New Organisational Forms and their Relationship to Future Military Capabilities

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Abstract

This paper examines the organisational, technological, doctrinal and sociological issues confronting military planners in the 21st century. A key finding is that these issues are pulling in different directions, threatening the utility of the current military organisational "form". The requirements for a new military organisational form are described.

1. Introduction

In this paper we will examine some of the organisational dilemmas confronting military planners in the 21st century. On the one hand, we are designing a military force that can operate as a joint force, a coalition force, or in future as an integrated force by leveraging the knowledge of the human capital and social capital in the organization. At the same time, sociological forces have changed the way Generation X and Y think about work in organizations, invalidating some of the basic assumptions underlying our future force planning.

Ideally, the organisational, technological, doctrinal and sociological issues should all be neatly aligned in future thinking. Figure 1 illustrates some of the disconnects that are emerging as different aspects of the organization move in different directions.

This paper will examine these alignment issues in more detail, relating these alignment issues to the Australian Concept of Command. We propose that future thinking about military organizations must find a path that realigns these issues, some of which are outside the military's control.

2. The Australian Concept of Command

Figure 2 illustrates the Command Model spectrum and shows two extremes: directive control and task order command. The two extremes represent different ways of dealing with uncertainty and the fog of war.
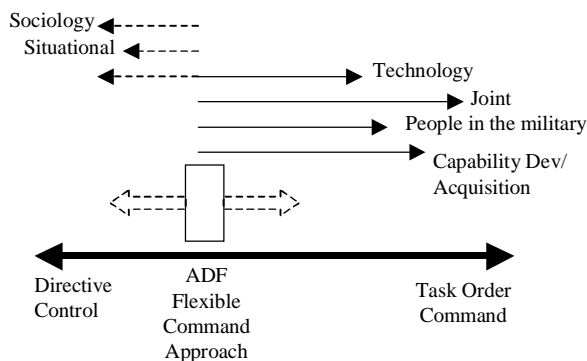

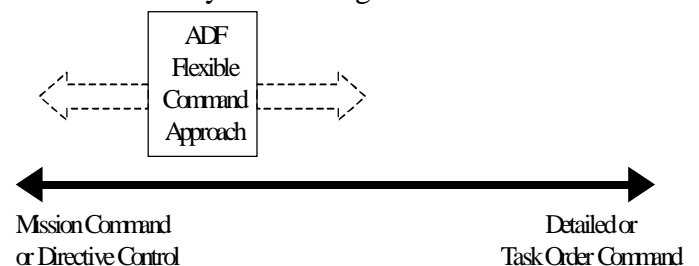Figure 1. Alignment issues revealed in the Command Model Spectrum

Figure 2. Command Model Spectrum

Task Order Model

The task order model pursues certainty by minimising the unknowns for predictable results. The model requires a formal, centralised, autocratic approach to command producing very detailed and formal orders for execution by subordinates. The task order approach to C2 involves information flows up the chain of command, decisions made at higher-levels, and orders flowing down for execution at the lower levels. An advantage of the task order approach is that the commander knows the location of each unit, reducing communication requirements and uncertainty. While the task order model may be slower it has the advantage of being able to carefully orchestrate tasks to maximise the effects.

Directive Control Model

The directive control model accepts uncertainty as a normal condition of conflict and learns to deal with it. The model aims to decentralise decision-making and control by providing a broad focus of the commanders intent to a subordinate with the minimum constraints. The directive control model assumes that the person best equipped to make a decision is the one closest to the action. The model is most appropriate for fluid and chaotic situations.

Flexible Command Approach

Australia is currently developing the *flexible command approach* (The Australian Defence Force Philosophy of Command, 2000). The flexible command approach is situated towards the directive control end of the spectrum as shown in Figure 2. The aims of this model are to minimise constraints, maximise initiative, decentralise decision-making and maximise autonomy for the local commanders. The flexible command approach recognises that relying on individuals and small teams is the Australian approach to operations. Achieving these aims requires a thorough understanding of the superior commanders intent. However, the flexible command approach is not a single template for command. Instead, the command model can be adjusted towards either end of the spectrum to meet the needs of the situation as judged by the commander, thus increasing or reducing the freedom of action of the subordinates.

3. Designing a Joint Organisation

There has been two major drivers in developing a joint organisation. The Revolution in Military Affairs (RMA) spawned by the information revolution has led to the development of new warfighting concepts that maximise synergy between forces to impart the maximum effect in minimal time. At the same time, the ideas of economic rationalism have forced the military to "do more with less" by increasing operational efficiencies, reducing administration and logistical overhead, and increasing the accountability to government.

Joint organizations are synthetic organizations (Thompson and Hawkes, 1962) that are created to meet the requirements of a situation, and have authority for action and decision-making in the situation. Joint organizations are created using analytical or technical constructs to build a synthetic organization from the single services. These analytical constructs are continually being evolved through extensive exercising and operations. One of the key questions underlying the design and development of joint organizations is determining the most appropriate set of analytical constructs.

One analytical construct is the task hierarchy. There should be some natural way of mapping the national tasks to the military strategic tasks to the operational tasks and to the tactical tasks. Two problems have been encountered to this approach in Australia. Firstly, the definition of the national tasks changes over time as governments evolve their ideas for employing the military (for example, compare Australia's Defence White Paper 1994 with Australia's Defence White Paper

2000). Does the whole military task hierarchy need to be reworked every time the national tasks change? Secondly, there is great debate about the definition of the joint operational tasks. Are they simply a superset of the single service tasks or should they reflect the qualities of "joint operational"?

The notion of concepts that mediate the task hierarchy is a second analytical construct that has been added to the design of joint organizations as shown in Figure 3. This construct has been added to facilitate the evolution of tasks without having to rework the task hierarchy. The relationship between national tasks and military strategic tasks is mediated by the military strategies and the joint warfighting concept. The relationship between military strategic tasks and operational tasks is mediated by operational concepts. The relationship between the operational tasks and tactical tasks are mediated by tactics.

National Strategic Tasks

Military Strategy
Joint Warfighting Concept

Military Strategic Tasks

Operational Concepts

Operational Tasks

Tactics

Tactical Tasks

Figure 3. Task hierarchy mediated by concepts

The underlying assumption behind the notion of concepts that mediate the task hierarchy is that the concepts will be more enduring as the tasks change. For example, even though the Australian Government changed the definition of the national tasks between 1994 and 2000, the military strategies are effective for both descriptions. By creating more enduring concepts, the military is aiming to retain it's responsiveness to changing circumstances and have some enduring

principles that can be used for planning and acquisition purposes[1].

Crisis situations are mapped to the task hierarchy mediated by the concepts to determine the end-states, campaign plans and mission essential tasks.

Discussion

Using the analytical constructs of task hierarchies mediated by concepts enables the top-down design of a joint organization. The advantages of this approach include:

- It is simple to show consistency of the military tasks with government policy at the strategic level
- It provides a "logic" for showing how capability development and acquisition is aligned with government policy
- It provides some guidance as to whether the operational tasks should a superset of the single-service tasks or whether they should be more generic patterns about conducting joint operational missions

Employing a task hierarchy approach has the potential to shift the concept of command towards the Task Order model and away from the Directive Control model.

Secondly, a side-effect of mediating the task hierarchy is that *the strategic intent is effectively unknowable at the tactical level*. The strategic intent is unknowable because it has been transformed by the analytical concepts at the operational and tactical levels. In this approach it is not possible at the tactical level to reconstruct the strategic intent because the relevant relationships have not been communicated. As a result there is a reduction in the freedom of action at the tactical level, or more difficulty in fully implementing directive control.

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[1] Of course if the changing definition of the national tasks is completely discontinuous then everything will need to change, but changing everything should not be the normal state of affairs

A disadvantage of the task approach is that it emphasises resource management to the detriment of the value of human capital and social capital. In a task approach, how do we value the loss of experience, expertise, know-how, social networks, and social learning across generations of members due to sociological changes described in Section 5. Alternatively, we can ask the question whether Peter Cosgrove was appointed the UN Commander in East Timor purely because of his task-centric abilities, or because of his social networks with the Indonesian military.

4. Technological Implications of the RMA

The technological RMA caused by the information revolution has forced the military to rethink how they conduct operations. New operational concepts, such as effects-based operations and precision-engagement, are using information to maximise synergy between forces to maximise effects in a minimal time period. These new concepts are leveraging the ability to digitise information from sensors, the ability to quickly move information anyway using network-centric warfare approaches, the ability to inter-operate across traditional stovepipes, and the processing ability to integrate information producing an up-to-date situation awareness picture.

The new concepts have focused on utilising the situation awareness picture to facilitate the commander's decision-making and his planning staff's planning abilities in a traditional hierarchical fashion shifting the concept of command towards the Task Order model. One problem with this approach in an RMA-world is that the centralised C2 capabilities are now a prime target for crippling an enemy's warfighting capability.

An alternative approach would be to use the information revolution to shift the concept of command towards the Directive Control model by providing all the personnel with the updated situation awareness picture and allowing any personnel to make decisions based on this picture. In this manner, we can overcome the limitations of the centralised command and control approach by fully distributing decision-making, instead of just supplying the commander with the situation awareness picture.

Alberts et al (1999) give an excellent example of how technology can be used to rethink situation awareness and models of command. On page 76, Alberts et al describe how the US Navy upgraded from F-4s to F-14As but failed to change their air defence doctrine to incorporate the F-14As onboard situational awareness capability. The situation changed during an exercise when the F-14As could track inbound F-111s, but they were vectored to non-existent targets by the ship-bound CIC controllers.

5. Sociological Issues

Military organizations are reliant on their human capital, yet sociological changes will present enormous challenges to operating military organizations in the 21st century.

The current Australian White Paper describes the desire to increase the size of the ADF from 51,000 people to 54,000 people by 2010. At the same time, current recruiting and retention trends indicate that we will have a shortage of 12,000 people by 2010. The impact of the shortfall is that it is unlikely that the ADF will be manned by people with the "knowledge edge", it is unlikely that these people will have the experience and expertise required in our current thinking about future operations.

Assuming that we can recruit the necessary people, there are sociological changes occurring that will impact the military way of working. Generations X and Y are not like the Baby-boomers. They have grown-up in a networked society, they distrust hierarchy, they are more educated, they are more likely to

look to a peer to make a decision than reach up the hierarchy, and they do not see a long-term career path in a single organization instead they move between organizations on average every 2 years.

These sociological changes are not unique to the military. Putnam (2000) has shown how these changes are decreasing membership of all forms of organizations, both formal and informal.

The implications for the military of these sociological issues include:

- The boundary of who is in the defence force is changing. The result of downsizing and outsourcing is that many jobs previously performed by military personnel are now performed by contractors. As a result, thinking about "joint organizations" and "joint operations" must expand beyond the single services and encompass a large variety of different actors.

- There are higher training costs. It is not just a matter of teaching new recruits how to live in the bush, shoot, and be disciplined, but now we need to teach these individuals how to behave in hierarchies as well.

- If the individuals do not stay within an organization for a long period of time then the career trajectories within the military will start breaking down with several consequences. 1) There will be less returning to a community by individuals resulting in a loss of learning and corporate memory in the form of story-telling and sharing experiences across generations. 2) As a result the single-services will lose their "natural organization[2]" and require a different way of functioning. 3) Commanders may no longer be able to develop the richness

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[2] Natural organizations are socially constructed and held together by a rich milieu of stories and other social affordances.

of experience or the understanding of context previously available from career trajectories of 20+ years.

As a result, the Task Order model of command becomes more appealing because people with less training and current experience can be given more specific tasks to perform. However, the Task Order model assumes that the Commander has sufficient expertise and experience to direct actions and harmonize tasks at low-levels. The demographic data is indicating that we have as many problems developing future Commanders as we have filling other positions (for example, the US Army is losing 10% of it's Captains per year when a 5% loss rate is acceptable).

6. Situations

A key finding from the East Timor peacekeeping operation was the role of the "strategic corporal" (Australian Defence White Paper 2000). Strategic corporals are people in the field confronted with situations outside their guidance and who make decisions that would be viewed as strategic in order to deal with these situations.

"Strategic corporals" exist because time is often a critical component in crisis situations and the local person in the local setting is in the best place for decision-making. However, this approach leads to an inversion of responsibilities and decision-making in the organization. Further complicating matters, crisis situations may have implicit conflicts due to different people from different services/organizations having different subsets of information about the situation.

The strategic corporal model assumes:

- A Directive Control model of command
- Distribution of situation awareness and Commanders Intent
- Individuals who are willing to think, act and take the initiative rather than

waiting to be ordered to do something.

- Development of doctrine, training, and procedures for how individuals from different organizations take the lead in a particular setting. One model for study is the emergency management approach between the fire department, police and ambulance services that determines that the first unit on the scene takes the lead role.

The new doctrine must develop a method for overcoming the conflict between the multiplicity of intents between the various organizations, while all are focused on a primary joint intent. For example in emergency management the primary intent is to preserve life, the paramedics want to free casualties, the fire brigade may want nothing moved until potentially dangerous spills are dealt with, the police need forensic evidence, and the Roads Traffic Authority wants to open the highway as soon as possible.

7. Rethinking Command and the Design of Military Organisations

The key alignment issues that are emerging are:

- The flexible command approach assumes maximising initiative, decentralising decision-making, and communicating the commander's intent
- The design of a joint organization moves towards a task-based perspective which centralises decision-making and inhibits initiative.
- Technology is currently being used to produce situation awareness to support the commander's decision-making, centralising C2
- Sociologically, future recruits will be more attuned to networks than hierarchies, and their career trajectories may not facilitate the accumulation of expertise and experience as individuals to perform the command function, or the corporate memory that enables the single services to function as "natural organizations".
- "strategic corporals" will probably be the norm in future situations rather than the exception

The sociological and demographic trends are ringing alarm bells for many large organizations including the military. Putnam (2000) has shown that the decline in organisational membership since 1950 was matched by a rise in organisational membership between 1900 and 1950. The rise in organisational membership was due to the invention of new forms of organizations such as the Boy Scouts, Red Cross, charity organizations etc.

Realigning the key alignment issues requires rethinking our design of joint organizations in particular, and military organizations in general, and rethinking our concepts of command.

Why do we command people? In assessing environmental doctrine we note the move away from "command of an environment" to "control of an environment" to ensure that we can use the environment for our purposes when we want to (Australian Maritime Doctrine, 2000). What would it mean to design a synthetic organization that would enable us to utilise the skills of people as required?

The recent downfall of President Estrada in the Philippines was an excellent example. A major contribution to the downfall of President Estrada was the usage of the Short Messaging Service on GSM cellular phones to both communicate to and organise the rallying of many thousands of ordinary people creating a synthetic organization. The regime tried to control this and could not.

From a military perspective, our goal is to design synthetic organizations where people will proactively want to be involved. The underlying question for this new organisational form is *what glues a complex adaptive system together*?

Some issues that need to be considered include:

1. A command concept is needed that embodies the team rather than the individual. We're not arguing for decision-making by committee, but rather for the most situated person to make the decision (extending the idea of directive control).
2. Supporting the team command concept requires distribution of the commanders intent and situation awareness to all actors in the field.
3. Our concepts of jointness need to be rethought from hierarchy, tasks and interoperability to networks, activities and cooperability. Jointness is not just between three monolithic organizations, but in future will be between many actors, some of which will be signed up on the day of the operation.
4. Our concepts of career trajectories need to be rethought in terms of careers that span 2-5 years instead of 20+ years. What does it mean to command a unit if you are only in the organization for 2-5 years? How do we reorganise the work to enable the command function to work effectively? If command is now a team concept, what does this mean if everyone is serving 2-5 years (and maybe returning for another 2-5 year term 5-10 years later)?

8. Conclusions

The current military organisational form is inadequate for the challenges of the 21st Century. The organisational, technological, doctrinal and sociological issues are pulling in different directions and are threatening to destroy the utility of the military organization for it's prime purpose.

Three paths are emerging for the future of military organizations:

- A task-driven, hierarchical, centralized, highly automated, information-driven organization that aims for command of the battlespace.
- A networked, distributed decision-making, synthetic organization that aims for control of the battlespace.
- A continuation of the existing military organization replacing platforms and people as they wear out within financial constraints.

Rethinking the military organizational form will be a key research area at the start of the 21st Century. Particular challenges include:

- Facilitating the strategic corporal
- Designing analytical constructs for creating synthetic organizations.

9. References

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