FUTURE WAR PAPER

BEYOUND OUR GLORIOUS PAST:
Some Cultural Barriers to Realizing Network Centric Warfare in the Australian Defense Force

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EXECUTIVE SUMMARY

Title: BEYOUND OUR GLORIOUS PAST: Some Cultural Barriers to Realizing Network Centric Warfare in the Australian Defense Force

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Thesis: The military organization and culture that has been handed down from the battlefields of the nineteenth and twentieth century presents significant barriers to shared situational awareness and hence the adoption of Network Centric Warfare for the Australian Defense Force**.**

Discussion: Two key areas of resistance are the departmental paradigms that have been established over the last one hundred years and the continuing institutional isolation that diffuses the organizational loyalty required of a networked force.
Diffusion of organizational loyalty detracts from the network-centric ideal of loyalty placed at the highest level and preferably to the mission. While it is accepted that loyalty based cohesion at the small unit level is vital for effective action under extreme stress, it must be noted that diffused organizational loyalty can also produce negative resource competition and solidify institutional boundaries. The institutional boundaries of departments, services, and corps provide a compartmentalized organizational focus for shared experience and parochial consensus that detracts from mission orientation.
The Australian Defense Forces' current linear command structure of units, formations and groups places far too many command nodes over sensing or shooting entities for the rapid achievement of the collaborative situational awareness that enhances tempo. The ability to conduct military operations at a higher tempo and with decisive effects hinges on being able to leverage all the elements of national power. It is pointless to have a shared situational awareness if it based on an isolated military picture of the battlespace. Although such limited awareness may lead to the adoption of the correct military response to a set of circumstances, such a response may be discordant with approved strategy or policy. For shared situational awareness to transcend the force, the military must break from the traditional role it has played as a specialist arm of government and accept responsibility for the whole-of-government approach to warfighting.

Conclusion: To overcome and embrace these cultural challenges must be the path upon which the Australian Defense Force sets itself if the right commanders and the appropriate forces are to be trained for the battlefields of the Information Age. The paradigm of an operational framework of widely dispersed sensors, weapons, and command nodes that effectively function as a single combat unit is not too far removed from the current philosophies of the three services. However, the traditional western military organization and culture that has been handed down from the poorly networked battlefields of the past is no longer relevant if the Australian Defense Force is to implement this vision.
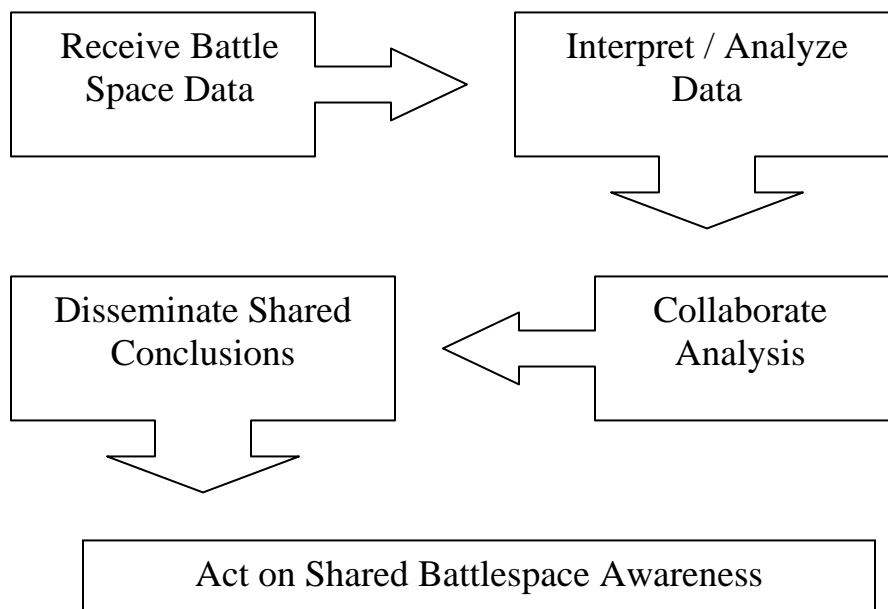
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Introduction

One of the foundation premises of Network Centric Warfare is that a near instantaneous situational awareness across the battlespace will result in faster decision-making, higher tempo operations, and a capacity for military precision unlike previous eras.[1] On the surface, the vision for Network Centric Warfare is deceptively simple. It is a concept that involves the linkage of engagement systems to sensors by the sharing of information between force elements. Concepts like this have been at the forefront of military evolution for generations. Watch-fires, signal mirrors, semaphore, telegraph and radios have all been used to share information and queue actions on the battlefield. Military organizations are comfortable with the vision of enhanced communication links enabling faster operations. Indeed, some would argue that it appeals directly to the western way of war in its vision of prosecuting conflict in the shortest possible time. However, the glitter of the Network Centric vision of the future battlespace can distract the casual observer from recalling that the most critical system in the network is the imperfect human. Modern technology can collect information from a vast array of devices, and communication allows military personnel to share this information on the dynamics of the battlespace in a distributed manner; yet it is a mistake to view situational awareness as a phenomenon that is created by technology alone.[2] Determining what situational awareness means requires an active cognitive process by military staffs – a process that transcends mere reliance on technology. In order for Network Centric Warfare to function, a human system must collaborate to achieve the necessary levels of shared situational awareness. The successful adoption of Network Centric Warfare then, hangs on the ability of the military to collaborate for the ultimate goal of shared battlespace awareness. Unfortunately, the military organization and

culture that has been handed down from the battlefields of the nineteenth and twentieth century presents significant barriers to shared situational awareness and hence the adoption of Network Centric Warfare for the Australian Defense Force.

In emerging Australian doctrine, military practitioners propose that situational awareness enables self-synchronization by forces in the field, resulting in enhanced mission effectiveness.[3] Yet, the sharing of information, particularly if it is distributed rather than collated, does not automatically guarantee a common operating picture. Examples of the failure of this human cognitive process are many, but are well reflected in the Kosovo conflict where, "information superiority allowed NATO analysts to know almost everything about the battlefield, but NATO analysts didn't always understand everything they thought they knew."[4] The process for producing shared situational awareness can be broken into four steps as depicted below.

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┌──────────────────┐            ┌──────────────────┐
│  Receive Battle  │  ═══▷      │ Interpret / Analyze │
│    Space Data    │            │       Data       │
└──────────────────┘            └──────────────────┘
                                          ║
                                          ▽
┌──────────────────┐            ┌──────────────────┐
│ Disseminate Shared │  ◁═══     │   Collaborate    │
│   Conclusions    │            │     Analysis     │
└──────────────────┘            └──────────────────┘
         ║
         ▽
   ┌──────────────────────────────────────┐
   │   Act on Shared Battlespace Awareness │
   └──────────────────────────────────────┘
```

In each of these steps the military organization and culture that is current within the Australian Defense Force works against the goal of shared awareness and resists the adoption of Network Centric Warfare. Two key areas of resistance are the departmental paradigms that have been

established over the last one hundred years and the continuing institutional isolation that diffuses

the organizational loyalty required of a networked force.

The Barriers of Diffused Loyalty and Institutional Boundary

Diffusion of organizational loyalty detracts from the network-centric ideal of loyalty

placed at the highest level and preferably to the mission. The Australian Defense Force operates

in an institutional framework handed down from the military evolutions of the nineteenth and

twentieth centuries. It distinguishes its members and generates institutional loyalty by

supporting distinct services, corps and units. Loyalty to a ship, regiment, squadron, etc. has been

a powerful unifying force for the military. There are real benefits to be obtained from

developing platform[5] oriented *espirit de corps*, not the least being the promotion of unit

cohesiveness – one of the most important factors motivating soldiers in combat.[6] However,

while it is accepted that loyalty based cohesion at the small unit level is vital for effective action

under extreme stress, it must be noted that diffused organizational loyalty can also produce

negative resource competition at a higher level. Negative resource competition occurs when

actions are based on organizational prestige, departmental rivalry or misplaced *espirit de corps.*

Negative resource competition can deny a network-centric force the ability to procure or

use appropriate technology. In terms of battlespace awareness, this impacts directly on the

reception and dissemination of data. Negative resource competition between the Services can

lead to an unbalanced procurement system that robs Peter to pay Paul. Resources are often

expended on improving secure communications for each service without thought to inter-service

operability. Indeed, even within the Army, the battlefield communication systems cannot link a

unit in the field with its administrative depot over a secure digital link. The competition for resources based on the specific desires of the infantry or the armoured corps often neglect the need of the defense force to be interoperable. Of greater concern, however, is the propensity of misplaced loyalty to deny scarce human resources to other elements of the organization. A network-centric force must be able to transfer resources without constraint throughout the organization. It cannot allow limited resources, like intelligence specialists, to be removed from the interpretation of data that benefits the whole force to a narrow expenditure on parochial institutional requirements. Misplaced institutional loyalty can confuse the mission focus and dilute the effectiveness of a net-centric force.

In order to achieve shared situational awareness a net-centric force must be mission focused above all things. In terms of the Australian Defense Force, this means a focus on the mission of the Defense organization and not its component parts. The institutional boundaries of departments, services, and corps provide a compartmentalized organizational focus for shared experience and parochial consensus that detracts from mission orientation. This compartmentalized view of Defense inhibits the unfettered reception and dissemination of battlespace data. An institutional boundary can be as simple as a separated base or building, or as complex as formal inter-agency writing standards. Its effect on battlespace awareness can be profound if no network exists for the collaboration of data. Currently the Australian Defense Force operates army, naval and air bases separated both geographically and technologically. Few headquarters have standing representatives of the other service and virtually none have other government department representation. Many of these headquarters set standard operating procedures in complete discord with each other and operate communication systems that are neither standard nor adaptable. Whilst it is true that circumstances often promote the rise of

individuals capable of seeing the broader picture and crossing institutional boundaries, most

members of institutions within the military rarely look outside of their own 'parochial consensus'

for solutions to problems. This can be intensified during periods of sustained success because

the shared experience makes for susceptibility to tradition and a collegial loyalty to the ideas and

techniques that have worked in the past.[7] The institutions of the Australian Defense Force,

handed down from the last century, display all the attributes of a force diffused by institutional

boundaries and misplaced loyalty.

To reduce the internal friction caused by a system of diffused organizational loyalty and

institutional boundaries, there may be a need to abandon centuries of military bureaucracy. It

could start with a concerted campaign to reassign loyalty to the Defense Organization above that

of the individual services. Here the Australian Defense Force could borrow from the United

States Marine Corps' example. Unlike the U.S. Army, the Marines are an organization that

places loyalty at the highest level. Historically, loyalty to the Corps has been placed above that

of individual units or areas of personal specialty. The Marine Corps has managed to minimize

branch and specialist loyalty by promoting the image of all of it members as Marines first, other

specialties second. Such a concept applied to the Australian Defense Force would move it closer

to a networked culture that seeks to minimize negative resource competition by the elimination

of inter-corps rivalry.

A more radical solution for the Australian Defense Force may also be the dissolution of

the Tri-Service environment in favor of a single service culture that aims to eliminate the need to

cross institutional boundaries. Such unity of institutional culture would provide significant

leverage for a networked force by eliminating many of the past practices that physically separate

the three services. Whilst it is acknowledged that competition can produce positive results for

the contenders if it is well managed, it is doubtful that an appropriate virtuoso of manipulation could be found on call. If the Australian Defense Force is to adopt Network Centric Warfare it must overcome the barriers of diffused organizational loyalty and institutional boundaries that inhibit the conditions necessary to achieve shared situational awareness.

The   Command Paradigm

A network-centric force must have a non-linear command structure and fewer control nodes in order to generate operational tempo. The Australian Defense Forces' current linear command structure of units, formations and groups places far too many command nodes over sensing or shooting entities for the rapid achievement of the collaborative situational awareness that enhances tempo. Traditionally, awareness throughout the chain of command has been achieved by senior commanders leading from the front. The ability to be at the right place at the right time was the distinguishing mark between mediocre and great commanders. Correct placement in the battlespace allows the commander to receive immediate data, make a professional judgment and act on that awareness. Often this involves the commander 'jumping' the chain of command in order to achieve greater tempo at the decisive point.[8] In a networked force, with remote sensors and distributed nodes, future commanders may not be given the option of leading from the front and will have to rely on communications systems to provide their feel for the battle. The number of links in the communication chain will directly influence the speed of response of the force command; too many headquarters translates into too many staffs producing situational opinions that must be collaborated before shared awareness is achieved.[9]

A truly networked force needs multiple avenues of access to command nodes to balance the absence of senior commanders in the field. Each command node must have the authority for mission accomplishment if tempo is to be gained from networking. A linear chain of command slows down both the reception and dissemination of situational awareness and forces the husbanding of resources at various command levels. The greater ambiguity in the non-linear structure should enhance mission over platform focus, and allow for a collective resource mentality to prevail. A networked force with authority for action invested in fewer, generic command nodes can also allow the node with the fastest decision cycle to initiate action.

Linear Chain of Command

Non-Linear Chain of Command
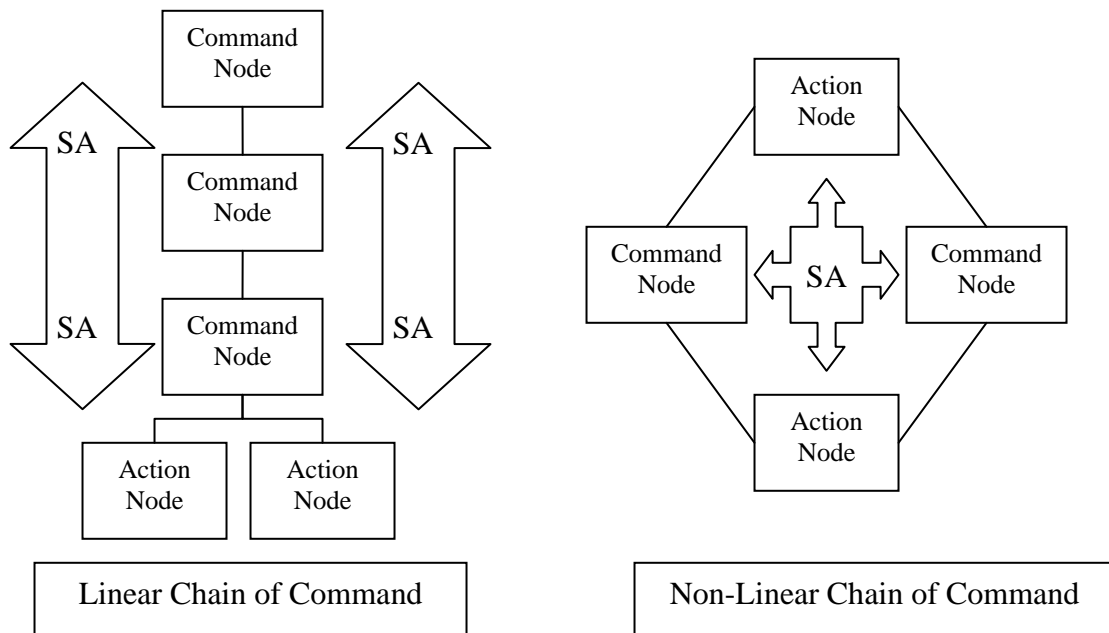
The current hierarchical command system, at best, can allow for the slow preparation of peace-time officers for higher responsibility and, at worst, it can stagnate the actions of subordinates during rapid, decentralized conflict. The system is underpinned by a cultural attachment to an inefficient military rank system. Within the bureaucracy of the Australian Defense Force, rank has come to be associated with time in service and peer acceptance rather than with authority for resource control, talent or experience. The rank structure also conditions

subordinates to look to ranked superiors for answers and/or responsibility. In a way, it stifles the very creativity and initiative that a network-centric force needs from its membership. Culturally conditioned to accept a slow methodical rise through the ranks, there is little desire to expose talent to failure outside of warlike conditions and even less desire for talented individuals to wait thirty years to achieve senior leadership positions. Such a system is incompatible with a networked force that requires agile organizations for combat.

Within the Australian Defense Force the barriers of a hierarchical command and institutionalized rank need to be addressed before any move towards Network Centric Warfare can be contemplated. The devolution of authority may need to be accompanied by a change in the way the military traditionally assigns resources and orders missions. Instead of a push delivery of resources for a task and purpose, maybe future commanders should be forced to improvise while waiting for additional resources. Similarly, the Australian Defense Force should embrace its mission command philosophy[10] and empower its members with a more flexible rank system; one based on the command of resources and talent, not on time in service or position within the bureaucratic hierarchy. This may come by adopting the relatively rank-less workplace structure of some civilian enterprises where age and time within a company are not usually prerequisites for responsibility or command of task groups.

The Military and Civilian Network Paradigm

The ability to conduct military operations at a higher tempo and with decisive effects hinges on being able to leverage all the elements of national power. It is pointless to have a shared situational awareness if it based on an isolated military picture of the battlespace.

Although such limited awareness may lead to the adoption of the correct military response to a set of circumstances, such a response may be discordant with approved strategy or policy. For shared situational awareness to avoid geographic or temporal isolation it must be the result of a convergence of strategic and tactical information. Past military forces have rarely acted in a military vacuum, and a future networked force cannot expect to operate in a purely tactical or military sphere. For shared situational awareness to transcend the force, the military must break from the traditional role it has played as a specialist arm of government and accept responsibility for the whole-of-government approach to warfighting. Under the architecture of Network Centric Warfare, the fusing of the elements of national power could be achieved through a centralized interagency command. Such an interagency command would not only have access to the human and material resources of all arms of government, it would be trained and cultured to apply national power across the spectrum of conflict. Therein, however, lies one of the greatest cultural barriers to the success of Network Centric Warfare – the dilemma of the soldier-statesman.

Much of the criticism professional politicians' level at soldiers is that they do not understand politics sufficiently to wield national power. In a perfect world the military should be taught to "think politically in all situations, and to be in touch politically; but not to get involved politically" if they are to be relevant to modern operations. [11] Peter Roman and David Tarr have broken the common view of the monolithic soldier into three emerging types of professional. There remains the "Service Professional" who has spent most of their career within the technical fields of a particular military service. A second class has also evolved over the last decade that is the "Joint Professional" who can command and control across all of the military services. The third type of emerging warrior is the "National Security Professional" who has moved on from

joint operations and has spent much of their career working either directly for or with politicians and other government agencies.[12] Such a soldier, trained in the profession of arms, but able to understand politics and the needs of the bureaucracy has probably always been present, but only recently have the Services recognized and rewarded these officers. These are the commanders needed to make an interagency command a reality. Under the interagency command, the actions at the lowest level can be guided by an integrated intent that breaks the cultural barriers of the various arms of government. Only within an environment of this national intent can situational awareness be used for anything other than a short-term combative reflex.

The creation of this stream of commander would entail overcoming all the inherent cultural bias that a force focused on successful platform command has accumulated. It would call for new criteria for promotion and command, and increased competition for the few command positions in the flatter networked force. Competition might also be opened, as in the past, to the talented civilian; a move that could constitute a direct threat to the cultural institutions of the modern professional soldier. The opposite is also likely, in that soldiers would take up coveted positions within the agencies of the government's foreign and domestic affairs sections. This blending of the traditionally separate machines of the state and the military would produce a force led by commanders with not only access to the whole range of national combat power, but commanders who understand the culture of the agencies prosecuting the conflict and how best to leverage the differences in their civilian and soldier assets.

Conclusion

Network Centric Warfare places the Australian Defense Force on the path of a dilemma. To quote Martin Van Creveld; "confronted with a task and having less information available than is needed to perform the task, an organization may react in either of two ways. One is to increase the information-processing capacity, the other is to design the organization, and indeed even the task itself, in such a way as to enable it to operate on the basis of less information."[13] The Australian Defense Force must choose whether it wants to enable the current force with enhanced telecommunications or face the cultural barriers of organizational redesign. If the Defense Forces are to meet the proposed future threats[14] then they must choose to break with the current organizational and cultural paradigms.

To overcome current institutional and platform loyalties would be a significant challenge to the culture of the Australian Defense Force. It requires a realization that organizational loyalty, above that required for combat cohesion, can generate negative resource competition and impose institutional boundaries on thought and action. A net-centric force must be mission focused above all things. It cannot afford organizational loyalty to interfere with resource procurement or implementation. The Australian Defense Force must be prepared to reassign loyalty to a higher body or ideal, or dissolve its institutions in favor of a more culturally similar organization.

Agility and flexibility are terms that are common to most visions of future combat forces, yet few equate the current inflexible and methodical hierarchical chain of command with a cultural barrier. The Australian Defense Force needs to look at adopting a more flexible command system that allows for multiple command nodes, each with an authority for mission

accomplishment that eliminates the lethargy of the current Napoleonic construct. It also needs to ensure that talent and experience can override the rank-prominent career progression model so that leaders can be selected for tasks, given commensurate authority for mission completion, and reassigned just as quickly. The Australian Defense Force cannot afford to tie itself to a rank model that institutionalizes mediocrity and allows its talent to drift until national emergency returns it to the colors.

The whole-of-government approach to waging conflict during times of peace will present challenges to the very notion of what constitutes a professional military force. The seamless integration of civilian and soldier must be achieved at the highest level so that shared situational awareness can be leveraged to decisive actions across the future battlespace. For shared situational awareness to transcend the force, the military must break from the traditional role it has played as a specialist arm of government and accept responsibility for the whole-of-government approach to warfighting. Commanders must be trained in the application of national power at all levels so that they can leverage the complimentary effects of these elements within an environment of shared situational awareness.

To overcome and embrace these cultural challenges must be the path upon which the Australian Defense Force sets itself if the right commanders and the appropriate forces are to be trained for the battlefields of the Information Age. The paradigm of an operational framework of widely dispersed sensors, weapons, and command nodes that effectively function as a single combat unit is not too far removed from the current philosophies of the three services. However, the traditional western military organization and culture that has been handed down from the poorly networked battlefields of the past is no longer relevant for the future warriors of the Australian Defense Forces.

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Endnotes

[1] Australian Defense Force Doctrinal Publication D.3.1 *Enabling Future Warfighting: Network Centric Warfare*, February 2004:1-1.

[2] M. Bonner and H. T. French, "Design Myopia: Some Hidden Concerns in Implementing Network-Centric Warfare." *Australian Army Journal*, Volume 2, no.1 (Winter 2004): 141.

[3] Australian Defense Force Doctrinal Publication D.3.1 *Enabling Future Warfighting: Network Centric Warfare*, February 2004:1-1.

[4] T.L. Thomas, 'Kosovo and the Current Myth of Information Superiority." *Parameters* 30(1) 13-29.

[5] Platform is used to describe not only the traditional elements of naval vessels, aircraft or mechanized vehicles but to encompass the idea that our current hierarchical organization (section, platoon, company, etc.,) works in a platform mode.

[6] Leonard Wong and others, *Why We Fight: Combat Motivation in the Iraq War*. (Carlisle, PA: Strategic Studies Institute, United States Army War College, July 2003), 2.

[7] Montgomery C. Meigs, *Slide Rules and Submarines* (Washington, DC: National Defense University Press, 1990), 16.

[8] The most celebrated example of this critical point leadership is that of Heniz Guderian at the Meuse river crossing near Sedan in 1940.

[9] William Stofft, "Leadership at the Operational Level of War," Clayton R. Newell and Michael D. Krause, eds., *On Operational Art* (Washington, DC: Center of Military Histroy, 1994), 194.

[10] Command being defined in LWD 1 "the authority and responsibility for effectively using available resources and for planning the employment of, organizing, directing, coordinating and controlling military forces for the accomplishment of assigned missions."

[11] Alistair Horne, "The French Army and the Algerian War, 1954-62," in Ronald Haycock, ed., *Regular Armies and Insurgency* (Totowa, NJ: Rowman & Littlefield, 1979), 82.

[12] Peter Roman and David Tarr, "Military Professionalism and Policy Making." In Feaver, Peter D. and Kohn, Richard H. (eds.) *Soldiers and Civilians: The Civil-Military Gap and American National Security.* (Massachusetts, MIT Press, 2001), 400.

[13] M. Van Creveld, *Command in War* (Cambridge, MA: Harvard University Press, 1985), 269.

[14] Michael Evans, in "Towards and Australian Way of War," *Australian Army Journal*, Vol 2, no.1 (Winter 2004), suggests that future threats will be like an "invisible mosaic" that will increasingly bypass the security that physical borders and conventional state militaries once afforded.