesis, something that is a never-ending process. Experts I have known tell me the most important thing they have learned is how little they truly know about their field of concentration, and that even their most insightful findings are no more than a work in progress, certainly not a final answer.

HOW DO THESE FINDINGS COMPARE WITH COMMUNITY PRACTICE?

Judging by these standards today's Community has its work cut out for it. Plenty of smart, high achievers have joined the Intelligence Community's ranks since 2001, but by its own count sixty to seventy percent of the analytical corps has less than five years experience.⁹ Given the requirements of time, scope, training, and hands-on practice necessary to attain expert status, these numbers likely understate the depth of the challenge the Community faces in rebuilding its cadre of analytical experts focusing on national intelligence. For one thing we hardly do any narrow, detailed work anymore. Instead it is largely current reporting, work that gives analysts few opportunities to gain experience with in-depth research. To top it all off, each year more of the few remaining experts who could serve as mentors are retiring.

At the most general level of analysis ours is a sole-practitioner system where each analyst works on a separate, individual account. It does not matter whether those practitioners are newly assigned to the job or have considerable experience and expertise. The analysts enjoy great latitude in defining the focus of their projects just as they had in their school years, a practice which automatically limits the depth and detail of any study to what one, bright, experienced analyst can produce in a reasonable period of time. They pick the topic, research the problem, report their findings, and receive credit or blame for the results. Sharing of information goes on, and from time to time teams may be formed, but this is the exception not the rule. In fact, the existing organizational incentives promote a competitive atmosphere, not teamwork. These incentives also discourage narrowly

⁹ This comes from my notes of a conversation with Tom Fingar, the then the Deputy DNI for Analysis.

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focused projects in favor of producing items immediately useful to policy-makers. Such practices are good for keeping production numbers up, but not for providing policy-makers with in-depth answers to their questions.

While analysts may find the current organizational approach comfortable, and our bureaucrats delight in its symmetry, it is no way to create experts. It's a matter of bandwidth again. Even our best and brightest seldom can adequately answer most questions routinely asked by policymakers. The problems senior officials need help with are much too complex, and the tools to attack them so primitive, for such an approach to have any hope of success. A sole-practitioner simply can never produce more than a narrow partial answer, one that the policymaker invariably does not find very useful. Consequently, organizations with a small number of analysts cannot afford to do in-depth studies, and larger ones, although they could attempt more in-depth work, frequently turn out exactly the same products as the smaller agencies.

The consequences of all this is not hard to determine. Without micro experts, the lack of raw material, the bits and pieces of knowledge only they can provide, greatly limits the overall quality of the work produced by the Community. With the rapidly diminishing number of mentors available to work with new analysts, our ability to produce sufficient numbers of experts is very much in doubt, leaving us with the prospect of our analytical corps being populated mostly by generalists. I suppose you can consider someone very competent to be an expert generalist, but most academic specialists would see this as a contradiction in terms. For them expertise is at the opposite end of the spectrum from generalist. A narrow focus is an essential ingredient and what sets the expert apart from the non-expert. Without the experts there are real limits on what a generalist can accomplish.

You see this in the work the Community turns out. Thirty-five years ago the intelligence products published differed dramatically from what we see in circulation today where

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virtually everything is done with an eye to informing the senior leadership, especially the President. For many years the vast majority of published findings in the Community, 80-90 percent of them by my recollection, were never intended to reach the President. There was not nearly enough time for anyone to read such studies, and many of their findings so micro they were not of much use to a busy senior policy-maker. They, however, did provide the intellectual capital necessary for the Community to make the other 10 percent or so of its reports, those directed to top officials, relevant and more reliable sources of information.

No one I know would quarrel with the attention given the leadership, it is, as Lowenthal and others have noted, our primary reason for existence. As Mark puts it in his Intelligence: From Secrets to Policy, "... intelligence exists solely to support policy-makers... Any other activity is either wasteful or illegal." ¹⁰ Nonetheless, it is important that we understand the support we give to government decision makers, the basic function of intelligence, does not automatically serve to buildup analytical expertise, and if it becomes our primary activity can detract from the essential elements necessary to produce quality intelligence products.

Intelligence analysts, unlike academic specialists, are not free to pick and choose what they will study, nor should they be. Unless their activity directly supports the policy-makers they serve, it is not a legitimate inquiry no matter how fascinating or even important the topic may be. Policy-makers make these decisions. They are the "deciders." They choose the problems to be solved, design the solutions, and implement the selected policies. Without them there would be nothing for intelligence officers to do. We are nice to have around, but by no means are we a necessary part of the decision making process. We do not solve problems, craft solutions, and certainly do not implement anything. Our sole job is to make the policy-makers smarter. We function as

¹⁰ Mark M. Lowenthal, *Intelligence From Secrets to Policy, 4th Edition* (Washington, D.C.: CQ Press, 2009) p. 2.

the “explainers.”

But, this is where it gets tricky. Keep in mind that few policy-makers truly understand what it takes for us to do our job; they want answers to their questions, not long-winded explanations of why analytical practices and procedures complicate things. If they do not find our answers useful, they will ignore them, and if we always bring them bad news they will ignore us. Many also do not realize that new knowledge and useful insights do not often come in a form they will find useful. A micro researcher in particular rarely produces anything of immediate interest to those making policy. Even when they provide important new insights these are usually so incremental in scope only other experts recognize their true significance.

One of the consequences has been the demise of micro studies. I agree policymakers do not particularly like the narrowly focused work of experts, but concentrating more time and resources on current reporting, the kind of information senior officials can use and understand best, is not the answer either. Unfortunately, there are no short cuts to new knowledge. If you tell consumers only what you can accomplish quickly, having sacrificed quality, you are doing them a disservice.

Even the most wise and knowledgeable generalist cannot create something out of nothing. Without the experts churning out micro studies, and other research analysts attempting to make sense of them, a generalist becomes more conjurer than analyst. It is not unlike someone expecting that CNN’s Dr. Gupta, as good a medical reporter as he is, will discover in the course of his duties a cure for prostate cancer, or as in Rome at the height of its power we could turn to “...a separate college of augurs who attempted to discern the future by observing the weather, flights of birds, and entrails of dead animals.”¹¹ The latter I suspect being especially important in producing Rome’s

¹¹ Niels C. Nielsen, et al, *Religions of the World, 2nd Edition* (New York, NY: St. Martin’s Press, 1993) p. 59.

equivalent of the President's Daily Brief. Neither is the answer.

AN ANATOMY OF ANALYSIS

Despite the Community's effort over several decades to deemphasize research, you cannot do quality analysis without it. Knowledge creation is the product of the micro work of many experts combined into a finished product by others. Both parties are necessary to produce good intelligence. The raw findings of experts are almost always unintelligible and therefore of little or no direct use to policy-makers, while the work of generalists, without the input from experts, is too superficial to be of much use. This is true of knowledge creation in any field. Intelligence analysis is no exception. New knowledge comes from two key components:

- 1) The human aspect – the thinking part, and
- 2) Its raw materials – intelligence data

Heur's classic work on the *Psychology of Intelligence Analysis*¹² introduces the human aspect of intelligence analysis -- how we as individuals think and also how we think we think, something that is often at odds with reality. Analysts that do not take his findings to heart quickly learn the pain that such an oversight can cause. But thinking is only one part of the analytical process. Analysts must also master the nature and essence of the raw materials they employ in their work. In other words, they must know what intelligence data looks like. Most analysts clearly think they know what it is, and might take offense at my saying otherwise. They would argue that everyone knows that intelligence reports -- the information processed by collection organizations -- are the raw materials for producing all source analysis and assessments. I would agree of course, but only up to a point.

¹² Richard J. Heur, Jr., *Psychology of Intelligence Analysis* (Washington, D.C.: Center for the Study of Intelligence, 1999) p.2

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First, collectors routinely overlook important data in their regular processing procedures. Invariably, when a second look is taken, especially in response to their or analysts' questions, they find more useful data. You just have to know what you are looking for.

Second, intelligence reports typically contain numerous bits and pieces of data. Rarely, if ever, do you receive a report that contains only a single bit of information, and some can contain hundreds of pieces.

- Typically, however, we remember and index only a few, often those contained in the title or summary of the report. For want of a better term, I refer to these as "*obvious pieces*" of information, the kind that slap you in the face or poke you in the ribs when you encounter them. In short, they are the bits of information that are hard to miss.
- In a report a number of other bits are clearly recognizable, if you are specifically looking for them, what I call the "*less obvious pieces*," but if these pieces are not on your radar at that moment, they can quickly and easily get lost in the haystack. Sometimes you may retain a number of these bits for a while, but often it's not long before you've forgotten where you even saw them.
- Unfortunately, reports almost always contain a third type of data, what I call the "*hidden pieces*," those that slip by unnoticed to everyone, even the best of analysts. These pieces do not become intelligence data, have meaning, until viewed or combined with other information weeks, months, or even years later.

All of this is to say that we should think of the nature and essence of intelligence data as more complex than just the information found in intelligence collection reports. It is important to remember that it takes all three types of data – "**obvious**," "**less obvious**," and "**hidden**" pieces of information –to do high quality analysis. A fact all those who mistakenly think analysis is just about "connecting the dots" fail to take into account.

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Just like there are different types of intelligence data, we need different kinds of analysis: current reporting, directed research, and basic research to uncover and exploit all of the intelligence data available. Each of these broad categories has its own unique characteristics, but like knowledge creation in any field, they are greatly influenced by each other, and should be viewed more as elements of a process than separate, independent activities. Although they do differ in the value of their contribution to the knowledge creation process, all are important. Each is necessary. The quality of intelligence products depends on how well we master these disciplines and the amount of intelligence data we glean in the process.

- *Current Reporting* is the easiest category to explain and is the one most visible to outsiders. It's the news -- the same sort of information we receive from the front page of the *Washington Post* and *New York Times* or from 24/7 coverage on CNN and FOX, only classified. Current analysts depend largely on the “**obvious**” data contained in formal collection reports. This information is passed on to the policy-makers in oral and written reports daily. In terms of sheer volume current reporting constitutes the vast majority of the intelligence analysis policy-makers see or hear. A prominent example of this category of analysis is the President's Daily Brief (PDB).
- *Directed Research* is less visible and, unlike current reporting, starts off with a question, not an event. A directed research study, for example, might examine in detail and *measure* the pace of developments in Iran's nuclear weapons program in 2009 compared with the pace observed in 2003-2005. The raw materials for a product of this sort requires the use of less obvious, and hidden data, not just the obvious pieces easily identified, and depends on the existence of a body of basic research performed by other experts.
- *Basic Research* is the foundation from which all sound current reporting and directed research products are built. It often focuses on micro issues and details of

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little interest to policy-makers, but provides the essential new knowledge for producing good analysis, and is the key element in determining the quality of the intelligence they receive. Basic researchers also produce the resource documents, such as orders-of-battle and technical manuals necessary for conducting other types of analysis.

The current reporter is the one who after gathering obvious bits and pieces of knowledge weave them into a story containing prospects and implications, a language that policymakers speak and understand. If micro studies are available on relevant topics, the current reporter adds them to the mix as well. It is the current reporter who the policy-maker most often interacts with, the one who they turn to for answers; important players in the process, but without the contributions of micro experts, what they pass on to the policy-makers is necessarily based almost entirely on the obvious type of data they have found. Missing from this are the insights that would be gained from any experts doing directed and basic research, the source of the less obvious and hidden data. Without them military, technical, and economic assessments are especially prone to errors and misjudgments.

IMPROVING ANALYSIS

For those who believe that you can do high quality national intelligence analysis without narrowly focused research the remarks that follow will appear excessive and unnecessary. Such people must exist since despite the repeated suggestions of commissions and other studies dating back to the Kennedy Administration, current reporting practices and procedures continue to dominate the time and attention of the Community's analysts. For those who are convinced we must change our ways, bring back the use of less obvious and hidden data in our products; please view my suggestions as a work in progress, and an invitation for comments and the presentation of other ideas.

For me intelligence reform should start by asking a simple question: What do we need to do to improve the quality and relevance of national intelligence products? Of course

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making this our starting point presupposes that you have a good idea of what needs “fixing” before you start your makeover. Indeed, until you clearly understand the problem I do not think you have a prayer of successfully reforming analysis, no matter what your solution might be. But putting that aside for the moment, a good rule of thumb is, if a reform or change improves the quality of the product; we should adopt it, or at least conduct an experimental trial to see if it works. If the change does not lead to improvement, we should forget about it and go on to the next idea.

There have been a number of reforms introduced since 9/11, but as far as I can judge the suggestions so far largely miss the point, and none of them have had any appreciable impact on the quality of the work we produce. Some might argue that we have not given the reforms enough time, and that it is too early to make a judgment. Fair point, but I would argue you could give the reforms I have seen ten more years to show results and end up just about where we are right now. All of the reforms are premised on the notion that the “fixing” needed is to do what we are doing now, only better. But since I believe what we are doing now – an over concentration on current reporting, a lack of expertise, and our sole practitioner system – is the problem, doing the same things only better gets us nowhere. Much like Jeffrey Cooper¹³ and Carmen Medina,¹⁴ I believe that the problems we face and the circumstances we find ourselves in require fundamentally different approaches in both collection and analysis, as well as changes in the practices and procedures we use to process and disseminate the results. Anything less will not fix the problems with national intelligence.

If we truly want to improve the depth and quality of the Intelligence Community’s national analytical products, it will require a change in the status quo; one that takes

¹³ Jeffrey R. Cooper. *Curing Analytic Pathologies*, (Washington, D.C.: Center for the Study of Intelligence, 2005) p. 41-42.

¹⁴ Carmen A. Medina, “The New Analysis.” (In *Analyzing Intelligence: Origins, Obstacles, and Innovations*, ed. Roger Z. George and James B. Bruce, Washington, D.C.: Georgetown University Press, 2008) p. 247.

analysis in a new direction, starting with redefining the role of an analyst, the type of work analysts do, and how best to organize them for success. Change such as this will certainly require a renewed emphasis on expertise for without it we will simply be repeating the mistakes of past reform efforts. Creating new knowledge demands nothing less. Since an implementing strategy is probably the most crucial step in the process and biggest hurdle confronting anyone seeking reform, improving analysis also demands a well thought out plan. Mine is still a work in progress, but in broad strokes it includes:

1. The Question Should Dictate the Organizational Structure.

Starting small, I would search for an organizational structure designed specifically for basic and directed research, one that determines the size, composition, scope, and even the duration for a new analytical work unit based on the questions needing answers. This would require few, if any changes, in the Community's present approach to current events and quick response policy support tasks, except in my vision much like CIA's Office of Current Intelligence did in the past, some analysts at CIA, DIA, and INR would cover the full range of their consumers' interests in current intelligence, while most analysts, especially at CIA and DIA, would focus on a short set of topics designated by policymakers as requiring greater in-depth attention on a number of high priority topics concerning the Middle East, South Asia, Terrorism, Proliferation, Russia, China and North Korea, etc., providing consumers the same sort of granularity they came to expect on questions concerning the Soviet Union during the Cold War.

For the analysts focused on directed and basic research, the organizing principle would need to change from the sole proprietor model where the depth of the project is limited to a task that one, or at best a few analysts can accomplish in a

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reasonable time frame, to a “work unit”^{*} concept. In this new work unit, I am imagining the scope and complexity of the problem determine the size and composition of the unit, with units varying in size from a handful of analysts to some containing hundreds. Those assigned to do basic research, would likely function essentially as permanent, on-going activities, while others doing directed research would come and go as problems were solved or judged no longer in need of in-depth analysis. A master analyst would provide the direction and substantive leadership for each of the “work units”, and not unlike what you would find in a combat military formation, have command authority over the full range of expertise and capabilities necessary to fulfill the unit’s mandate including assets such as all-source analysts, special source analysts, analytical processors – SIGINT, GEOINT, MASINT, HUMINT, OSINT – IT specialists, librarians, etc. The Unit’s products would also vary in subject matter and length, but specialize principally in detailed and comprehensive questions that only a work unit can hope to answer.

2. Put Expertise First

My concept would put a premium on the organizational structure having analysts with in-depth expertise, an army of micro experts, if you will. Various agencies

^{*} Since the concept of a team as currently understood by the Intelligence Community does not convey the full extent of the team I envisage, I refer to it here as a work unit. The difference being that most in the Community understand a team to be a temporary cooperative endeavor of a relatively small number of analysts, where each feels free to decide independently when, where, and how much to participate in the team’s activities. As such, the team often does not have a formal leadership structure or an individual who is seen as having tasking authority. Usually, one analyst takes the lead, but must depend on the voluntary cooperation of others on the team who retain other non-team duties and responsibilities. A Work Unit, on the other hand consists of analysts and other full time specialists supervised by one or more senior analysts until the task has been completed. Ideally, all members of the work unit would be collocated, but this may not always be possible. In either case the project leader would determine the size and composition of the group, and the analysts will have no other duties than those assigned by the work unit.

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throughout the Community play lip service to expertise by having introduced honorary titles, performance bonuses, and other senior analyst schemes, yet resist making expertise the basis for organizing our analytical corps, seemingly out of some misplaced fear that identifying levels of competence, and requiring a more organized path for analysts to follow during their career is undemocratic, one that favors elitism over the “everyone is created equal” mantra. Others will have to speak to the situation in other fields and lines of endeavor, but in intelligence analysis not everyone is equal, and if our goal is to improve the quality of our production these differences have to be taken into account. Making a change, moving in a more productive direction, also means we will need to start giving expertise equal weight with management skills in choosing those who will supervise our analysts. A cadre of substantive leaders and not just branch chiefs is needed.

Traditionally, gaining expertise involved proving one’s self to a mentor by achieving increasingly higher levels of competence over time, passing through various phases even before one is allowed to branch out on their own. It does not mean they had achieved expert status just yet, only that that were now ready to begin their quest for knowledge on their own, or as it is in medicine, one becomes a doctor after completing medical school, but must then serve an internship followed by a period of residence for specialty training before being judged qualified to practice medicine without supervision. Something comparable does not exist in the Intelligence Community.

The work units in my scheme would include analysts with varying analytical skill levels¹⁵:

¹⁵ My ranking system is adapted from the proficiency scale of Michelene T. H. Chi, “Two Approaches to the Study of Experts’ Characteristics,” (In *The Cambridge Handbook of Expertise and Expert Performance*, ed. K. Anders Ericsson, et al, New York: Cambridge University Press, 2006) p. 22.

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- *Junior Analyst.* At the lowest level is the brand new analyst, who after undergoing a program of formal instruction on the intelligence process is assigned to a work unit. Usually the Junior Analyst would also have some prior academic exposure to the substance and subject of the domain at the Masters or PhD level before entry into service. Once a Junior Analyst joins the analytical unit, however, they will receive an on-the-job program of domain instruction beyond the introductory level, and stay immersed in the domain working for, and assisting someone in the unit at a higher skill level, for a period ranging from one to five years.
- *Analyst.* The full-fledged Analysts in the work unit produce intelligence products unsupervised, alone or on a team, "...although working under orders." It is an individual who is an "...experienced and reliable worker, and has achieved a level of competence" from repeated analytical assignments. "It is possible to remain at this proficiency level for..." an entire career.
- *Senior Analyst.* The title Senior Analyst ranking would be reserved for the "...distinguished, or brilliant analyst, highly regarded by peers, whose judgments are uncommonly accurate and reliable, whose performance shows consummate skill and economy of effort, and who can deal effectively with certain types of rare or..." difficult problems.
- *Master Analyst.* Any Senior Analyst "...who is also qualified to..." mentor and supervise "...those at a lower level" is designated a Master Analyst, the substantive leader of a work unit, and "...is one of an elite group of..." Senior Analysts "...whose judgments set the regulations, standards and ideals..." for the analytical profession.

There is no place for the sole practitioner in a work unit. By design the analysts in the new scheme will combine their efforts under the direction of the Master

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Analyst on questions that a single analyst could not answer adequately alone or in cooperation with a few colleagues.

3. Build Analysis on a Proper Foundation.

Creation of work units also recognizes that quality intelligence products depend on three different types of analysis being present – current reporting, directed research, and basic research. Our problem is not so much that we do too much current reporting today, as it is we do too little directed and basic research. Who, and where they came up with the idea that we were doing our consumers a favor by giving them a greater volume of current reporting at the expense of the more time consuming and labor intensive elements of the process, I do not have a clue, but I do know that whoever they were, they were dead wrong. Current reporting not supported by a sound research base has more in common with fortune telling than intelligence analysis. True you may be able to field a greater number of consumer questions doing it this way, but only at the expense of depth and quality.

OVERCOMING RESISTANCE TO A CULTURAL CHANGE

Implementing the changes necessary to improve the quality of analysis will not be easy. Unfortunately, there are no shortcuts or workarounds when it comes to creating new knowledge in any field whether it is physics, medicine, or any of the social sciences. If we are serious about improving the quality of our product we will need to reduce the number of people assigned responsibilities for current reporting. I would start by transferring two-thirds of the analysts now doing current intelligence to other tasks, ones that will demand greatly different skills and practices than at present, something most analysts will likely resist, especially if it requires them to work under the close supervision and orders of a mentor. They will also have to be satisfied doing most of their work for other analysts, not the President. This is the only way we can

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make the products he and other senior officials receive worth reading.

Most analysts will readily adapt to the new circumstances, finding the search for knowledge reward enough. Some, however, may find research and a concentration on the micro unfulfilling or too confining compared to the big picture work they have been doing up to now. My advice to them is either stick with current reporting or find employment elsewhere. Not everyone can do the big picture stuff. That is not the way you advance knowledge. The big picture might be more fun, and if it got the job done I would not object, but it is not possible to do quality work in that way. Just like we cannot bake bread without yeast and flour, we cannot produce quality intelligence in the absence of direct and basic research by micro experts. We have been there, done that. It does not work.

Analysts are not the only ones who fight against culture change. Intelligence Community managers are a key element for the success of any reform effort. It is the managers who must convince the consumers that change is necessary, knowing if they are successful, that they, not the analysts, will be held accountable for anything that may go wrong. Many think culture change will cost too much money. Others fear upsetting consumers by rocking the boat. Some do not accept the need for reform or have bought into the fallacious notion that more analysts always mean better intelligence. No wonder then the large, seemingly costly changes real reform requires scares a lot of people – culture change of this magnitude always involves great risk – but in this instance the cost of clinging to the status quo is far higher even if not so easily foreseen.

Two factors in this instance help mitigate the danger of failure:

First, *the idea that you improve the quality of analysis by simply adding more analysts is indeed mistaken.* Our biggest problem today is not that we do not have enough

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analysts sifting through the mass of data we collect, but that they are focused on finding only the “haystack’s” most obvious bits and pieces of information. Truth is there is only so much obvious data that exists out there, and we can find it with far fewer people than we do now. Although additional information and insights are hiding there, they cannot be found using current reporting techniques. Indeed, if all we needed were obvious pieces of data, we would be better advised to dramatically cut the number of analyst billets, say by three-fourths, and add a few processors slots in the collection agencies. It would save a lot of money, and without sacrificing the quality or quantity of our production. But, if what you are after is better analysis from the existing analytical resources, it will require putting much greater emphasis on expertise and the search for the less obvious and hidden bit of data, and many fewer focused on current reporting.

Second, the first change most consumers will notice is not fewer reports, or a request for more money, but that the intelligence they receive is getting better and more relevant to their needs. Truth is reducing the number of people assigned to current reporting, even the large amount I advocate, will not result in a corresponding reduction in the amount of finished products available to the consumers. The obvious data available is finite, and already allows us to produce more reports than the consumers can read, a volume easily handled by only a fraction of the current workforce. Instead of its numbers producing value added, we get considerable duplication of effort, and under used resources operating this way.

CONCLUDING REMARKS

Expertise is far more than just what our experts know. It is also the type of analysis they do, and how they do it. Consumers may not care much about these details, but they should because the quality of the information they receive depends on them. An Intelligence Community that specializes in current reporting, quick response answers to

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consumers' questions, and resorts to personnel surges to fulfill high priority strategic target requirements cannot produce quality, in-depth, analysis. Those who think we can are mistaken. It is simply not possible. Creating new knowledge does not work that way. On the other hand, if this superficial approach gives the policy-makers the quality of information they want we are wasting a huge amount of money. We can do this level of analysis with far fewer resources.

The Community's past record suggests that we will continue to give lip service to expertise, claiming we understand how important it is, but in practice be willing to accept far less. Just as our counterparts in business, who too often seem more focused on giving their stockholders good news in their annual report than insuring maximum success in the future, we have a history of catering to our consumers' immediate demands, and a willingness to sacrifice quality for speed and long term needs for quick returns. Investing in expertise is like spending money on research and development. Everyone recognizes how important it is to long-term success, but buying it at the expense of short-term profits is often difficult to sell to one's stockholders.

We cannot afford for analytical expertise to suffer the same fate. Intelligence Community managers must be willing to fight hard to grow it, knowing that if they fail at this, they cannot produce the type of in-depth answers needed to protect our national security. Consumers, especially senior policy-makers, for their part, must demand excellence from its intelligence officers, but with the understanding that they themselves must also learn more about what it takes to provide them with good answers, and how important expertise is to intelligence analysis.