



FORSVARSAKADEMIET

RESEARCH PAPER PROJECT KITAE PART III

UNIT CONSTRUCTION FOR EFFECT IN A COMPLEX BATTLESPACE

By Dr. William Mitchell, Dept. of Joint Operations,
C2 & Intelligence, Royal Danish Defence College



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Abstract

This research brief focuses specifically on the preliminary findings from project Kitae¹ Part III that dealt with intelligence analysis challenges deriving from a complex battlespace. This paper specifically examines a counter insurgency (COIN) organizational concept developed in Helmand, AFG. It focuses on the operations with an Afghan special operations unit known as the Afghanistan Territorial Force (ATF) working the Upper Gereshk Valley (UGV), Helmand during the fall of 2010. The objective of the ATF was to assist the Battle Group (BG) with providing access to areas where regular troops unfamiliar with operating within a counter insurgency environment could not go to assess the state of the insurgency or the local nationals. The objective of this paper is to highlight the advantages of the formally acknowledging the role cognitive concepts can play in the construction of units for use in complex battlespaces. In doing so, also illustrate that the dynamics of social organization are not only necessary for understanding our enemies, but also play an important role on determining how we organize construct our own military units. The paper argues it is particularly useful where it concerns managing the desired effect in both the physical and cognitive dimensions and synchronizing the intended impact of a unit on the battlespace.

(1) **KITAE (Japanese) - Ancient Samurai Art of Forming the Edge of the Sword**

This research paper is the third in a series developed as part of Project Kitae, a real-time participant observation project based on a 6 month tour as a Battle Group intelligence officer in Upper Gereshk Valley (UGV), Helmand, Afghanistan.

Kitae I identifies the key principles behind organizing the operational edge C2 for effect in a complex environment, specifically using a comparison of network versus hierarchal structures to help identify those principles.

Kitae II identifies the key principles of approaching the intelligence process for effective production of situational awareness in a complex battlespace, through a comparison of traditional time & space (TTS) approaches and Social Network Analysis (SNA).

Kitae III provides a case study on how you can formally engage the cognitive dimension of a battlespace through unit construction for effect.

Dedication

To those who died

Shaping the battlespace during the period referred to in this study.

Sapper Mark Antony Smith 26-07-2010
Lance Sergeant Dale Alanzo McCallum 01-08-2010
Marine Adam Brown 01-08-2010
Lance Corporal Erik Berre Rolandsen 07-08-2010
Corporal Jimmi Bøgebjerg Peteresen 07-08-2010
Lieutenant John Charles Sanderson 11-08-2010
Rifleman Remand Kulung 12-08-2010
Sapper Darren Foster 13-08-2010
Sapper Ishwor Gurung 13-08-2010
Lance Corporal Jordan Dean Bancroft 21-08-2010
Lance Corporal Joseph McFarlane Pool 05-09- 2010
Captain Andrew Griffiths 05-09-2010
Kingsman Darren Deady 10-09-2010
Trooper Andrew Martin Haworth 18-09-2010
Sergeant Andrew James Jones 18-09-2010
Private Simon Mundt Jørgensen 22-09-2010
Corporal Matthew Thomas 25-09-2010
Rifleman Suraj Gurung 02-10-2010
Sergeant Peter Anthony Rayner 08-10-2010
Corporal David Barnsdale 19-10-2010
Private Mikkel Jørgensen 23-10-2010
Sapper William Bernard Blanchard 30-10-2010
Senior Aircraftman Scott Hughes 07-11-2010
Ranger Aaron McCormick 14-11-2010
Lance Corporal Jørgen Randrup 14-11-2010
Guardsmen Christopher Davies 17-11-2010
Private John Howard 05-12-2010
Corporal Steven Thomas Dunn 21-12-2010
Warrant Officer Henry Wood 28-12-2010
Private Joseva Saqansgonedau Vatubua 01-01-2011
Private Samuel Enig 09-01-2011

...the more than 50 ANSF KIA

...the many CF/ANSF amputees

Foreword

When I first started this project to put theory to the test in a real battlespace I had no idea of the profound impact it would have on my views of modern warfare. It was a wake-up call as to how the world has changed socially since my first battlespace some 20 yrs ago –and how little the military has followed in terms of social organization. After returning home with some time for reflection, I can say with complete conviction that we are still in a transition period where the technological phase started in the early 90's will now be going over to an even more challenging social organization phase. Despite the reinvigoration of COIN thinking across western military sciences, there is still no military from any country in ISAF that could claim that they have the final answer. I would therefore like to express my sincere gratitude and greatest respect to my Danish, UK, and US colleagues who worked with CF NES N/16th Air Assault Brigade, for their brilliant efforts to deal with the most absurdly complex battlespace I have ever experienced. I would especially like to thank the Danish Battlegroup Commanders Col. Lennie Fredskov, Lt. Col. Thomas Funch Pedersen, Maj. Christian Bach Byrholdt (S3), and Capt. Thomas Larsen (S2). As the operational senior command element of the Danish Battle Group, they faced the tremendous challenges of having to field the rippling edge effects of a NATO in transition in terms of technology, doctrine, and organization. In the midst of a battle they had to deal with organizational changes, synchronize multi-national battle plans under constant pressure from a variety of actors, and implement both a developing Comprehensive Approach and a COIN doctrine. To add to this challenge they had to introduce Danish soldiers to 'partnering en masse' for the first time. This meant that daily warfighting routines had to make time for the introduction of new technologies, the merging of systems, and the testing of new organizational procedures throughout the 6 months. This included the implementation of human terrain mapping (HTM), biometrics, battlespace forensics, new ISTAR assets, legal procedures, COICs, new CI procedures, regional ISAF command restructuring, constant ANSF coordination meetings, and managing an extremely dynamic political situation and major vote in Helmand. If this was not enough, these changes in themselves compounded the challenge by producing uncertainty up and down a range of hierarchies not only in Theatre but also at home, resulting in over 200 VIP visits during the 6 months. All of which were dealt with very professionally by Team 10. These 'inside' challenges were played out against the kinetic backdrop 'outside of the wire' of trying to reverse the negative effects of a static battlespace and a deadly insurgent IED network that had emerged from it over the previous year. They had to re-establish the freedom of movement for their own forces amongst insurgent influenced tribal communities determined to protect some the highest yielding poppy hectares in the world with their established international criminal organizations that stretched from Gereshk to Los Angeles. I have no doubt that Team 10 has earned its place in history as participating in the epicenter of new age warfare complexities, where they engaged a battlespace driven to the extremes of complexity by forces within and without. I can therefore bare witness that the leadership, the staff, and the professional soldiers of the DABG made a superhuman attempt to get it all right. It has been an honor to serve with the Danes of ISAF 10. My deepest respect and great admiration should also be noted for members of the ANSF units such as the ATF - with whom I would go anywhere, and the 4th and 7th Commandos. Their courage, professionalism, and determination to fight for their own future create hope amongst the population, and for them, there is no respite after 6 months. I would also like to acknowledge the other NATO and US SF communities operating in Helmand, and for partnerships that provided the insight for many of the principles identified in this paper. In Denmark I would like to thank my colleagues at the Royal Danish Defence College for sup-

porting all initiatives in regard to the Kitae study, and 'covering my back' whilst away in Theatre. I would furthermore like to acknowledge the Danish Army Operational Command for their critical support in the preparation phase; the Danish Defence Command with their support and input in the preparation phase; and various members of the Danish Defence Intelligence community for extremely useful discussions and input before, during, and after the field study. On the academic side I would like to acknowledge the inputs from various international venues and arenas, particularly guidance and feedback from the Pentagons' Command & Control Research Program under Dr. Alberts; Defence Research and Development Canada and Keith Stewart; Maj. Pedro Fernandez at NATO School Oberammergau; the three time AFG vet Lt. Col Andrew Mackenzie of the NZ Defence; and finally Dr. David Phillips of the Tribal Analysis Centre, Washington D.C. for guidance and support in regards to tribal issues.

I have no words to adequately describe my appreciation and admiration for my wife and in-laws who together successfully ran the show on the home front for the second time in 3 years. Nor for daughters Ellen and Anna, who courageously watched their Dad fly off to his 9th battlespace for a half-year, yet with the first time understanding that not all who go to such places come home again.

A handwritten signature in black ink, appearing to read "William J. Schell". The signature is fluid and cursive, with a prominent loop at the end.

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Table of Acronyms

AFG	Afghanistan
ANSF	Afghan National Security Forces
AO	Area of Operations
BG	Battle Group
CIED	Counter Improvised Explosive Device
COIN	Counter Insurgency
CF	Coalition Forces
C2	Command & Control
DABG	Danish Battle Group
EBT	Effects Based Approach to Operations
EBO	Effects Based Operations
FoM	Freedom of Movement
GDP	Ground Dominance Patrol
GIRoA	Government of the Islamic Republic of Afghanistan
GSM	Global System for Mobile Communication
HTM	Human Terrain Mapping
ICOM	Integrated Communications
ICP	Intelligence Collection Plan
IED	Improvised explosive Device
INS	Insurgents
IPB	Intelligence Preparation of the Battlefield
ISTAR	Intelligence, Surveillance, Target Acquisition, Reconnaissance
LN	Local Nationals
ORBATs	Order of Battle
OPSEC	Operational Security
MoE	Measurements of Effectiveness
PB	Patrol Base
PIR	Priority Information Request
QEQ	Quantity Effects Quotient
RCT	Rational Choice Theory
SAQ	Structural Agility Quotient
SF	Special Forces
SME	Subject Matter Expert
SOF	Special Operations Forces
TIC	Troops in Contact
TiGR	Tactical Ground Reporting Tool
TFH	Task Force Helmand
TTP	Training, Tactics, and Procedures
UGV	Upper Gereshk Valley

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Introduction

The objective of this research paper is to examine the construct of a military unit, that formally taking into consideration both the cognitive and physical dimensions of a complex battlespace. The framework of this paper is quite straightforward, in that it will examine a real unit put together in such a manner as to meet COIN challenges in Helmand, Afghanistan. It examines a “plug and play” example of unit construction to meet both the physical and cognitive needs of a particular COIN environment in order to maximize affect. It is divided up into 5 sections; the first is a short overview of the theoretical foundation to the understanding of a complex battlespace. It is built around a presentation of the dynamics behind the cognitive dimension of the battlespace, including the role norms and identities can play in managing the assessment of effects. The second section, describes the analytical framework, which is a straight forward cases study built on participant observation and qualitative analysis. The third examines the construct of the unit with regards to the physical dimension of the complex battlespace, while the fourth section assesses the construct of the unit in meeting the needs from the cognitive dimension using constructivist concepts. The final section will summarize the analysis in manner to identify some key take-a-ways in terms of building military units to engage complex battlespaces.

EBT Context

The methodological context of the military’s approach to planning in Upper Gereshk Valley (UGV), takes place within an Effects Based Approach to Operations (EBT)³ planning environment where knowledge is developed to generate desired effects and the actions executed to achieve them. As EBT has become the central guiding philosophy for military planning in a battlespace, the most important aspect for the application of knowledge in relation to the implementation of EBT is to ensure a “logical” relationship between end-state, objectives, effects, and actions.⁴ In this regard the EBT process constitutes a philosophy by which military units placed in a battlespace, will, through their organic construction, engage both the physical and cognitive dimensions of the battlespace through mere presence. Whether that effect is desired or not, is dependent on the construction of the unit, and its suitability in providing the rudimentary basis for supporting actions in manner that promote desired effects. Adopting EBT should force us to consider the how and why we construct units to operate in any particular battlespace to achieve the most effect. For example, there is no point in trying to promote the presence of GIRoA in rural areas of AFG, a desired effect, if there are no GIRoA faces built into the units engaging the rural population.

Complex Battlespace & COIN Environment

A complex battlespace is understood in this paper being asymmetric with both a cognitive and physical dimensions. It is represented by the counter insurgency (COIN) environment consisting of the physical and human terrain referred to throughout the paper. In a COIN environment it is more

(2) See Richard E. Hayes, 2007:145-176 for a discussion on the difference between force and endeavour.

(3) EBT should not be confused with the independent US military Effects Based Operations (EBO) that is much more targeting driven. See Mattis (2008); For philosophical foundation see Smith (2005, 2006); Nicholson (2006); Mitchell (2004); and a doctrinal interpretation, see NATO (2007).

(4) Bi-Strategic Command Pre-Doctrinal Handbook (2007): 5-8 to 5-9; Smith (2006); Mitchell (2008)

important to control the people rather than the terrain and key to understanding the depth of the INS, their FoM, and their influence amongst local nationals (LN). The participant observations for this study are taken from daily warfighting activities in one of the most violent areas of AFG, the Upper Gereshk Valley (UGV) in Helmand province within the area of responsibility belonging to Task Force Helmand (TFH) and the Danish Battle Group (BG). The UGV is one of the most complex battlespaces⁵ in AFG due to the concentration of narcotics and the various competing forms of governance, known to TFH as the *official* (GIROA), the *traditional* (tribal), the *shadow* (Quetta insurgency), and the *dark* (narcotics cartels). Furthermore coalition forces (CF) in parallel to trying to establish a safe and secure environment in the environment, we also responsible for mentoring and supporting Afghan units. The end goal was to be able to eventually turn over complete responsibility for the AO to Afghan National Security Forces (ANSF.) Therefore as part of this COIN environment were the processes of building up Afghan units that would operate in this environment to achieve the desired effects with the INS, and the LN. In this regard the ATF is one of many ANSF units, however the ATF more than many other ANSF units, were put together specifically to meet the challenges specific challenges of our COIN environment.

Part I: Theoretical Foundation

In line with the other Kitae papers, the meta-theoretical foundation is based on a complimentary understanding and application of a rationalism that recognizes both the material/efficiency and conventional constructivist contributions to sense-making. However on a meta-theoretical level this paper will focus on the role intersubjectivity plays, through a functional understanding of norms and identities, in providing the basis logic for the construction of a military unit in a COIN environment to exploit the intersubjective constructivist dynamic to effects advantage.⁶ Intersubjectivity suggests that 'social facts' can act as the objects of analysis emerging from the interaction between the cognitive and the physical dimensions of the battlespace.⁷ There are two cognitive concepts of interest in for the assessment of the construction of the ATF, the first is *identity* and the second is *norms*.

Identity

Identities are understood here as having three accepted functions in a society. They tell you who you are, who others are, and others who you are.⁸ Identities are necessary in social environment to maintain a minimum level of predictability or stability.⁹ Therefore a military unit, as a socially organized unit, has an identity as a unit in the battlespace and its identity implies it has its own preferences and consequent actions within the system of systems¹⁰ that make up that battlespace

(5) For methodological foundation see Johnson & Levis (1988, 1989); Alberts & Czerwinski (1997); For battlespace definitions see Smith(2006); Mitchell (2008, 2009; 2010)

(6) See Herotin (2004) for a more detailed discussion of the ontological foundation for constructivism in the modern battlespace.

(7) Mitchell 2004, 2009-Adler 1997: 327-328) A concept developed from earlier work of Deutsch (1957).

(8) This definition that provides in itself a framework for qualitative data management can be supported by Tajfel (1981):255; as well as later by Ted Hopf 1998:175.

(9) Ted Hopf therefore adopted Tojfel's cognitive definition. These three aspects of identity, made the concept more manageable within IR when examining the behaviours of states. The same understanding is adopted in this study to provide a functional approach to the identification of normative behaviours.

(10) (Katzenstein 1996b).

Thus identity is a functional concept relative to EBT methodology that can contribute to the evaluation of effects the enemy or your own unit in a complex battlespace.

Norms

Norms are also viewed by conventional constructivists as a functional concept intimately related to identity and can generally be defined as the 'shared' understandings of standards for behavior. Three characteristics of this definition can be referenced specifically to setting limitations on the application of intersubjectivity within the subjective context, thus making it available to an RCT governed instrumental evaluation of the effects of a military unit in a battlespace.

The first is that norms are embedded in webs of pre-existing meta-norms. This allows for the establishment of a fixed understanding of systemic influence within the relevant system of social exchange (such as the COIN environment of Helmand valley.) The second is that these norms change through the influence of various actors within a battlespace. This allows for the establishment of fixed understandings where it concerns the perceived behaviors of the unit within its operating environment. Finally, and very important to the conceptual linkage of norms to EBT driven assessment, is that norms define interests and identities.¹¹

Essentially these two concepts will drive the EBT assessment of the ATFs' ability to promote desired effects in the cognitive dimension of the COIN environment in Helmand valley.

Part II: Analytical Framework

It is a simple case study analysis that examines how the construction of the ATF reflects an acknowledgement of both the cognitive and physical domains of the COIN environment in order to provide the rudimentary basis for desired effects. It does so by defining the COIN environment in which it must operate in terms of material/efficiency and normative perspectives, and then reflecting on the actual construction of the ATF. A qualitative assessment of the actual effect in the field will supplement the construction discussion throughout the assessment, drawing on actual anecdotes from the field. Section 3 deals exclusively with the physical domain through a qualitative assessment of how the ATF is constructed to meet the material/efficiency requirements of the kinetic environment in which they must operate. This includes some discussion of the role of 'plug and play' specialists to augment the warfighting capacities of the ATF. It also includes discussion of some generic tactics, training, and procedures (TTPs). It is here the ability of the ATF to handle the "red terrain" and the kinetic capacities of the INS will be examined.

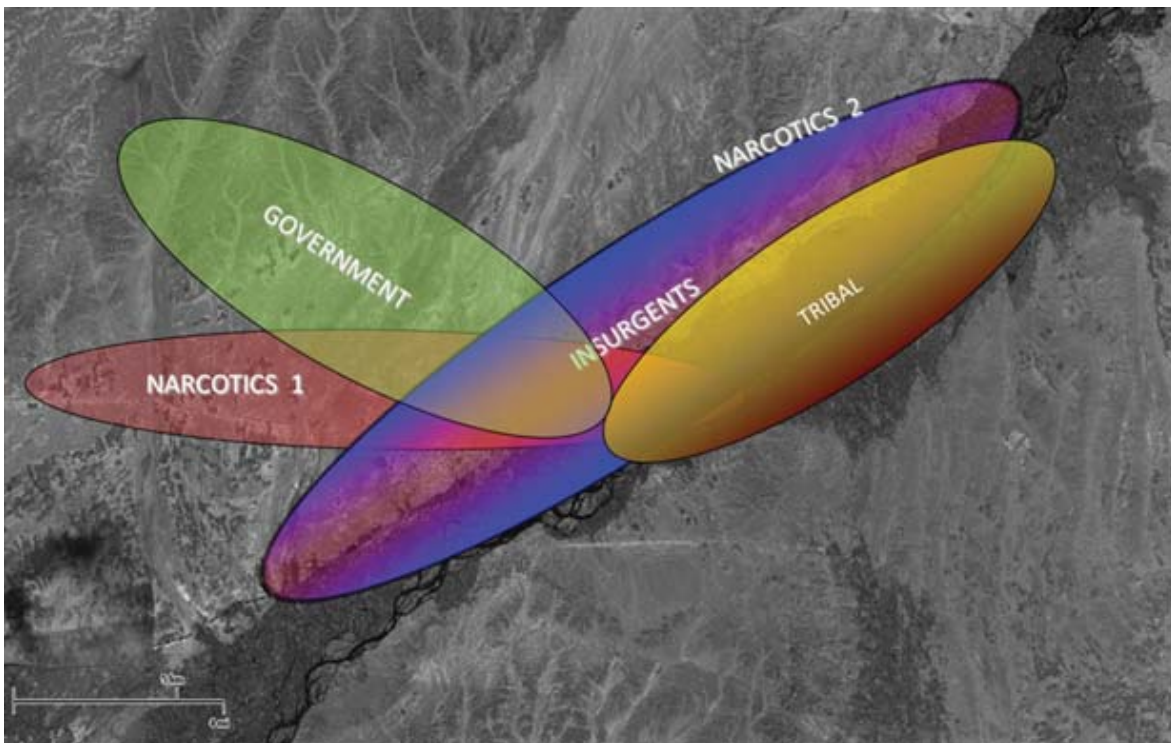
Referencing the cognitive domain, section 4 tackles the normative concerns which are assessed in light of the ATF construction for engagement in a COIN environment. It is here the some of the non-military dimensions of PMESII allow us to see how it is possible to construct units based on the synchronization of desired effects in a multi-dimensional battlespace. It is also here that the role of cognitive concepts norms and identity, are illustrated as mechanical parts of the ATF construction that serve a concrete purpose with regards to desired effects. Based on both assessments the conclusion will draw some general principles concerning unit construction for complex environments in order to maximize effect and reflect on the 'plug and play' approach.

(11) See Klotz 1995:19-20; Katzenstein 1996: 33-75.

General PMESII for our AO

The AO is overwhelmingly rural in character with many migrant farm workers on rented land. It was devoid of any interest from or in district, provincial or national governance. Authority in the areas came from the Mullahs, the local landowners (Maliks), the irrigation managers (Mirabs), the local INS commander, or in some cases the family elders. It was also an area that people were very hesitant to identify themselves, or others, as people of authority for their area. In terms of governance, most of the areas were reliant on the INS for local conflict resolution, for example demarcation of fields, simply because there was no other type of governance available due to the absence of both official and tribal political structures.

Map 1.0 PMESII



The military dimension reflected the long absence of both ANSF and coalition forces (CF). The INS moved through the LN population with impunity and rely through varying degrees on persuasion and coercion of the LN for logistic support in the form of food and shelter, as well as access to both arms and explosives caches. They operate in cells numbering up to 4-7 persons that can remain static in the area for periods of time; however their FoM often brought them across several AOs. They rely on improvised explosive devices (IEDs) as the main weapon for holding CF away from the LN, supported by small arms that are rarely carried around in the open unless they are in the process of organizing an attack on ANSF/CF. It also possible that heavier weapons such as a mortar or heavy machine gun might be brought into an area for specific purpose, and are usually mobile across several AOs. Once brought out for work, they take a great risk in being discovered and destroyed. So the INS used them sparingly. INS actions primarily consisted of IED seeding and

small arms fire (SAF) to harass through ambushes of short duration, after which they shed their weapons and immerse into the LN population. LN sometime will assist INS by hiding weapons under haystacks or in buildings however their usual course of action was to get their family out of the area until the contact was over.

Photo 1.0 INS Weapons



Where it concerned the economic dimension, the local economy was based on the agricultural produce of the areas, which for the most part was poppy, corn, hash, and wheat. The produce would be sold or delivered to a number of dispersed rural markets of collection points for transport to the urban centers. Therefore, in terms of local economy, it usually reflected the agricultural cycles of the area. As much of the land was rented, the majority of those working the fields had very little money, even after the produce was sold. Where it concerns poppy and narcotics, the farmers were those in the narcotics production chain who made the least.

The social dimension of the majority of the AO reflected an absence of governance. There was a high level of tribal diversity amongst the migrant farm workers, and this added to the absence of the government in the area, and made the area ripe for INS influence and 'shadow' governance. Some areas had no other choice than to ask the INS to come into their areas to help resolve inter-village/collective conflicts. In many areas, the Maliks, Mirabs, and Mullahs, were only visitors

passing through every so often, so conflict resolution was one area where the INS could justify their tax rates on agricultural produce. The majority of LN in this AO could not read or write and the general education level extremely low. This was also reflected in the amount of children that did not go to school but instead worked the fields with their families.

The INS walk a fine line between influencing and intimidating the LN in the AO. The INS can be heard on radio regularly informing fighters not to fire whilst LN are in the area, and to protect property. On occasion when they are frustrated they will ignore that order. They will not fire at ANA in the urban environment, knowing only ISAF pay compensation to LN for damage sustained in a firefight.

In terms of the topography and infrastructure, the areas of operation were primarily rural within the “green zone” with a high degree of seasonally dependent vegetation that affected FoM as well as line of sight for small unit maneuvers depending on the season. Small farming collectives, or villages, were scattered throughout the area of operations, connected by system of small roads and time worn footpaths. Throughout the AO a complex system of irrigation canals fed the fields and the villages with water from the Helmand River. Some of the collectives had generators for electricity; there were very few schools though almost every collective had a Mosque that often doubled as a school when the Mullah was passing through. Properly built bridges across canals were very uncommon; however there were all sorts of make-shift canal and river crossings – from fallen trees, to old pipes thrown down. Sewage and sanitation was based on access to the river, canals, or wells.

Photo 2.0 Small Roads & Paths



The only form of local information is radio and only very few members of the community have access to it. Literacy rates are close to zero in the area so the LN are very dependent on the Mosques and their characteristic speakers for mass information delivery. The use of the mobile phones however, is widespread throughout the area but subject to daylight hours because of most restrictions during the night. However GSM is the most effective communication for INS, and in this regard they have a tremendous advantage over CF.

Battlespace Narrative & Commanders Intent

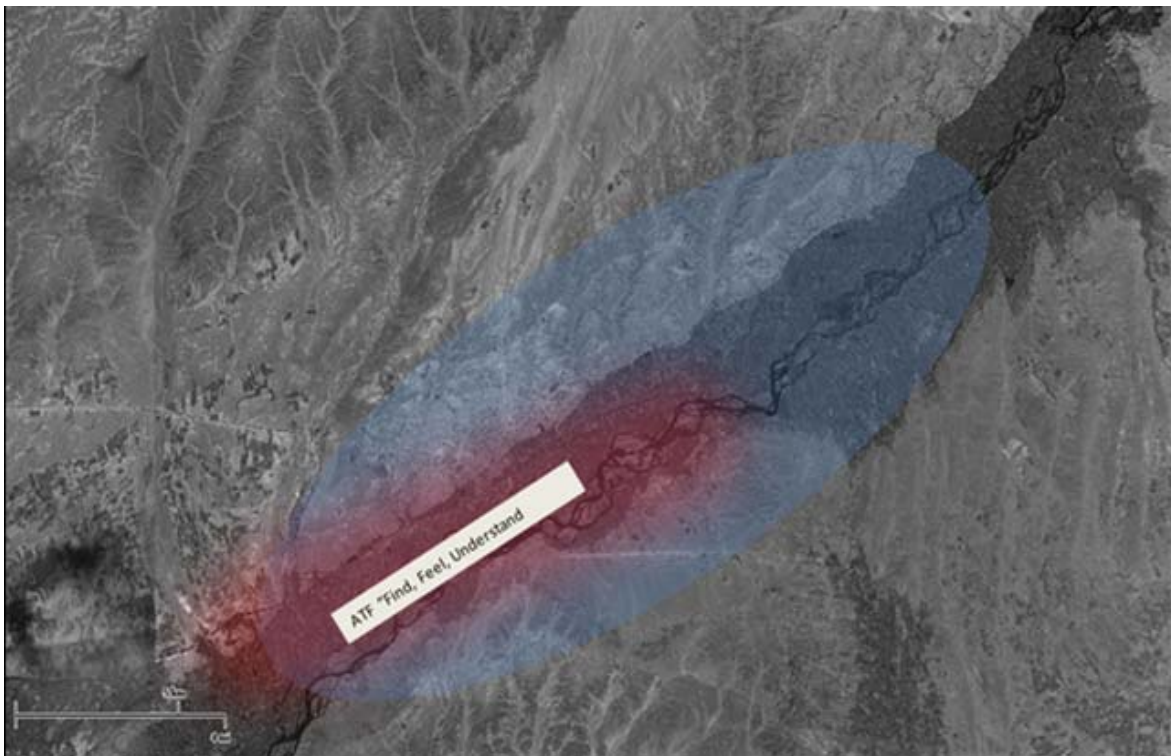
The military situation on our arrival was static, fixed coalition forces positions had be surrounded by IED belts separating the them from the Local Nationals. INS had both a physical and psychological influence capacity that extended throughout the upper GSK valley with several key nodes of INS C2 in key locations that project of influence and kinetic activity. There were three challenges put forward for our AO, the first was to break the IED belts and re-establish sufficient FoM as to be able to come in contact with the LN. The INS had invested heavily in perfecting a multi-layered system of IED networks based on establishing short & long-term caches ranged to target seeding areas for convenience (30-300m/200-1000m), and larger IED production and storage facilities ranged to target seeding areas for security (2-20km). The objective appears was to continue to fix our forces either in bases or limit our FoM to perform influence operations in conjunction with GIRoA. The INS IED system is designed to disrupt and block landlines only, as is completely dependent on successful seeding techniques by quantity or quality to stress, or overwhelm, our counter IED capacities. This situation has developed over the past year where units have prioritized force protection of fixed bases, and because of the INS IED strategy had obtained FoM dominance and with it the initiative in terms of both kinetics and influence. If we were to engage a COIN driven battlespace we had to regain FoM, get in contact with the local population, begin to map the dynamics of the local population in order to produce a coherent influence plan. At the same time we were tasked with increased partnering with AFG forces in order to work towards eventually handing over complete responsibility for security to them. This required both basic military training as well as training in military planning. Finally, in line with COIN principles and Commanders Intent we had to try and maximize the AFG face interacting with the local population.

The strategic objective for the BG during this period was to promote the influence of the government throughout one of the most violent and complex battlespaces areas of AFG, by human terrain mapping (HTM) and facilitating the engagement of local government officials with the local population. However the INS IED networks had become very efficient over the previous year because of a static approach to the battlespace that focused on protecting fixed patrol bases, and avoiding IEDs. This resulted in INS IED networks becoming extremely efficient in the production, distribution, and placing of IEDs around fixed coalition forces (CF) positions. The CF freedom of movement (FoM), especially in the minds of the soldiers, had become extremely limited. If the BG wanted to be able to engage and influence the LN, our FoM in the battlespace would have to be re-established. Attacking the INS network and conducting HTM would have to take first priority. It would be necessary to degrade the INS network to establish access to the LN.

The Commanders intent for the 6 months was to re-gain CF FoM in order to access the local population for human terrain mapping, and to set the foundation for expanding GIRoA influence.

For periods during the early fall of 2010, the BG conducted joint operations with the ATF, with the purpose of establishing contact with LN, degrading the INS C2 structure amongst the LN, and facilitating GIRoA access to INS dominated areas. In short these operations proved to be great success in terms of effects produced. In the course of just one week for example, several INS dominated areas were infiltrated by night, over 80 compounds, 15 mosques were searched, over 12 shuras held, and 3 government visits facilitated. Several INS were killed or detained, and over 40 persons of interest were registered, HTM or 'white terrain' intelligence was collected on various issues such as landownership, pattern of life, tribal and family structures, local key leaders, as well as economic variables.

Map 2.0 ATF in the Green Zone



Part III: The Physical Domain

Being able to manage the kinetic elements in physical domain is a pre-requisite for being able to operate with the non-kinetic aspects of a COIN environment. Therefore any unit constructed to do so, must identify the kinetic challenges relative the battlespace in which they have to operate. It is here that traditional time & space (TTS) approaches encompassing the material/efficiency concerns are set in motion to help identify the challenges that the unit will face. These considerations must also be measured within the context of EBT, as it is one thing to be able to maintain a presence, however challenges within the physical domain must also be met in manner to insure there is a capacity for generating the desired effect. It simply cannot be just about force protection and surviving a visit to an INS dominated area. Therefore along with the TTS challenges come the material/efficiency concerns relative to the desired effect that are partially based on the INS

ORBAT. The following list presents the kinetic challenges posed by the INS TTPs, and is notably generic to many insurgencies in a population centric COIN environment.

Key Material/Efficiency -TTS Challenges

INS ORBATs.

The INS primarily operate in networked cells numbering up to 4-7 persons that can remain static in the area for several months or break-up and move throughout several AOs as needed. They rely on IED training to support their keystone strategy of using IEDs. They use SAF for generally harassing CF units in very short engagements. Their C2 structure resembles a flexible network of different functions, where specific operations can see a different INS indicated as having leadership responsibility. This C2 dynamic diminishes the longer one moves up to more strategic leadership positions officially representing the Taliban (Quetta shura), however this does not mean that strategic direction is always followed on the ground. The networked nature of INS ORBATs can best be seen in the manner at which weapon specialists are moved about, including IED makers, mortar, or heavy machine gunners. These specialists might be brought into an area for specific purpose, but are usually mobile across several AOs. In our general AO INS lacked the capability of conventionally organizing units with corresponding logistics of any size, and where therefore restricted to 'hit and run' or 'shoot and scoot' type operations.

The ATF Construct:

The ATF units work in a diminished company size or less depending on the mission at hand. Furthermore their unit may be broken up into several smaller maneuver units depending on the mission. This maintains a force ratio that is more than sufficient for dealing with the largest INS cell, even if it does manage to assemble in a fixed position. The general coordination of the different maneuver groups is generally conducted through a HQ group however the main purpose of the HQ group is to manage the incorporation of supporting assets such as fires and close air support. Individual units are able to react to the situation on the ground in terms taking action to out-maneuver individual or grouped INS. For example, target searches can be changed on the fly to match atmospheric seen on the ground at their moment of entry into an area. So essentially where it concerns, C2 structures, the INS loose networked advantage has been diminished by sufficiently high level of networked maneuver groups, supported by more structure C2 in the command HQ to manage extra intelligence or fire support assets. The planning C2 flexibility of this approach is best seen in the very flexible process of timings surrounding planning briefings that can be held a few minutes before the start of the mission in the sand in front of a truck's headlights. For many westerners it takes awhile to get used to, however it has proven very effect in exploiting intelligence before timeliness becomes an issue, and severely reduces operational security (OPSEC) concerns attached to a prolonged CF planning process. If you do not know where you are going until minutes before going there reduces the chances that the loose network of the INS can react.

Photo 3.0 Morning Light



Photo 4.0 Odd Trails



Early Warning and INS Intelligence.

Without access to advanced ISTAR¹² technology as a capacity for supporting intelligence led operations INS instead focused exclusively on exploiting their superior access to the LN population for generating intelligence. The local insurgency makes very effective use of the well documented INS reconnaissance screens (also known as ‘dicking’ screens) combined with effective short range integrated communications (ICOM) based on repeater stations to minimize our ability to triangulate supplemented by mobile phones, smoke signals, flags, hand signals and mirrors. The reconnaissance screen may involve seasoned INS, or LN through young children, family, or friends, who are not necessarily active INS. This sets a challenge for any unit not from the AO to learn and recognize when this INS intelligence apparatus is active as an early warning system that can indicate INS presence, and or intentions.

Photo 5.0 INS Recce?



(12) ISTAR stands for Intelligence, Surveillance, Acquisition, Tracking, Reconnaissance and includes both human and technological capacities.

The ATF Construct:

In order to fully exploit the INS use of ICOM and GSM, the natural ATF language capacity and cultural ability has been married to CF technologies for signals intelligence (SIGINT). It does so without the filter of an interpreter, as the fighting members of the ATF can speak the local language. Furthermore, other more rudimentary forms of INS communication requiring physical actions are much easily spotted by the ATF than conventional CF forces. This includes the use of children to run messages, or the use of signals such as flags, so the natural ability of the ATF to identify an INS presence or intentions is only augmented by CF technology. From an effectiveness perspective, this arrangement allows the INS superiority in their home environment to be severely reduced or nullified. For example, an ATF soldier identifies a child with a mobile phone conducting reconnaissance much easier than the CF soldiers, he then confiscates the phone, immediately recuperates any actionable intelligence from the phone - upon which they can act then and there. Conventional CF force might not notice the child, and even if they did and confiscated the phone, generally do not have the capacity to go through it on site and must be sent back to specialists, losing all actionable intelligence for area where they already are physically present.

INS and IED's.

The INS primary tactic in our AO was to use various types of IEDs to frustrate CF attempts to come in contact with the LN in order to promote the legitimacy of GIRoA. INS had invested heavily in perfecting a multi-layered system of IED networks based on establishing short & long-term caches ranged to target seeding areas for convenience around static CF positions. The goal is to restrict CF FoM to engage LN. Due to CF 'force protection' concerns and the use of armored vehicles along established roads, as well as a general tendency for CF conventional forces to restrict foot patrols to daylight operations to maximize their ability to see ground signs, this INS strategy worked quite well. It also allowed the INS to treat static base locations as choke points ideal for IED seeding, while daylight patrols allowed INS to identify commonly used access routes for CF, ideal for planning IED ambushes or SAF attacks.

The ATF Construct.

The mantra of the ATF was "find, feel, and understand" and they focused on countering INS tactics for limiting access to the LN. This including extensive use of foot patrols lasting up to several days, where the majority of access maneuvering was conducted at night with a simple rule, do not go over the same ground twice. By moving at night, focusing on route selection often with very difficult routes such as makeshift canal crossings, as well as pushing out from very odd start points, often many extra kilometers away from the end point, it nullified the INS ability to establish choke or ambush points. These tactics were further supported with CF technology, night vision equipment, and counter-IED technologies in the hands of attached specialists, as well as CF dogs trained to find IEDs or conduct searches for weapons. This increased the speed at which the ATF arrived into an area where shuras would be held to conduct HTM in the early morning, denying the INS the ability to predict movement and apply their IED strategy.

Photo 6.0 Dogs & FoM

**Common INS SAF TTPs.**

The INS relies primarily on short engagements with small arms to delay CF operations on the ground. They do this primarily by compensating for his lack of firepower and numbers by conducting omni-directional shooting at CF fixed positions or patrols being tracked while they are static (holding a pause for example.) Though the engagements are usually very short, the INS does have to use some time in organizing these short attacks and find it difficult to do so when they cannot track all independent units in the vicinity. Often automatic fire will be used to generate initial confusion and/or conceal a sharp shooting effort, or is combined with a remotely detonated IED of some sort. There is usually no follow through after the first minute, and INS are already in the process of dumping weapons and suspicious equipment, then blending in with the LN. They are however quite capable of adapting quickly to targets of opportunity, this could be rear units of withdrawing CF forces, or CF units they deem to be sufficiently isolated to risk a short harassment attack. INS combines these “shoot & scoot” tactics with their effective use of a reconnaissance screen that may include LN.

The ATF Construct.

The exploitation of the night for FoM where it concerns the INS IEDs also undermined the INS TTPs where it concerned the use of SAF. The loss of daylight observation, took away their ability to plan and coordinate, and there was no question of them competing with western night vision technology. On numerous occasions one could hear the confusion of the INS when the sun rose and the ATF were already calling LN out to a shura. Furthermore, in terms of pure kinetic exchanges in the daylight, the constant mobility of the sub-maneuver groups denied the INS the complete situational awareness they desired to organize themselves. Attempts to do so were too late and usually backfired giving away their reconnaissance screen as it tried to establish itself. The ATF had a traditional mix of light weapons and expertise with them, including enough ammunition for sustained fire and maneuver. The INS when taken by surprise had to coordinate and move people to caches or call in specialists, their ammunition supplies where built on a principle of very short engagements and harassment fires. Often the INS, on realizing that the ATF were already in amongst the LN, would simply say it's too late. Added to the maneuverability and rudimentary fires of the ATF maneuver groups, were western air support and ISTAR capacities and technologies to be used if ever things became too static anyway. So from a TTS perspective, the ATF construct took into account the physical capabilities of the INS and outmatched them through adept TTS considerations of their own, supported by western capacities.

Table 1.0 INS TTS Challenges vs. ATF Construct

Challenges Physical Domain	ATF Construct Solutions
The INS FoM through loose networked cells, and flexible C2.	Effect minimized by using flexible network construction of different sized maneuver groups with flexible C2 with regards to maneuver authority supplemented by CF C2 for force-multiplying capacities.
The INS advantage in early warning and operational field intelligence.	Use of out of better educated out of area Afghan soldiers to minimize or exploit the INS reconnaissance and communications network through their own cultural awareness supplemented by CF ISTAR technology and specialists.
The INS IED strategy.	Adaption of TTPs that standardize night maneuver over difficult terrain combined with CF night vision and ISTAR technology, as well as sniffer dogs.
The INS SAF strategy.	Adaption of TTPs that standardize night maneuver to objectives, sufficient rudimentary firepower, supplemented by CF fires and specialists.

**Part IV: The Cognitive Domain
The INS Operational Environment.**

Lacking the technology and firepower for direct confrontation between fixed pieces, they rely heavily on their natural advantage, their FoM amongst the LN. INS can “go to ground” when the CF units are actively searching for them. Even though some of the INS might not be indigenous

to the specific local area they exploit their cultural affiliation to the *Pashtunwali*¹³ code, tribal affiliation, or Islam, to justify taking provisions, money, temporary bed down locations, establishing weapons/explosives caches, and meeting locations. In some AOs this exploitation can be very systematic with formal procedures and arrangements for the deliverance of goods and funds/taxes through the local key leaders such as tribal elders, Maliks, Mirabs, or Mullahs. It is in effect what makes the environment very challenging for any non-indigenous unit to operate in, if they are not capable of operating amongst the LN and understanding these dynamics. However, they must not be so local as to carry with them a significant amount of “baggage” that would expose them to corruption or damage their ability to be effective because of a history of relations in their AO.

The ATF Construct:

The ATF is completely Afghan and its members are selected based on their education, language, and physical skills. Its standards in this regard are higher than the normal ANSF member, and this also means they receive a higher pay, however though most them come from an area outside of their specific AO. Therefore the right balance is struck between local knowledge of the norms because of the higher levels of education where they actually study about the cultural nuances between them and their countrymen, and not too much political baggage inherited like many of the local ANSF. Many of them can speak both national languages sufficiently to communicate with most of LN.

Photo 7.0 Pros



(13) The *Pashtunwali* is a non-written ethical code and traditional lifestyle which the Pashtun peoples of Afghanistan and Pakistan follow to varying degrees.

The INS Influence.

With greater FoM among the LN, the INS sought to drive a cultural wedge between the LN and the CF. The mere presence of CF, allowed the INS to highlight cultural differences between the LN and CF whilst suppressing commonalities in terms of desired development. When the INS did not achieve this by soft means he resorts to straight forward intimidation. This has taken the form of verbal warnings, beatings, stabbings, arrest and detention, and threats of murder. Like CF they often target LN key leaders as influence targets. Though the limits as to lengths local INS will go to vary, they were always ready to push the idea that the CF, as foreigners, were infidels with no respect for Islam or the Pashtunwali. Many of these opportunities were produced by mistakes of our troops in the field, not just when it came to the military activities, but a simply CF failure to invite the right people to a shura could be used as ammunition in their influence campaign.

The ATF Construct.

Both in terms of identity and norms, the inherent construction of the ATF nullified many of the advantages the INS had in terms of influence. As the ATF members were lead on searches for example, removed a great deal of these opportunities for 'softer' type INS influence operations. Furthermore, the leadership of the ATF on these issues with CF weapons and intelligence specialists playing a 'backseat', also impressed on LN that not all CF were disrespectful of the Pashtu traditions. This inherent cultural advantage was then married to CF influence operations that saw material support such as radios and illustrative posters concerning IEDs pushed out through the ATF and distributed. When it came to tribal custom, due to the ATF identity and norms, was well of aware of who should be invited, and who should sit where at a shura.

Photo 8.0 Key Leaders



Photo 9.0 Taking a Back Seat



Photo 10.0 Afghan Face



INS Intelligence Dominance.

As dictated by the requirements of a COIN environment and a PMESII framework, intelligence to help guide planners must come from all dimensions of the AO. The main INS challenge in this regard in our AO was their effective use of IEDs to physically keep conventional units from engaging the LN. Without this access, there would be very little intelligence on the INS or the LN. However, even when CF did gain access there was very little intelligence to be gained as LN were generally not happy with discussing either the INS or their economy with foreigners. These were for the most part rural Pashtu with a lot of traditions that we did not understand and that included how to carry a conversation. There was very little trust and the vast majority of LN in our area we unwilling to provide information. Furthermore, our lack of cultural awareness made it extremely easy for them relay inaccurate information, this point was exploited by INS counter-intelligence. On many occasions it was later learned that INS had been sitting and even steering meetings with

CF. Therefore the INS, because of the natural cultural awareness, and long time knowledge on the LN, had a clear intelligence advantage when it came to frustrating CF attempts at understanding them. CF often missed indicators from LN concerning INS present in the area, even at CF shuras, as well as inadvertently pushed LN sitting on the fence closer to the INS.

Photo 11.0 Afghan J2



Photo 12.0 Who Sits Where



Photo 13.0 Mutual Respect



The ATF Construct:

All activities that interacted with the LN carried out by the ATF had a distinct Afghan face of course. The ATF take the lead on the soft and hard knocks; they take the lead at the shura, and they take the interactive lead throughout the security perimeter for the shura. Mentors & specialists take a back seat when it comes to interaction with the locals. Furthermore there is a sense of professionalism surrounding the ATF that reassured the LN very quickly and gets them to be more open in terms of conversation. This could be due to the fact that the conversation is not broken by a translator. A second key point in creating the proper environment for an effective intelligence shura was the fact that there should be sitting more Afghans at the shura than ISAF, it reinforced the AFG identity of the shura.

However there was one “plug and play” addition to the ATF that really gave the ATF a tremendous advantage as an intelligence collection tool. It was having a fully western trained Afghan military intelligence officer (J2) carry the shuras in Pashto and writing down responses. It seemed to create the atmosphere for a more natural development of the conversation. It also seemed to generate a self-perpetuating interest in the shura amongst the LN. Throughout the shura it was easy to ask different types of questions to the participants, and exploit the easy atmosphere developed by the J2, when compared to a typical CF patrol, usually have two non-afghan CF personnel managing the conversation through interpreters. The ATF provided a complete Afghan face to the shuras and this made a big difference with regards to the interaction between Afghans, especially where it concerned sensitive topics such as the poppy industry or the INS. The LN seemed more engaged in the process. There were many examples from the 12 shuras conducted where I was surprised about how easily they discussed the activities of the local INS. This included the daily routines of INS patrols, their taxing methods, their AOs, their HQs, their firing points, their IED seeding activities, recruitment policies, BDLs, names, villages, mosques they attend, timings on attendance, and the list could go on and on. All this has more value than meets the eye, especially if, when managed properly, it provided an excellent resource for source evaluation and collation by cross-checking previous reporting. An example from one of the shuras was the unsolicited reporting to the ATF of a LN that there was an INS who would fire a single shot rifle at a checkpoint every so often. This unsolicited observation was used to confirm earlier reporting from other sources.

There was also the opportunity to compare our contextual PMESII understanding built up from incoming reports the reality described by the LN on the ground.

Table 2.0 Cognitive INS Challenges vs. ATF Construct

Challenges Cognitive Domain	ATF Construct Solutions
The INS advantage over CF in the operational environment due to common identity and shared norms with the LN.	Nullified this advantage as the ATF also had a common identity and norms with LN, but minus the local historical baggage.
The INS advantage over CF in terms of influence because of their access to LN areas, and complete familiarity with their norms.	Nullified the INS advantage and received force-multiplier in terms of CF info campaign support in terms of material and messaging expertise.
INS intelligence dominance in the battlespace due their identity and inherent norms found it easier to exploit LN for intelligence purposes.	The ATF nullified this advantage and provided an intelligence production force multiplier for CF by integrating a CF trained Afghan J2 with analytical support at ATF.

Summary

The purpose of the paper was not specifically to advocate one certain type of unit over another in AFG, but to identify some possible generic lessons in the process surrounding unit construction within the context of “plug and play” principles and effects synchronization. It should be no great leap of logic to say that if we believe a complex battlespace consists of both a physical and cognitive dimensions that are inter-subjective in nature, then units designed to operate in such an environment should also reflect this complex relationship in its construction.

The ATF illustrated that at the very edge of a large military organization, a thoughtful process evaluating the role of every individual in terms of ability to produce desired effects in both the physical and cognitive dimensions can be applied. In terms of the physical dimension, the ATF trained for the physical challenges it would face in their operating environment, supported by an augmentation of the unit with CF specialists, whether ISTAR, forward air controllers, or dog handlers. All of these elements were added as a result of the physical challenges.

The tactics chosen by INS could be countered no matter what ethnic background you had. Therefore deciding what you need for the environment should take both the physical and cognitive dimensions into account. However ‘plug & play’ does not always work within the traditional processes of existing military organization due to inherent traditions and processes, and merits further research of how we can organize to facilitate ‘the plug & play’ principle and not frustrate it. Where the ATF was not hemmed by traditional routines of acquiring assets, CF units were. The dogs were a perfect example, despite the great FoM advantage they gave units with regard to IEDs, coupled with their search value for compounds, their use was not wide spread among the conventional forces CF. In one case only 2 dogs for a whole BG. As a simple requirement of the ATF being operational as a maneuver unit – they required at least 1 dog for less than company. Therefore when one applies a ‘plug and play’ approach, correctly identifying any one element,

no matter how small or untraditional, that provides a large effect, should be able to reach an equivalent priority. In terms of effect, I would have traded our tanks for dogs.

The other key aspect that this case study has highlighted through is the role of synchronization. By understanding the different requirements of both the cognitive and physical dimensions of the complex battlespace, it is possible to synchronize the construction of a unit to maximize its rudimentary effect in a given battlespace. This also should be no surprise as discussion on synchronizing kinetic and non-kinetic actions has been around for quite awhile, the key to fundamentally supporting that synchronization lies in the unit construct.

Moreover even the actual construction of the ATF is synchronized with CF strategic planning where it concerns partnering. The mentoring of the ATF occurs at all levels within the unit including planning operations and specialist training, it is estimated that right now it is approximately 50/50 however the goal is that it will be 40/60 by the end of 2011.

Photo 14.0 Partnering



The ATF was a game changer in a way that cannot be described completely in this paper, it not only changed the fortunes of CF in our AO, it changed the fortunes of GIRoA with the LN through their professionalism. Therefore this process of unit construction under ‘plug & play’ framework should be subject to effects analysis, and this of course will depend on the environment into which the unit must act. This is another argument that traditional military organization, where it concerns the construction of units, must learn to facilitate this ‘plug & play’ process by adopting a flexible doctrine of unit formation at home.¹⁴ This of course will be a great challenge to traditional organization. However this paper illustrates that there is an evaluative framework available, though it needs further development, that can help ensure the unit is constructed to maximize effect in both the physical and cognitive dimensions of a battlespace.

(14) See Atkinson & Moffat (2005) for a detailed discussion on organizational agility.

References

- Atkinson & Moffat , "The Agile Organization" (2005) Washington D.C.:CCRP, 2005
- Deutsch,Karl W. et al. (1957).Political Community and the North Atlantic Area. Princeton: Princeton University Press
- Hayes, Richard E. (2007) The International C2 Journal Vol.1, No.145-176.
- Henrotin, Joseph & Tanguy Struye de Swielande. (2004) "Ontological –Cultural Assymetry and the Relevance of Grand Strategies," Journal of Military & Strategic Studies, Winter 2004, Vol. 7, Issue 2
- Hopf, Ted (1998). "The Promise of Constructivism in International Relations Theory". International Security, Summer; 23(1): 171-200.
- Johnson, Stuart E., and Levis, Alexander H. (eds.) (1989) Science of Command and Control: Coping with Complexity. Fairfax: AFCEA International Press, 1989.
- Johnson, Stuart E., and Levis, Alexander H. (eds.) (1988) Science of Command and Control: Coping with Uncertainty. Washington, DC: AFCEA International Press, 1988
- Katzenstein, Peter J. (1996). The Culture of National Security: Norms and Identity in World Politics. New York: Columbia University Press.
- Klotz, Audie (1995). Norms in International Relations. New York: Cornell University Press. (Peter J. Katzenstein. Cornell Studies in Political Economy).
- Mattis, Gen. J.N. USA DOD Doc. (2008) USJFCOM Commander's Guidance for Effects-Based Operations, Norfolk, VA: US Joint Forces Command, August 14, 2008.
- Mitchell, William. (2010) Agile Sense-Making in the Battlespace. International C2 Journal (IC2J). Fall 2010. http://www.dodccrp.org/html4/journal_v4n1.html
- Mitchell, William. (2004) Instrumental Friend or Foe? Constructivist Activism in Security Policy Means Analysis. Politica, Arhus University, 2004
- NATO (2007) Bi-Strategic Command Pre-Doctrinal Handbook "Effects Based Approach to Operations" 2007
- Nicholson, Peter. (2006) "Effects Based Strategy: Operations in the Cognitive Domain." Security Challenges. Volume 2, Number 1, 2006:133-146
- Smith, Edward A. (2006) Complexity, networking, and effects-based approaches to operations. Washington: CCRP.
- Smith, Edward A. (2005) Effects Based Operations: Applying network centric warfare in peace, crisis, and war. Washington: CCRP.
- Tajfel, Henri (1981). Human Groups and Social Categories: Studies in Social Psychology. Cambridge, UK: Cambridge University Press.